

Marulan South Limestone Mine | SSD 7009

Traffic Management Plan

Prepared for Boral Cement Limited | 12 August 2022



# Marulan South Limestone Mine

## SSD 7009 | TRAFFIC MANAGEMENT PLAN

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12 August 2022

PR163

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### Endorsement of authors

Mark Roberts was the author of this Traffic Management Plan. Mark has over 10 years' experience in the environment sector across a broad range of industries including mining and extractives; road, water and electricity infrastructure; waste management; coal seam gas; and residential subdivisions. Mark has been involved with the preparation and management of a range of environmental impact assessments under both NSW and Commonwealth legislation including numerous environmental management plans and strategies.

Mark was the lead author of the Marulan South Limestone Mine Continued Operations project EIS and therefore has an intimate knowledge of the project and the traffic related impacts and required management measures.

Mark recently (2021) prepared two traffic management plans for the Sustainable Road Resource Centre project - SSD 10459.

Terry Lawrence was the technical reviewer of this Traffic Management Plan. Terry has over 40 years' experience in traffic engineering and transport planning fields in both the government and private sectors.

This experience includes undertaking and participating in project teams for numerous projects and studies, as a lecturer and specialist trainer in traffic engineering, as well as experience in technical and managerial roles in traffic operations, road safety and traffic management.

Terry prepared the traffic impact assessment for the Marulan South Limestone Mine Continued Operations project.

On 17 September 2021, the Department of Planning, Industry and Environment approved Mark and Terry as suitably qualified and experienced persons for the preparation of this Traffic Management Plan.

## DOCUMENT CONTROL

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# 1 INTRODUCTION

## 1.1 Background

Boral Cement Limited (Boral) owns and operates the Marulan South Limestone Mine (the mine), an open cut mine in Marulan South, New South Wales (NSW). Limestone mining north of Bungonia Gorge began around 1830 with major developments emerging in the 1920s to supply limestone for cement manufacturing and steel making.

The mine was opened in 1929 to supply limestone for cement, manufacturing and steel making. By 1953 two main pits (northern mine pit and southern mine pit) were well established and by the early 1970s the facets of the business included limestone for cement, steel making, agriculture, glass making, lime manufacturing, quicklime and hydrated lime.

The mine produces up to 3.38 million tonnes (Mt) of limestone based products per year for the cement, steel, agricultural, construction and commercial markets.

Due to changes in the NSW *Mining Act 1992* (Mining Act) and the NSW *Environmental Planning & Assessment Act 1979* (EP&A Act), a State significant development (SSD) consent under the EP&A Act was required to move mining operations beyond the area covered by the mining operations plan (MOP).

Two approvals are required for the mine:

- a consent for the Project (SSD 7009) under Part 4, Division 4.7 of the EP&A Act; and
- controlled action approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) for impacts on listed threatened species and communities (sections 18 and 18A of the Act).

An environmental impact statement (EIS) was prepared to accompany the application for SSD 7009 and addresses the requirements of State agencies under the EP&A Act and the Commonwealth Department of Agriculture, Water and the Environment. A response to submissions (RTS) report was subsequently prepared to consider and respond to agency and public submissions and provide clarification of project components where relevant.

Development consent (the consent) was granted by the Department of Planning, Industry and Environment (DPIE) on 19 August 2021, to continue mining limestone at a rate of up to 4 million tonnes per annum (Mtpa) for up to 30 years (the Project).

To satisfy Condition of Consent (CoC) D5(i), the EIS, RTS, development consent and other publicly available information related to the assessment and determination of SSD 7009 can be accessed on DPIE's Major Projects Planning Portal (<https://www.planningportal.nsw.gov.au/major-projects/project/9691>).

The consent requires the preparation and implementation of management plans, strategies, protocols and procedures detailing environmental commitments, controls and performance objectives at the mine throughout its operational life. A traffic management plan (the plan) is required under CoC B90.

This plan incorporates the relevant management measures in the EIS, RTS and conditions of consent relating to transport and traffic. This plan will be a dynamic document which will be updated as required over the life of mining operations until 31 August 2051.

This plan has been prepared by Element Environment on behalf of Boral.

## 1.2 Overview of operations

### 1.2.1 Site description

The mine is in Marulan South, 10 km south-east of Marulan village and 35 km east of Goulburn. It is in the Goulburn Mulwaree Local Government Area (LGA).

The mine is separated from the Bungonia National Park (NP) and State Conservation Area to the south by Bungonia Creek and is separated from the Shoalhaven River and Morton NP to the east by Barbers Creek.

The mine and surrounds are characterised by rolling hills of pasture interspersed with forest to the west, contrasting with the heavily wooded, deep gorges that begin abruptly to the east of the mine, forming part of the Great Escarpment and catchment of the Shoalhaven River.

Access is via Marulan South Road, which connects the mine and Boral's Peppertree Quarry with the Hume Highway approximately 9 km to the north-west. Boral's private rail line connects the mine and Peppertree Quarry with the Main Southern Railway approximately 6 km to the north.

