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Bringelly Brickworks Transport Management Plan

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GLOSSARY AND ABBREVIATIONS

CoA	Conditions of Approval for SSD_5684
CoR	Chain of Responsibility (RMS)
CSR	CSR Limited
DPI&E	Department of Planning Industry & Environment
EIS	Bringelly Brickworks Quarry Extension Environmental Impact Statement (Hyder Consulting, 5 September 2013)
EMS	Environmental Management Strategy
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
LGA	Local Government Area
LoS	Level of Service
NWP Act	<i>National Parks and Wildlife Act 1974</i>
RMS	NSW Roads & Maritime Services
RTS	Response to Submissions
Secretary, the	The Secretary of the DPI&E
SSD	State Significant Development
TMP	Transport Management Plan
WMS	Work method statements

Document Control

Version	Date	Description of Change
1	Dec 2019	Original approval after consultation
2	Dec 2020	Minor Changes only, format, layout and history update.

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CONTENTS

1. INTRODUCTION	4
1.1 Context	4
1.2 Background	4
2. PURPOSE AND OBJECTIVES	6
2.1 Purpose	6
2.2 Objectives	6
2.3 Targets	6
3. ENVIRONMENTAL REQUIREMENTS	7
3.1 Relevant Legislation and Guidelines	7
3.1.1 Legislation	7
3.1.2 Guidelines and standards	7
3.2 Minister's Conditions of approval	7
Table 1 Conditions of Approval relevant to the TMP	7
4. CONSULTATION	10
4.1 Camden Council	10
5. EXISTING ENVIRONMENT	11
5.1 Road Network	11
5.2 Traffic Flows	11
5.3 Intersection Performance & Mid-block Operation	11
5.4 Public transport, cyclist and pedestrian facilities	11
5.5 The Northern Road Upgrade	12
5.6 Parking	12
6. TRAFFIC GENERATION	13
6.1 Light Vehicle Movements	13
6.2 Heavy vehicle movements	13
6.3 Construction	13
7. ENVIRONMENTAL ASPECTS AND IMPACTS	14
7.1 Development Activities	14
7.2 Transport Impacts	14
7.2.1 Road Network Capacity	14
7.2.2 Site Access	14
7.2.3 Road Maintenance Contributions	14
8. ENVIRONMENTAL MANAGEMENT MEASURES	15
Table 2 Environmental Management Measures	15
9. COMPLIANCE MANAGEMENT	17
9.1 Monitoring and Inspections During Construction	17
Table 3 Monitoring and inspection requirement relevant to traffic controls during construction	17
9.2 Monitoring and Inspections During Operations	17
9.2.1 Implementation of environmental management measures	17
9.2.2 Product transportation	17
Table 4 NSW Public School Zone Operating Hours	18
9.3 Training	18
9.4 Auditing and Reporting	18
9.5 Drivers' Code of Conduct	18
Figure 1 Hierarchy of Disciplinary Actions to be taken by PGH	19
10. REVIEW AND IMPROVEMENT	20
10.1 Continuous Improvement	20
10.2 TMP Update and Amendment	20
APPENDIX A CAMDEN COUNCIL CORRESPONDANCE	21
APPENDIX B PGH DRIVER CODE OF CONDUCT	22

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1. INTRODUCTION

1.1 Context

This Transport Management Plan (TMP or Plan) forms part of the Environmental Management Strategy (EMS) for Bringelly Brickworks (the facility). The Plan has been prepared following the approval of the Bringelly Brickworks Extension Project (SSD_5684) on 3 March 2015 and Modification October 2016.

This TMP has been prepared to address the requirements of the Conditions of Approval (CoA), the mitigation measures listed in the *Bringelly Brickworks Quarry Extension Environmental Impact Statement* (EIS) (Hyder Consulting, 5 September 2013) and applicable legislation identified in this Plan.

1.2 Background

Bringelly Brickworks (the facility) is a clay/shale quarry and brick making facility located at 60 Greendale Road, Bringelly, on Lot 100 in DP 1203966 and comprises an area of approximately

385.55 hectares (refer Figure 1) in the Camden Local Government Area. The facility has been in operation since 1968, and in its original form it had the capacity to process approximately 51,500 tonnes of bricks per annum.

In 1991, Boral Bricks (NSW) Pty Limited undertook to upgrade the facility with new technology and increase production to ensure the continued economic viability of the site due to the age of the manufacturing plant and machinery. The Council of the Municipality of Camden, as the approving authority at the time, approved the Development Application on 13 September 1991 (Council ref. DA 91/1194). From 1991 until 2013, the Bringelly Brickworks facility operated under this approval, which permitted (among other things) quarry extraction up to 200,000 tonnes per annum, the receipt of up to 96,000 tonnes of supplementary materials and brick production up to 160,000 tonnes per annum.

