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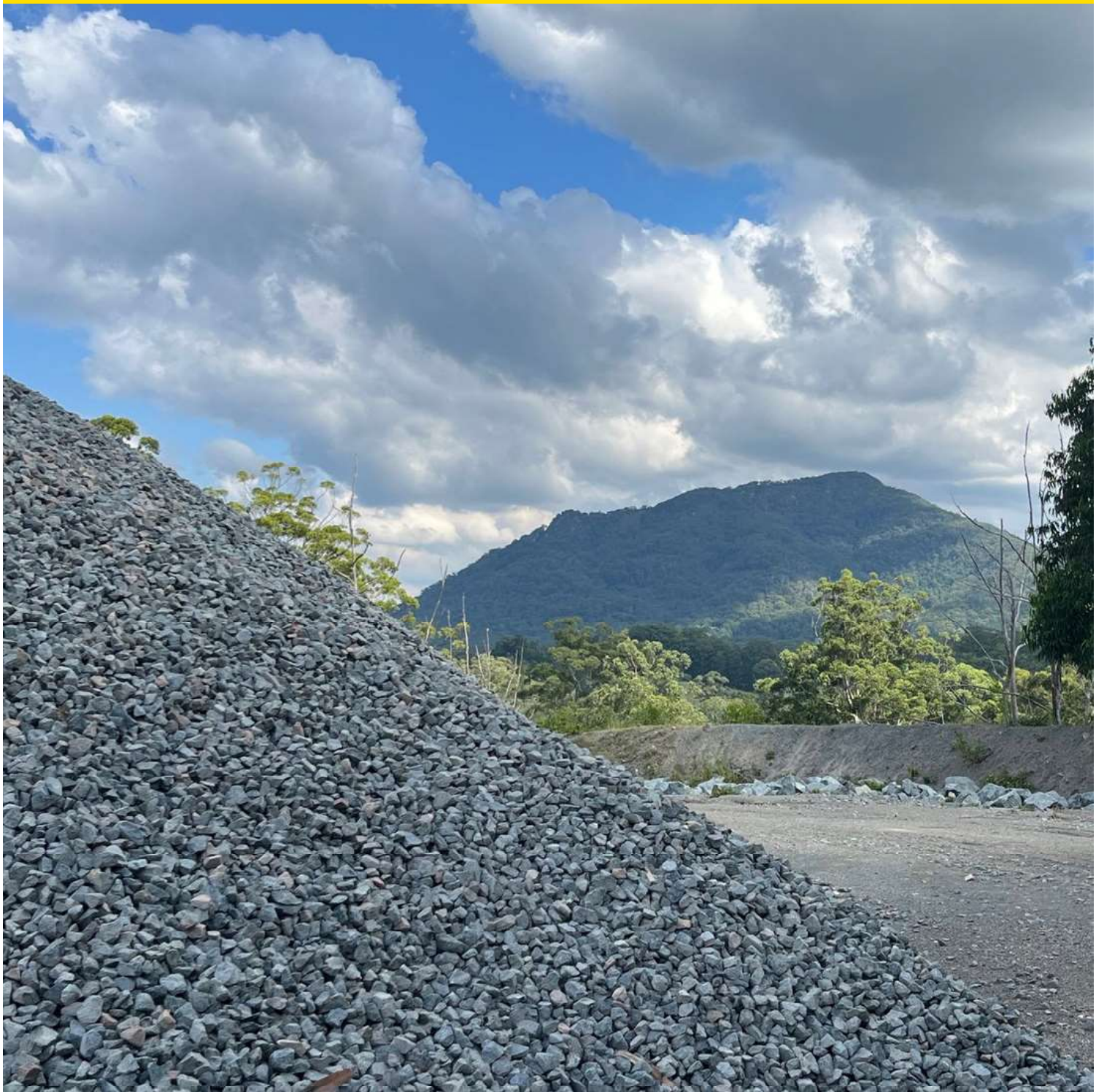
Johns River Quarry Extension – Modification 3

STATEMENT OF ENVIRONMENTAL EFFECTS

Prepared for Boral Resources (Country) Pty Ltd | September 2024



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Status	Final
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Date	26 September 2024

This report has been prepared in accordance with the brief provided by the client and has relied upon the information collected at the time and under the conditions specified in the report. All findings, conclusions or recommendations contained in the report are based on the aforementioned circumstances. The report is for the use of the client and no responsibility would be taken for its use by other parties. The client may, at its discretion, use the report to inform regulators and the public.

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Abbreviations

Abbreviations	Definitions
AEMR	annual environmental management report
AHD	Australian height datum
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal heritage impact permit
AoS	assessment of significance
APZ	asset protection zone
ANZECC	Australian and New Zealand Environment and Conservation Council
AQIA	air quality impact assessment
BAM	Biodiversity Assessment Method
BAM-C	Biodiversity Assessment Method Credit Calculator
BC Act	NSW *Biodiversity Conservation Act 2016*
BCT	Biodiversity Conservation Trust
BDAR	biodiversity development assessment report
BGL	below ground level
BIR	biodiversity investigation report
BoM	Bureau of Meteorology
BOS	Biodiversity Offset Scheme
ACHA	Aboriginal cultural heritage assessment
cm	centimetre
CM Act	*Coastal Management Act 2016*
DA	development application
dBA	decibels
Cth DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
DECCW	Department of Environment Climate Change and Water
DEWHA	Department of Environment, Water, Heritage and the Arts
DCP	development control plan
DP	deposited plan
DoEE	Commonwealth Department of Environment and Energy
DPE	Department of Planning and Environment
DPHI	Department of Planning, Housing and Infrastructure (Former Department of Planning and Environment)
DPIE	Department of Planning, Industry and Environment
DRE	Department of Resources and Energy
EEC	endangered ecological community

Abbreviations	Definitions
EIS	environmental impact statement
EMP	environmental management plan
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regs	Environmental Planning and Assessment Regulations 2000
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 1999*
EPI	environmental planning instrument
EPL	Environment Protection Licence
ESD	ecologically sustainable development
FEL	front end loader
GHG	greenhouse gas
GIS	geographic information system
ha	hectare
IBRA	Interim Biogeographic Regionalisation for Australia
km	kilometre
L	litre
LEP	local environmental plan
LGA	local government area
m	metre
mm	millimetre
ML	megalitre
MNES	matters of national environmental significance
M	Million
Mt	million tonnes
NorBE	neutral or beneficial effect
NVIA	noise and vibration impact assessment
NPI	*Noise Policy for Industry*
NPW Act	*National Parks & Wildlife Act 1974*
NPWS	National Parks and Wildlife Services
NSW	New South Wales
NT Act	*Native Title Act 1993*
NMLs	noise management levels
OEH	Office of Environment and Heritage
$PM_{2.5}$	particulate matter less than or equal to 2.5 micrometres in aerodynamic diameter

Abbreviations	Definitions
PM_{10}	particulate matter less than or equal to 10 micrometres in aerodynamic diameter
PCT	plant community type
PIRMP	pollution and incident response management plan
PANL	project amenity noise level
PINL	project intrusive noise level
PNTLs	project noise trigger levels
POEO Act	*Protection of Environment Operations Act 1997*
Quarry	Johns River Quarry
RBL	rating background level
RAPs	Registered Aboriginal Parties
RFS	NSW Rural Fire Service
RMS	NSW Roads and Maritime Services
RNP	*NSW Road Noise Policy*
SEPP	state environmental planning policy
t	tonne
TEC	threatened ecological community
TfNSW	Transport For NSW
TIA	traffic impact assessment
tpa	tonnes per annum
TSP	total suspended particulate
VLAMP	*Voluntary Land Acquisition and Mitigation Policy*
WAL	water access licence
Water Act	*Water Act 1912*
WM Act	*Water Management Act 2000*
WSP	water sharing plan

1 Introduction

1.1 Overview

Boral Resources (Country) Pty Ltd (Boral) owns and operates the Johns River Quarry (the quarry or the site), a long-standing operation that provides for the quarrying, processing and transport of hard rock. The quarry operates under development consent no. DA 93/31 (as amended) from the (former) Greater Taree Council, which is due to expire in July 2026.

Due to the ongoing demand for high quality hard rock quarry products, Boral is seeking consent from the MidCoast Council (Council) to modify the current consent to extend the life of the quarry through a minor extension to the area of approved quarry extraction.

The key components of the Johns River Quarry Extension – Modification 3 (the proposed modification) include:

- continuing existing operations for an additional 15 years (until 2041); and
- extending the area of approved quarry extraction area by 2.03 ha to the north-east to provide access to approximately 2.3 million tonnes (Mt) of additional resource.

There would be no other changes, noting that the proposed modification does not seek to modify:

- the approved rate of extraction;
- the depth of extraction;
- the type of product being extracted;
- existing drill and blast extraction methods;
- truck types or the number of movements;
- hours of operation;
- the number of employees;
- existing site office, amenities and weighbridge; and
- existing stockpile areas, crushing and screening plant, and mobile machinery.

Boral is seeking a modification to DA 93/31 pursuant to Section 4.55 (2) of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act).

1.2 Purpose of this report

Arnold Planning Pty Ltd (Arnold Planning) has been engaged by Boral to prepare this statement of environmental effects (SEE) to accompany the modification application.

The following information accompanies the modification application and has informed the preparation of this SEE:

- air quality impact assessment (AQIA), prepared by Todoroski Air Sciences (TAS, 2024);
- noise and vibration impact assessment (NVIA) prepared by Muller Acoustic Consulting (MAC, 2024);
- biodiversity development assessment report (BDAR) prepared by Niche Environment and Heritage (Niche, 2024);
- surface water assessment (SWA) prepared by Southeast Engineering and Environment (Southeast, 2024); and
- Aboriginal cultural heritage assessment (ACHA) prepared by McCardle Cultural Heritage (MCH, 2024)

1.3 The applicant

The applicant is Boral Resources (Country) Pty Ltd, a wholly owned subsidiary of Boral Limited. Boral Limited is the largest integrated construction materials company in Australia, producing and selling a broad range of construction materials, including quarry products, cement, concrete, asphalt and recycled materials. Relevant details for Boral are provided in Table 1.1.

Table 1.1 Applicant details

Details	Particulars
Applicant	Boral Resources (Country) Pty. Limited
ABN	51 000 187002
Applicant address	T2/39 Delhi Road, North Ryde, NSW 2113
Contact	Elysse Kuhar, Planning & Development Manager (NSW & ACT)
Contact details	Elysse.Kuhar@boral.com.au

Boral Limited has over 4,500 employees in its quarry, concrete, asphalt, cement, recycling, and concrete and placing operations. The business is a major supplier of products to the dwelling, commercial construction, and roads and engineering markets.

Boral Limited operates 25 quarries in NSW and ACT, producing products such as concrete aggregates, crushed rock, asphalt and sealing aggregates, road base materials, sand and gravels for the Australian construction materials industry.

1.4 The site and surrounding area

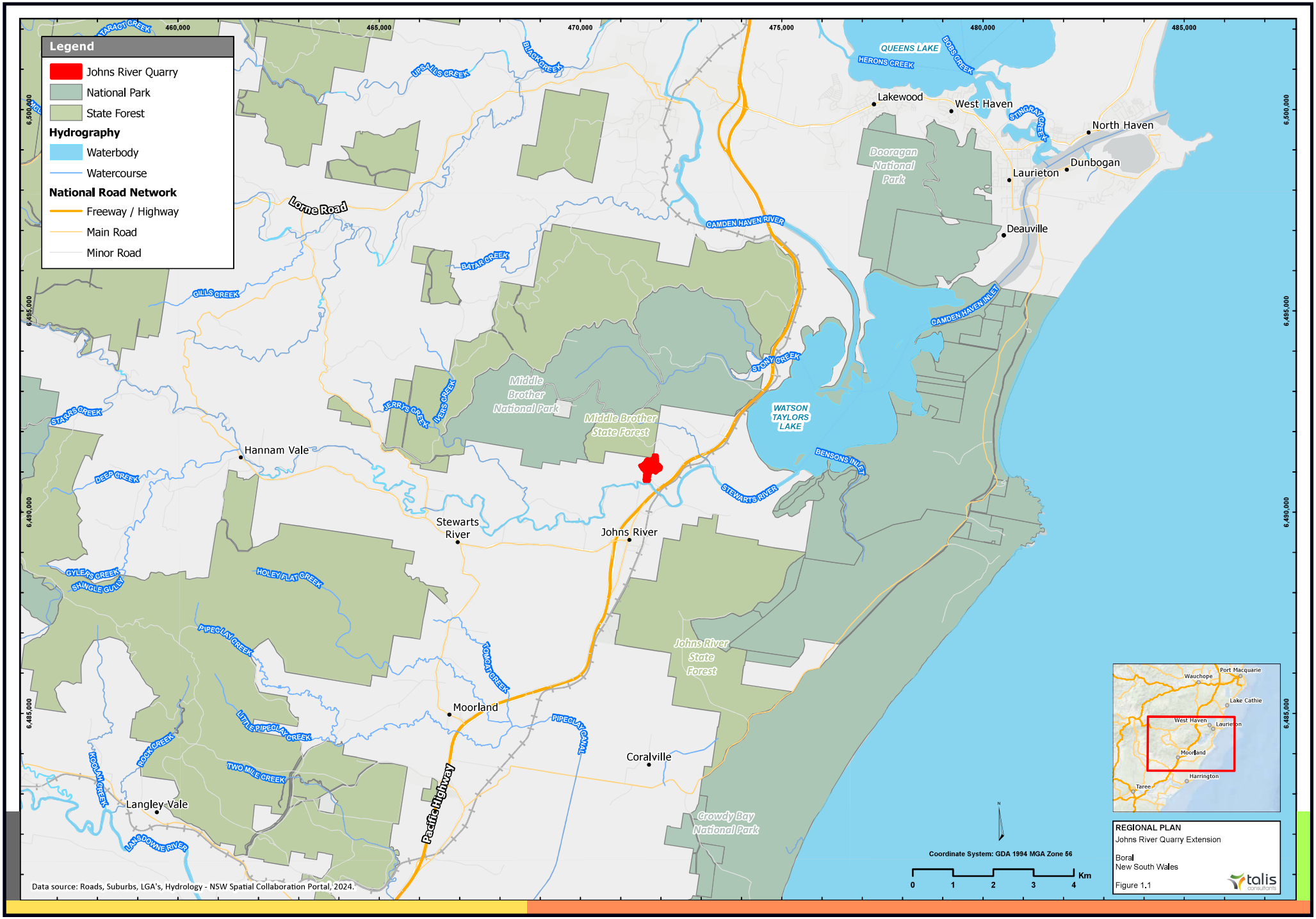
As shown in Figure 1.1, the quarry is located at Bulleys Road approximately 2 km north of the village of Johns River and 500 m north-west of the Pacific Highway, at the end of Bulleys Road (the 'Old Pacific Highway'). The Regional City of Taree is located approximately 38 km south of the quarry.

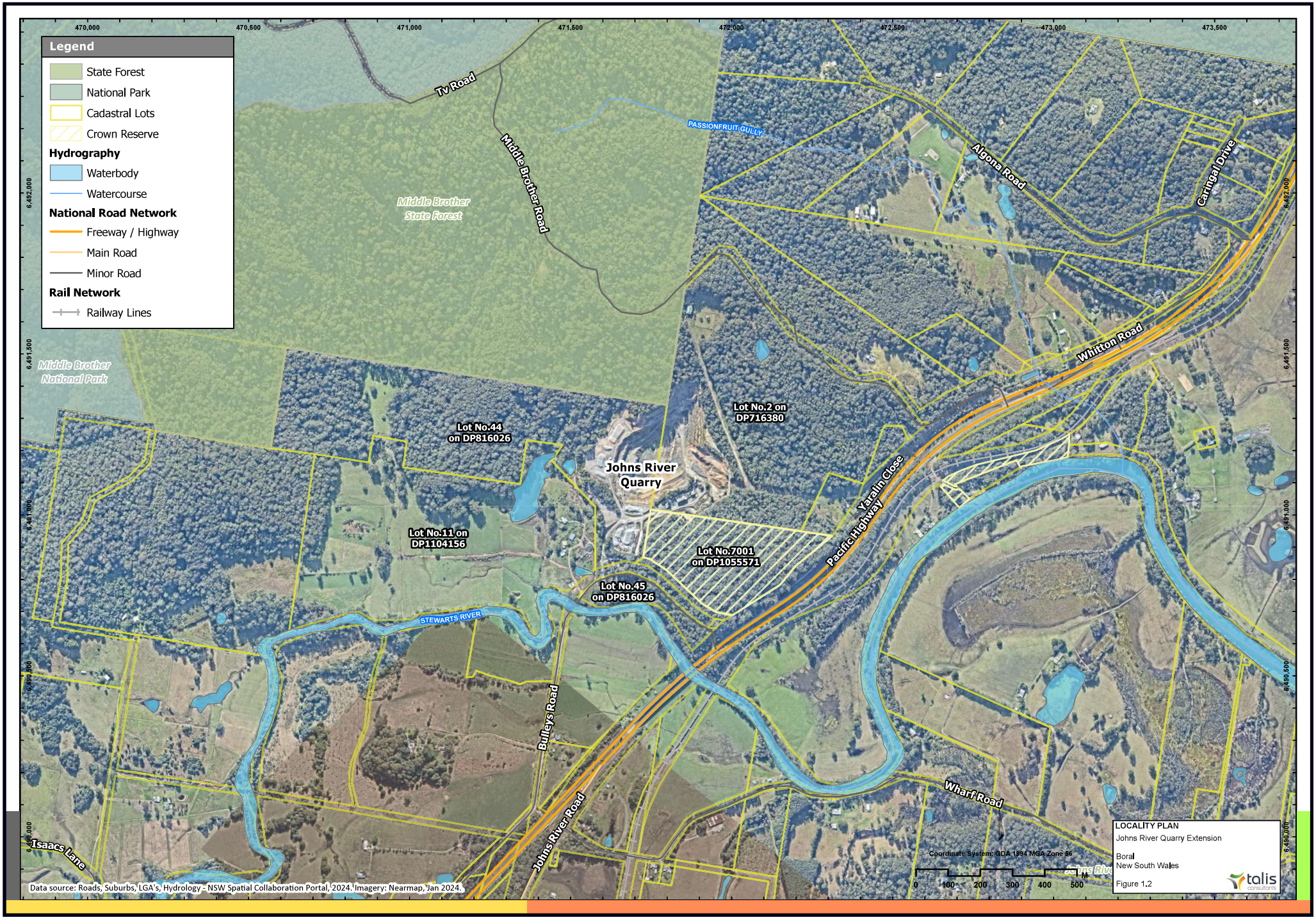
Site lot details and ownership are provided in Table 1.2. Portions of the site are leased by Boral from W Bawn (Lot 2 DP 716380) and Bulley (Lot 11 DP 1104156), while the balance of the site is owned by Boral.

Table 1.2 Site details

Lot	DP	Ownership	Address
Lot 11	DP 1104156	Leased	116 Bulleys Road, Johns River
Lot 2	DP 716380	Leased	116 Bulleys Road, Johns River
Lot 44	DP 816026	Owned	175 Bulleys Road, Johns River
Lot 45	DP 816026	Owned	175 Bulleys Road, Johns River

The quarry is located within a rural setting. Land uses immediately surrounding the quarry include rural residences, agriculture, forestry and conservation (refer to Figure 1.2).