The Project site (site) covers historical and proposed future areas of disturbance and comprises two geographically separate areas:

- the existing mine including the proposed 30-year mine footprint and associated infrastructure; and
- the proposed Marulan Creek dam to be on Marulan Creek, within Boral landholdings approximately 2.5 km north of the mine entrance.

The site covers an area of 846.4 ha. The existing pre-SSD disturbance footprint is 341.5 ha with 256.5 ha of new disturbance associated with the proposed 30-year mine plan.

Most of the site is zoned RU1 – Primary Production under the Goulburn Mulwaree Local Environmental Plan (LEP) 2009. Mining and extractive industries are permissible in this zone with consent. The remaining area is zoned E3 – Environmental Management. Mining and extractive industries are prohibited in this zone. However, as agriculture is permitted in the E3 zone with consent, mining is also permitted in this zone under the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 with consent.

### 1.2.2 Overview of existing mining

The mine is on a high-grade limestone resource. Subject to market demand the mine has typically produced up to 3.38 Mt of limestone and up to 200,000 t of shale per annum.

The mine produces a range of limestone products for internal and external customers in the Southern Highlands/Tablelands, the Illawarra and metropolitan Sydney markets for use primarily in cement and lime manufacture, steel making, agriculture and other commercial uses. Products are despatched by road and rail, with the majority despatched by rail.

Historically limestone mining was focused on the approximately 200-300 m wide Eastern Limestone and was split between a north pit and a south pit. A limestone wall (the 'centre ridge') rising almost to the original land surface, divided the two pits.

The north and south pits were joined in 2016/2017 by mining the centre ridge to form a single contiguous pit, approximately 2 kilometres (km) in length. However, the north pit/south pit naming remains important as mining locations continue to be reported with respect to one or other of the old pits.

Limestone and shale are extracted using open-cut hard rock drill and blast techniques. Limestone is loaded using front end loaders and hauled either to stockpiles or the processing plant using haul trucks. Oversized material is stockpiled and reduced in size using a hydraulic hammer attached to an excavator.

Limestone processing facilities including primary and secondary crushing, screening, conveying and stockpiling plant and equipment are in the northern end of the north pit. Kiln stone grade limestone is also processed on site through the existing lime plant comprising kiln stone stockpiles, rotary lime kiln, hydration plant and associated auxiliary conveying, processing, storage, despatch plant and equipment. Overburden from stripping operations is emplaced in the Western Overburden Emplacement (WOE), west of the open cut pits.

### 1.2.3 Overview of approved project

Consent was granted for a 30-year mine plan accessing approximately 120 Mt of limestone to a depth of 335 m. The mine footprint focuses on an expansion of the pit westwards to mine the Middle Limestone and to mine deeper into the Eastern Limestone.

As the Middle Limestone lies approximately 70-150 m west of the Eastern Limestone, the 30-year mine plan avoids mining where practical the interburden between these two limestone units thereby creating a smaller second, north-south oriented west pit with a ridge remaining between.

The north pit will also be expanded southwards, encompassing part of the south pit, leaving the remainder of the south pit for overburden emplacement and a visual barrier.

Limestone will be extracted at up to 4 Mtpa for 30 years until 31 August 2051. Clay shale will also continue to be extracted at up to 200,000 tonnes per annum (tpa). The limestone will be processed to create limestone and lime products including limestone aggregates and sand, hydrated lime and quick lime.

Existing infrastructure is being retained along with the following changes:

- relocation of a section of high voltage power line to accommodate a proposed overburden emplacement;
- realignment of a section of Marulan South Road, to accommodate a proposed overburden emplacement;
- relocation of the processing infrastructure and the stockpile and reclaim area at the northern end of the north pit to allow the northward expansion of the pit;
- development of a shared Road Sales Stockpile Area including a weighbridge and wheel wash to service both the mine and Peppertree Quarry; and
- construction of a 118 million litre (ML) in-stream water supply dam on Marulan Creek.

Boral will transport up to 600,000 tpa of limestone and hard rock products along Marulan South Road to the Hume Highway, as well as 120,000 tpa of limestone products to the agricultural lime manufacturing facility.

The Project provides continued direct employment for 118 people on the mine site and 73 offsite. It will operate 24-hours per day, 7 days per week. Blasting will continue to be restricted to daylight hours on weekdays, excluding public holidays.

## 1.3 Environmental management framework

The mine operates in accordance with the Boral integrated Health Safety, Environment and Quality Management System (HSEQ MS) which establishes a strategic platform for regulatory compliance and continual improvement in environmental management. This framework is documented in *GRP-HSEQ-1-01 Management System Framework and Operational Control*. The Boral HSEQ MS is aligned with the international standard ISO-14001.

### 1.3.1 Environmental management system

CoC D1 requires the preparation of an environmental management strategy (EMS) for the mine. The EMS provides the mine's strategic framework for environmental management under which the traffic management plan operates.