In 2013, Boral Bricks Pty Limited (Boral) prepared an Environmental Impact Statement (EIS) to assess the environmental impacts of an increase in production at the facility and continued extraction of the quarry to meet the anticipated demand for its brick products ('Bringelly Brickworks Extension Project', Application No. SSD_5684). The project was determined to be State Significant Development (SSD) under Part 4, Division 4.1 of the Environmental Planning and Assessment Act 1979 (EP&A Act) and Clause 8 State Environmental Planning Policy (State and Regional Development) 2011 (State and Regional Development SEPP).

The EIS was publicly exhibited from 6 November 2013 to 9 December 2013. The then Department of Planning & Environment (DPI&E) received 12 submissions during this period, including 11 from public authorities and 1 submission from the general public who objected to the project due to its potential impacts. While none of the government authorities objected to the project, most raised concerns about its potential impacts and/or made recommendations for managing these impacts.

Boral prepared and submitted an initial Response to Submissions (RTS) to the DPI&E in February 2014. However, following receipt of the RTS, DPI&E received further correspondence from 7 public authorities which necessitated further consultation between Boral, DPI&E and the relevant government authorities.

The additional consultation was resolved and in February 2015 DPI&E finalised their Environmental Assessment Report and the Bringelly Brickworks Extension Project was approved with conditions on 3 March 2015.

On 1 May 2015, CSR Limited (CSR) and Boral Limited (Boral) formally completed the establishment of a joint venture for operations located in New South Wales, Victoria, Queensland, South Australia, Tasmania and the ACT. Ownership of Bringelly Brickworks (including quarrying activities) was transferred to the joint venture Boral CSR Bricks Pty Ltd (BCB), trading as PGH Bricks & Pavers. PGH Bricks & Pavers (PGH) was the controlling entity of the facility and responsible for implementing the

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Environmental Management Strategy of the

site. On 31 October 2016 CSR agreed to acquire Boral's interest in BCB, therefore resulting in CSR owning 100% of PGH. BCB no longer exists

Since Project Approval, the type of bricks demanded by the market have changed and Boral Bricks withdrew from the site. These two critical factors necessitated PGH to review its manufacturing requirements to ensure the most efficient use of all the resources available. To manufacture the bricks demanded by the market, the type, composition and quantity of the raw materials to be imported to Bringelly Brickworks was reconsidered because the type of raw materials required could not be solely extracted from the Bringelly quarry. PGH therefore applied to DPI&E to modify SSD_5684 under Section 96(1A) of the Environmental Planning and Assessment Act 1979 (EP&A Act), to provide for an increased raw material import limit to 321,000 tonnes per annum (referred to as MOD1). MOD1 was approved by DPI&E on 31 October 2016.

Bringelly Brick Works continued to operate under DA 91/1194, however approval for State Significant Development (SSD 5684) was issued in March 2015 for the extension of the quarry and to upgrade ancillary infrastructure.

Schedule 2, Condition 9 of SSD 5684 required PGH to surrender DA 91/1194 following commencement of development, as approved in SSD 5684. The SSD was triggered on 24 Feb 2020, and DA 91/1194 was surrendered to Camden Council.

In anticipation of the surrender of DA 91/1194, draft management plans were prepared in accordance with SSD 5684 and submitted to the Department of Planning and Environment (DPI&E) on 21 February 2017 for comment. Consultation regarding these plans continues as required and modified plans were submitted for approval by DPI&E in Dec 2019. They were subsequently approved in Dec 2019.

A traffic and transport assessment was completed as part of the EIS to assess potential traffic and transport impacts associated with the Bringelly Brickworks Extension Project. The assessment addressed the following requirements:

- Accurate predictions of the road traffic generated by the construction and operation of the Bringelly Brickworks Extension Project;
- An assessment of potential impacts on the safety and efficiency of the road network; and
- A detailed description of the measures that would be implemented to maintain and/or improve the capacity, efficiency and safety of the road networks in the surrounding area over the life of the Bringelly Brickworks Extension Project.

Modification 1 was granted October 2016 permitting an increased raw material importation limit of 321.000 tonnes per annum.

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2. PURPOSE AND OBJECTIVES

2.1 Purpose

The purpose of this TMP is to outline the measures PGH will implement to ensure compliance with the transport operating conditions of the CoA and to manage traffic to and from the site throughout the operational lifetime of the facility.

2.2 Objectives

The key objective of the TMP is to manage and minimise potential traffic and transport impacts on local road users and the community.

To achieve this objective, PGH will address the following issues:

- Manage traffic generation, particularly heavy vehicles, during construction and operation;
- Provide sufficient parking on-site for all development-related traffic;
- Contribute to road maintenance in accordance with the CoA;
- Keep the community informed of any traffic disruptions that would be caused by the facility;
- Ensure appropriate measures are implemented to address the relevant CoA outlined in **Table 1**
- and the management measures detailed in **Table 2**; and
- Ensure appropriate measures are implemented to comply with all relevant legislation and other requirements as described in Section 9 of this TMP.