Legend
Johns River Quarry
National Park
State Forest
Hydrography
Waterbody
Watercourse
National Road Network
Freeway / Highway
Main Road
Minor Road
460,000
465,000
470,000
475,000
480,000
485,000
6,500,000
6,495,000
6,490,000
6,485,000
CATARACT CREEK
UPSALLS CREEK
BLACK CREEK
QUEENS LAKE
HERONS CREEK
BORS CREEK
STINGRAY CREEK
Lakewood
West Haven
North Haven
Dunbogan
Laurieton
Dooragan National Park
Deauville
Lorne Road
CAMDEN HAVEN RIVER
BATAR CREEK
GILLS CREEK
CAMDEN HAVEN INLET
STONY CREEK
Middle Brother National Park
Middle Brother State Forest
JERRYS CREEK
IKERS CREEK
STARRS CREEK
WATSON TAYLORS LAKE
Hannam Vale
BENSONS INLET
DEEP CREEK
STEWARTS RIVER
Stewarts River
Johns River
GYLEAS CREEK
SHINGLE GULLY
HOLEY FLAT CREEK
PIPECLAY CREEK
TOMCAT CREEK
Johns River State Forest
Moorland
LITTLE PIPECLAY CREEK
PIPECLAY CANAL
ROCK CREEK
KOOLAH CREEK
TWO MILE CREEK
Coralville
Pacific Highway
Langley Vale
LANSDOWNE RIVER
Crowdy Bay National Park
Coordinate System: GDA 1994 MGA Zone 56
0 1 2 3 4 Km
Port Macquarie
Wauchope
Lake Cathie
West Haven
Laurieton
Moorland
Harrington
Taree
REGIONAL PLAN
Johns River Quarry Extension
Boral
New South Wales
Figure 1.1
talis consultants
Data source: Roads, Suburbs, LGA's, Hydrology - NSW Spatial Collaboration Portal, 2024.


Legend
State Forest
National Park
Cadastral Lots
Crown Reserve
Hydrography
Waterbody
Watercourse
National Road Network
Freeway / Highway
Main Road
Minor Road
Rail Network
Railway Lines
470,000
470,500
471,000
471,500
472,000
472,500
473,000
473,500
6,492,000
6,491,500
6,491,000
6,490,500
6,490,000
Tv Road
Middle Brother Road
PASSIONFRUIT GULLY
Middle Brother State Forest
Middle Brother National Park
Algona Road
Caringal Drive
Whitton Road
Lot No.2 on DP716380
Lot No.44 on DP816026
Johns River Quarry
Yaralin Close
Pacific Highway
Lot No.11 on DP1104156
Lot No.7001 on DP1055571
Lot No.45 on DP816026
STEWARTS RIVER
Bulleys Road
Johns River Road
Wharf Road
Isaacs Lane
Coordinate System: GDA 1994 MGA Zone 56
0
100
200
300
400
500
M
LOCALITY PLAN
Johns River Quarry Extension
Boral
New South Wales
Figure 1.2
talis consultants
Data source: Roads, Suburbs, LGA's, Hydrology - NSW Spatial Collaboration Portal, 2024. Imagery: Nearmap, Jan 2024.

1.5 Approval and licences

Development consent (DA93/31) for the quarry was granted by (the former) Greater Taree Council on 28 July 1993. DA93/31 has been modified twice as summarised in Table 1.3.

Table 1.3 Summary of approval history

Application/determination/date	Reference	Particulars
Original consent – approved – 28/7/1993	DA93/31	Hardrock quarry and processing plant Term of consent to 2018
Modification 1 – approved – 15/11/2007	31/1993/D	Increase approved annual production rate and special projects production rate Minor increase in footprint Changes to quarry configuration involving changes to berms, faces width of haul roads and final floor level to 0 m Australian height datum (AHD) Use of mobile crushing plant Extend term of consent to July 2026
Modification 2 – approved – 16/9/2015	31/1993/DA/A	Additional stockpile area Upgrade to sediment dam Temporary increase in truck movements and operating and blasting hours to December 2017

The following licences have been issued for the quarry:

- Environment Protection Licence No. 4812 (EPL 4812) – issued by the NSW Environment Protection Authority (EPA); and
- Water Access Licence No. 42101 (WAL 42101) – up to 5 ML/units annual allocation.

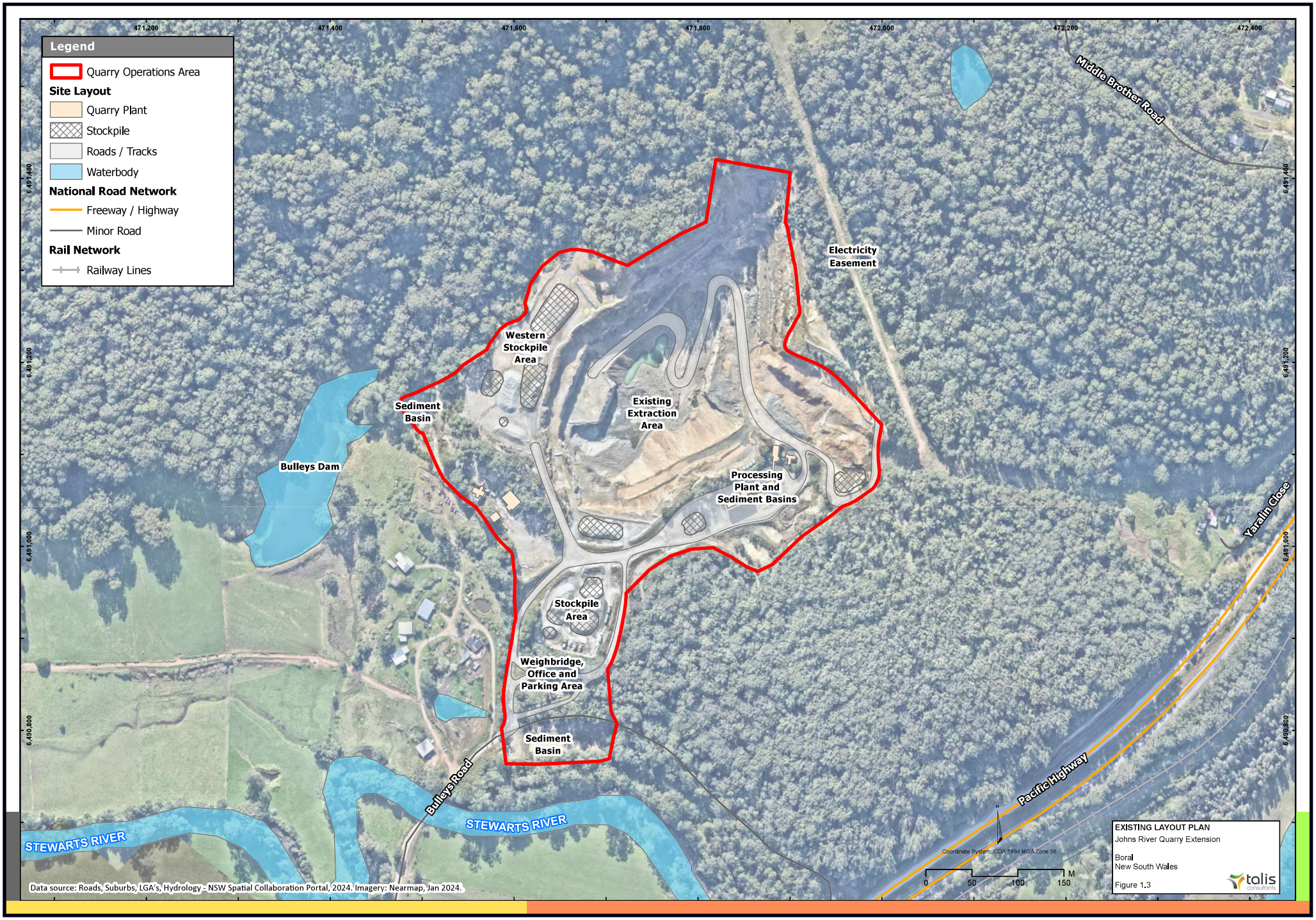
DA 93/31 limits the production rate to 300,000 tonnes per annum (tpa). The EPL issued for the site identifies the site as a 'fee based extractive activity' of a scale of '>100,000 – 500,000 tonnes annual processing capacity and '>100,000 – 500,000 tonnes annually extracted or processed.

1.6 Existing operations

Operating since 1993, current extraction at the quarry occurs from the area labelled 'extraction area' in Figure 1.3. The principal elements of the site include the extraction area, haul roads, plant area, stockpile and loading area, truck staging area, noise bunds and water management structures.

Extraction involves the selective stripping of topsoil as the first stage of overburden removal and is undertaken by a dozer. The separation of topsoil during overburden removal is not possible because of the soil's shallow development and stony composition, and over burden is either stored in noise bunds or in the quarry void. Overburden removal is completed by a dozer and depth of removal is dependent on the limits of the machinery's capability.

Blasting occurs to enable the quarrying of the rock. Following blasting the fractured material is recovered by a front-end loader (FEL) or excavator onto haul trucks to be delivered to the crushing plant where the material is crushed and screened to market specification sizes. The reduced material is loaded with the FEL into the stockpiling areas and loaded onto trucks by a second FEL to transport to internal and external customers via the Pacific Highway.


Legend
Quarry Operations Area
Site Layout
Quarry Plant
Stockpile
Roads / Tracks
Waterbody
National Road Network
Freeway / Highway
Minor Road
Rail Network
Railway Lines
471,200
471,400
471,600
471,800
472,000
472,200
472,400
6,491,400
6,491,200
6,491,000
6,490,800
Middle Brother Road
Electricity Easement
Western Stockpile Area
Sediment Basin
Existing Extraction Area
Bulleys Dam
Processing Plant and Sediment Basins
Yaralin Close
Stockpile Area
Weighbridge, Office and Parking Area
Sediment Basin
Bulleys Road
STEWARTS RIVER
STEWARTS RIVER
Pacific Highway
Coordinate System: GDA 1994 MGA Zone 56
0
50
100
150
M
EXISTING LAYOUT PLAN
Johns River Quarry Extension
Boral
New South Wales
Figure 1.3
talis consultants
Data source: Roads, Suburbs, LGA's, Hydrology - NSW Spatial Collaboration Portal, 2024. Imagery: Nearmap, Jan 2024.

1.7 Environmental management

Environmental management procedures at the quarry are designed to ensure compliance with DA93/31, EPL 4812 conditions and all relevant government legislation and requirements.

Management plans and monitoring programs have been prepared and implemented at the quarry in accordance with DA93/31 and include:

- the *Johns River Quarry Environmental Management Plan* (EMP) (Boral, 2024);
- the *Johns River Quarry Blast Management Plan* (BMP) (Boral, 2015);
- the *Johns River Quarry Water Management Plan* (WMP) (Groundworks Plus, 2016); and
- the *Fauna Strike Avoidance Strategy* (EMM, 2015).

1.8 Consultation

A pre-application meeting was held with Council on 29 August 2023. Pre-lodgement meeting minutes were provided on 8 September 2023. Matters raised and how they have been addressed are detailed in Table 1.4.

Table 1.4 Pre-lodgement matters and responses

Matter	Response
Approval Pathway	
The application as proposed in the meeting could have two possible planning pathways. The first being a modification under section 4.55 of the EP&A Act. *The second being an entirely new application.* *Council reserves the right to make the determination as to whether the application may be required to be amended to be a new application upon full lodgement of the modification application.*	As considered further in Section 3.2.1 (ii), the proposed modification has been assessed as being commensurate with a modification made under Section 4.55 (2) of the EP&A Act and has been found to be substantially the same development as the development for which the consent was originally granted.
Designated Development	
The lodgement of any modification will need to provide sufficient detail to demonstrate considerations under Clause 48 of Schedule 3 of the Environmental Planning and Assessment Regulation 2021 are satisfied. *If a new application is required to be lodged, then the provisions of Schedule 3 Part 2 Section 26 of the Environmental Planning and Assessment Regulation 2021 (the EP&A Regs)- designated development – extractive industry will need to be considered.* *Where a new application does not significantly increase the environmental impacts of the existing or proposed development the development can be exempt from designated development pursuant to Schedule 3 Part 3 Section 48 of the EP&A Regs.* *If the Council nominate the proposed modification as designated development, it would likely be assessed by the JRPP.*	As considered further in Section 3.2.1 (iv), Clause 48 of Schedule 3 of the EP&A Regs does not apply to a modification application.
Water quality	
A water quality impact assessment is required in accordance with: • *MidCoast Council's Stormwater Policy and Procedure* • *Blue Book Volume 1 (Landcom 2004) and Blue Book Volume 2 (DECC 2008)* • *Managing Urban Stormwater: Soils and Construction: Volume 2C and 2E Mines and Quarries (DECC 2008)* • *MidCoast Council's Guidelines for Water Sensitive Design Strategies*	As considered in Section 4.4, a surface water assessment (Southeast, 2024) has been prepared to accompany the modification application and has informed the preparation of this SEE.

Table 1.4 Pre-lodgement matters and responses

Matter	Response
Provide an assessment of the likely impacts of the development (including flooding, excavation, wastewater, stormwater and erosion) on the quality and quantity of existing surface and ground water resources to achieve the following targets: 1. *Control the hydrological impacts of development on the hydrological regime of the receiving surface and groundwater systems including the frequency, magnitude and duration of flows to preserve, as far as practical the predevelopment groundwater and surface water regimes and interactions; and*	Refer Section 4.4 – Water management
2. *Achieve the neutral or beneficial effect (NorBE) water quality targets. Refer to MidCoast Council's Stormwater Policy and Procedure to understand the water quality targets outlined.*	Refer to Section 4.4.2 (i) – Proposed surface water management
The assessment and detail is to include: • *Proposed water discharge quantities and quality to meet the water quality and flow targets for surface and groundwater systems*	Refer to Section 4.4.2 (i) – Proposed surface water management
• *A detailed description of the proposed water management system including how stormwater and wastewater will be managed. Provide a site water balance, with a description of site water demands, water disposal methods (inclusive of volume and frequency of any water discharges), water supply infrastructure and water storage structures;*	Refer to Section 4.4.2 (i) – Proposed surface water management
• *A water monitoring program that demonstrates no impact on water quality and flows for receiving waters. The monitoring program is to including baseline monitoring data and ongoing operational monitoring (for both water quality and flows) upstream and downstream of the site;*	Refer to Section 4.4.1 (ii) – Existing surface water management
• *An operational monitoring program to ensure discharges from the site meet Council's water quality targets*	Refer to Section 4.4.3 – Management and mitigation.
• *Conceptual Erosion and sediment control measures for the construction, operation and rehabilitation phase in accordance with the 'Blue Book Volume 1' (Landcom 2004) and the 'Blue Book Volume 2' (DECC 2008) prepared by a certified practitioner in erosion and sediment control in accordance Managing Urban Stormwater: Soils and Construction: Volume 2C and 2E Mines and Quarries (DECC 2008).*	Refer to Section 4.4.2 (i) – Proposed surface water management
• *It is recommended that the applicant demonstrate that the proposed sediment ponds are sized to achieve neutral or beneficial effect for water quality for the operational phase of development. This can be demonstrated using MUSIC modelling which will identify concentration discharge values required to achieve the predevelopment loads (note this may be above the requirements set by the Blue Book). Refer to Council's Guidelines for Water Sensitive Design Strategies to understand the requirements for the MUSIC Modelling and Drainage Plans / WSD Strategy report for the site.*	Refer to Section 4.4.2 (i) – Proposed surface water management
• *Council's Water Quality team should be consulted prior to lodgement to confirm the precondition for NorBE targets.*	Refer to Section 4.4.1 (ii) – Existing surface water management
• *Erosion and sediment control measures should include plans which include sediment basin dimensions and location, stormwater flow lines, stockpile locations, diversion banks and sediment fencing for each stage (if appropriate).*	Refer to Section 4.4.2 (i) – Proposed surface water management
• *It is recommended that the applicant contact the NSW EPA as the premises holds an Environmental Protection Licence (EPL) to inquiry what information they would require when reviewing the application/amending the EPL.*	As detailed in Section 4.4 – Water management, no amendments to EPL 4812 are sought in relation to existing water quality or discharge limits.

Table 1.4 Pre-lodgement matters and responses

Matter	Response
Traffic	
MCC need to be satisfied that no additional movement will occur due to the expansion. If the traffic operations are changing then a Traffic Impact Assessment is required, so the applicant will need to provide information that demonstrates: • *Will there be an increase in vehicle loading (how much product they are carrying or bigger trucks)* • *Will there be longer vehicles that need access (larger turning requirement)* • *Wil there be an increase to vehicle movements (additional cars/trucks/plant entering or leaving the premises* *They will need to assess this along with the condition of Bulleys Road.*	As considered in Section 4.7– Other matters, DA 93/31 permits a maximum of 120 truck movements per day. No additional traffic would be generated by the proposed modification and the operation would continue to restrict truck movements to the maximum of 120 per day. There would be no additional vehicles generated by the proposed modification and therefore no additional impacts to the local and surrounding road network. There would also be no change to the size or types of trucks at the quarry. Boral has been in discussion with Council since July 2024 with regard to the maintenance of Bulleys Road. Council's Team Leader Strategic Assets, Matt McFayden, and Senior Engineer, Greg Pitt are to follow up on an inspection and report on Bulleys Road with the Quarry Manager.
Noise	
An acoustic report is to be prepared by a suitably qualified acoustic consultant. The acoustic assessment should include the following: • *detailed assessment of the likely construction, operational and offsite transport noise impacts of the proposed development in accordance with the Interim Construction Noise Guideline, NSW Noise Policy for Industry and the NSW Road Noise Policy respectively.*	As considered in Section 4.2 – Noise and vibration, a noise and vibration impact assessment (MAC, 2024) has been prepared to accompany the modification application and has informed the preparation of this SEE. Traffic related noise impacts were not considered as part of the assessment as no additional traffic would be generated by the proposed modification.
• *proposed blasting hours, frequency and methods.*	Refer to Section 4.2.2 (ii) – Blasting and vibration
• *a detailed assessment of the likely blasting impacts of the development (including noise, vibrations, overpressure, visual and odour) on people, animals, buildings, infrastructure and significant natural features, having regard to the relevant ANZEC guidelines.*	Refer to Section 4.2.2 (ii) – Blasting and vibration
• *reasonable and feasible mitigation measures to minimise noise emissions;*	Refer to Section 4.2.3 – Management and mitigation
• *monitoring and management measures; and*	Refer to Section 4.2.3 – Management and mitigation
• *the potential for noise emanating from the premises and associated road use resulting in sleep disturbance at residential receivers in accordance with the NSW Noise Policy for Industry.*	Sleep disturbance was not considered as part of the assessment as hours of operation are limited to daytime hours specified in DA 93/31.There are no proposed changes to operating hours or truck movements.
Air quality	
A detailed assessment of potential construction and operational impacts, in accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW, and with a particular focus on dust emissions including PM2.5 and PM10.	As considered further in Section 4.1 – Air quality, an air quality impact assessment (TAS, 2024) has been prepared to accompany the modification application and has informed the preparation of this SEE.
An assessment of potential dust and other emissions generated from processing, operational activities and transportation of quarry products.	Refer Section Refer to Section 4.1.1 (iv) – Estimated emissions
Reasonable and feasible mitigation measures to minimise dust and emissions.	Refer to Section 4.1.3 – Management and mitigation
Monitoring and management measures, in particular, real-time air quality monitoring.	Refer to Section 4.1.3 – Management and mitigation

Table 1.4 Pre-lodgement matters and responses

Matter	Response
Air quality impacts from traffic movement on residential receivers.	Traffic related air quality impacts were not considered as part of the assessment as no additional traffic would be generated by the proposed modification.
Ecology	
Preparation of a BDAR required as the 1 ha clearing threshold will be triggered under the Biodiversity Offset Scheme (BOS).	As considered further in Section 4.3, a biodiversity development assessment report (BDAR) (Niche, 2024) has been prepared to accompany the modification application and has informed the preparation of this SEE.
Council will require a local biodiversity offset such as expanding the existing conservation area.	The MidCoast Council *Procedure for offsetting biodiversity impacts associated with Part 5 council activities 2020* was reviewed. The procedure limits the consideration of local offsetting to MidCoast Council activities under Part 5 of the EP&A Act and is not relevant to the proposed modification, which is being considered under Part 4 of the EP&A Act.
Requirement for a monitoring report in accordance with the EMP and Fauna Strike Avoidance Strategy	An updated EMP (Boral, 2024) was provided to Council on 25 June 2024, with the Annual Production Report and Fauna Strike Avoidance Strategy being provided to Council on 3 July 2024.
Revised quarry rehabilitation plan to include extension area.	As considered further in Section 4.7 Other matters, the future rehabilitation of the proposed extension area would be undertaken in accordance with the objective for rehabilitation contained in the original EIS (Sinclair Knight, 1993).
DA Lodgement	
The applicant is advised that Council reserves the right to make the determination as to whether the application may be required to be amended to be a new application.	As considered further in Section 3.2.1 (ii), the proposed modification has been assessed as being commensurate with a modification made under Section 4.55 (2) of the EP&A Act and has been found to be substantially the same development as the development for which the consent was originally granted.