This plan is an appendix of the overarching Project environmental management strategy (EMS) and will be implemented with reference to the EMS.

### 1.3.2 Alignment with other plans

The Project shares the northern part of its boundary with the adjacent Peppertree Quarry (Project Approval 06\_0074), which is a granodiorite hard rock quarry owned and operated by Boral Resources (NSW) Pty Ltd. The shared boundary covers the Peppertree Quarry Modification No. 5 area (Peppertree Quarry MOD 5) which was approved by DPIE in October 2019 and will involve a new overburden emplacement area on the Project site and associated infrastructure.

## 1.4 Purpose and objectives

This plan describes how Boral will manage and control transport and traffic when operating the mine.

This plan applies to all mine activities that generate vehicle movements to and from the mine.

Specific objectives of the plan are to:

- Ensure compliance with the operating conditions of the CoC.
- Ensure best practice management is being employed to minimise the Project's impacts on public road safety and traffic.

The plan is prepared for a mixed audience of consent authorities, environmental regulators, site personnel and haulage drivers. Site personnel and haulage drivers are responsible for implementing this plan as part of day-to-day operations.



## 1.5 Responsibility for implementation

The site manager carries ultimate responsibility for the implementation of this plan and providing the necessary resources as required.

The environmental coordinator is responsible for carrying out and/or coordinating the monitoring and reporting requirements of this plan.

Operations personnel (technical manager) are responsible for implementing this plan to minimise on-site and near-site traffic impacts.

Vehicle drivers are responsible for abiding by the driver's code of conduct at all times.

## 1.6 Document structure

The structure of the plan is outlined in Table 1.1.

**Table 1.1 Structure of the plan**

Section	Content
1	Provides an overview of the Project and objectives of the plan.
2	Outlines statutory requirements associated with the development consent and consultation regarding the plan.
3	Provides an overview of the existing environment.
4	Outlines the applicable criteria and performance indicators.
5	Outlines the management and monitoring measures.
6	Outlines the performance review and improvement program.
7	Protocols for incident, non-compliance and complaint management.
Appendix A	Provides the Council notice of determination approving the temporary closure of Marulan South Road and associated line marking
Appendix B	Provides the temporary Marulan South Road closure plans including approved changes to line marking and the approved traffic control plan
Appendix C	Provides the driver code of conduct required by CoC B90(f)

## 2 CONSENT AND CONSULTATION REQUIREMENTS

### 2.1 Development consent

This plan has been prepared in accordance with the development consent. Table 2.1 presents the consent conditions relevant to traffic and transport and identifies where each condition has been addressed in this plan.

**Table 2.1 Management plan requirements**

Condition	Condition requirement	Section reference
B90	The Applicant must prepare a Traffic Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:	This plan
(a)	be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;	Document control page
(b)	be prepared in consultation with TfNSW and Council;	2.2
(c)	include details of all transport routes and traffic types to be used for development-related traffic;	3.3
(d)	describe the measures to be implemented to ensure compliance with conditions B84 and B85 above;	5.1, 5.4
(e)	include details of the measures to be implemented to minimise traffic safety issues and disruption to local road users, including minimising potential for conflict with school buses and stock movements;	Appendix C
(f)	include a Drivers' Code of Conduct that includes procedures to ensure that drivers:	Appendix C
(f)(i)	adhere to posted speed limits or other required travelling speeds;	Appendix C
(f)(ii)	adhere to designated transport routes; and	Appendix C
(f)(iii)	implement safe and quiet driving practices;	Appendix C
(g)	describe the measures to be put in place to ensure compliance with the Drivers' Code of Conduct; and	Appendix C
(h)	propose measures to minimise the transmission of dust and tracking of material onto the surface of public roads from vehicles exiting the site.	5.1.2
B91	The Traffic Management Plan must be approved by the Planning Secretary within 3 months from the date of this consent, unless otherwise agreed by the Planning Secretary.	Noted
B92	The Applicant must implement the Traffic Management Plan as approved by the Planning Secretary.	Noted
D5	Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:	
(a)	Summary of relevant background or baseline data;	-
(b)	Details of:	-
(b)(i)	The relevant statutory requirements (including any relevant approval, licence or lease conditions);	2
(b)(ii)	Any relevant limits or performance measures and criteria; and	4
(b)(iii)	The specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	4
(c)	Any relevant commitments or recommendations identified in the document/s listed in condition A2(c);	5

	(d)	A description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	5
	(e)	A program to monitor and report on the:	-
	(e)(i)	Impacts and environmental performance of the development; and	5.4
	(e)(ii)	Effectiveness of the management measures set out pursuant to condition D4(c);	5.4, 6
	(f)	A contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	5.2
	(g)	A program to investigate and implement ways to improve the environmental performance of the development over time;	6
	(h)	A protocol for managing and reporting any:	-
	(h)(i)	Complaint; or	7.3
	(h)(ii)	Failure to comply with other statutory requirements;	7.1, 7.2
	(i)	Public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and	Section 3.3.3 of EMS
	(j)	A protocol for periodic review of the plan.	6.2
D6		The Applicant must ensure that management plans prepared for the development are consistent with the conditions of this consent and any EPL issued for the site.	Noted

## 2.2 Consultation

CoC B90 requires this plan be prepared to the satisfaction of the Panning Secretary and CoC B90(b) requires this plan to be prepared in consultation with Transport for NSW (TfNSW) and council.