2.3 Targets

The following targets have been established for the management of traffic during the operational lifetime of the facility:

- Ensure full compliance with the relevant legislative requirements and CoA;
- Minimise traffic disruptions; and
- No traffic or transportation incidents.

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3. ENVIRONMENTAL REQUIREMENTS

3.1 Relevant Legislation and Guidelines

3.1.1 Legislation

Legislation relevant to traffic management includes:

- Environmental Planning and Assessment Act 1979 (EP&A Act);
- Roads Act 1993;
- Transport Administration Act 1988; and
- Australian Road Rules 2014.

3.1.2 Guidelines and standards

The main guidelines, specifications and policy documents relevant to this TMP include:

- RMS Traffic Control at Worksites Manual Version 4, June 2010; and
- Australian Standard 1742.3-2009 Traffic control devices for works on roads.

3.2 Minister's Conditions of approval

The CoA relevant to this TMP are listed in **Table 1**. A cross reference is also included to indicate where the conditions are addressed in this TMP or other environmental management documents.

Table 1 Conditions of Approval relevant to the TMP

Schedule and Clause	Condition of Project Approval	Location of where addressed in document
2)7)	<p>The Applicant shall not:</p> <ul style="list-style-type: none"> • Transport more than 263,500 tonnes of bricks from the site in a calendar year; • Receive more than 90 trucks to the site per day or more than 18 trucks per hour; and • Dispatch more than 90 trucks from the site per day or more than 18 trucks per hour. 	<p>Section 6 Section 9.2.2</p>
2)19)	<p>The Applicant shall pay Camden Council road maintenance contributions of \$0.0811 for every tonne of material transported to and from the site, indexed to CPI. Each payment must be:</p> <ul style="list-style-type: none"> • paid to Council at the end of each calendar year; and • based on weighbridge records of all supplementary brick making materials transported to the site and bricks and spoil transported from the site. <p>Note: If the parties are not able to agree on any aspect of the maintenance contributions, either party may refer the matter to the Secretary for resolution.</p>	<p>Sections 7.2.3 & 9.2.2</p>
3)11)	<p>The Applicant shall keep accurate records of the:</p>	<p>Section 9.2.2</p>

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Schedule and Clause	Condition of Project Approval	Location of where addressed in document
	<ul style="list-style-type: none"> Amount of bricks transported from the site (monthly and annually); and Number of laden vehicle movements from the site (hourly, daily, weekly, monthly and annually); and <p>Provide the Secretary with a summary of this information upon request.</p>	
3)12)	The Applicant shall provide sufficient parking on-site for all development-related traffic, in accordance with the Camden Council's parking codes, to the satisfaction of the Secretary.	Section 8, Section 13
3)13)	<p>The Applicant shall ensure that:</p> <ul style="list-style-type: none"> All development-related heavy vehicles enter and exit the site in a forward direction; All laden vehicles entering or exiting the site have their loads covered (with the exception of vehicles carrying bricks); All laden vehicles that have accessed the extraction and/or stockpile areas are cleaned of sand and other material that may fall on the road, before leaving the site; All heavy vehicles exiting the site travel east of the site along Greendale Road to The Northern Road and/or Bringelly Road; The dispatch of laden trucks is avoided during the peak drop-off and pick-up times at the Bringelly Public School to the greatest extent practicable, particularly prior to the upgrade of the Greendale Road/Bringelly Road intersection by RMS; and No trucks queue at the entrance to the site before 6am. 	Section 8
3)14)	The Applicant shall design and construct the new site access road intersection with Greendale Road in accordance with applicable AUSTROADS standards, and to the satisfaction of Camden Council.	Section 7.2.2
3)15)	The Applicant shall prepare and implement a Transport Management Plan for the project to the satisfaction of the Secretary. This plan must:	Section 8, Appendix A

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Schedule and Clause	Condition of Project Approval	Location of where addressed in document
	<ul style="list-style-type: none"> • be prepared in consultation with RMS, Camden Council, Liverpool City Council and Bringelly Public School, and be submitted to the Secretary for approval prior to the commencement of construction activities under this consent, unless the Secretary agrees otherwise; • Describe the measures that would be implemented to ensure compliance with the transport operating conditions under this consent, including specific measures to avoid dispatching laden trucks from the site during the peak drop-off and pick- up times at the Bringelly Public School; • Include a Code of Conduct for heavy vehicle drivers that addresses: <ul style="list-style-type: none"> ○ Travelling speeds; ○ Instructions to avoid grouping or convoying of trucks; ○ Procedures to ensure that drivers adhere to the designated haulage routes and the haulage hours permitted under this consent; ○ Instructions to drivers not to overtake each other on the haulage route, as far as practicable, and to maintain appropriate distances between vehicles; and ○ Instructions to drivers to be properly safety conscious and to strictly obey all traffic regulations, particularly in relation to school zones along Greendale Road; and ○ Describe the measures that would be put in place to ensure compliance with the drivers' Code of Conduct and include a program to monitor the effectiveness of the implementation of these measures. 	