2 The proposed modification

2.1 Justification for the proposed modification

The quarry is located at the northern extent of the Hunter Region on the southern border of the North Coast Region and in close proximity to the regional city of Port Macquarie.

The NSW Government's *Hunter Regional Plan 2041* (the Hunter Regional Plan) (DPE, 2022) is a strategic regional land use plan which sets a 20-year vision to manage growth and change for the Hunter region in the context of social, economic and environmental matters. It provides the overarching strategic planning framework for the Hunter region.

As set out in the Hunter Regional Plan, the Hunter region is the largest regional economy in Australia and is experiencing significant growth, with an additional 89,850 people predicted in the region over the next 20 years. The Hunter Regional Plan emphasises the need for management of a variety of resources that would support future regional growth. This includes the need to secure supply of construction materials to support the continuing demand for additional housing and supporting infrastructure.

The NSW Government's *Port Macquarie Regional City Action Plan* 2036, (the Port Macquarie Regional Plan) aims to help Port Macquarie fulfill its potential as a thriving regional centre built on the city's growth and diversified economy. The Port Macquarie Regional Plan estimates that an additional 11,950 homes would be required to house the projected population as the city transitions into a 'true regional city'.

The NSW Government's *North Coast Regional Plan 2041* (the North Coast Regional Plan) is a strategic regional land use plan which sets a 20-year vision to support a strong and growing economy. It recognises the importance of natural resources, including extractive materials. This includes the need to plan for ongoing productive use of lands with regionally significant construction material resources in locations with established infrastructure and resource accessibility.

The quarry is strategically located within proximity to these regional areas, and the proposed modification would be consistent with and supports the achievement of the aims and objectives of the regional plans, by:

- enabling the ongoing productive use of lands with regionally significant construction material resources;
- providing for the orderly and economical use of the land by capitalising on an existing operational quarry and processing facility with proven high-quality products, with good connectivity to the existing transport network;
- facilitating the ongoing supply of materials to the local and regional markets of the Greater Hunter, Port Macquarie and North Coast;
- maximising the efficient extraction of the high-quality resource at the existing quarry, thereby delaying or eliminating the need for new impacts of developing potentially less suitable greenfield sites;
- continuing to employ existing workers at the site; and
- providing ongoing operational expenditure that would have flow-on economic benefits for local and regional areas.

2.2 Details of the proposed modification

The current quarry consent (DA 93/31) expires in July 2026. Due to the ongoing demand for high quality hard rock quarry products, Boral is seeking consent from the MidCoast Council (Council) to modify DA 93/31 to allow for continued operations at the quarry.

The proposed modification is sought pursuant to Section 4.55 (2) of the EP&A Act to:

- extend the life of the quarry by an additional 15 years (until 2041); and
- extend the area of approved quarry operations by 2.03 ha to the north-east to provide access to approximately 2.3 million tonnes (Mt) of additional resource.

There would be no other changes, noting that the proposed modification does not seek to modify:

- the approved rate of extraction;
- the depth of extraction;
- the type of product being extracted;
- existing drill and blast extraction methods;
- truck types or the number of movements;
- hours of operation;
- the number of employees;
- existing site office, amenities and weighbridge; and
- existing stockpile areas, crushing and screening plant, and mobile machinery.

Figure 2.1 shows the proposed extension area in relation to the area of quarry operations as a whole. The area of quarry operations includes the existing extraction area, haul roads, plant area, stockpile and loading area, truck staging area, noise bunds and water management structures and is approximately 16.46ha. The proposed extension area is 2.03 ha, which represents a 12% increase to the current area of quarry operations.

Future operations would continue to adopt the same quarry methodology as for the existing operations as described in Section 1.6.

The quarry is well equipped with existing extraction and drilling equipment, loaders and haul trucks. No additional equipment is required for the proposed modification. A mobile crushing plant was approved as part of the modification to the consent in 2007 (Modification 1) and would continue to be used as required.

A comparative assessment of the main components of the current approval against the proposed modification is provided in Table 2.1.

Table 2.1 Comparison of the main components of the proposed modification

Component	Original consent	Existing (as modified) consent	The proposed modification
Life of the quarry	July 2018	July 2026	July 2041
Quarry operations area	15 ha	16.46 ha	18.49 ha
Depth of extraction	35 m AHD	0 m AHD	No change
Approved annual production	100,000 tonnes per annum (tpa)	300,000 tpa[1]	No change
Truck routes	Southbound through Johns River Village and Northbound on Pacific Highway via Bulleys Road / Stewarts River interchange	No change	No change
Truck movements	60 per day	120 per day (60 each way)	No change
Operating hours (including stockpiling, processing, truck loading and dispatch)	Monday to Friday: 6.30 am to 5.30 pm Saturday: 6.30 am to 1.30 pm Sunday: No works	Monday to Friday: 7 am to 6 pm Saturday: 7 am to 1.30 pm Sunday: No works	No change
Blasting hours	Monday to Friday: 11 am to 3 pm	Monday to Friday: 9 am to 3 pm Saturday: 9 am to 1.30 pm	No change
Method of extraction	Drill and blast	No change	No change
Infrastructure	Fixed and mobile plant	No change	No change

Table 2.1 Comparison of the main components of the proposed modification

Component	Original consent	Existing (as modified) consent	The proposed modification
	Storage Workshop Weighbridge Office and amenities		
Employment	10 full time equivalent (FTE)	No change	No change

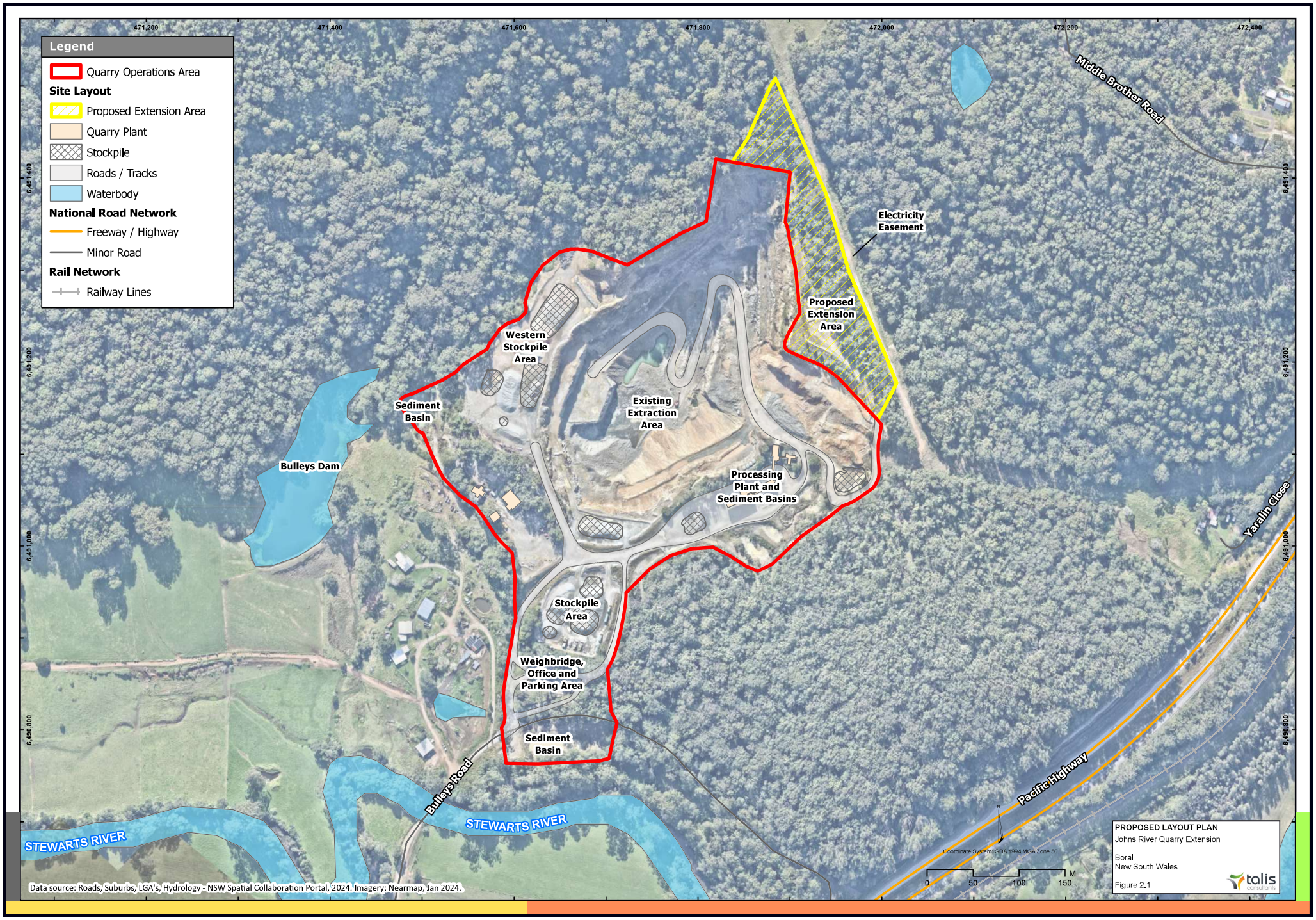
Note: 1. DA 93/31 allows for an increase in the annual production rate to 450,000 tpa for approved special projects

2.3 Proposed environmental management

The existing environmental management framework at the quarry would be updated to reflect the outcomes and recommendations of the technical assessments prepared to accompany this modification application and to ensure that future operations are compliant with relevant government legislation and requirements.

This would include:

- updating the site EMP (Boral, 2024) to incorporate the proposed modification and the inclusion of an updated Aboriginal cultural heritage unexpected finds protocol (refer Section 4.5 – Aboriginal cultural heritage);
- updating the existing site WMP (Groundworks Plus, 2016) to reflect the change in catchment size and ensure that the sediment basins are appropriately sized (refer Section 4.4 – Water management);
- revising the noise limits in EPL 4812 to reflect contemporary government assessment criteria (refer Section 4.2 – Noise and vibration); and
- amending the conditions of consent of DA 93/31 to reflect the proposed modification.


Legend
Quarry Operations Area
Site Layout
Proposed Extension Area
Quarry Plant
Stockpile
Roads / Tracks
Waterbody
National Road Network
Freeway / Highway
Minor Road
Rail Network
Railway Lines
471,200
471,400
471,600
471,800
472,000
472,200
472,400
6,491,400
6,491,200
6,491,000
6,490,800
Middle Brother Road
Electricity Easement
Proposed Extension Area
Western Stockpile Area
Sediment Basin
Existing Extraction Area
Bulleys Dam
Processing Plant and Sediment Basins
Yaralin Close
Stockpile Area
Weighbridge, Office and Parking Area
Sediment Basin
Bulleys Road
STEWARTS RIVER
STEWARTS RIVER
Pacific Highway
Coordinate System: GDA 1994 MGA Zone 56
0
50
100
150
M
PROPOSED LAYOUT PLAN
Johns River Quarry Extension
Boral
New South Wales
Figure 2.1
talis consultants
Data source: Roads, Suburbs, LGA's, Hydrology - NSW Spatial Collaboration Portal, 2024. Imagery: Nearmap, Jan 2024.

3 Statutory planning framework

3.1 Commonwealth legislation

3.1.1 Environment Protection and Biodiversity Conservation Act 1999

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides a national framework for environmental protection and management of nationally and internationally important flora, fauna, ecological communities and heritage places. Part 3 of the EPBC Act lists the following nine matters of national environmental significance (MNES):

- world heritage properties;
- national heritage places;
- wetlands of international importance (Ramsar wetlands);
- nationally threatened species and ecological communities;
- migratory species;
- Commonwealth marine areas;
- the Great Barrier Reef Marine Park;
- nuclear actions (including uranium mining); and
- a water resource, in relation to coal seam gas development and large coal mining development.

An action taken by any person on Commonwealth land that is likely to have a significant impact on the environment or an action taken by any person outside of Commonwealth land that is likely to have a significant impact on MNES may require approval from the Commonwealth Minister for Environment and Water.

As considered further in Section 4.3 - Biodiversity, the biodiversity development assessment report (Niche, 2024) identified one MNES that may be impacted by the proposed modification, being Koala (*Phascolarctos cinereus*). An assessment of significance was prepared, which concluded that impacts to the Koala are not likely to be significant. This is due largely to the relatively small clearing area (1.84 ha) and the degree of disturbance.

3.2 NSW legislation

3.2.1 Environmental Planning and Assessment Act 1979 (EP&A Act)

i Modification approval pathway

Development consents granted under Part 4 of the EP&A Act may be modified under Section 4.55 of the EP&A Act. Given the relatively small scale and minor nature of the proposed modification, it is proposed that it be assessed pursuant to Section 4.55 (2). The particulars of the relevant section are reproduced below (underlined for emphasis).

> *(2) Other modifications*
>
> *A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if:*
>
> *(a) it is satisfied that the development to which the consent as modified relates is <u>substantially the same development</u> as the development for which consent was originally granted and before that consent as originally granted was modified (if at all), and*

(b) it has consulted with the relevant Minister, public authority or approval body (within the meaning of Division 4.8) in respect of a condition imposed as a requirement of a concurrence to the consent or in accordance with the general terms of an approval proposed to be granted by the approval body and that Minister, authority or body has not, within 21 days after being consulted, objected to the modification of that consent, and

(c) it has notified the application in accordance with:

(i) the regulations, if the regulations so require, or

(ii) a development control plan, if the consent authority is a council that has made a development control plan that requires the notification or advertising of applications for modification of a development consent, and

(d) it has considered any submissions made concerning the proposed modification within the period prescribed by the regulations or provided by the development control plan, as the case may be.

ii Substantially the same development

A development consent may be modified under Section 4.55 (2) provided it is 'substantially the same development' as the development for which the consent was originally granted.

The proposed modification is substantially the same as the original consent DA 93/31 which permitted the extraction of granodiorite rock from an in-situ resource of approximately 4 million tonnes. The proposed modification seeks only to extend the extraction area to the north-east by 2.03 ha, which represents an increase of only 12% of the existing quarry operations area, and extend the life of the quarry by a further 15 years. There would be no other changes as a result of the proposed modification, noting that it does not seek to modify:

- the approved rate of extraction;
- depth of extraction;
- the type of product being extracted;
- existing extraction methods – removal of overburden, drilling and blasting;
- truck types or the number of movements;
- hours of operation;
- the number of employees;
- existing site office, amenities and weighbridge; and
- stockpile areas, crushing and screening plant and mobile machinery.

The proposed modification would not change the current rates of production or transportation and therefore the only potential impacts relate to the physical disturbance of the proposed minor extension to the existing extraction area. Potential amenity impacts in relation to emissions from air, noise and blasting on nearby sensitive (residential) receivers have been assessed as meeting relevant government criteria. The residual impacts on terrestrial biodiversity as a result of clearing would be offset with the benefit of protecting areas of similar native vegetation communities in perpetuity and there are not predicted to be any impacts to Aboriginal cultural heritage. There would be no additional demand for operational water, and it has been demonstrated that the proposed modification could meet relevant water controls, including meeting the Neutral or Beneficial test for water quality.

To determine whether a proposed modification is 'substantially the same' requires a comparative task between the whole development as originally approved, and the development as proposed to be modified. This is demonstrated above and in Table 2.1 – Comparison of the main components of the proposed modification.

iii Matters for consideration

Modification applications under Section 4.55 (2) of Division 4.9 are required to take into consideration relevant matters referred to in Section 4.15 (1) of the EP&A Act. The relevant matters and where they have been addressed in this SEE are detailed in Table 3.1.

Table 3.1 EP&A Act Section 4.15 (1) matters for consideration

EP&A Act - Section 4.15 (1) matters for consideration	Where addressed
(a) the provisions of:	
i. any environmental planning instrument, and	Refer Section 3.2.4 – Environmental Planning Instruments
ii. any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed instrument has been deferred definitely or has not been approved), and	Refer to Section 3.2.4 (iii) – Draft MidCoast Local Environmental Plan
iii. any development control plan, and	Refer to Section 3.2.5 – Greater Taree Development Control Plan 2010
Iii a. any planning agreement that has been entered into under Section 7.4, or any draft planning agreement that a developer has offered to enter into under Section 7., and	There are no planning agreements or draft planning agreements that relate to the quarry or the proposed modification
iv. the regulations (to the extent that the prescribed matters for the purposes of this paragraph),	Refer to Section 3.2.2 – Environmental Planning and Assessment Regulation
(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality.	Refer to Chapter 4 – Assessment
(c) the suitability of the site for the development,	Refer to Section 4.9 – Suitability of the site
(d) any submissions made in accordance with this Act or the regulations,	Council will consider any relevant submissions received during public exhibition of the modification application
(e) the public interest.	Refer to Section 4.10 – The public interest

iv Designated development

Section 4.10 of the EP&A Act identifies development that is declared to be designated development by an environmental planning instrument or the EP&A Regulation.

Schedule 3, Part 1 of the EP&A Regulation describes different classes of development that are considered designated development, subject to the development meeting the relevant criteria for each class and Class 19 relates to extractive industries.

Section 4.12 (8) of the EP&A Act requires a development application for State significant development or designated development is to be accompanied by an environmental impact statement (EIS). However, Section 4.12 (8) does not apply to modification applications under Section 4.55 of the EP&A Act as they are not a development application under Section 1.4 of the EP&A Act.

Section 1.4 of the EP&A Act states that:

> ***development application*** *means an application for consent under Part 4 to carry out development but does not include an application for a complying development certificate.*

Section 4.55 (4) of the EP&A Act states that:

The modification of a development consent in accordance with this section is taken not to be the granting of development consent under this Part, but a reference in this or any other Act to a development consent includes a reference to a development consent as so modified.