This plan was provided to TfNSW and council for review and comment on 22 December 2021. Copies of TfNSW and council comments are included in Appendix D.

TfNSW advised the following in writing on 18 January 2022:

TfNSW notes that the information contained in the Traffic Management Plan (TMP) is consistent with what has previously been reviewed in the Environmental Impact Statement. The proposed realignment of Marulan South Road, and process to de-proclaim a section of Marulan South Road and the public roads within the former Marulan South village, are matters for Council.

As stated in the TfNSW response dated 9 April 2019, any proposed changes to the speed zoning of Marulan South Road will need to be managed by TfNSW. If you have not yet commenced consultation with the relevant team, I can provide their details to you.

Notwithstanding the above, TfNSW has no additional comments regarding the provided TMP.

Temporary closure of the eastern section of Marulan South Road (east of the Aglime Facility driveway) is discussed in Section 5.1.1.

As the realignment of a section of Marulan South Road is only required in later stages of the Project, Boral will address this matter with Council in due course.

Boral is not at this stage proposing any changes to the speed zoning of Marulan South Road.

Council provided the following comments (in **bold**) in writing on 24 March 2022. Boral's response is provided after each comment.

- **Section 5.1.2 does not reference how you will stop the tracking of material onto the road by truck tires as required specifically by condition B90(g).**

Table 5.1 includes a contingency plan involving the stopping of dirty vehicles and instructing the driver to go through the wheel wash. The following sentence has been added to Section 5.1.2 "All trucks with dirt on their tyres that could be tracked onto Marulan South Road will pass through the wheel wash before exiting the site".

- **Appendix C does not stipulate how you will ensure drivers compliance with the code of conduct as required by condition B90(g). I understand other quarries are checking GPS tracking data to check speed and if drivers don't comply they are being made to wait. I'd like to see that practice incorporated here also. When I have ever been out there I have noted very good compliance with the speed limit for any vehicle leaving the site. Is there some things you already are doing that could be mentioned in Appendix C?**

The 'Corrective Action' section of the driver code of conduct outlines action that will be taken by Boral when drivers do not comply with the code of conduct.

All drivers will be trained on the code of conduct as outlined in Section 5.3.

Once on Marulan South Road and on other public roads, drivers are required to abide by public road rules/laws.

- **In section 6.2 I would like to see Council further consulted as part of your continuous improvement plan when reviewing this document.**

Additional wording added to Section 6.2 to include consultation with council.

## 3 TRAFFIC AND TRANSPORT OVERVIEW

### 3.1 Summary of traffic impact assessment

Impacts on traffic were assessed in the EIS, as the Project will include an increase in vehicle numbers over current levels, upgrade and realignment of a section of Marulan South Road and construction of an intersection on Marulan South Road at the Road Sales Stockpile Area.

There may be up to 34 extra truckloads (68 vehicle movements) on an average week day, and up to 58 truckloads (116 vehicle movements) on a worst case day along Marulan South Road. This will equate to up to three one-way trips in an average hour on an average day and up to five one-way trips in a worst case hour on a worst case day.

The additional traffic will have a relatively small impact on the level of service and average vehicle delay along Marulan South Road and will not change average vehicle delays at the minor intersections along the road. Similarly, there will be a very small impact to traffic conditions on the Hume Highway.

Two intersection scenarios were assessed for the Road Sales Stockpile Area, with stop signs and with traffic signals. In both scenarios the level of service at the proposed intersection was A, which is the best possible intersection performance. The average vehicle delays were low, with a maximum of 13.5 seconds. The sight distances to and from the intersection will be longer than the guideline values.

Construction could result in up to 40 additional inbound and outbound vehicle trips (80 additional two-way trips) on some days. These will consist of light vehicle trips associated with additional construction workers, as well as heavy vehicle trips associated with the delivery of materials and equipment.

The Project is not expected to result in any negative impacts to other road users, including school buses, which use Marulan South Road in the morning and afternoon periods on school days. Upgrades to Marulan South Road will improve road safety and provide school bus stopping and turning facilities.

### 3.2 Product transport

Most limestone products will continue to be transported to customers by rail for cement, steel, commercial and agricultural uses. Boral seeks to maintain the approved rail transportation limit of six trains departing the mine per day.

Manufactured sand will continue to be transported by truck along a dedicated internal road, across Marulan South Road and into Peppertree Quarry for blending and dispatch by rail. The mine currently produces approximately 500,000 tpa for Peppertree Quarry and proposes to increase production of manufactured sand to approximately 1 Mtpa.