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4. CONSULTATION

As outlined in **Table 1**, this Plan must be prepared in consultation with RMS, Camden Council, Liverpool City Council and Bringelly Public School.

Accordingly, this Plan was provided to RMS, Camden Council, Liverpool City Council and Bringelly Public School for comment.

4.1 Camden Council

Camden Council responded to the previous version of the Transport Management Plan, see *Appendix A* for a letter dated 30 September 2016. The Department of Planning, Industry & Environment (DPIE) noted a number of items listed in the Council letter were addressed in the EIS previously. This document seeks to clarify the remaining points regarding parking and heavy vehicle movements during school pickup times.

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5. EXISTING ENVIRONMENT

5.1 Road Network

The entrance to the facility is 60 Greendale Road, Bringelly. The facility is accessed via Greendale Road (rural road) which in turn intersects the main arterial road, The Northern Road (refer **Figure 1**).

Greendale Road is a two-way sealed rural road running west from The Northern Road up to the Sydney University Farms where the alignment then shifts northward towards Penrith. Bringelly Public School is located at the northwest corner of The Northern Road and Greendale Road intersection. There is a 40 km/hr school zone during the prescribed hours along Greendale Road. Beyond the school zone and up to 350 metres west of the facility's access road, Greendale Road has a speed limit of 60 km/hr and 80 km/hr respectively.

The Northern Road is an arterial road that links Narellan in the south with Richmond in the north, passing through Penrith Local Government Area (LGA). It traverses predominantly rural areas, with the exception of stretches in Kingswood in Penrith LGA (Parker Street). For most of its length, The Northern Road is generally an undivided, two-lane road (both directions) with asphalt pavement. The speed limit on the Northern Road in the vicinity of Greendale Road is 80 km/hr.

Directly opposite the facility's access off Greendale Road is a local road (Medway Road) which provides access to some low-density residential properties on the northern side of Greendale Road. It is a two-way sealed road and signposted as a "No Through Road".

5.2 Traffic Flows

Traffic surveys (Hyder Consulting, 2013) indicate that Greendale Road carries approximately 1,500 vehicles per day. The morning peak hour was recorded to take place between 8:00AM to 9:00AM with an average weekday volume of 103 vehicles per hour and the peak direction is eastbound. The evening peak was 4:00PM to 6:00PM, with an average weekday volume of 130 vehicles per hour and the peak direction is westbound.

Traffic surveys (SKM, 2012) indicate that The Northern Road at Greendale Road intersection carries approximately 14,000 vehicles a day, of which 6% are heavy vehicles. Morning peak hour (7:00AM to 8:00AM) flows are 689 vehicles while evening peak (4:00PM to 5:00PM) flows are 779 vehicles.

5.3 Intersection Performance & Mid-block Operation

The performance of the existing road network is largely dependent on the operating performance of the key intersections which are critical capacity control points on the road network.

The criteria for evaluating the operational performance of intersections are provided by the RMS and were assessed in the EIS based on a qualitative measure (i.e. Level of Service), which is applied to each average delay band.

The Level of Service (LoS) is the industry standard used to measure the performance of intersection operation and is defined as the qualitative assessment of the quantitative effect of factors such as speed, traffic volume, geometric features, delays and freedom of movement.

The EIS determined that the intersection of The Northern Road with Greendale Road and Bringelly Road currently operates satisfactorily with a LoS of "B". A LoS "B" implies that the level of service for a particular signalised intersection is good with acceptable delays and spare capacity.

With an Average Annual Daily Traffic volume of 1,500 vehicles per day, the level of service for Greendale Road is equivalent to LoS "A", which indicates that Greendale Road has spare capacity to accommodate additional traffic.

5.4 Public transport, cyclist and pedestrian facilities

There are currently no public transport services in the immediate vicinity of the site. The nearest service is Bus Route 856/857. This bus route links Bringelly with Liverpool via Prestons and Churchill Gardens and runs along The Northern Road, Bringelly Road, Ingleburn Road, Camden Valley Way and The Hume Highway.

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The closest bus stop for the direction towards Bringelly is located on The Northern Road at Bringelly Public High School, just north of the intersection of The Northern Road and Greendale Road (Stop ID 2171178). The closest bus stop for the direction towards Liverpool is located on Bringelly Road just east of the intersection with The Northern Road (Stop ID 2171421).

There are no dedicated pedestrian and cycle facilities in the immediate vicinity of the site. There is a pedestrian footpath on the northern side of Greendale Road running west from The Northern Road for approximately 320 metres. In the vicinity of Greendale Road, The Northern Road has a pedestrian footpath on the western side.