It therefore follows that a modification application, which under Section 4.55 (4) of the EP&A Act, is explicitly taken not to be an application for the granting of a development consent, is not a development application. Therefore, Section 4.12 (8) does not apply and an EIS in not required for the modification application.

v Integrated development

The EP&A Act identifies 'integrated development' as development that, in order for it to be carried out, requires development consent and one or more approvals under various other acts listed. Although Section 4.47 of the EP&A Act specifies that integrated development only applies to the determination of a development application, Section 4.50 allows for an approval body to vary their terms of approval in the event of a modification to a development consent.

Section 4.50 (4) & (5) of the EP&A Act states that:

(4) An approval body cannot vary the terms of an approval granted for integrated development for which development consent has been granted before the expiration, lapsing or first renewal of the approval, whichever first occurs, other than to make variations that are not inconsistent with the development consent.

(5) Subsection (4) does not prevent—

(a) the modification, in accordance with section 4.55 or 4.57, of the development consent at any time, or

(b) if a development consent is modified as referred to in paragraph (a) before the expiration, lapsing or first renewal, whichever first occurs, of the approval, the modification in accordance with law of the approval to any necessary consequential extent, or

(c) the exercise by the approval body of any of its other functions, such as the issuing of orders, the suspension or cancellation of an approval or the prosecution of offences.

Section 109 of the EP&A Regulation provides for the notification of a modification application to an approval body.

Section 109 (1) of the EP&A regulation states:

(1) As soon as practicable after a modification application under the Act, section 4.55(1) or (1A) is lodged, the consent authority must give a copy of the application to—

(b) if the modification affects the general terms of approval of an approval body—the approval body.

3.2.2 Environmental Planning and Assessment Regulation 2021

An application for a modification of a development consent under Section 4.55 of the EP&A Act must contain the information stipulated in Clause 100 of the EP&A Regulation. The required information and where it has been addressed is detailed in Table 3.2.

Table 3.2 Information required for a modification application under Clause 100 of the EP&A Regulation

EP&A Regulation - Clause 100 requirements	Where addressed
(1) A modification application must contain the following information—	
(a) the name and address of the applicant,	Table 1.1 – Applicant details
(b) a description of the development that will be carried out under the development consent,	Section 1.6 – Existing operations
(c) the address and folio identifier of the land on which the development will be carried out,	Section 1.4 – The site and surrounding area

Table 3.2 Information required for a modification application under Clause 100 of the EP&A Regulation

EP&A Regulation - Clause 100 requirements	Where addressed
(d) a description of the modification to the development consent, including the name, number and date of plans that have changed, to enable the consent authority to compare the development with the development originally approved,	Chapter 2 – The proposed modification Table 2.1 – Comparison of the main components of the proposed modification with original and existing (as modified) consents
(e) whether the modification is intended to— *(i) merely correct a minor error, misdescription or miscalculation, or* *(ii) have another effect specified in the modification application,*	Section 3.2.1 (i) – Modification approval pathway
(f) a description of the expected impacts of the modification,	Chapter 4 – Assessment
(g) an undertaking that the modified development will remain substantially the same as the development originally approved,	Section 3.2.1 (ii) – Substantially the same development
(h) for a modification application that is accompanied by a biodiversity development assessment report—the biodiversity credits information,	Section 4.3 – Biodiversity assessment
(i) if the applicant is not the owner of the land—a statement that the owner consents to the making of the modification application,	Refer to attachment
(j) whether the modification application is being made to— *(i) the Court under the Act, section 4.55, or* *(ii) the consent authority under the Act, section 4.56.*	Section 3.2.1 (i) – Modification approval pathway

3.2.3 Other NSW legislation

A consideration of the other NSW legislation and the applicability in relation to the proposed modification is provided in Table 3.3.

Table 3.3 Other NSW legislation

Legislation	Particulars	Further approvals/assessment requirements
Protection of the Environment Operation Act 1997 (POEO Act)	The POEO Act requires that scheduled premises, which are defined in Schedule 1 of the POEO Act, obtain and operate an EPL. The quarry is defined as a scheduled premise and has an EPL (EPL 4812) administered by the NSW Environment Protection Authority (EPA). EPL 4812 provides for the extraction of between 100,000 tpa to 500,00 tpa of quarry material.	As considered further in Section 4.2 – Noise and vibration, the existing noise limits in EPL 4812 will need to be amended to reflect contemporary government assessment criteria, noting that the proposed modification would meet all relevant criteria.
Water Management Act 2000 (WM Act)	The *Water Management Act 2000* (WM Act) requires a controlled activity approval to carry out work in a watercourse or within 40 m of the bank of a river. The WM Act requires a water access license (WAL) for the controlled allocation of water.	No work is proposed in a watercourse or within 40 m of the bank of a river. The quarry has a Water Access Licence (WAL 42101) with an allocation of 5 shares (up to 5 ML/units annual allocation) from the Lorne Aquifer.
National Parks and Wildlife Act 1974 (NPW Act)	The NPW Act aims to conserve nature and objects, places or features of cultural value. An Aboriginal Heritage Impact Permit (AHIP) is required for any activities likely to have an impact on Aboriginal objects or Places or cause land to be disturbed for the purposes of discovering an Aboriginal object.	None

Table 3.3 Other NSW legislation

Legislation	Particulars	Further approvals/assessment requirements
	As detailed in Section 4.5 -Aboriginal heritage, an Aboriginal cultural heritage assessment (MCH, 2024) has been prepared, which identified that there would be no impact to places, objects and features of significance to Aboriginal people as a result of the proposed modification. Accordingly, an AHIP is not required.	
Heritage Act 1997 (Heritage Act)	The Heritage Act includes provisions relating to the protection and management of heritage items (historic heritage). There are no heritage listed items that would be impacted by the proposed modification.	None
Biodiversity Conservation Act 2016 (BC Act)	The BC Act aims to protect biological diversity of NSW and lists threatened or endangered flora and fauna species and ecological communities. Under the EP&A Act, impacts on threatened species listed under the BC Act are required to be assessed. As detailed in Section 4.3 – Biodiversity, a biodiversity development assessment report (BDAR) (Niche, 2024) has been prepared in accordance with the BC Act, with any impacts as a result of clearing to be offset with the benefit of protecting areas of similar native vegetation communities in perpetuity.	None
Roads Act 1993 (Roads Act)	Under Section 138 of the Road Act, consent is required to erect a structure or carry out work in, on or over a public road. The proposed modification does not involve any change to existing traffic and truck movements and there would be no works required in, on or over a public road.	None
Contaminated Lands Management Act 1997 (CLM Act)	The CLM Act establishes a process for investigating, and where required, remediating contaminated lands that pose a risk to human health and the environment. The EPA's Contaminated Land Record and List of Contaminated Sites notified to the EPA in the MidCoast LGA was searched in August 2024. The quarry is not recorded or identified on the relevant registers.	None

3.2.4 Environmental planning instruments

i State environmental planning polices

a State Environmental Planning Policy (Resources and Energy) 2021

Chapter 2 of the NSW *State Environmental Planning Policy (Resources and Energy) 2021* (Resources and Energy SEPP) regulates the permissibility of mining, extractive industries and related development. Part 2.3 of the Resources and Energy SEPP identifies matters that are to be considered by consent authorities in the determination of relevant applications. Table 3.4 provides a consideration of the proposed modification against these matters.

Table 3.4 Matters to be considered by a consent authority under the Resources and Energy SEPP

Matter	Comment
2.20 Natural resource management and environmental management	
(1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring that the development is undertaken in an environmentally responsible manner, including conditions to ensure the following—	As considered in Section 4.4 – Water management, a surface water assessment (Southeast, 2024) was undertaken with respect to water quantity and quality, which identified that the proposed modification could meet relevant water controls,

Table 3.4 Matters to be considered by a consent authority under the Resources and Energy SEPP

Matter	Comment
(a) that impacts on significant water resources, including surface and groundwater resources, are avoided, or are minimised to the greatest extent practicable, *(b) that impacts on threatened species and biodiversity, are avoided, or are minimised to the greatest extent practicable,* *(c) that greenhouse gas emissions are minimised to the greatest extent practicable.*	including meeting the Neutral or Beneficial test for water quality. As considered in Section 4.3 – Biodiversity, a biodiversity development assessment report (Niche 2024) was prepared, which identified that there would be no impacts to threatened species. The proposed modification would not increase the rate of production/transportation and therefore there would be no increase in current levels of greenhouse gas emissions, which would continue for the life of the quarry.
(2) Without limiting subsection (1), in determining a development application for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider an assessment of the greenhouse gas emissions (including downstream emissions) of the development and must do so having regard to any applicable State or national policies, programs or guidelines concerning greenhouse gas emissions.	As above, the proposed modification would not increase the rate of production/transportation and therefore there would be no increase in current levels of greenhouse gas emissions, which would continue for the life of the quarry.
2.21 Resource recovery	
(1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider the efficiency or otherwise of the development in terms of resource recovery.	The proposed modification would assist in ensuring the efficiency of the quarry by allowing access to a significant additional resource with minimal environmental impacts.
(2) Before granting consent for the development, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at optimising the efficiency of resource recovery and the reuse or recycling of material.	There would be no additional generation of waste as a result of the proposed modification. As considered further in Section 4.7 Other matters, waste would continue to be managed in accordance with the site's EMP (Boral, 2024) and the principles of the waste management hierarchy in accordance with the NSW *Waste Avoidance and Resource Recovery Act 2001* (WARR Act).
(3) The consent authority may refuse to grant consent to development if it is not satisfied that the development will be carried out in such a way as to optimise the efficiency of recovery of minerals, petroleum or extractive materials and to minimise the creation of waste in association with the extraction, recovery or processing of minerals, petroleum or extractive materials.	As above.
2.22 Transport	
(1) Before granting consent for development for the purposes of mining or extractive industry that involves the transport of materials, the consent authority must consider whether or not the consent should be issued subject to conditions that do any one or more of the following— *(a) require that some or all of the transport of materials in connection with the development is not to be by public road,* *(b) limit or preclude truck movements, in connection with the development, that occur on roads in residential areas or on roads near to schools,* *(c) require the preparation and implementation, in relation to the development, of a code of conduct relating to the transport of materials on public roads*	The proposed modification would not result in any change to the transportation of materials from the quarry on public roads.
(2) If the consent authority considers that the development involves the transport of materials on a public road, the consent authority must, within 7 days after receiving the development application, provide a copy of the application to— *(a) each roads authority for the road, and* *(b) the Roads and Traffic Authority (if it is not a roads authority for the road).*	As above, the proposed modification would not result in any change to the transportation of materials on public roads.

Table 3.4 Matters to be considered by a consent authority under the Resources and Energy SEPP

Matter	Comment
The consent authority— *(a) must not determine the application until it has taken into consideration any submissions that it receives in response from any roads authority or the Roads and Traffic Authority within 21 days after they were provided with a copy of the application, and* *(b) must provide them with a copy of the determination.*	N/A
(4) In circumstances where the consent authority is a roads authority for a public road to which subsection (2) applies, the references in subsections (2) and (3) to a roads authority for that road do not include the consent authority.	N/A
2.23 Rehabilitation	
(1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring the rehabilitation of land that will be affected by the development.	As considered further in Section 4.7 – Other matters, the rehabilitation of the proposed extension area would be undertaken in accordance with the objectives of the rehabilitation plan contained in the original EIS for DA 93/31 (Sinclair Knight, 1993).
(2) In particular, the consent authority must consider whether conditions of the consent should— *(a) require the preparation of a plan that identifies the proposed end use and landform of the land once rehabilitated, or* *(b) require waste generated by the development or the rehabilitation to be dealt with appropriately, or* *(c) require any soil contaminated as a result of the development to be remediated in accordance with relevant guidelines (including guidelines under clause 3 of Schedule 6 to the Act and the Contaminated Land Management Act 1997), or* *(d) require steps to be taken to ensure that the state of the land, while being rehabilitated and at the completion of the rehabilitation, does not jeopardize public safety.*	As above, the rehabilitation of the proposed extension area would be undertaken in accordance with the objectives of the rehabilitation plan contained in the original EIS (Sinclair Knight, 1993).

b State Environmental Planning Policy (Resilience and Hazards) 2021

Chapter 2 of the *NSW State Environmental Planning Policy (Resilience and Hazards) 2021* (Resilience and Hazards SEPP), contains planning provisions for land use planning within the four management areas that comprise the coastal zone. The existing quarry operations area is partially mapped within the coastal environment area pursuant to the Resilience and Hazards SEPP. The proposed extension is not within the mapped coastal environment area.

Chapters 3 and 4 of the Resilience and Hazards SEPP applies to the development for the purposes of potentially hazardous or offensive industry and the remediation of land, respectively.

These chapters identify matters that are to be considered by consent authorities in the determination of relevant applications as set out in Table 3.5.

Table 3.5 Matters to be considered by a consent authority under the Hazards and Resilience SEPP

Matter	Comment
Chapter 2 Coastal Management	
Chapter 2 Development in the coastal environment area – requires the consent authority to be satisfied that the proposed development avoids, minimises or manages impacts on coastal environmental values and in particular the water	As considered in Section 4.4 – Water management, a surface water assessment (Southeast, 2024) was undertaken with respect to water quantity and quality, which identified that adverse impacts on

Table 3.5 Matters to be considered by a consent authority under the Hazards and Resilience SEPP

Matter	Comment
quality of sensitive coastal lakes identified in Schedule 1 of the SEPP. Stewarts River flows into Watsons Taylor Lake which is a scheduled sensitive coastal lake.	Watsons Taylor Lake would be avoided through the use of water management systems within the site.
Chapter 3 Hazardous and offensive	
Chapter 3 Hazardous and offensive development - requires the consent authority to consider whether a development proposal is a potentially hazardous or offensive industry.	As detailed in Section 4.7 – Other matters, the proposed modification is not classified as hazardous or offensive industry and therefore no further assessment has been undertaken.
Chapter 4 Remediation of Land	
Chapter 4 Remediation of land - aims to provide a state-wide planning approach to the remediation of contaminated land and to reduce the risk of harm to human health and the environment by consideration of contaminated land as part of the planning process. Under Chapter 4, a consent authority must not consent to the carrying out of development on land unless it has considered potential contamination issues.	As detailed in Section 4.7 – Other matters, the EPA's Contaminated Land Record and List of Contaminated Sites notified to the EPA in the MidCoast LGA was searched in August 2024. The quarry is not recorded or identified on the relevant registers.

ii Greater Taree Local Environmental Plan 2010

As shown in Figure 3.1 below, the site is zoned RU1 Rural pursuant to the *Greater Taree Local Environmental Plan 2010* (GTLEP 2010). Extractive industries are permissible with consent in the RU1 zone. The objectives of the RU1 zone are to:

- encourage sustainable primary industry production by maintaining and enhancing the natural resource base;
- encourage diversity in primary industry enterprises and systems appropriate for the area;
- minimise the fragmentation and alienation of resource lands;
- minimise conflict between land uses within this zone and land uses within adjoining zones;
- provide for small-scale and complementary rural tourism in association with the primary industry capability of the land; and
- maintain the rural landscape character of the land.

The proposed modification is consistent with the objectives of the RU1 zone. It would enable the continued operation of an existing extractive resource industry that would maintain the natural resource base, not result in any changes to the rural landscape character of the area and provide for a use that is compatible with the site and the surrounding area.

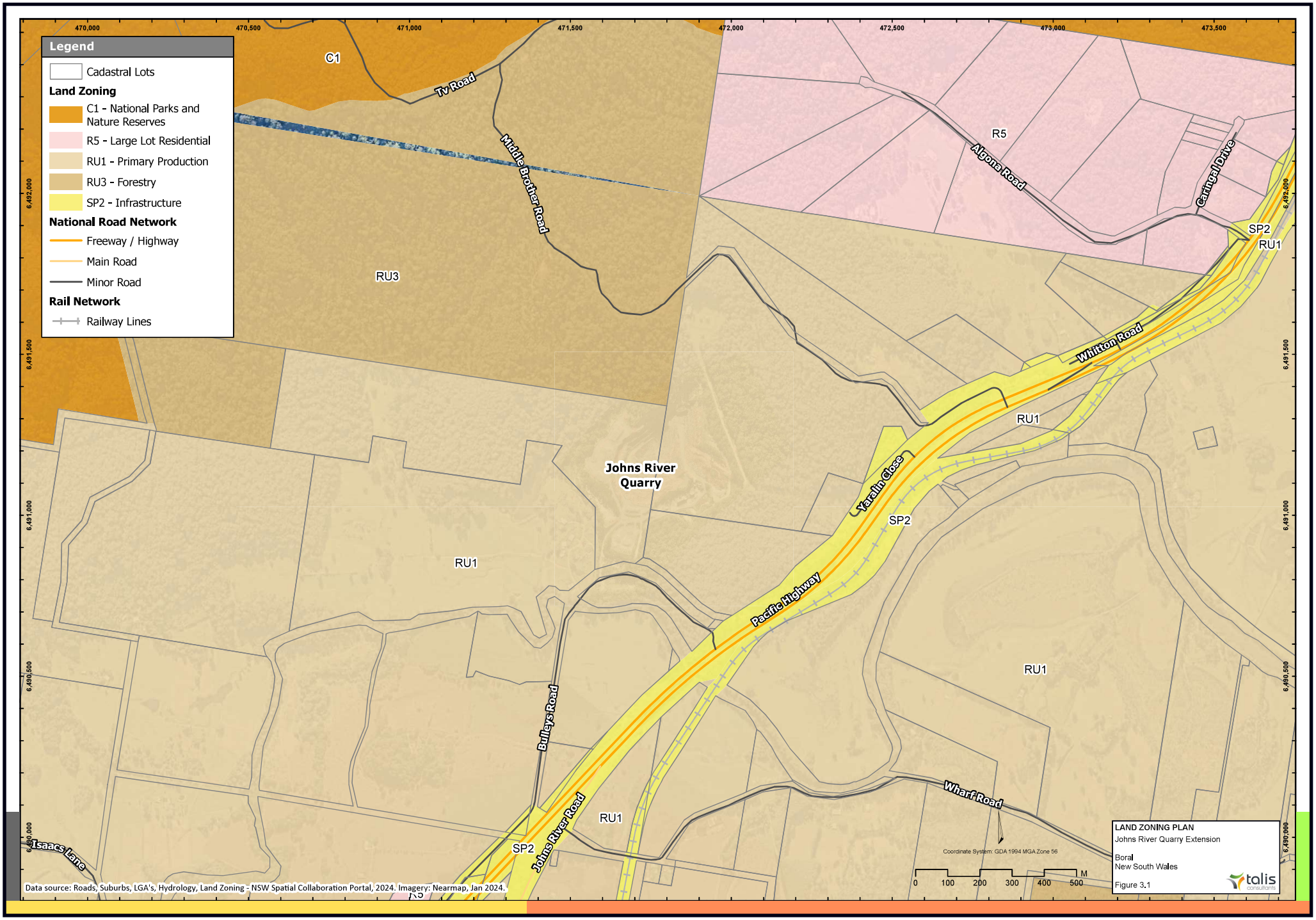
iii Draft MidCoast Local Environmental Plan

The site is proposed to be zoned RU4 Primary Production Small Lots pursuant to the draft *MidCoast Local Environmental Plan.* Extractive industries are permissible with consent in the RU4 zone. The objectives of the RU4 zone are to:

- enable sustainable primary industry and other compatible land uses;
- encourage and promote diversity and employment opportunities in relation to primary industry enterprises, particularly those that require smaller lots or that are more intensive in nature;
- minimise conflict between land uses within this zone and land uses within adjoining zones;
- provide for rural tourism in association with the primary industry production capability of the land which is based on the rural attributes of the land;

- promote productive rural landscapes by minimising the fragmentation of rural land; and
- maintain the rural landscape character of the land.