Agricultural lime, quick lime and fine limestone products will continue to be transported by powder tanker, bulk bags on trucks or covered tipper trucks along Marulan South Road.

Shale, limestone aggregates, sand and tertiary crushed products will be transported by predominantly truck and dog along Marulan South Road.

The adjoining Peppertree Quarry is currently approved to transport all products by rail. Boral will seek to transport approximately 150,000 tpa of Peppertree Quarry's products from the mine to customers via Marulan South Road.



In total, Boral is seeking to transport up to 600,000 tpa of limestone and hard rock products along Marulan South Road to the Hume Highway, as well as 120,000 tpa of limestone products to the agricultural lime manufacturing facility, which is approximately 1 km west along Marulan South Road.

### 3.3 Transport vehicles and routes

Approximate road transport volumes, truck types, truck loading locations and destinations are outlined in Table 3.1. The transport route from the mine to the Hume Highway and the agricultural lime manufacturing facility, via Marulan South Road is shown on Figure 1.

**Table 3.1 Annual road transport details**

Product	Volume (tpa)	Vehicle type	Loaded from	Destination
Limestone aggregates/sand	105,000	Truck and dog	Shared road sales stockpile area	Hume Highway
Limestone filler	60,000	Tanker	Limestone plant area	Hume Highway
Limestone filler	60,000	1m <sup>3</sup> bulk bag on flat bed	Limestone plant area	Hume Highway
Lime products	120,000	Tanker	Limestone plant area	Hume Highway
Clay shale	90,000	Truck and dog	Limestone plant area	Hume Highway
White clay	15,000	Truck and dog	Limestone plant area	Hume Highway
Hard rock aggregates/sand	150,000	Truck and dog	Shared road sales stockpile area	Hume Highway
Sub-total	600,000			Hume Highway via Marulan South Road
Limestone products	120,000	Truck and dog	Limestone plant area	Agricultural lime manufacturing facility via Marulan South Road
<b>Total</b>	<b>720,000</b>			

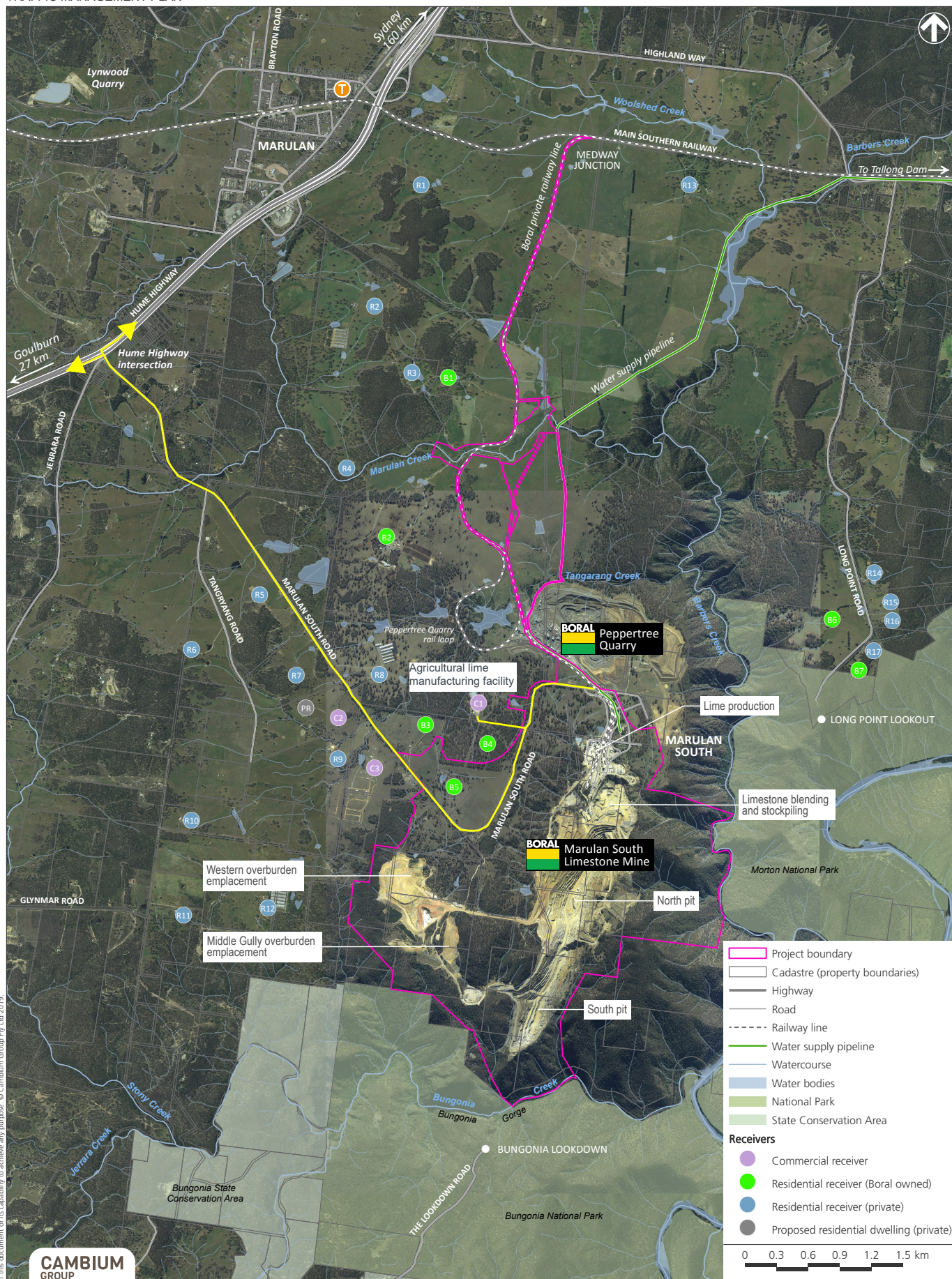
Note 1: Approximately 1 Mtpa of crushed and air classified limestone sand will be transported by truck and dog from the limestone plant to the Peppertree Quarry via internal roads crossing Marulan South Road.