5.5 The Northern Road Upgrade

The Australian and NSW governments are upgrading The Northern Road as part of the Western Sydney Infrastructure Plan, a 10- year , \$3.6 billion road investment program. The Northern Road Upgrade, about 35km in length, from The Old Northern Road, Narellan to Jamison Road, Penrith, is being planned in four stages. The Northern Road Upgrade will deliver new and upgraded roads to support integrated transport in the region and capitalise on the economic benefits from developing a western Sydney airport at Badgerys Creek. It would also improve safety, increase road capacity and reduce congestion and travel times in the future.

The Northern Road Upgrade stages are:

Stage 1: 3.3km between The Old Northern Road, Narellan and Peter Brock Drive, Oran Park;

Stage 2: 10km between Peter Brock Drive, Oran Park and Mersey Road, Bringelly;

Stage 3: 10km between Littlefields Road, Luddenham and Jamison Road, Penrith;

Stage 4: 11km between Mersey Road, Bringelly and Littlefields, Luddenham; and

A grade separated interchange at the intersection of The Northern Road and Bringelly Road.

Work on Stage 1 commenced in February 2016 and the remaining work impacting the site was completed during 2020.

PGH anticipates that the traffic movements on Greendale Rd, in general, will change once the upgraded Old Northern Road is accessible. The TMP will be reviewed and revised if necessary once the new road is opened and activities on site are modified in line with the consent. Noise surveys will be used as a guide also, as they are completed over time

5.6 Parking

This section has been included in accordance with CoA Schedule 3, Condition 12.

There are currently a minimum of 44 parking spaces on site. According to PGH staff, there are currently 27 day shift workers and 9 night shift workers. This allows for significant increase in staff if needed once the expanded Project commences.

According to the Camden Council's Development Control Plan (DCP) 2019, a Warehouse or Distribution Centre/Storage Premises requires 1 car parking space per 300m³ gross floor area. It should be noted that this category in the DCP is not specific to the Bringelly Project but has been used to respond to Camden Council issues raised in 2016 correspondence. It is estimated that the useable floor area utilised by staff at Bringelly is approximately 11,000m² excluding non-pedestrian areas such as the kiln. This equates to approximately 37 carparks required on site; therefore, the parking space numbers are consistent with those required by Council.

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6. TRAFFIC GENERATION

Traffic generation for the facility is estimated on the basis of existing operations and the approved expansion. The vehicle movements anticipated as a result of an increase in brick production to 263,500tpa will consist of light vehicle movements (e.g. employee's travelling to and from work) and heavy vehicle movements (e.g. transporting raw materials and product dispatch).

6.1 Light Vehicle Movements

Whilst the previous consent allowed for 24-hour operations at the facility, brick production was undertaken from 6:00AM to 5:00PM. The number of staff previously employed by the facility was 38. 24 of the employees worked on an 11-hour shift, four days on/off basis. Up to 26 employees were present at the facility at any one time.

The approved expansion requires the brick production process to operate on a 24-hour basis, which necessitates an additional 34 employees. This brings the total employee base to 72. 56 of the employees work on a 12-hour shift, four days on/off basis. Up to 44 employees are be present at the facility at any one time.

6.2 Heavy vehicle movements

The volume of trucks arriving and departing from the facility is attributed primarily to the delivery of raw materials/supplies and the dispatch of finished products. A small number of truck movements are attributed to heavy vehicles for maintenance activities.

Under previous conditions, a total of 450 truck movements (225 inbound/225 outbound) occur per week. With the approved increase in brick production, a maximum total of 1,034 truck movements (517 inbound/517 outbound) are expected to occur per week. This equates to a net increase of 584 truck movements (292 inbound/292 outbound) per week.

6.3 Construction

It is anticipated that the construction of the realigned site access and minor extensions to the brick making facility will be undertaken concurrently and take approximately 8 weeks in total.

During construction, additional light and heavy vehicle traffic will be temporarily experienced. Construction staff would comprise project management, various trades and general construction staff. A peak construction workforce is estimated to be approximately 10 employees, which would occur over a short period during the 8-week construction period. It is estimated that around four heavy vehicles a day would also be used over the construction period.

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7. ENVIRONMENTAL ASPECTS AND IMPACTS

7.1 Development Activities

Key aspects of the facility that could result in adverse impacts to traffic include (but are not limited to):

- Construction of the realigned site access road;
- Delivery of raw materials/supplies;
- Employees attending work and shift changes; and
- Product dispatch and transportation.

7.2 Transport Impacts

7.2.1 Road Network Capacity

It is estimated that the approved expansion will attract an additional 123 vehicle trips per day consisting of 33 light vehicles and 90 heavy vehicles. This would increase the average daily traffic on Greendale Road (both directions) to roughly 1,631 vehicles per day with 16.1% heavy vehicle composition.