The proposed modification is consistent with the objectives of the proposed RU4 zone. It would enable the continued operation of an existing extractive resource industry that would maintain the natural resource base, not result in any changes to the rural landscape character of the area and provide for a use that is compatible with the site and the surrounding area.


Legend
Cadastral Lots
Land Zoning
C1 - National Parks and Nature Reserves
R5 - Large Lot Residential
RU1 - Primary Production
RU3 - Forestry
SP2 - Infrastructure
National Road Network
Freeway / Highway
Main Road
Minor Road
Rail Network
Railway Lines
470,000
470,500
471,000
471,500
472,000
472,500
473,000
473,500
6,492,000
6,491,500
6,491,000
6,490,500
6,490,000
C1
Tv Road
Middle Brother Road
RU3
R5
Algona Road
Caringal Drive
SP2
RU1
Whitton Road
RU1
Johns River Quarry
Yaralin Close
SP2
Pacific Highway
RU1
RU1
Bullleys Road
Johns River Road
SP2
RU1
Wharf Road
Isaacs Lane
R5
Coordinate System: GDA 1994 MGA Zone 56
0
100
200
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Data source: Roads, Suburbs, LGA's, Hydrology, Land Zoning - NSW Spatial Collaboration Portal, 2024. Imagery: Nearmap, Jan 2024.
LAND ZONING PLAN
Johns River Quarry Extension
Boral
New South Wales
Figure 3.1
talis consultants

3.2.5 Greater Taree Development Control Plan 2010

The *Greater Taree Development Control Plan 2011* (DCP 2010) applies to all development in the Greater Taree area (also referred to as the Manning Region under the local planning rules page on the MidCoast Council development plans and policies website). The DCP 2010 provides detailed guidelines and environmental controls to guide development in the Manning Region. It supports the objectives and planning provisions contained within GTLEP 2010. An assessment of the proposed modification against the relevant controls of GTDCP 2010 is provided in Table 3.6.

Table 3.6 GTDCP 2010 Compliance Table

Clause/requirement	Comment	Compliance
Part D Environmental Management		
D2 Environmental Buffers		
The site is affected by these provisions as it is identified on Map 2 – Environmental Buffers. Objectives General objectives and controls to limit new development in areas that might now or in the future be subject to impacts from quarries and ensure a buffer is provided between residential development and industrial activities to minimise the potential for land use conflict.	An adequate buffer would be maintained between the quarry and the closest residential properties to minimise the potential for land use conflict.	Yes
D3 Earthworks, erosion and sedimentation		
Objectives and performance criteria for any proposed development in relation to earthworks, erosion and sediment control. Applies to all applications for the placement of fill, building and road works, developments, subdivisions and activities which will or could involve: • disturbance of or placing of fill on the soil surface, and/or changes to the contours of the land; or • change in the rate and/or volume of runoff flowing over land, or directly/indirectly entering receiving waters.	As considered in Section 4.4 – Water management, a surface water assessment (Southeast, 2024) was undertaken with respect to water quantity and quality, which identified that the proposed modification could meet relevant water controls, including meeting the Neutral or Beneficial test for water quality. Erosion and sediment control measure would continue to be implemented, monitored and reported in accordance with the EMP (Boral, 2024).	Yes

4 Assessment

This chapter includes an assessment of the proposed modification against the relevant provisions of Section 4.15 of the EP&A Act, including a consideration of the environmental impacts on both the natural and built environments, the social and economic impacts in the locality, whether the site is suitable for the development, and whether it is in the public interest.

4.1 Air quality

An air quality impact assessment (AQIA) (TAS, 2024) was prepared to accompany the modification application, with the key findings summarised below.

4.1.1 Assessment methodology

The purpose of the assessment was to:

- provide a detailed assessment of potential operational impacts in accordance with the A*pproved Methods for the Modelling and Assessment of Air Pollutants in NSW* and with a particular focus on dust emissions including total suspended particulate (TSP) and particulate matters with an aerodynamic diameter of less than 10 microns (PM_{10}) and 2.5 microns ($PM_{2.5}$);
- assess potential dust and other emissions generated from processing and operational activities;
- present reasonable and feasible mitigation measures to minimise dust and emissions; and
- consider monitoring and management measures, in particular, real-time air quality monitoring.

Dispersion of air pollutants was modelled using the "CALPUFF" Modelling System", which combines estimated emission rates, neighbour emission sources, proposed mitigation measures and local meteorology to predict incremental and cumulative air quality impacts at sensitive residential receptors.

i Sensitive residential receptors

As described in Section 1.4, the quarry is located within a rural setting, with land uses immediately surrounding the quarry being rural residences, agriculture, forestry and conservation. Details of the sensitive receptors considered in the AQIA are provided in Table 4.1 and shown in Figure 4.1.

Table 4.1 Receptor locations

Receptor	Description	Coordinates (GDA94/MGA56)	
		Easting	Northing
R1	Residential	471871	6491636
R2	Residential	472358	6491025
R3	Residential	472383	6491438
R4	Residential	473130	6491641
R5	Residential	473323	6491690
R6	Residential	472608	6490961
R7	Residential	472749	6491073
R8	Residential	472441	6491945
R9	Residential	470151	6490679
R10	Residential	470249	6490101

Table 4.1 Receptor locations

Receptor	Description	Coordinates (GDA94/MGA56)	
		Easting	Northing
R11	Residential	470868	6489971
R12	Residential	471014	6490281
R13	Residential	471551	6490027
R14	Residential	471796	6489900
R15	Residential	471458	6490306
R16	Residential	472116	6490176
R17	Residential	472331	6490080
R18	Residential	473011	6490560

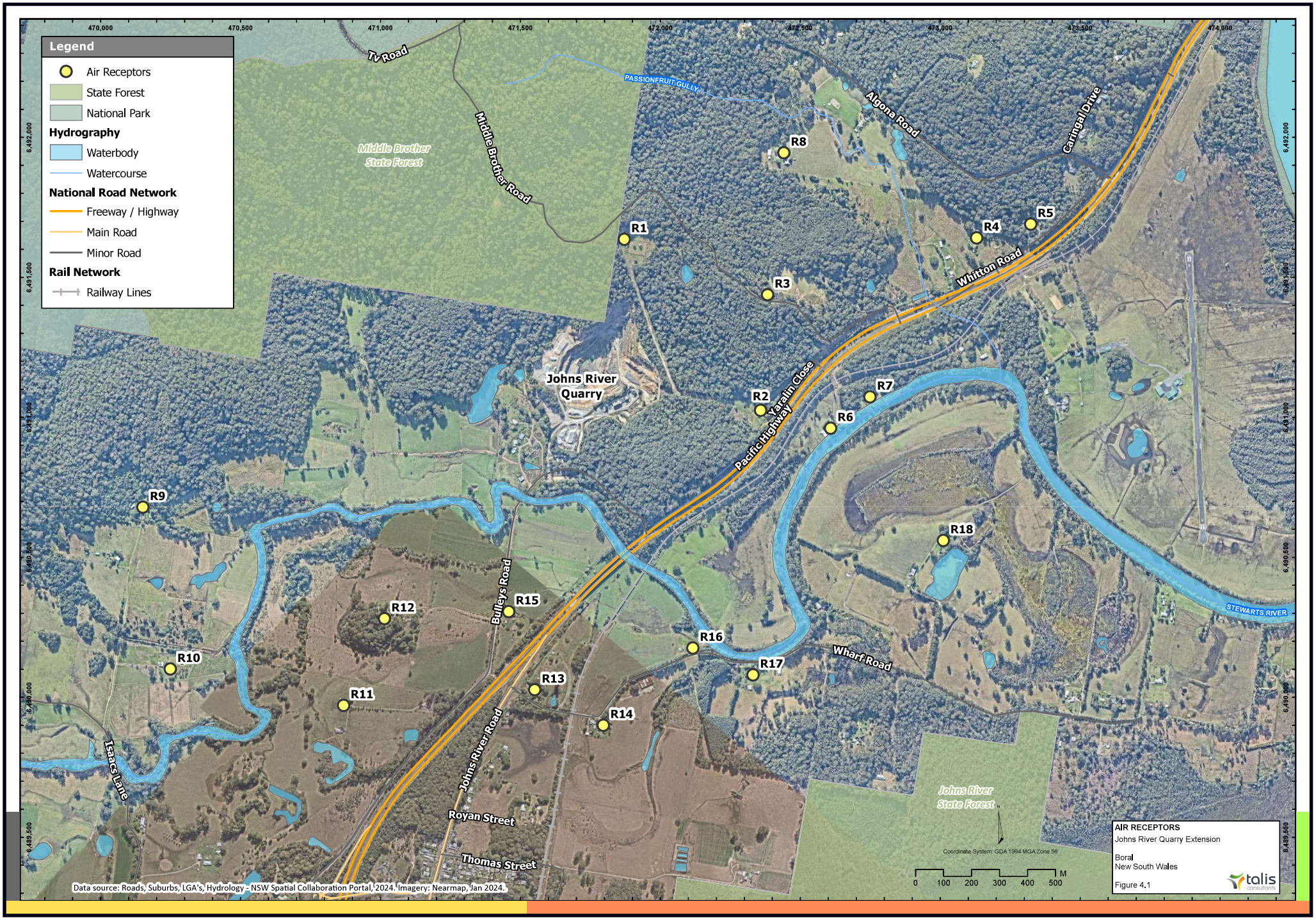
ii Air quality criteria

Table 4.2 summarises the air quality criteria relevant to the proposed modification as outlined in the NSW EPA document *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (EPA, 2022).

Table 4.2 NSW EPA air quality impact assessment criteria

Pollutant	Averaging period	Impact	Criterion
TSP	Annual	Total	90 µg/m^3[1]
PM_{10}	Annual	Total	25 µg/m^3
	24 hour	Total	50 µg/m^3
$PM_{2.5}$	Annual	Total	80 µg/m^3
	24 hour	Total	25 µg/m^3
Deposited dust	Annual	Incremental	2 g/m^2/month[2]
		Total	4 g/m^2/month

Notes: *1. µg/m^3 = micrograms per cubic metre*
2. g/m^2/month = grams per square metre per month


Legend
Air Receptors
State Forest
National Park
Hydrography
Waterbody
Watercourse
National Road Network
Freeway / Highway
Main Road
Minor Road
Rail Network
Railway Lines
470,000
470,500
471,000
471,500
472,000
472,500
473,000
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6,490,500
6,490,000
6,489,500
Ty Road
Middle Brother Road
Middle Brother State Forest
PASSIONFRUIT GULLY
Algona Road
Caringal Drive
Whitton Road
Johns River Quarry
Yaralla Close
Pacific Highway
Bulleys Road
Johns River Road
Isaacs Lane
Royan Street
Thomas Street
Wharf Road
STEWARTS RIVER
Johns River State Forest
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16
R17
R18
Data source: Roads, Suburbs, LGA's, Hydrology - NSW Spatial Collaboration Portal, 2024. Imagery: Nearmap, Jan 2024.
Coordinate System: GDA 1994 MGA Zone 56
0 100 200 300 400 500 M
AIR RECEPTORS
Johns River Quarry Extension
Boral
New South Wales
Figure 4.1
talis consultants

iii Baseline air quality

Air quality criteria refer to cumulative air quality concentrations which include existing and proposed sources. To fully assess impacts against all the relevant air quality criteria (summarised in Table 4.2 above) it is necessary to have information on existing PM concentration, deposition levels and dust sources in the vicinity of the quarry.

a $PM_{2.5}$ and PM_{10}

Ambient air quality monitoring data for PM_{10} and $PM_{2.5}$ from the site are not available; however; data is available from the air quality monitor operated by the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) at Port Macquarie. This data was used to characterise the background levels for the quarry.

A summary of the annual average PM_{10} data from the Port Macquarie monitoring station from 2019 to 2023 are presented in Table 4-3 of the AQIA, whilst the recorded 24-hour average concentrations are presented in Figure 4-5 of the AQIA.

A summary of the annual average $PM_{2.5}$ data from the Port Macquarie monitoring station from 2019 to 2023 are presented in Table 4-4 of the AQIA, whilst the recorded 24-hour average concentrations are presented in Figure 4-6 of the AQIA.

b Dust deposition

The site operates four deposited dust gauges as set out in EPL 4812, which have been operational since 2019. Table 4-2 and Figure 4-4 of the AQIA shows the annual average dust deposition at each gauge between 2019-2024.

The dust gauges recorded annual average insoluble solid deposition levels above the criterion of 4 grams per square metre per month (g/m²/month) on multiple occasions at two dust gauges (EPA18 and EPA2). These gauges monitors are located within active agricultural paddocks that are largely affected by general agricultural activities and not representative of dust from the site.

c Assumed background concentrations

As detailed above, there are no readily available site-specific monitoring data for PM_{10} and $PM_{2.5}$ and therefore the background air quality levels for the closest DCCEEW monitoring station at Port Macquarie for the 2021 calendar year were used to represent background levels for the proposed modification. The background values adopted for the assessment are summarised in Table 4.3 below.

Table 4.3 Summary of background values

Metric	Background
Annual average TSP	38.8 µg/m³
24-hour average PM_{10} concentration	Daily varying
Annual average PM_{10} concentration	10.8 µg/m³
24-hour average $PM_{2.5}$ concentration	Daily varying
Annual average $PM_{2.5}$ concentration	4.6 µg/m³
Annual average deposited dust	2.4 g/m²/month

iv Estimated emissions

The main dust generating activities associated with operation of the proposed modification are identified as the loading and unloading of material, vehicles travelling on-site and off-site, crushing and screening processes, drilling and blasting, and windblown dust from exposed areas and stockpiles.

The quantities of TSP, PM_{10} and $PM_{2.5}$ estimated to be released by the proposed modification are presented in Table 5-1 of the AQIA.

4.1.2 Impact assessment

Table 4.4 presents the predicted incremental and cumulative particulate dispersion modelling results at each of the assessed residential receptor locations. The predicted incremental results show that minimal incremental effects would arise at the assessed receptors due to the proposed modification.

The predicted cumulative results indicate that all the assessed residential receptors are predicted to experience levels below the relevant criteria for each of the assessed dust metrics.

Table 4.4 Dust dispersion modelling results

Receptor ID	Incremental maximum concentrations						Cumulative			
	$PM_{2.5}$		PM_{10}		TSP	DD* ($g/m^2/mth$)	$PM_{2.5}$	PM_{10}	TSP	DD
	($\mu g/m^3$)		($\mu g/m^3$)		($\mu g/m^3$)		($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($g/m^2/mth$)
	24-hr ave.	Ann. ave.	24-hr ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.
	Air quality impact criteria									
	-	-	-	-	-	2	8	25	90	4
R1	1.5	0.1	6.1	0.6	1.3	0.1	4.7	11.4	40.1	2.5
R2	0.6	0.1	2.8	0.6	1.3	0.2	4.7	11.4	40.1	2.6
R3	0.8	0.1	3.4	0.5	1.1	0.1	4.7	11.3	39.9	2.5
R4	0.2	<0.1	1.0	0.1	0.3	<0.1	4.6	10.9	39.1	2.4
R5	0.2	<0.1	0.8	0.1	0.2	<0.1	4.6	10.9	39.0	2.4
R6	0.4	<0.1	2.0	0.4	0.8	<0.1	4.7	11.2	39.6	2.5
R7	0.4	<0.1	2.3	0.4	0.8	<0.1	4.7	11.2	39.6	2.5
R8	0.3	<0.1	1.1	0.1	0.3	<0.1	4.6	10.9	39.1	2.4
R9	0.2	<0.1	0.9	0.1	0.2	<0.1	4.6	10.9	39.0	2.4
R10	0.2	<0.1	1.0	0.1	0.3	<0.1	4.6	10.9	39.1	2.4
R11	0.6	0.1	1.7	0.4	0.8	<0.1	4.7	11.2	39.6	2.4
R12	0.4	<0.1	2.1	0.4	0.8	<0.1	4.7	11.2	39.6	2.4
R13	0.7	0.1	2.2	0.5	1.2	<0.1	4.7	11.3	40.0	2.5
R14	0.5	<0.1	1.4	0.3	0.7	<0.1	4.7	11.1	39.5	2.4
R15	1.4	0.3	4.5	1.2	2.9	0.1	4.9	12.0	41.7	2.5
R16	0.4	<0.1	1.4	0.3	0.7	<0.1	4.7	11.1	39.5	2.4
R17	0.3	<0.1	1.0	0.2	0.4	<0.1	4.6	11.0	39.2	2.4
R18	0.3	<0.1	1.2	0.2	0.3	<0.1	4.6	11.0	39.1	2.4

4.1.3 Management and mitigation

The operations of the proposed modification have the potential to generate dust emissions. To ensure that activities associated with the proposed modification have a minimal effect on the surrounding environment, all reasonable and practicable dust mitigation measures shall be utilised. Boral currently employ a number of air quality management and mitigation measures at the quarry that are included in the site's EMP (Boral 2024). These measures are presented in Table 4.5 and will continue to apply to the proposed modification.

Table 4.5 Air quality management and mitigation measures

Action/reference in EMP	Requirement
CC21.2	Ensure the use of a mobile water tanker and fixed sprays is adequately controlling dust generation.
O3.1	All areas in or on the premises must be maintained in a condition that prevents or minimises the emission into the air of dust.
O3.2	Any activity carried out in or on the premises must be carried out by such practical means as to prevent dust or minimise the emission of dust to the air.
O3.3	Any plant operated in or on the premises must be operated by such practical means to prevent or minimise dust or other air pollutants.
O3.4	Trucks entering and leaving the premises that are carrying loads of dust generating materials must have their loads covered at all times, except during loading and unloading.
SEE 2007	Contain the crushing plant within a colourbond housing.
SEE 2007	Water sprays are used on all material change over points.
SEE 2007	Conveyors are covered on tops and one side.
SEE 2007	Wet down stockpiles, loading pads and roads in dry and/or windy conditions. Spray truck loads prior to dispatch.
SEE 2007	Minimise stripping of overburden.
SEE 2007	Progressively rehabilitate disused quarry benches.
SEE 2007	Vegetate and stabilise bund walls and overburden stockpiles with grass.
SEE 2007	Schedule overburden stripping during the best climatic conditions.
SEE 2015	Reduction in vehicle travel speeds on site.

4.2 Noise and vibration

A noise and vibration impact assessment (NVIA) (MAC, 2024)) was prepared to accompany the modification application, with the key findings summarised below.

4.2.1 Assessment methodology

The purpose of the assessment was to:

- undertake detailed assessment of the likely operational noise impacts of the proposed modification in accordance with the *NSW Noise Policy for Industry*;
- undertake a detailed assessment of the likely blasting impacts of the proposed modification (including noise, vibrations, overpressure, visual and odour) on people, animals, buildings, infrastructure and significant natural features, having regard to the relevant Australian and New Zealand Environment Council (ANZEC) guidelines; and
- identify reasonable and feasible mitigation and monitoring measures to minimise noise emissions and potential impacts from blasting.