Note 2: The 600,000 tpa of products hauled from the mine to the Hume Highway is thereafter transported to a variety of customers both north and south along the highway i.e. the total volume is not transported to a single customer/location.



Figure 1  
Transport route

MARULAN SOUTH LIMESTONE MINE CONTINUED OPERATIONS - SSD APPLICATION  
TRAFFIC MANAGEMENT PLAN



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## 4 CRITERIA AND PERFORMANCE INDICATORS

### 4.1 Transportation limits

The transportation limits in the consent that apply to the Project are summarised in Table 4.1. Measures are provided in Section 5.1 to ensure these limits are not exceeded during operation of the Project.

**Table 4.1 Transportation limits**

Condition	Limit
A9	A maximum of 1 million tonnes of manufactured sand may be transported to Peppertree Quarry in any financial year.
A10	A maximum of 150,000 tonnes of quarry products may be transported from Peppertree Quarry to the shared road sales stockpiling area in any financial year.
A11	A maximum of 720,000 tonnes of limestone, clay/shale and quarry products (combined) may be transported from the site by road in any financial year.
A12	A maximum of 133 laden trucks may be dispatched from the site <sup>a,b</sup> in any 24-hour period. <i><sup>a</sup> Excludes any truck movements to or from the Peppertree Quarry authorised under conditions A9 and A10 or for the transportation of overburden as described in the EIS.</i> <i><sup>b</sup> Excludes any truck movements which may be authorised under separate development consent/s for the Peppertree Quarry.</i>
A13	A maximum of six laden trains may leave the site in any 24-hour period.

### 4.2 Performance indicators

The key transport and traffic performance indicators to be used to assess the performance of the Project are in Table 4.2.

**Table 4.2 Key performance indicators**

Measure	Key performance indicator
Implementation of control measures	Quarterly environmental inspection checklist shows that all management practices listed in this plan were implemented.
Training	All relevant personnel have been trained in implementation of this plan and driver code of conduct.
Visual monitoring	<ol style="list-style-type: none"><li>1. Laden trucks are covered and clean.</li><li>2. Vehicles are not tracking sediment onto Marulan South Road.</li><li>3. Drivers are observed to comply with driver code of conduct.</li></ol>
Validated transport and traffic complaints are minimised and appropriate management actions are implemented following receipt of a complaint	No validated transport and traffic complaints.
Monitoring of product transport limits	Transport limits do not exceed the levels in Table 4.1.

# 5 MANAGEMENT AND MONITORING

## 5.1 Management measures

### 5.1.1 Marulan South Road

Peppertree Quarry and the mine have approval for and were intending to construct an intersection on Marulan South Road that will allow heavy vehicles to safely cross Marulan South Road when hauling overburden from the quarry to the mine. The mine was also to use this intersection to access the Road Sales Stockpile Area.

CoC B84 states:

Until such time as the eastern end of Marulan South Road is de-proclaimed, the Applicant must:

- (a) make suitable arrangements to ensure the safety of public road users (including traffic signals, signage or other traffic control measures), to the satisfaction of Council; and
- (b) ensure that any traffic signals on public roads are designed, installed and operated to the satisfaction of TfNSW.

The eastern end of Marulan South Road has not been de-proclaimed yet so the following intersection arrangements were presented to council for approval.

Boral submitted an application for a permit for road opening works under Section 138 of the *NSW Roads Act 1993* to council on 20 September 2021. The permit application included the construction of a new intersection where the Peppertree Quarry overburden haul road intersects with Marulan South Road approved under Modification 5 to MP 06-0074 and the consent.