The increase in traffic would change the LoS for Greendale Road from LoS “A” to LoS “B”. In a rural context, Los A and LoS B, are considered satisfactory.

Heavy vehicles departing the facility will continue to travel east along Greendale Road, and then north, south or east at the intersection with The Northern Road. There would be no significant change to the directional split of heavy vehicles at this intersection compared with existing operations.

7.2.2 Site Access

The existing site access road is to be realigned approximately 140m to the east. The realignment will accommodate a dedicated 60m left turn lane at the approved vehicle access point on the westbound lane of Greendale Road. An assessment of sight distance requirements for the approved realignment was undertaken in the EIS with reference to Austroads Guide to Road Design, Part 3 – Geometric Design (November 2009). For a 60km/hr zone, the required minimum sight distance is 91m. To accommodate this sighting distance, it will require the removal of some vegetation on the southern side of Greendale Road, east of the approved access point.

7.2.3 Road Maintenance Contributions

The boundary between Camden and Liverpool LGA’s falls on the centreline of Greendale Road, and all road maintenance contributions are paid to Camden Council (in line with an agreement between the councils).

Previously, BCB paid road maintenance contributions to Camden Council for every tonne of product transported to and from the site in accordance with Council’s *Section 94 Contributions Plan No.7 – Extractive Industry (CP7)*, which was developed in 1993. The contributions under CP7 were made at a base rate of \$0.0935 indexed against the RMS Road Cost Index.

However, in accordance with the CoA, PG H will henceforth pay Camden Council road maintenance contributions of \$0.0811 for every tonne of material transported to and from the site, indexed to the Consumer Price Index. Each payment will be:

- paid to Council at the end of each calendar year; and
- based on weighbridge records of all supplementary brick making materials transported to the site and bricks and spoil transported from the site.

If PGH and Camden Council are not able to agree on any aspect of the maintenance contributions, either party may refer the matter to the Secretary for resolution.

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8. ENVIRONMENTAL MANAGEMENT MEASURES

Specific traffic and transport management measures identified in the EIS and CoA have been interpreted and generally reproduced in Table 2. The management measures identified in this table are to be implemented to mitigate or manage impacts identified in Section 8.2. Where additional resources will be required to implement a management measure, these have been identified in the last column.

Table 2 *Environmental Management Measures*

ID	Measure / Requirement	Source	When to implement	Responsibility	Additional Resources Needed
T1.	Vegetation on the southern side of Greendale Road, east of the approved access point, will be removed to meet the sight distance requirements as required by AUSTROADS standards.	Section 7.4.4 EIS	Construction	Plant Manager	
T2.	Personnel operating trucks and vehicles to and from the facility would be required to undertake a site-specific health and safety induction specifying operating hours, speed limits along Greendale Road, safe access and egress, and the avoidance of the morning and afternoon peak periods near Bringelly Public School.	Section 7.4.4 EIS	Operation	Plant Manager	Site Induction
T3.	A heavy vehicle protocol would be developed for the facility and distributed to relevant staff and contractors during induction procedures. The protocol would deal with such issues as timing of vehicle movements, idling of vehicles, speed limits on Greendale Road and parking.	Section 7.4.4 EIS	Operation	Plant Manager	Drivers' Code of Conduct
T4.	Deliveries would be scheduled on larger capacity 'truck and trailer' vehicles rather than 'truck only' vehicles where possible to minimise truck movements.	Section 7.4.4 EIS	Operation	Plant Manager	
T5.	Where non-routine vehicle movements are required, such as for the transport of oversized loads, within the confines of fatigue management and scheduling, PGH will undertake these tasks outside of normal working hours and/or the peak morning and afternoon periods.	Section 7.4.4 EIS	Operation	Plant Manager	

DOCUMENT CONTROL	
Doc No. BRK-BG-3.10.7-P10	Version: V2
Reason for Revision: Minor change – in line with consent	
Issue Date: Jan 2021	Review Date: Jan 2024
Writer: M Travers	Authorised by: D Cook