Operational noise emissions from the proposed modification were predicted at sensitive residential receivers using the DGMR (iNoise, Version 2024) noise modelling software. The predictions were compared to the noise criteria in the EPA's *Noise Policy for Industry (NPI) (EPA, 2017a).*

Noise and vibration levels from blasting have been assessed against criteria established in the ANZEC – *Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration.* An estimation of air-blast overpressure and ground-borne vibration levels has been conducted in accordance with methods in A*S2187.2 Explosives – storage and use*.

i Sensitive receivers

As described in Section 1.4, the quarry is located within a rural setting, with land uses immediately surrounding the quarry being rural residences, agriculture, forestry and conservation.

Details of the sensitive receivers considered in the NVIA are provided in Table 4.6 and shown in Figure 4.2.

Table 4.6 Receiver locations

Receiver	Description	Coordinates (GDA94/MGA56)	
		Easting	Northing
R001	99 Middle Brother Road	471868	6491632
R002	124 Bulleys Road	471472	6490878
R01	20 Yaralin Close	472350	6491016
R02	26 Bulleys Road	471456	6490306
R03	75 Bulleys Road (Boral owned)	471472	6490245
R04	27 Bulleys Road (unoccupied)	471010	6490281
R05	27 Bulleys Road South	470865	6489974
R06	Lot 245 Pacific Highway	472583	6490948
R07	111 Wharf Road	472566	6490332
R08	9 Wharf Road	471529	6490037
R09	Johns River Village	471529	6489429
R10	48 Algona Road	473117	6492267

Table 4.6 Receiver locations

Receiver	Description	Coordinates (GDA94/MGA56)	
		Easting	Northing
R11	117 Algona Road	472419	6491923
R12	69 Wharf Road	472070	6490175
R13	20737 Pacific highway	473029	6491501

It is noted that Receivers R001 and R002 have a negotiated agreement with Boral and hence are not assessed. Receiver R03 is owned by Boral and is also not assessed.

All non-project related residential receivers have been classified as 'rural' as per the land use zoning and in accordance with the NPI.

ii Background noise

To quantify the existing background noise environment of the area, unattended noise monitoring was conducted at four locations representative of the ambient environment at the receivers surrounding the quarry. The selected monitoring (logger) locations are shown in Figure 4.2 and are considered representative of surrounding residential receivers.

Table 4.7 represents existing ambient noise levels measured in decibels (dBA) and showing the rating background level (RBL) and the equivalent sound level period (L_{Aeq}) for each of the monitoring locations.

Table 4.7 Background noise levels

Monitoring location	Measured background noise level (LA90) dBA ABL[1]	Measured ambient noise level dBA L_{Aeq}(period)
Location 1	50	63
Location 2	43	50
Location 3	46	56
Location 4	43	57

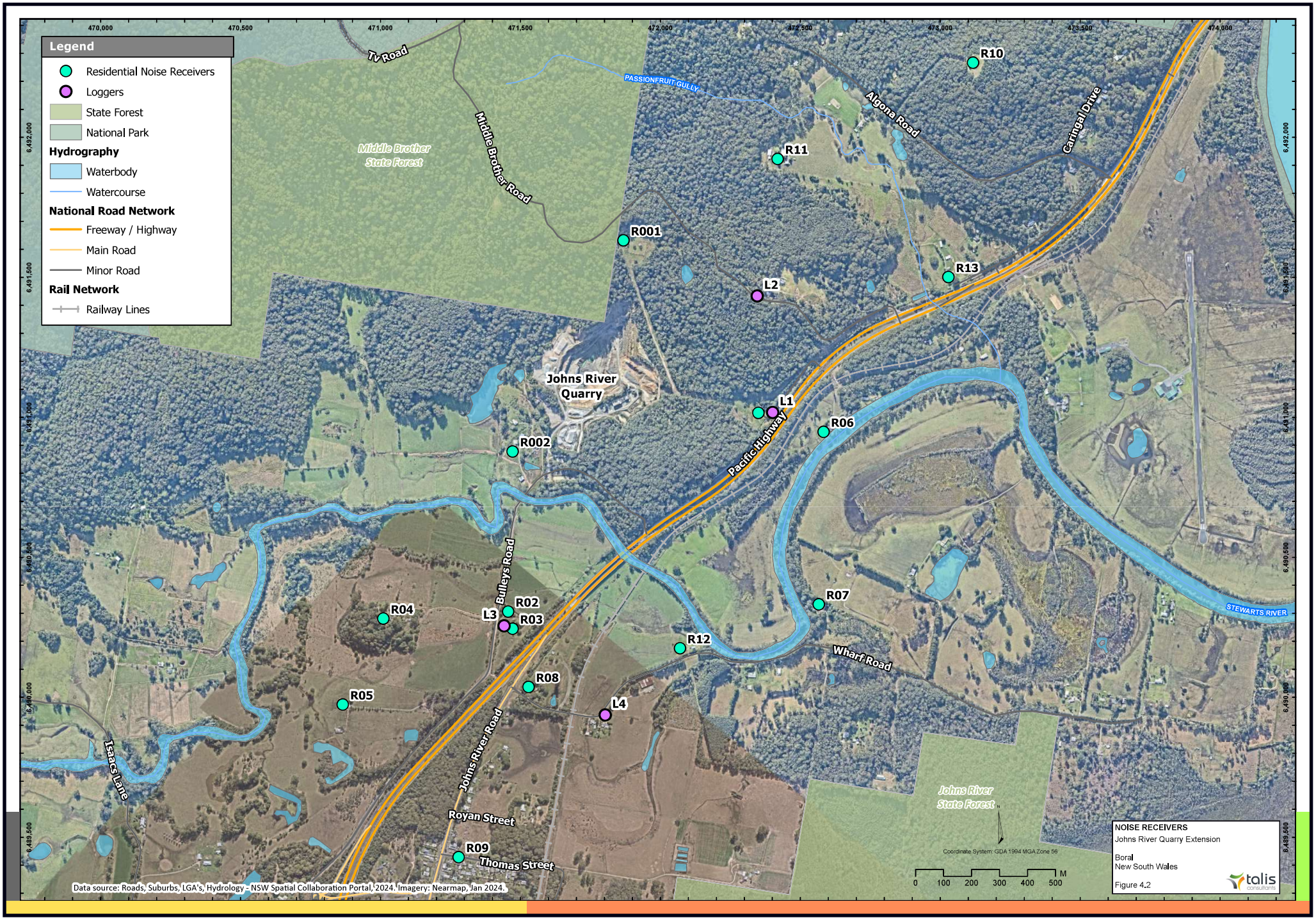
Note: 1. Assessment background level (ABL) - the single figure background level representing each assessment period day, evening and night

iii Operational noise criteria

The NPI provides a framework for assessing environmental noise impacts from industrial premises and industrial development proposals in NSW.

The NPI recommends the development of project noise trigger levels (PNTLs), which provide a benchmark for assessing a proposal or site. The PNTLs should not be interpreted as mandatory noise criteria, but rather as noise levels that, if exceeded, would indicate a potential noise impact on the community.

The PNTLs are the lower of either the project intrusive noise levels (PINL) or the project amenity noise levels (PANL). Table 4.8 presents the derivation of the PNTL in accordance with the methodologies outlined in the NPI.


Legend
Residential Noise Receivers
Loggers
State Forest
National Park
Hydrography
Waterbody
Watercourse
National Road Network
Freeway / Highway
Main Road
Minor Road
Rail Network
Railway Lines
470,000
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471,000
471,500
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472,500
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6,490,000
6,489,500
Ty Road
Middle Brother Road
Middle Brother State Forest
PASSIONFRUIT GULLY
Algona Road
Caringal Drive
R10
R11
R001
R13
L2
Johns River Quarry
L1
R06
R002
Pacific Highway
Bullers Road
R04
R02
L3
R03
R07
STEWARTS RIVER
R12
Wharf Road
R08
R05
L4
Isaacs Lane
Johns River Road
Royan Street
R09
Thomas Street
Johns River State Forest
Coordinate System: GDA 1994 MGA Zone 56
0
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400
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M
NOISE RECEIVERS
Johns River Quarry Extension
Boral
New South Wales
Figure 4.2
talis consultants
Data source: Roads, Suburbs, LGA's, Hydrology - NSW Spatial Collaboration Portal, 2024. Imagery: Nearmap, Jan 2024.

Table 4.8 Project noise trigger levels

Receiver type	Noise catchment area	Assessment period	PINL dB L_{Aeq} (15min)	PANL dB L_{Aeq} (15min)	PNTL dB L_{Aeq} (15min)
Residential	L1	Day[1]	55	48	48
	L2	Day	48	48	48
	L3	Day	51	48	48
	L4	Day	48	48	48

Note: 1. Day – The period from 7am to 6 pm Monday to Saturday or 8 am to 6 pm on Sundays and public holidays

iv Blasting and vibration limits

The ANZEC blasting limits for air-blast overpressure and ground vibration are presented in Table 4.9.

Table 4.9 Blasting emissions criteria

Receiver	Airblast overpressure (dBZ[1] Peak)	Ground vibration (mm/s)	Allowable exceedance
Any residences on privately owned land	12	10	0%
	1115	5	5% of the total number of blasts over a 12-month period

Notes: 1. dBZ = Decibels Z-weighted

v Modelling methodology

A computer model was developed to quantify project noise emissions to neighbouring receivers using DGMR (iNoise, Version 2024) noise modelling software. A typical operational scenario was assessed to represent extraction within the proposed extension area. Key activities assessed included the following (noting no changes are proposed to the current processing, loading and off-site transport operations):

- drilling and blasting;
- crushing in pit;
- loading material with excavator and haul to the processing area;
- processing of material within the processing area;
- managing product stockpiles and loading road trucks in the processing area with a front end loader; and
- transporting quarry products using road truck access road onto public road.

A list of plant and equipment modelled, and the estimated sound power levels, is presented in Table 13 in the NVIA.

4.2.2 Impact assessment

i Operational noise results

Noise predictions from all sources have been quantified at surrounding receivers and are presented in Table 4.10. The predicted results show that there is no exceedance of the project noise trigger level for the typical operational scenario for the proposed modification.

Table 4.10 Noise predictions – all receivers daytime period[1]

Location	Predcited noise level dBA LAeq (15 min)	PNTL dBA LAeq (15 min)	Compliant
R01	<35	48	✓
R02	43	48	✓
R04	40	48	✓
R05	36	48	✓
R06	36	48	✓
R07	<35	48	✓
R08	40	48	✓
R09	35	48	✓
R10	<35	48	✓
R11	<35	48	✓
R12	40	48	✓
R13	<35	48	✓

Note: 1. Day – The period from 7am to 6 pm Monday to Saturday or 8 am to 6 pm on Sundays and public holidays

The NVIA modelling predicted a maximum L_{Aeq} 15 min noise level of 43 dBA at Receiver R02. Compliance with the NPI limit of 48 dBAs is therefore predicted to be achieved at all times at all receivers.

ii Blasting and vibration

The proposed modification, consistent with current operations, would be expected to operate within the air-blast overpressure and ground vibration limits stipulated in Table 4.9.

An estimation of air-blast overpressure and ground-borne vibration was conducted in accordance with methods in AS 2187.2. The estimation adopted a MIC of 100 kg with blasting locations assumed to be at the extremities of the extraction area, which is representative of a worst-case scenario.

Blast effects from the quarry are predicted to be at worst, for overpressure up to 115 dBZ, and up to 0.8mm/s which satisfy the requirements of the ANZEC guidelines.

The nearest infrastructure to the quarry is the Pacific Highway, which is over 500 m away. Hence, there are no significant vibration effects from blasting on infrastructure which are less sensitive to vibration than residential receivers.

4.2.3 Management and mitigation

Background noise levels were measured at four locations representative of each noise catchment area to determine contemporary operational noise assessment criteria (PNTLs), which differ to the current consent conditions and EPL noise limits. These limits would need to be updated to align with contemporary criteria/limits and policy changes, which have occurred since the most recent modification (2015) to DA93/31 was approved.

The results of the NVIA demonstrate that noise emissions from the extractive operations in the proposed extension area and continuing (unchanged) processing and transport operations would satisfy the relevant PNTLs at all sensitive receivers.

Furthermore, blasting and vibration emissions are expected to satisfy the relevant criteria for a maximum instantaneous charge weight of 100 kg.

Boral currently employ a number of noise and blasting management and mitigation measures at the quarry that are included within the site's EMP (Boral, 2024) and the BMP (EMM, 2015). These measures are presented in Table 4.11 and will continue to apply to the proposed modification.

Table 4.11 Noise, vibration and blasting management and mitigation measures

Action/reference in EMP	Requirement
CC12.1	The hours of operation are limited to those approved in (DA 93/31). The loading of trucks is not to commence prior to 7:00 am.
CC13	Obtain EPA approval for any loading of trucks before 7.00 am.
CC27.1	Earth bund walls on the southern side and western side of the stockpile area are to be located in accordance with the amended plan marked 3.1A (Boral, 2024).
CC31.1	Provide 2-3 hours' notice of blasting to immediate residents.
L5.1	Blasting to only occur within the hours contained within DA 93/31 conditions of consent.
L5.2	Verify the overpressure level from blasting operations does not exceed 115 dB(L) for more than 5% of the total number of blasts within any annual reporting period at the nearest affected residence not covered by a private agreement.
L5.3(a)	Verify the overpressure level from blasting operations does not exceed 120 dB(L) at any time at the nearest affected residence not covered by a private agreement.
L5.3(b)	Verify the ground vibration peak particle velocity from blasting operations does not exceed 5mm/second for more than 5% of the total number of blasts within any annual reporting period at the nearest affected residence not covered by a private agreement.
L5.4(a)	Verify the ground vibration peak particle velocity from blasting operations does not exceed 10 mm/second at any time at the nearest affected residence not covered by a private agreement.
M7.1	Monitor all blasts at or near the most noise sensitive location not covered by a private agreement.

4.3 Biodiversity

A biodiversity development assessment report (BDAR) (Niche, 2024) was prepared to accompany the modification application, with the key findings summarised below.

4.3.1 Assessment methodology

Biodiversity impacts were assessed in accordance with DPE's Biodiversity Assessment Method (BAM) to determine the impact the proposed modification would have on biodiversity, to identify appropriate management and mitigation measures and to calculate the biodiversity offset requirement using the BAM credit calculator.

A combination of desktop and field survey methods were undertaken by RPS between 2020 and 2022 as part of a biodiversity investigation report (BIR) (RPS, 2024). The BIR covered an area that encompasses portions of Lot 44 DP 816026, Lot 11 DP1104156, and Lot 2 DP716380, and which also included the proposed extension area. The results of this survey work are relied upon in the BDAR.

In addition, Niche determined their study area (referred to as the Niche Study Area in the BDAR and shown in Figure 4.3), which is an area that encompasses the proposed extension area and a 30 m buffer around this, excluding the quarry pit. Niche undertook surveys for hollow bearing trees within 100 m of the Niche Study Area and surveyed the dam to the north-west for possible frog habitat.

4.3.2 Landscape assessment

Landscape features were identified according to Section 3.1 of the BAM. The assessment was undertaken to determine the landscape values of the proposed modification and included the following factors with information sourced from aerial photographs, maps, database searches and site observations:

- native vegetation cover;
- rivers streams and estuaries;
- areas of geological significance; and
- habitat connectivity.

The proposed extension area is located wholly within the North Coast Bioregion IBRA region and the Manning-Macleay IBRA sub-region.

4.3.3 Native vegetation and flora assessment

i Native vegetation

To determine plant community types (PCTs) and to stratify the proposed extension area into vegetation zones, historical and current aerial photography was analysed. RPS (2024) collected data from two vegetation integrity (VI) plots also referred to as BAM plots from within the Niche Study Area and Niche collected data from two BAM plots also from within that same area. Plot data collected by RPS (2024) was used to supplement data collected by Niche to verify PCT and stratify PCTs into vegetation zones. These are shown in Figure 4.3.

As presented in Table 4.12, field surveys were carried out to stratify the vegetation at the proposed extension area as per BAM plot data and rapid data points (RDPs).

Table 4.12 Rapid data points and BAM plots

Survey Type	Conducted by	Timing	Areas surveyed	Quantity
Rapid data points	RPS	8-10 December 2020	RPS Project Area	11

Table 4.12 Rapid data points and BAM plots

Survey Type	Conducted by	Timing	Areas surveyed	Quantity
BAM Plots	RPS	7-10 December 2020	RPS Project Area	11
BAM Plots	Niche	6 June 2024	Niche Study Area	2

The PCT type and its area within the proposed extension area is provided in Table 4.13. One PCT was identified within the proposed extension area: PCT 3250- the Northern Foothills Blackbutt Grassy Forest.

Table 4.13 Plant community types and vegetation zones

PCT ID	PCT Name	Vegetation Class	Vegetatin formation	Area (ha)	Percent cleared
3250	Northern Foothills Blackbutt Grassy Forest	Northern Hinterland Wet Sclerophyll Forest	Wet Sclerophyll Forests (Grassy sub-formation)	1.84	30%

Following vegetation surveys, all vegetated areas of the Niche Study Area were assessed as native vegetation in accordance with the BAM.

As shown in Figure 4.3, the proposed extension area contains 1.84 ha of native vegetation consisting of sclerophyll forest.

All vegetation within the proposed extension area is proposed to be removed to allow for future quarrying activities.

ii Threatened ecological communities

Plant community type 3250 does not have any associated threatened ecological communities (TECs).

iii Threatened flora

A total of 23 threatened flora species and one threatened flora population were identified by the BAM-C potential candidate threatened flora population. Table 8 of the BDAR lists species that were excluded from further assessment based on habitat constraints. No threatened flora were detected within the proposed extension area by Niche or RPS (2024). Flora detections are illustrated in Figure 4.4.


Legend
Niche Study Area
Proposed Extension Area
BAM plots
State Forest
Validated Vegetation Zones
0: Non-native
3250: Northern Foothills Blackbutt Grassy Forest
Hydrography
Waterbody
National Road Network
Minor Road
471,400
471,600
471,800
472,000
472,200
6,491,400
6,491,200
6,491,000
Middle Brother State Forest
Plot 1
Plot 2
Proposed Extension Area
Johns River Quarry
0
20
40
60
80
100
M
Data source: Roads, Suburbs, LGA's, Hydrology - NSW Spatial Collaboration Portal, 2024. Imagery: Nearmap, Jan 2024.
VEGETATION ZONES & PLOT LOCATIONS
Johns River Quarry Extension
Boral
New South Wales
Figure 4.3
talis consultants


Legend
Niche Study Area
RPS Study Area
Proposed Extension Area
State Forest
Threatened Species
Threatened fauna
Glossy Black-Cockatoo
Little Bent-wing Bat
Powerful Owl
Varied Sitella
Threatened flora
C. elegans
R. rubescens
Hydrography
Waterbody
Watercourse
National Road Network
Freeway / Highway
Minor Road
Rail Network
Railway Lines
Middle Brother State Forest
Middle Brother Road
Proposed Extension Area
Johns River Quarry
Yaralin Close
Bulleys Road
Pacific Highway
STEWARTS RIVER
STEWARTS RIVER
470,800
471,000
471,200
471,400
471,600
471,800
472,000
472,200
472,400
472,600
6,491,800
6,491,600
6,491,400
6,491,200
6,491,000
6,490,800
6,490,600
Coordinate System: GDA 1994 MGA Zone 56
0 50 100 150 200 250 M
Data source: Roads, Suburbs, LGA's, Hydrology - NSW Spatial Collaboration Portal, 2024. Imagery: Nearmap, Jan 2024.
THREATENED SPECIES
Johns River Quarry Extension
Boral
New South Wales
Figure 4.4
talis consultants

4.3.4 Fauna and fauna habitat assessment

i Fauna survey and habitat methods

Niche did not undertake any targeted fauna surveys because most species likely to occur within the Niche Study Area were surveyed by RPS during an extensive year long fauna survey campaign. Species that were identified by Niche but not by RPS either did not have suitable habitat within the Niche Study Area or would have been detected by RPS during their survey campaign, because they have identical survey requirements to the species targeted by RPS.