On consideration of the permit application to construct the new intersection, council directed Boral take an alternative approach and lodge an application under Section 138 of the *NSW Roads Act 1993* for the temporary closure of Marulan South Road from the driveway of the Aglime Facility eastwards. With the temporary closure and the future full closure and de-proclamation of this section of Marulan South Road to public use, the construction of the new intersection on Marulan South Road is not required.

Council's notice of determination dated 23 February 2022 approving the temporary road closure is included in Appendix A.

The temporary road closure plans including approved changes to line marking and the approved traffic control plan are in Appendix B.

Traffic signals are not proposed and, therefore, TfNSW has not been consulted on this matter.

### 5.1.2 Operating conditions

The following operating conditions in CoC B85 will be implemented:

- Haulage truck drivers will ensure all laden trucks entering and exiting the mine will have their loads covered.
- Haulage truck drivers will ensure all laden trucks exiting the mine are cleaned of material that may fall from vehicles before leaving the mine. All trucks with dirt on their tyres that could be tracked onto Marulan South Road will pass through the wheel wash before exiting the site.

- The driver code of conduct in Appendix C will be implemented to minimise traffic safety issues and disruption to local road users.
- Boral's transport trucks will display signage identifying Boral as the vehicle owner. Contractor vehicles are not controlled by Boral and will display signage in accordance with the owner's requirements.

## 5.2 Contingency plan

Performance of this plan will be measured against the indicators in Table 4.2. If indicators are not being met the contingency measures in Table 5.1 will be implemented.

**Table 5.1 Contingency measures**

Measure	Key performance indicator	Contingency measure
Implementation of control measures	Quarterly environmental inspection checklist shows that all management practices listed in this plan were implemented.	Rectify any issues identified during environmental inspection in accordance with this plan and contingency measures.
Training	All relevant personnel have been trained in implementation of this plan and driver code of conduct.	Re-induct personnel as described in Section 5.3 if found to be insufficiently trained.
Visual monitoring	<ol style="list-style-type: none"> <li>1. Laden trucks are covered and clean.</li> <li>2. Vehicles are not tracking sediment onto Marulan South Road.</li> <li>3. Drivers are observed to comply with driver code of conduct.</li> <li>4. Boral owned trucks display signage.</li> </ol>	Implement the following if visual monitoring indicates a non-compliance with the indicators: <ol style="list-style-type: none"> <li>1. Stop the vehicle and cover it or provide a new cover if existing one is not operating.</li> <li>2. Stop dirty vehicle and instruct driver to go through the wheel wash. Clean up any sediment tracked onto Marulan South Road.</li> <li>3. Determine who the non-compliant drivers are and implement the corrective action in the driver code of conduct.</li> <li>4. Notify Boral Logistics of the number of the truck not displaying signage and request that a sign be displayed.</li> </ol>
Validated transport and traffic complaints are minimised and appropriate management actions are implemented following receipt of a complaint	No validated transport and traffic complaints.	Investigate complaints in accordance with Section 7.3, if any received.
Monitoring of product transport limits	Transport limits do not exceed the levels in Table 4.1.	If there is an exceedance immediately cease product transportation and investigate in accordance with Section 7.2.

## 5.3 Training

All contractor and Boral heavy vehicle drivers involved in transport and traffic related tasks will be inducted on the following:

- The requirements of this plan.
- Relevant legislation.



- Roles and responsibilities for transport and traffic management.
- Transport and traffic management measures.
- Procedure to be implemented if there is an incident.
- Driver's code of conduct.

Relevant personnel will be re-inducted each time there is a change to the plan. Aspects of the plan will also be reiterated as required during pre-start meetings and toolbox talks, for example, if there has been a minor change to the plan or if there was an incident or non-compliance.

## 5.4 Monitoring and record keeping

### 5.4.1 Product transportation

Boral records all loads of product that depart the site via train and truck on the site road and rail weighbridge systems. The programs on the weighbridges record the following:

- Product code and description.
- Dispatch time and date.
- Quantity in tonnes.
- Customer.
- Mode of transport.

An annual summary of these records (product description, quantity in tonnes and modes of transport) will be included in the Annual Review as required under CoC B83(b) and CoC D11. This summary will be used to review compliance with the transportation limits in CoCs A6 to A13.

Records for any day or time can be provided to relevant agencies upon request.

### 5.4.2 Road restrictions

CoC B88 states the following:

Unless otherwise agreed by Council, the Applicant must not dispatch more than 75 laden trucks per day or 5 laden trucks per hour from the site, until Marulan South Road is upgraded as described in the documents listed in A2 (c) ...

Product dispatches will be monitored to prevent an exceedance of the above hourly and daily limits. The Environmental Coordinator will liaise with site allocations to monitor scheduled movements. Dispatches will cease when the hourly and daily limits are met.

## 6 REVIEW AND IMPROVEMENT

### 6.1 Annual review and compliance reporting

By the end of July each year after the commencement of development, or other timeframe agreed by the Planning Secretary, Boral will prepare a report for submission to the Department reviewing the environmental performance of the development, to the satisfaction of the Planning Secretary.