ID	Measure / Requirement	Source	When to implement	Responsibility	Additional Resources Needed
T6.	PGH trucks servicing the site will be fitted with speed monitoring systems via GPS tracking software.	Section 7.4.4 EIS	Operation	Plant Manager	
T7.	All development-related heavy vehicles must enter and exit the site in a forward direction.	COA, Schedule 3, 13(a)	All times	Plant Manager	Drivers' Code of Conduct
T8.	All laden vehicles entering or exiting the facility must cover their loads (with the exception of vehicles carrying bricks).	COA, Schedule 3, 13(b)	All times	Plant Manager	Site Induction
T9.	All laden vehicles that have accessed the extraction and/or stockpile areas are to be cleaned of sand and other material that may fall on the road, before leaving the facility.	COA, Schedule 3, 13(c)	Operation	Plant Manager	Site Induction
T10.	All heavy vehicles exiting the facility are to travel east from the facility along Greendale Road to The Northern Road and/or Bringelly Road.	COA, Schedule 3, 13(d)	All times	Plant Manager	Drivers' Code of Conduct
T11.	The dispatch of laden trucks is to be avoided during the peak drop-off and pick-up times at the Bringelly Public School within the confines of fatigue management and scheduling, particularly prior to the upgrade of the Greendale Road/Bringelly Road intersection by RMS.	COA, Schedule 3, 13(e)	Operation	Plant Manager	Drivers' Code of Conduct
T12.	Trucks are not to queue on Greendale Road at the entrance to the facility before 6:00AM.	COA, Schedule 3, 13(f)	All times	Plant Manager	Drivers' Code of Conduct
T13.	Sufficient parking is to be provided on-site for all development-related traffic, in accordance with the Camden Council's parking codes.	COA, Schedule 3, 12	All times	Plant Manager	Drivers' Code of Conduct

BRINGELLY BRICKWORKS AND QUARRY EXPANSION - AIR QUALITY MANAGEMENT PLAN



DOCUMENT CONTROL	
Doc No. BRK-BG-3.10.7-P10	Version: V2
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9. COMPLIANCE MANAGEMENT

9.1 Monitoring and Inspections During Construction

Should traffic control be required during construction, the requirements to monitor and inspect traffic control is stipulated in Section 6 in the RMS Traffic Control at Worksites Manual and Australian Standard 1742.3 Traffic control devices for works on roads. These guidelines and standards are applicable for works being undertaken on public roads.

A monitoring and inspection regime of traffic control measures, should they be required during construction, is proposed in **Table 3**.

Table 3 *Monitoring and inspection requirement relevant to traffic controls during construction*

Inspection	Frequency	Action	Reporting	Responsibility
Pre-start and pre-closedown	Daily	Before works start, check approved Traffic Control Plans, Road Occupancy Licence and Speed Zone Authorisations are onsite	Pre-start Brief	Construction Contractor
Short term traffic control inspections (day and night)	Weekly	Undertaken in accordance with Australian Standard 1742.3 using the drive through video method	Video recording	Construction Contractor
Long term traffic control inspections (day and night)	Fortnightly	Undertaken in accordance with Australian Standard 1742.3 using the drive through video method	Video recording	Construction Contractor

9.2 Monitoring and Inspections During Operations

9.2.1 Implementation of environmental management measures

Weekly inspections and daily visual observations by the Plant Manager (or delegate) of on-site traffic conditions, vehicle movements and implementation of the Driver's Code of Conduct will occur throughout the operational lifetime of the facility, in accordance with Section 9 of the EMS.

9.2.2 Product transportation

Once a month, the Plant Manager (or delegate) will review the recorded tonnage of bricks and number of laden vehicle movements transported from the site to ensure compliance with the transportation limits stipulated in CoA Schedule 2, Condition 7.

This information will similarly be utilised to quantify the road maintenance contribution to be paid to Camden Council, as described in Section 8.2.3.

Within the confines of fatigue management and scheduling, dispatch and arrivals during peak pick up/drop off times at Bringelly Public School will be avoided. NSW public school speed zone operate during the following hours on designated school days:

DOCUMENT CONTROL	
Doc No. BRK-BG-3.10.7-P10	Version: V2
Reason for Revision: Minor change – in line with consent	
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Table 4 NSW Public School Zone Operating Hours

School	Morning	Afternoon
Primary School	08:00 - 09:30	14:30 – 16:00

9.3 Training

All employees and contractors driving heavy vehicles to or from the facility for construction or operational purposes, will undergo site induction training, which will cover issues relating to traffic management, including:

- Existence and requirements of this Plan, particularly those traffic and transport management measures outlined in **Table 2**;
- Relevant legislation;
- Bringelly Brickworks operational hours and delivery times;
- Requirements of the Drivers' Code of Conduct;
- External and internal speed limits;
- Location of sensitive receivers; and
- Complaints reporting.

Further details regarding staff induction and training are outlined in the Bringelly Brickworks Environmental Management Strategy (EMS).

9.4 Auditing and Reporting

Audits (both internal and external) and reporting will be undertaken to assess the effectiveness of traffic and transport controls, compliance with this TMP, CoA and other relevant approvals, licenses and guidelines. Audit requirements are detailed in Section 6.3 of the EMS.

A Truck Noise Auditing Program will be utilised annually in conjunction with the Noise Management Plan.

9.5 Drivers' Code of Conduct

A Drivers' Code of Conduct has been developed, see *Appendix B* to set driver behaviour controls to minimise impacts on road users and the surrounding community. Clauses will be entered in conditions of employment, or in contracts, that drivers must adhere to the Drivers Code of Conduct as new contracts are drafted or renewed.

