Traffic Management Plan

Berrima Cement Works

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1. Purpose / Scope / Objective

The purpose of the Traffic Management Plan is to define the essential requirements for the safe management and environmentally responsible use of road and the mobile plant/equipment that uses the site and local external roads.

The plan applies to all Berrima Cement Works operations.

2. Traffic and Transport Impacts and Mitigation Strategies

The Berrima Cement Works is located at New Berrima, approximately 150km southwest of Sydney. It is adjacent to the Hume Highway, the major road traffic route for deliveries to and despatches from the site. The site is shown in Appendix 1, Local Area Map (Access Routes).

Raw materials and fuels are delivered to the Berrima Cement Works site by rail and road transport. The deliveries are not restricted and can proceed 24 hours per day, seven days per week. However, the road transport deliveries are usually made between 0600 and 1800 hours, normal week days. Deliveries outside these periods are not frequent. The traffic movement are predominantly from the west along Taylor Avenue entering the site via Gate 2 and exiting the site via either Gate 2 or Gate 1 to the west along Taylor Avenue.

Finished products (clinker and cement) are despatched from the site by rail and road transport. The traffic movements are predominantly from the west along Taylor Avenue entering the site via Gate 2 and exiting the site via Gate 2 to the west along Taylor Avenue.

Employees and contractors use a range of small road vehicles and normally enter and exit the site via Gate 1. These vehicle movements are from both the west and east along Taylor Ave and are predominantly in the period at the start and end of work periods. These periods are 0530 to 0800 and 1400 to 1830.

During kiln overhauls and other construction work the site use a number of heavy vehicles including cranes and other heavy equipment. These vehicle movements are predominantly from the west along Taylor Avenue entering and exiting the site via Gate 2 to the west along Taylor Avenue. These movements are usually during normal week days during the period 0600 to 1800 hours.

3. Roles and Responsibilities

The Operations Manager, Berrima or their delegates shall identify and assess all hazards related to powered mobile plant and vehicles at the workplace and the risk of people, facilities, plant and equipment coming into contact with those hazards;

Site Managers, Superintendents, Supervisors and Team Leaders shall ensure that appropriate controls to eliminate or minimise all identified risks are implemented;

HSE Advisor shall ensure that the Traffic Management Plan is reviewed every two years;

All employees, contractors and visitors shall observe all posted or marked signs, including speed limits, traffic flow directions and exclusion zones at all times, and ensure compliance with the requirements of the traffic management plan (this document).

The responsibilities of the personnel related to the Traffic Management Plan and Driver Code of Conduct are summarised below.

Site Operations Manager	Responsible for ensuring the operation of the works' environmental management system (EMS) including the Traffic Management Plan. This includes: ▪ Establishing a site Traffic Management Plan and Drivers Code of Conduct; ▪ Ensuring performance objectives and targets are established, monitored and achieved; ▪ Defining responsibilities for the Traffic Management Plan; ▪ Ensuring the availability of resources; ▪ Communicating the importance of the Traffic Management Plan, Road Safety Awareness and meeting statutory and regulatory requirements; ▪ Conducting management reviews of the Traffic Management Plan; ▪ Verifying the implementation of corrective and preventive actions; and ▪ Recognising and responding to community concerns.
Production Manager / Technical Manager / Engineering Manager	Responsibility and authority to ensure that the objectives of the Traffic Management Plan are achieved. This includes: ▪ Ensuring staff within their area of responsibility are trained and updated on the Traffic Management Plan and Road Safety Awareness, responsibilities, instructions and procedures; ▪ Ensuring traffic operations comply with the conditions of Development Approvals, Environmental Protection Licence and relevant legislation; ▪ Reviewing traffic operations and implementing strategies to minimise the potential for traffic conflict and/or personal injury resulting from traffic movement; ▪ Coordinating the auditing of the Traffic Management Plan to ensure compliance with the development approval; ▪ Ensuring traffic incidents are investigated and corrective and preventative action taken; ▪ Developing and implementing contingency plans to respond to traffic incidents.