Several field survey techniques were used to target threatened fauna species within the RPS Project Area between January and August 2021.

Habitat assessments were conducted by RPS (2024) between December 2020 and August 2021. Niche conducted a detailed habitat assessment within the Niche Study Area in May 2024. They also undertook a search for hollow bearing trees, habitat suitable for bats and stick nests within 300 m of the proposed extension area. The results of Niche's and RPS' habitat assessment were consistent except Niche did not identify hollows within the Niche Study Area or within 300 m of the proposed extension area.

ii Threatened fauna

A total of thirty-eight (38) dual credit fauna species were identified by the BAM-C as potential candidate threatened fauna species. These are listed in Table 8 of the BDAR. Nine dual credit species were excluded from the assessment as result of the habitat constraints assessment. These are listed in Table 10 of the BDAR and Table 13 of the BDAR summarises the threatened fauna survey effort undertaken by RPS (2024).

Habitat for dual and credit species fauna was not detected.

The results of the threatened fauna surveys are included in Table 15 of the BDAR. No threatened fauna species were detected. Fauna detections are illustrated in Figure 4.4.

4.3.5 Survey adequacy

Sections 5.7 and 5.8 of the BDAR (Niche 2024) discuss the adequacy of survey work undertaken for the following three species:

- Stuttering Frog (*Mixophyes balbus*) and
- Green and Golden Bell Frog (*Litoria aurea*); and
- Common Planigale (*Planigale maculata*).

The NSW Survey Guide for Threatened Frogs (the Survey Guide) (DPIE, 2020c) prescribes slightly different survey windows but identical survey techniques and intensities for both the abovementioned frog species. Niche identified that the survey efforts undertaken by RPS for both frogs were not strictly consistent with the methodologies. While the total amount of recorder days exceeds the minimum requirements stated in the Survey Guide, 104 of the 174 total recorder days were in April, which is a month outside of the prescribed survey window.

The likelihood of discovering both species however was high given the meteorological conditions during April 2021.

In addition, RPS undertook a form of aural visual searches which from the results suggest the survey effort was substantial. The results identified species that utilise the same habitats as the frogs indicating that all areas of suitable habitat for both species were surveyed.

The survey efforts prescribed by the Threatened Biodiversity Database Collection TBDC for the Common Planigale require a minimum number of pitfall traps and consecutive survey nights. Niche identified that the survey efforts undertaken by RPS utilised traplines as opposed to pitfall trap arrays. However, RPS deployed a significantly greater number of trap arrays and trapping was undertaken over five nights as opposed to the four required. In addition, the RPS trap array was 100 m as opposed to the prescribed 10 m.

Niche concluded that while the effort was technically not compliant, the total length of trap array, the number of trapping nights and the number of traps exceeds the minimum requirements.

4.3.6 Impact assessment

i Direct impacts

The proposed extension involves disturbing 2.03 ha of which 1.84 is native vegetation of PCT 3250.

The proposed modification does not involve clearing TECs.

The proposed modification does not involve direct impacts on threatened species.

ii Indirect impacts

There are no areas of indirect impacts that require offsets. Indirect impacts relevant to future extraction activities within the proposed extension area would be inadvertent impacts on adjacent habitat or vegetation, reduced viability of adjacent habitat due to edge effects and other impacts such as trampling, rubbish dumping and dust or noise.

iii Prescribed impacts

Prescribed impacts to biodiversity are impacts to biodiversity that result from the proposed modification, in addition to, or instead of, impacts from clearing vegetation and / or habitat loss. The proposed modification would not cause prescribed impact.

iv Potential impacts to Commonwealth threatened biodiversity

The Koala is listed under the EPBC Act as endangered and may be impacted by removal of the woody vegetation located within the proposed extension area. An assessment of significance was undertaken for the Koala with the results of the assessment contained within Chapter 10 of the BDAR.

The impacts relevant to the Koala include:

- loss of 1.84 ha of core Koala habitat; and
- low risk of increased habitat fragmentation and loss of connectivity.

The results of the assessment of significance are detailed in Table 21 of the BDAR, concluding that impacts to the Koala are not likely to be significant. This is due largely to the relatively small clearing area (1.84 ha) and the degree of disturbance.

4.3.7 Avoidance and minimisation

The location of the proposed extension area has been designed to avoid several biodiversity features. Overall, the project design has achieved the following.

- complete avoidance of all TECs;
- the proposed extension area is located in a sliver of vegetation that is disconnected from other patches on three sides and avoids more intact native vegetation to the north of the existing quarry pit;
- the proposed extension area avoids areas that contain actual or potential habitat and avoids impacts to hollow bearing trees; and
- site access is designed to have minimal impact by utilising existing established tracks.

4.3.8 Biodiversity offset strategy

The BAM identifies the BAM Calculator as the appropriate tool for quantifying the offsets required, which is expressed as numbers of ecosystem and species credits. A calculation of the nature and extent of biodiversity credits required due to ecological impacts associated with impacts to native vegetation communities identified the requirements for 64 ecosystem credits, comprising PCT3250 - Northern foothills Blackbutt Grassy Forest.

Boral commits to satisfying the credit requirements using offset mechanisms allowed by the NSW Biodiversity Offset Scheme (i.e. retirement of biodiversity credits and/or contribution to the Biodiversity Conservation Fund).

4.3.9 Management and mitigation

Boral currently employ a number of biodiversity management and mitigation measures at the quarry that are included in the site's EMP (Boral, 2024). These measures are presented in Table 4.14 and will continue to apply to the proposed modification.

Table 4.14 Biodiversity management and mitigation measures

Action/reference in EMP	Requirement
CC23	All rehabilitation works are to be carried out in accordance with the details contained in the original EIS (Sinclair Knight, 1993)
CC32.1	An inspection by Boral's Environmental Officer (or similar) being carried out prior to each stage of the progressive clearing process to determine whether endangered fauna will be adversely affected.
CC32.2	Results of the preclearing inspection are to be documented and forwarded to Council and NPWS.
SEE 2007	Stormwater runoff from quarry is to be managed onsite to ensure there are no impacts on watercourses and riparian vegetation.
SEE 2007	Should further vegetation removal be required (i.e. in the case that sedimentation basins are required outside of the existing quarry footprint), additional assessments of significance should be undertaken, particularly for riparian areas.

4.4 Water management

This section provides an assessment of the likely impacts of the proposed modification on the quality and quantity of existing surface and groundwater resources.

To inform this assessment, a surface water assessment (SWA) (Southeast, 2024) has been prepared to accompany the modification application, with the outcomes summarised below.

4.4.1 Existing environment

i Flooding

The quarry is located adjacent to the Stewarts River, approximately 250 m upstream of the Princes Highway. The *Camden Haven River and Lakes System Flood Study* (Worley Parsons, 2013) considered flooding up to the quarry site. Mapping sourced from Council's website (refer Figure 1.6 of the SWA), shows the quarry beyond the 1% annual exceedance probability (AEP) flood extents, and therefore beyond the flood planning area. As such, assessment of flood risk to the quarry has not been considered further.

ii Existing surface water management

a Surface runoff

Average annual rainfall is approximately 1,400 mm/year generating between 50 to 100 ML/year of collected runoff within the main quarry pit, depending on rainfall intensity and losses associated with the pit landscape (slopes and depressions) and pit material (rock or gravel and sand). Some of this collected surface runoff is re-used throughout the site via pumping from the quarry sump and reused either in the processing plant or as dust suppression, with the remainder discharged in accordance with the limits in EPL 4812.

Surface runoff from the quarry is currently managed via three constructed sediment basins (SB1, SB2 (a, b and c) and SB3), the main quarry pit as a sump and a constructed wetland (refer to Figure 3.1 of the SWA).

The *Johns River Quarry Water Management Plan* (existing WMP) (Groundwork Plus, 2016) relates to existing water management at the quarry and includes consideration of sediment basin capacity against the EPL 4812 rainfall runoff storage requirements as well as the sizing and design of sediment basin storage sizing for fine or dispersive soils outlined in *Managing Urban Stormwater – Soils and Construction Vol 1 (*Landcom, 2004) using the five-day rainfall depth of 55.9 mm (as specified in EPL 4812).

Since the existing WMP was prepared, the internal quarry shape has been modified, changing catchment areas draining to sediment basins. This has resulted in an increase in the catchment draining to the main pit sump, and an associated reduction in the area draining to the SB2 basins (refer Figure 3.5 of the SWA).

An estimate of the sediment basin sizing for current operations is provided in Table 4.15.

Table 4.15 Sediment basin sizing for current operations

Basin	Basin calculation (m^3)		Available volume (m^3)
	Sediment storage	Total volume	
SB1	275	1,532	1,804
SB2	112	876	2,016
SB3	192	1,203	1,260
Quarry sump	2,287	5,272	As required

b Water quality

In accordance with EPL 4812, water quality monitoring is undertaken at licensed discharge points 1, 2, 3 and 23, along with external water quality monitoring points 4, 5 and 24 (refer Figure 3.1 of the SWA). No change to water quality monitoring is proposed.

A MUSIC model has been prepared for the quarry, which incorporates catchments draining to sediment basins (SB1, SB2, SB3 and the quarry sump) to provide an estimate of sediment loads discharged from the quarry and to provide a benchmark for the Neutral or Beneficial Effect (NorBE) test. Results of estimated pollutant loads for pre-development (existing conditions) are presented in Table 4.16

Table 4.16 MUSIC estimated pollutant loads for pre-development (existing conditions)

Parameter	Generated	Discharged	Reduction (%)
Flow (ML/yr)	84.5	73.3	13.3
Total Suspended Solids (kg/yr)	1.03E+05	1.18E+04	88.6
Total Phosphorus (kg/yr)	47.1	15.9	66.3
Total Nitrogen (kg/yr)	195	137	29.9

c Water use and supply

As detailed below, the total estimated existing water use at the quarry is approximately 13.63 ML/y.

Processing plant

Water extracted from quarry base sump is transferred to four 20 kL storage tanks. Processing (crushing and screening) uses approximately 20 kL/day. Process water either evaporates, is retained in product stockpiles where further evaporation takes place, leaves as moisture content of material when trucked from site, or is discharged from the site via the SB2 sequence of sediment basins. Overall, an estimated 6,000 kL/y of water is used for processing at the quarry.

Dust suppression

A 10 kL watercart is used for dust suppression at the quarry. In dry and windy conditions up to five cart loads per day (approximately 50 kL) is used around the quarry. On other non-rain days an average of three cart loads per day (approximately 30 kL) is used. Overall, an estimated 7,630 kL of water is used for dust suppression at the quarry.

Office amenities

The existing quarry amenities comprise five toilets, one urinal, one shower and kitchen facility, which are serviced by two 10 kL rainwater tanks.

Wastewater is treated via an enviro-cycle septic system that is serviced three-monthly. No changes to this are proposed.

iii Water access licence and allocation

The quarry has a Water Access Licence No. 42101 (WAL 42101) with an allocation of five shares (generally 1 ML each) from the Lorne Aquifer. 118 shares have been allocated from the Lorne Aquifer as of June 2024, and the Long-Term Average Extraction Limit (LTAEL) is 9,500 ML/y after allowing for environmental flows, as outlined in the *Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources 2016*. As such, there is a significant amount of unallocated water within the Lorne Aquifer.

iv Groundwater

The bedrock lithology in the quarry is described as blue grey microdiorite (visible in the eastern wall) with evidence of hornfels mixed in with the microdiorite on the north-western wall. At depth on the southern end of the eastern wall the quarry intersects micro-adamellite or monzodiorite. From a hydrogeological perspective, there is only a single hydrogeological stratigraphic unit (HSU) within the proposed extension area, the granodiorite.

The quarry has four existing groundwater bores with data available from 2019. The groundwater monitoring data indicates the groundwater flow direction could be from the north-west towards the south-east and Stewarts River. The available data indicates groundwater levels in the granodiorite of between 2.73 m AHD and 17.38 m AHD within the existing quarry footprint.

4.4.2 Impact assessment

i Proposed surface water management

a Surface runoff

The proposed modification would not result in an increase to the overall catchment areas draining to external sediment basins, and therefore no increase to basin sizing is required. Changes to the management of accumulated water within the main quarry sump would be necessary to accommodate the ultimate additional 1.4 ha of catchment, which can only be discharged from the quarry sump area in accordance with EPL 4812.

The catchment draining to the sequence of sediment basin SB2 would reduce slightly as the main quarry pit expands slightly to the east directing runoff into the main quarry sump. Catchments draining to sediment basins SB1 and SB3 would not change. The catchment draining to the quarry pit would increase in size by approximately 1.4 ha. The result of this would be increased runoff into the pit, and an increase in the area and volume required to achieve sediment removal in accordance with EPL 4812. This would be easily achievable in the main pit of the quarry.

Maintaining sufficient operational sump volume within the pit would need to be incorporated into the WMP to ensure that sufficient volume is available to achieve sediment settling for sediment load removal to meet NorBE and the concentration levels necessary to achieve the EPL 4812 requirements.

An estimate of the sediment basin sizing for proposed operations is provided in Table 4.17.

Table 4.17 Sediment basin sizing for proposed operations

Basin	Basin calculation (m^3)		Available volume (m^3)
	Sediment storage	Total volume	
SB1	275	1,532	1,804
SB2	105	862	2,016
SB3	192	1,203	1,260
Quarry sump	2,2,661	6,133	As required

b Water quality

A MUSIC model has been prepared for the proposed modification. As detailed above, the change in catchment area is focused on the main quarry sump, with an increase in catchment draining to the sump and a slight reduction draining to sediment basin SB2. The increase in catchment area draining to the sump requires an additional volume to achieve the sediment removal necessary to meet the load requirements to achieve the NorBE test for water quality.

The active sediment basin volume required to achieve NorBE within the MUSIC model is 2,200m^2, which is consistent with the estimated active sediment basin volume shown in Table 4.17.

Table 4.18 shows that with a volume allowance in accordance with the sediment basin sizing as shown in Table 4.17, loads discharged from the quarry can be below existing conditions, achieving the NorBE test for water quality.

Table 4.18 MUSIC estimated pollutant load reduction and NorBE comparison

Parameter	Generated	Post development load discharged to environment	Reduction (%)	Pre-development loads discharged to environment
Flow (ML/yr)	90.7	75.4	16.9	73.3
Total Suspended Solids (kg/yr)	1.10E+05	1.14E+04	89.6	1.18E+04
Total Phosphorus (kg/yr)	50.6	15.8	68.7	15.9
Total Nitrogen (kg/yr)	209	135	35.4	137

c Water use and supply

Processing plant

There would be no change to the approved rate of production and therefore no change to water use associated with processing at the quarry, with continued use of approximately 20kL/d for the processing plant.

Dust suppression

The proposed modification would extend the pit area. However, the haul road area and haul road use is likely to remain similar given the pit shape and access. Therefore, water use associated with dust suppression is assumed to remain the same.

Water balance

Total water use is expected to remain the same at 13.63ML/year, which would continue to be supplied from surface water draining into the quarry sump.

ii Groundwater

The proposed modification seeks to extend the quarry horizontally by approximately 60 m to the north-east and maintain the quarry floor elevation of 0 m AHD. Based on available groundwater information the extension area is likely to intersect from the granodiorite consistent with current observed conditions, noting that Boral has WAL 42101 with an allocation of up to 5 ML/yr to allow for extraction of water from the granodiorite (the Lorne Aquifer).

4.4.3 Management and mitigation

The existing WMP (Groundworks Plus, 2016) will be updated to ensure that the operational sump volume maintains sufficient available volume to achieve sediment settling for sediment load removal and meet NorBE and the concentration levels necessary to achieve EPL 4812 water quality requirements.

Boral currently employ a number of water management and mitigation measures at the quarry that are included within the site's EMP (Boral, 2024) and the WMP (Groundworks Plus, 2016). These measures are presented in Table 4.19 and will continue to apply to the proposed modification.

Table 4.19 Water management and mitigation measures

Action/reference in EMP	Requirement
CC19.2	Monitor water quality in accordance with the approved WMP.
CC19.4	Reuse water for dust suppression in accordance with the approved WMP.

Table 4.19 Water management and mitigation measures

Action/reference in EMP	Requirement
CC19.5	Measure pH and suspended solids for all discharges of water.
CC20.1	Installation of erosion and sediment control measures prior to commencement of earthworks.
CC20.2	Submit details of proposed control measures to Council and EPA as required.
CC20.3	Obtain approval for control measures from Council and EPA as required.
CC41.2	Soil erosion and sediment control measures must ensure that no sediment is transported into the vegetation located between stockpile area and Stewarts River.
L1.1	The site must comply with section 120 of the POEO Act 1997 (not to pollute waters).
M2.3	Water monitoring at discharge points 1, 2, 3 & 23: • O&G – Visible inspection • pH – probe sample • TSS - grab sample
M2.3	Ambient water quality monitoring at points 4, 5 & 24: • O&G – Visible inspection • pH – probe sample • TSS - grab sample
GWP 3.1	Update basin maintenance schedule.
SEE (EMM 2015)	Sediment basin in new stockpile area to be regularly maintained (sediment removed) to retain its storage volume.

4.5 Aboriginal Cultural Heritage

An Aboriginal cultural heritage assessment (ACHA) (MCH, 2024) was prepared to accompany the modification application, with the key findings summarised below.

4.5.1 Assessment methodology

The purpose of the assessment is to assess any archaeological constraints to the proposed extension area and to provide opportunities and options to ensure any cultural materials present are protected through appropriate management and mitigation measures.

The following assessment methods were used to inform the preparation of the ACHA, in accordance with the relevant guidelines, identifying, describing and assessing potential impacts to Aboriginal cultural heritage values associated with the proposed modification.

i Desktop study

A review of relevant statutory registers and inventories for indigenous cultural heritage including the Aboriginal Heritage Information Management System (AHIMS) and the GTLEP 2010 for known archaeological sites.

Environmental features which could influence historic Aboriginal occupation of the locality were characterised, including landscape, drainage, geology, soils, vegetation, fauna and climate.

Literature such as previous heritage assessments of the quarry and local area were reviewed to understand historical Aboriginal use of the area and customs.

Information gathered from the desktop study was used to develop a predictive model of what types of Aboriginal sites are likely to occur in the site and the landforms they may be associated with.

The search of AHIMS and review of background information revealed there were no known Aboriginal archaeological sites in the proposed extension area. The potential for subsurface Aboriginal archaeological material in the proposed extension area is considered low and potential has not been indicated by previous archaeological investigations. The proposed extension area is generally highly disturbed due to previous disturbance associated with logging.

ii Aboriginal consultation

Aboriginal stakeholders were consulted in accordance with OEH's A*boriginal Cultural Heritage Consultation Requirements for Proponents* (OEH, 2010).