These conditions will be monitored by observing drivers' behaviour and compliance with the Code of Conduct will be assessed randomly during a monthly safety walk undertaken by the Plant Manager or delegate. Breaches of the Code of Conduct will be addressed using the following flow chart as included in the Code of Conduct:

DOCUMENT CONTROL	
Doc No. BRK-BG-3.10.7-P10	Version: V2
Reason for Revision: Minor change – in line with consent	
Issue Date: Jan 2021	Review Date: Jan 2024
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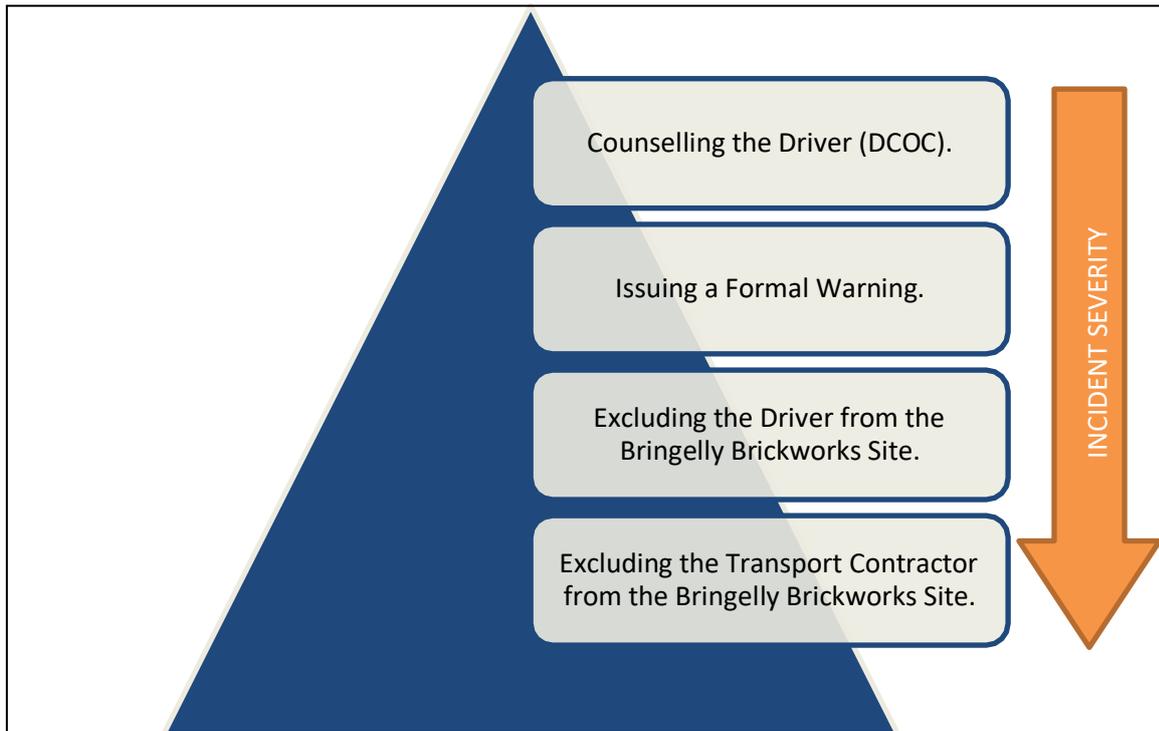


Figure 1 Hierarchy of Disciplinary Actions to be taken by PGH

DOCUMENT CONTROL	
Doc No. BRK-BG-3.10.7-P10	Version: V2
Reason for Revision: Minor change – in line with consent	
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10. REVIEW AND IMPROVEMENT

10.1 Continuous Improvement

Continuous improvement of this TMP will be achieved in accordance with Section 10 of the EMS, through the ongoing evaluation of traffic and transport management performance against traffic and transport policies, objectives and targets.

The continuous improvement process is designed to:

- Identify areas of opportunity for improvement of traffic and transport management and performance;
- Determine the cause or causes of non-conformances and deficiencies;
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies;
- Verify the effectiveness of the corrective and preventative actions;
- Document any changes in procedures resulting from process improvement; and
- Make comparisons with objectives and targets.

10.2 TMP Update and Amendment

The processes described in Sections 6 and 10 of the EMS may result in the need to update or revise this TMP.

The approval of updates or revisions to the TMP will need to be considered in accordance with Section 11.2 of the EMS.

DOCUMENT CONTROL	
Doc No. BRK-BG-3.10.7-P10	Version: V2
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APPENDIX A CAMDEN COUNCIL CORRESPONDANCE

DOCUMENT CONTROL	
Doc No. BRK-BG-3.10.7-P10	Version: V2
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APPENDIX B PGH DRIVER CODE OF CONDUCT