This report will be prepared and submitted in accordance with CoC D11 and Section 4.5 of the EMS. Traffic and transport will be measured and reported against the following sub-conditions:

(b) include a comprehensive review of the monitoring results and complaints records of the development over the previous financial year, including a comparison of these results against the:

(i) relevant statutory requirements, limits or performance measures/criteria;

(ii) requirements of any plan or program required under this consent;

(iii) monitoring results of previous years; and

(iv) relevant predictions in the document/s listed in condition A2(c);

(c) identify any non-compliance or incident which occurred in the previous financial year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence;

(d) evaluate and report on:

(ii) compliance with the performance measures, criteria and operating conditions of this consent;

(e) identify any trends in the monitoring data over the life of the development;

(f) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and

(g) describe what measures will be implemented over the next financial year to improve the environmental performance of the development.

### 6.2 Continuous improvement

The plan is to be reviewed in terms of CoC D5(j). The plan will be reviewed and updated if necessary in the following circumstances:

- where the Project is modified and may change vehicle generation and impact road users; and/or
- where complaints, incidents and/or non-conformances require changes to ensure suitable management of traffic and transport in future stages of the Project.

Each year following the annual review outlined in Section 6.1 and every three years after the independent environmental audit detailed in CoC D13, Boral will review this plan and update it if necessary, with findings of the annual review and independent environmental audit, to promote continuous improvement. This review includes:

- A description of any changes to site operations with potential for traffic and transport impacts.
- A review of traffic monitoring data trends.
- A review of incidents and non-compliances.

- A review of traffic and transport complaint records for the year.
- Identification of any discrepancies between the predicted and actual impacts of the Project, and analyses of the potential cause of any significant discrepancies.
- A description of measures to be implemented to improve the traffic and transport performance of the Project.

Boral will consult with council on any changes to this plan.

In accordance with CoC D8, if changes are required to this plan, it will be resubmitted to the Planning Secretary for approval within six weeks of the review. The most recent version of this plan as approved by the Planning Secretary is to be implemented.

# 7 INCIDENT, NON-COMPLIANCE AND COMPLAINT MANAGEMENT

## 7.1 Incident reporting

The consent defines an incident as an “occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance”.

Section 147 of the *Protection of the Environment Operations Act 1997* (POEO Act) defines material harm as:

- (a) harm to the environment is material if:
  - (i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
  - (ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and
- (b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

Actions of drivers on public roads that break the law will be subject to road rules infringement processes. Actions of drivers on public roads that are inconsistent with the Driver's code of conduct but do not break the law will be investigated by Boral.

A traffic and transport related incident would comprise a violation of the Driver's code of conduct if it could or did harm the environment both within and outside the Project boundary.

Incidents that could or did harm the environment inside the Project boundary or Boral/contractor personnel carrying out Project related tasks in vehicles outside the Project boundary will be managed and reported in accordance with Boral's work health and safety obligations.

Incidents include potential or actual environmental harm that may result from a traffic and transport related incident, for example, a material spill resulting from a traffic accident involving a vehicle carrying out Project related tasks.

The Planning Secretary is to be notified in writing via the Major Projects website immediately after Boral becomes aware of an incident.

The notification must identify the Project (including the development application number and name of the development) and set out the location and nature of the incident.

Per EPL 944, notifications of environmental harm must be made by telephoning the Environment Line service on 131 555. Boral must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred. Boral or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the POEO Act.

## 7.2 Non-compliance reporting

The consent defines a non-conformance as an “occurrence, set of circumstances or development that is a breach of this consent”, which includes CoCs B83-B92.

In accordance with CoC D10 Boral will, within seven days of becoming aware of a traffic or transport non-compliance, notify the Department of the non-compliance. The notification will be in writing through the Department’s Major Projects Website and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

Note that a non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

## 7.3 Complaints protocol

After receiving a traffic or transport complaint, the Environment Coordinator will undertake further investigations to verify the complaint and obtain additional details required to ascertain the cause of the complaint.

Where further investigations into the complaint are undertaken, the findings and any corrective action will be discussed with the complainant.

Traffic and transport related complaints received by Boral will be recorded in a complaints register which will include the following details where available:

- The date and time of the complaint.
- The method by which the complaint was made.
- Any personal details of the complainant which were provided by the complainants or, if no such details were provided, a note to that effect.
- The nature of the complaint.
- The action taken by Boral in relation to the complaint, including any follow-up contact with the complainant.
- If no action was taken by Boral, the reasons why no action was taken.

The overarching complaints protocol for the mine, which provides further details on how all complaints will be received, recorded, handled and responded to is described in the EMS.



# APPENDIX A

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## Temporary road closure permit determination





# APPENDIX B

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## Temporary road closure and line marking plans





# APPENDIX C

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## Driver code of conduct







# APPENDIX D

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## Consultation





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