Information regarding the proposed modification was provided in a letter dated 6 May 2024, to sources identified by Heritage NSW (OEH 2010:10) and listed in Table 2.1 of the ACHA.

MCH wrote to all parties identified through the information gathering step identified above on 25 May 2024 and an advertisement was placed in the Port Macquarie News on 17 May 2024.

The following two registered Aboriginal parties (RAPS) were consulted:

- Lee Davidson; and
- Girragirra Murun Aboriginal Corporation.

As the RAPS did not provide their preferred method of receiving information, an information packet was provided and included the required information as per the OEH consultation requirements 2010. During this process the RAPS did not disclose any specific traditional/cultural knowledge or information of sites or places associated with the proposed extension area or surrounds.

Both RAPS were invited to participate in the survey on July 15, 2024, however neither party attended, and the survey proceeded.

Copies of the draft ACHA report were forwarded to all RAPs on 29 August 2024, for their review and were asked to provide their written or verbal response no later than 28 days.

iii Predictive model

Due to the ground surface visibility at the proposed extension area, and the fact that the distribution of surface archaeological material does not necessarily reflect that of the sub-surface deposits, a predictive model was established. The predictive model indicated that the terrain of the proposed extension area is likely to be unsuitable for camping. Additionally, as freshwater is necessary for survival, the lack of fresh water in the proposed extension area and immediate surrounds also supports the idea that camping was not likely. Further, the disturbance to the landscape (selective logging, clearing and vehicular access) would have impacted on any cultural materials that may have been present. The results of the field survey discussed below support the predictive model.

iv Field survey

The proposed extension area was surveyed by the archaeologist in accordance with the proposed methodology provided to the stakeholders for review. The survey focused on areas of high ground surface visibility and exposures (erosional features, tracks, cleared areas). The survey aimed to identify Aboriginal objects or sites (if present), assess the archaeological potential and sensitivity of the site, and confirm the nature and extent of previous disturbance associated with past and current land uses.

The field survey determined an overall effective coverage area of 42.5%, noting that effective coverage is an estimate of the amount of ground observed considering local constraints on site including for example vegetation, leaf litter and erosion. Visual inspection confirmed the extent and nature of previous disturbance. These include logging, clearing, and quarrying activities, all of which have impacted upon the landscape and associated cultural materials.

In view of the predictive modelling and the results obtained from effective coverage and disturbance, the ACHA concludes that the survey provides a valid basis for determining the probable impacts of the proposed modification and formulating recommendations for the management of the proposed activities.

In summary, no sites were identified in the proposed extension area. Therefore, further detailed investigation (test excavation) was not considered warranted to determine the nature, extent and significance of any archaeological sites and potential archaeological deposits in the proposed extension area.

4.5.2 Impact assessment

The lack of accessible and reliable freshwater in the proposed extension area and its immediate surrounds suggests that this area may have been utilised for hunting and gathering rather than a site for large-scale, long-term camping. Regarding the impact of modern landscape alterations, previous activities such as logging, clearing, and tracks have likely had an impact on the archaeological record. Additionally, natural features like erosion have also affected the archaeological record leading to displacement of cultural materials. As a result, the likelihood of finding in situ cultural materials is very low. As no sites were identified during the survey, there are no impacts on the archaeological record.

4.5.3 Management and mitigation

Boral currently employs a range of archaeological risk mitigation measures at the quarry that are included within the EMP (Boral, 2024). Existing measures shall continue to be applied and the existing EMP (Boral, 2024) updated to incorporate the unexpected finds procedure contained in Appendix C of the ACHA.

4.6 Visual

This section provides an assessment of the likely impacts of the proposed modification.

4.6.1 Assessment methodology

A qualitative visual assessment has been completed to assess the visual impacts of the proposed extension area, from two key viewpoints where the extension is most likely to be visible from.

A visual amenity assessment of the quarry was included in the original EIS (Sinclair Knight, 1993) and a further visual assessment was included in the SEE (EMM, 2015) for Modification 2 to DA 93/31.

Given the location of the proposed extension to the north-east of the existing quarry it was not necessary to access the same viewpoints used for the visual amenity assessments in 1993 and 2015. However, the findings of these assessments have assisted in characterising the visual context and character of the local area and the visual amenity of existing operations, as detailed further below.

i Visual context and character

The quarry is located within an obscured valley with visual access possible only to more elevated parts disturbed by quarrying when travelling on the Pacific Highway. The quarry, and associated infrastructure and stockpiles, are not visible when approaching the entrance to the quarry from Bulleys Road. The visual context is dominated by high forested hills interrupted by rural holdings in small clearings. Lower areas are characterised by undulating pasture.

The surrounding area (on the western side of the Pacific Highway) is sparsely populated with small groupings of rural residential dwellings. Johns River is a small village/hamlet which is located approximately 2 km south-east of the Pacific Highway. It is accessible by road on Johns River Road and Koolayangarra Way, and the quarry is visibly shielded through dense and mature forest which dominates the quarry's south-east boundary. The main elements of the visual character are steep and high forested hills occasionally interrupted by rural residential dwellings and associated outbuildings, and areas of light brown clearing. By contrast the lower slopes are characterised by pasture and pockets of scrub. This pattern is interrupted by the river and the roads which are bordered with shrubby trees. The visual character around the site has been altered by clearing, pasture development and small-scale farming

ii Visual amenity of existing operations

The 2015 visual assessment (EMM, 2015) concluded that visual sensitivity to the quarry was significantly reduced since the 1993 visual assessment (Sinclair Knight, 1993) due to the densely vegetated plantings softening and screening the majority of the operations. Further, visual access to the quarry was limited to a partial view of the crushing plant when travelling on the Pacific Highway through a narrow valley which bisects the vegetation between the eastern part of the quarry (near the crushing plant) and the Pacific Highway. The uppermost berm was partially visible on Johns River Road at Wharf Road including rehabilitation plantings. These plantings will gradually mature with time and will continue to decrease the visual impact of the exposed berm.

The visual impact of the existing quarry is minor because of the limited visual access to the quarry, the ability of the dense vegetation to absorb the quarry (i.e. high forested hills interrupted by small clearings for agriculture) and the screening and softening effect of the plantings along and within the Pacific Highway alignment, which have matured since the quarry commenced operations.

4.6.2 Impact assessment

The proposed modification would involve extending the quarrying activities to the north-east of the existing pit. Arnold Planning conducted a visual assessment of the quarry in April 2024. The key viewpoints to the proposed extension area are limited and contained to only the following two long viewpoints:

- Viewpoint 1 – Stewarts River Road; and

- Viewpoint 2 – the Middle Brother National Park lookout.

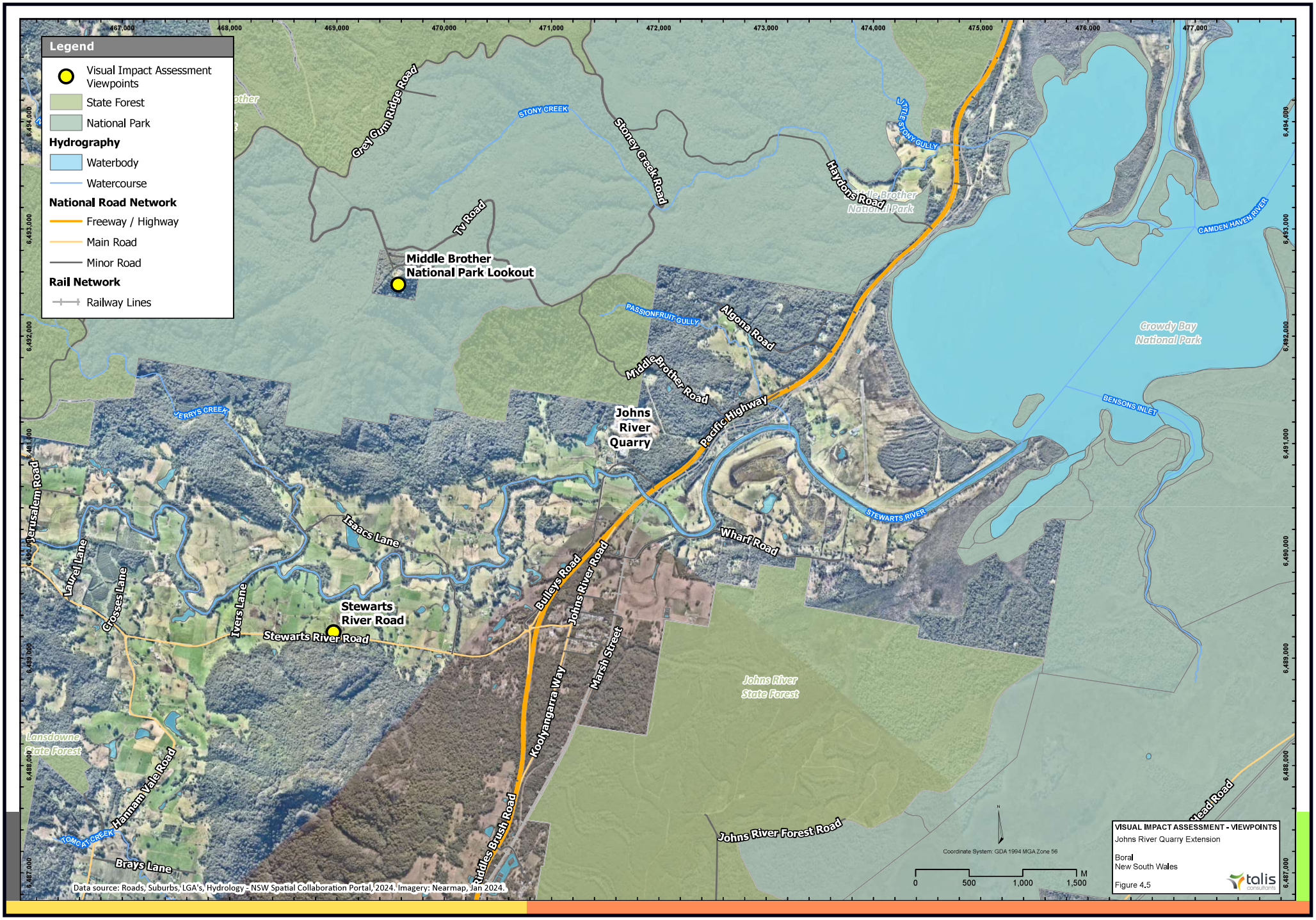
The visual assessment involved taking photographs from these two key viewpoints towards the quarry and where the proposed extension area could be seen. Figure 4.5 shows the locations of the viewpoints where observations were made and the two viewpoints are shown in Photograph 4.1 and Photograph 4.2, respectively.

The proposed extension of the quarry would involve exposure of quarry material, which could potentially be visible from these two longer viewpoints to the site. With time these exposed areas would be revegetated with native species in accordance with the rehabilitation objectives under the original EIS (Sinclair Knight, 1993). The exposed areas would be consistent with the previously cleared areas for extraction. On this basis, and with the continuation of mitigation measures and compliance with the existing development consent conditions, the proposed modification is considered to have minor impact on visual amenity and landscape character.

4.6.3 Management and mitigation

Current management and mitigation measures shall continue to apply to the proposed modification, including:

- maintenance and enhancement of existing vegetation around the perimeter of the quarry; and
- using the bench design and rehabilitation planning process to reduce the visual impact following completion of each stage.


Legend
Visual Impact Assessment Viewpoints
State Forest
National Park
Hydrography
Waterbody
Watercourse
National Road Network
Freeway / Highway
Main Road
Minor Road
Rail Network
Railway Lines
Middle Brother National Park Lookout
Stewarts River Road
Johns River Quarry
Grey Gum Ridge Road
Stoney Creek Road
Tv Road
Haydons Road
Algona Road
Middle Brother Road
Pacific Highway
Wharf Road
Bulleys Road
Johns River Road
Marsh Street
Koolyangarra Way
Riddles Brush Road
Johns River Forest Road
Isaacs Lane
Laurel Lane
Crosses Lane
Ivers Lane
Jerusalem Road
Hannam Vale Road
Brays Lane
STONY CREEK
LITTLE STONY GULLY
PASSIONFRUIT GULLY
VERRYS CREEK
KOMOAT CREEK
CAMDEN HAVEN RIVER
BENSONS INLET
STEWARTS RIVER
Middle Brother National Park
Crowdy Bay National Park
Johns River State Forest
Lansdowne State Forest
Coordinate System: GDA 1994 MGA Zone 56
0 500 1,000 1,500 M
VISUAL IMPACT ASSESSMENT - VIEWPOINTS
Johns River Quarry Extension
Boral
New South Wales
Figure 4.5
talis consultants
Data source: Roads, Suburbs, LGA's, Hydrology - NSW Spatial Collaboration Portal, 2024. Imagery: Nearmap, Jan 2024.

Photograph 4.1 View from Stewarts River Road

Photograph 4.2 View from the Middle Brother National Park lookout

4.7 Other matters

An assessment of the environmental aspects as a consequence of the proposed modification (other than those addressed in the preceding sections) is provided below. This method of assessment is commensurate with the low or no additional levels of projected impacts arising from the proposed modification on each of these aspects.

Table 4.20 Other environmental impacts

Environmental aspect	Details
Traffic	DA 93/31 permits a maximum of 120 truck movements per day. No additional traffic would be generated by the proposed modification and the operation would continue to restrict truck movements to the maximum of 120 per day. There would be no additional vehicles generated by the proposed modification and therefore no additional impacts to the local and surrounding road network. There would also be no change to the size or types of trucks at the quarry.
Bushfire	The quarry is on land that is mapped as bushfire prone. There are significant separation distances from the buildings to the north and northwest due to the existing extraction area. This would result in reduced fire intensity and size impacting on the existing buildings. Clearing of vegetation would occur as part of the quarry extension, which would further reduce fire risk.
Hazards and waste	The current quarry operation includes crushing and grinding processes, which could be deemed 'offensive' due to noise generation or air quality emissions. The proposed modification would not increase existing production or transportation rates at the quarry and potential amenity impacts from air, noise and blasting emissions have been assessed as complying with all relevant government criteria. Therefore, the proposed modification is not considered to be an 'offensive industry'. The quarry holds a number of approvals for the storage and supply of dangerous goods. The proposed modification does not include any changes to the storage or handling of any dangerous goods in addition to the quantity or type to those currently approved. Overburden management is the key waste management issue associated with quarry operation, which would continue to be managed in accordance with the management objectives and measures in the EMP (Boral, 2024). No additional waste is expected as a result of the proposed modification. In accordance with the *NSW Waste Avoidance and Resource Recovery Act 2001* (WARR Act), Boral adopts the principles of the waste management hierarchy. These principles would continue to be upheld during the proposed modification and be achieved by: • purchasing recycled products where appropriate; • developing and implementing waste management procedures to minimise the generation of waste and where unavoidable, re-use waste on-site; • recycling as many wastes as practically possible through appropriate handling, separation, storage, and collection; and • where waste cannot be re-used or recycled, transportation and disposal of waste off-site at an appropriately licenced facility.
Contamination	There are no known records of contamination at the site. The EPA's Contaminated Land Record and List of Contaminated Sites notified to the EPA in the MidCoast LGA was searched in August 2024. The quarry is not recorded or identified on the relevant registers.
Rehabilitation	Limited rehabilitation can be undertaken in the quarry during operations. All rehabilitation works in the proposed extension area would be carried out in accordance with the details contained in the rehabilitation strategy prepared as part of the original EIS (Sinclair Knight, 1993). A management objective at the quarry is to minimise the area disturbed by quarrying at any given time, thereby minimising the area required for rehabilitation. The objectives of the rehabilitation strategy are: • to contour and plant final surfaces as soon as possible during operations; • to optimise availability of top dressing material, which may involve treatment of existing overburden material as an alternative to topsoil; • to ensure the site drainage system is stable and functional even under extreme rainfall events;

Table 4.20 Other environmental impacts

Environmental aspect	Details
	• to revegetate quarry benches (in particular the uppermost berms to establish vegetation growth to provide visual screening of the uppermost faces); • to spread the quarry floor with weathered overburden/soil and sown to native grass species (as soil depths would be insufficient to maintain tree growth); and • to aim to produce a final 'amphitheatre' landform open towards the south-west which is stable and does not preclude alternative final land uses The future rehabilitation of the proposed extension area would be undertaken in accordance with these objectives.

4.8 Social and economic impacts

The proposed modification would extend the life and ongoing viability of the quarry, bringing about socio-economic benefits in terms of helping to meet the ongoing demand for construction and materials to service a wide range of infrastructure and development projects, as well as ensuring the current level of employment for workers at the quarry is maintained.

4.9 Site suitability

The site is zoned RU1 Rural pursuant to the *Greater Taree Local Environmental Plan 2010* (GTLEP 2010). Extractive industries are permissible with consent in the RU1 zone. The site comprises the existing quarry, which has a significant remaining resource. Environmental management procedures at the quarry are designed to ensure compliance with the existing conditions of consent, conditions attached to EPL 4812 and relevant government legislation and requirements. This environmental management regime would continue for the proposed modification, which does not change existing activities or operations. For these reasons, the site is considered suitable for development (as proposed to be modified).

4.10 The public interest

The proposed modification would allow for the continued operation of the quarry. It would allow access to a currently under-utilised resource without resulting in significant adverse environmental impacts. It would provide socio-economic benefits by meeting the demand for construction materials and providing for ongoing employment opportunities. For these reasons, the proposed modification is considered to be in the public interest.

5 Conclusion

To ensure that the quarry remains operational, Boral is seeking consent pursuant to Section 4.55 (2) of the EP&A Act to modify the existing consent (DA93/31).

The proposed modification seeks only to:

- continuing existing operations for an additional 15 years (until 2041); and
- extending the area of approved quarry extraction area by 2.03 ha to the north-east to provide access to approximately 2.3 million tonnes (Mt) of additional resource.

There would be no other changes, noting that the proposed modification does not seek to modify:

- the approved rate of extraction;
- the depth of extraction;
- the type of product being extracted;
- existing drill and blast extraction methods;
- truck types or the number of movements;
- hours of operation;
- the number of employees;
- existing site office, amenities and weighbridge; and
- existing stockpile areas, crushing and screening plant, and mobile machinery.

The proposed modification would not change the current rates of production or transportation and therefore the only potential impacts relate to the physical disturbance of the proposed minor extension to the existing extraction area. Potential amenity impacts in relation to emissions from air, noise and blasting on nearby sensitive (residential) receivers have been assessed as meeting relevant government criteria. The residual impacts on terrestrial biodiversity as a result of clearing would be offset with the benefit of protecting areas of similar native vegetation communities in perpetuity and there are not predicted to be any impacts to Aboriginal cultural heritage. There would be no additional demand for operational water, and it has been demonstrated that the proposed modification could meet relevant water controls, including meeting the Neutral or Beneficial test for water quality.

This SEE has been prepared having regard to Section 4.15 of the EP&A Act and has demonstrated that the proposed modification is consistent with relevant environmental planning policies and controls and that the proposed modification is 'substantially the same' as that approved under the original consent, and as such can be addressed under Section 4.55 (2) of the EP&A Act.

In summary, and for the reasons set out in Chapter 4, the proposed modification would not result in adverse impacts to the natural or built environment and it has been demonstrated that the site is suitable for the development, that it would be in the public interest and that it would provide socio-economic benefits.

For these reasons, the proposed modification to DA93/31 should be approved.

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