Team Leaders / Front Line Supervisors	Responsible for minimising the potential for traffic conflict and/or personal injury resulting from traffic movement. This includes: ▪ Identifying, reducing and preventing traffic movements that may result in traffic conflict and/or personal injury; ▪ Monitoring traffic movements to ensure compliance with the Traffic Management Plan and Drivers Code of Conduct; ▪ Reporting non-compliances with the Traffic Management Plan and Drivers Code of Conduct; ▪ Initiating actions to prevent traffic incidents; ▪ Identifying, reporting and recording traffic incidents; ▪ Initiating corrective actions to repair harm caused by traffic incidents.
HSE Advisor	Responsibility for ensuring that all personnel/contractors are aware of regulatory requirements relating to the Traffic Management Plan and Drivers Code of Conduct. This includes: ▪ Assisting in developing and providing training programs for Employees and Contractors to ensure awareness of Road Safety, the Traffic Management Plan and the Drivers Code of Conduct; ▪ Ensuring all training is recorded and monitored.
Employees	Responsible for ensuring that the traffic and road safety standards applicable in their work are followed. This includes: ▪ Observing any traffic restrictions; ▪ Operating mobile plant and vehicles to minimise need for maintenance and repairs, and minimise noise and vehicular emissions; ▪ Complying with any traffic management instructions and procedures that apply to their work or operations; ▪ Taking action to halt or prevent traffic incidents; ▪ Identifying and reporting traffic incidents; ▪ Observing all speed limits and other traffic rules along routes to and from the Berrima Cement Works Site and within the site; ▪ Adopting road safety behaviour to ensure a road environment where all road users feel safe from traffic movement associated with the operations of the site.

4. Health Safety and Environment Considerations

Internal impacts associated with these movements are predominantly associated with traffic movements that may result in traffic conflict and/or personal injury. These are controlled by:

- Ensuring all drivers are aware of the requirements of the Transport Management Plan and the Driver Code of Conduct;
- Providing alternate entry points and a waiting area inside and outside of the entry points;
- Ensuring sufficient parking for employees and contractors;
- Using traffic control devices such as pedestrian crossings and speed humps to control interaction between personnel and vehicles;
- Establishing and monitoring Shared Zones with 10km/h speed limits in high pedestrian areas;
- Establishing and monitoring pedestrian specific walkways/paths and separation barriers;
- Establishing, signposting and monitoring Pedestrian Exclusion Zones in areas of high vehicle traffic movements;
- Using risk management frameworks and processes to identify traffic controls for activities involving interaction of people and mobile plant; and
- Establishing pre-determined vehicle routes to minimise interaction of people and mobile equipment.

External impacts associated with traffic movements are predominantly related to vehicle density and noise from traffic movements along Taylor Ave and traffic conflicts and/or personal injury associated with vehicles entering and exiting the site. These are controlled by:

- Ensuring all drivers are aware of the requirements of the Transport Management Plan and the Driver Code of Conduct;
- Providing alternate entry points and a waiting area inside and outside of the entry points;
- Collaborating with local authorities to ensure appropriate warning signage is installed;
- Ensuring road side foliage is trimmed to maximise driver visibility; and
- Using risk assessment techniques to identify additional traffic controls during periods of high or special traffic movements.

4.1 Environmental – Noise

Truck movements not restricted and can proceed 24 hours per day, seven days per week. To minimise the impact of truck movements on the local community, the majority of despatches are however made on normal week days during the period 0600 to 1800 hours.

4.2 Environmental – Dust

All raw materials and finished products being carted to and from the site by road shall be covered to minimise any vehicle dust emissions. All vehicles exiting the Quarry and the Shale Pad shall exit via the wheel wash stations to minimise drag out from the areas.

4.3 Environmental – Spillage

Spillages have the potential to find their way into the site drainage systems. All spillages must be reported in the first instance to the Authorised Plant Controller. The Authorised Plant Controller will make an assessment of the spillage and determine the appropriate course of action to contain and remediate the spill.

The Authorised Plant Controller is contactable through the Central Control Room on extension 262 or 0248 602 262 or via the radio.

4.4 Training

The success of any Transport Management Plan and the achievement of compliance with the Driver Codes of Conduct are dependent on the co-operation of all employees, contractors and subcontractors on site. For this reason, education and training is an integral and ongoing component of the Transport Management Plan.

The education and training program are being implemented through a variety of forums;

- Site induction sessions;
- Site safety groups;
- Project specific induction sessions.

4.5 Licencing

Any person driving or operating mobile plant shall hold an appropriate licence or certificate or be under the supervision of a competent person for training purposes. In the absence of a legal requirement to hold a licence, all personnel driving or operating mobile plant shall have been assessed as competent using a Verification of Competency (VOC) instrument to operate each vehicle or mobile plant on a 2 yearly basis.

4.6 Driver Code of Conduct

All employees and contractors are to be made aware that responsible driving is a condition of employment at the Berrima Cement Works.

Boral Cement have developed a Driver Code of Conduct for Light Vehicles and a Driver Code of Conduct for Heavy Vehicles. These codes outline the driving behaviour required of all employees and contractors.

Reports of driver behaviour contravening the Code of Conduct, or other reports/complaints from the public will be immediately referred to the Operations Manager who will institute an investigation and potentially a corrective and/or disciplinary action.

4.7 Fit For Purpose Employees

Equipment/Vehicle operators must comply with Fitness for Work requirements. (Fatigue/Drugs/Alcohol).

The site has adopted a Zero Breath Alcohol policy. The Boral Cement Alcohol and Other Drugs procedure applies to all persons at Berrima Cement Works.

4.8 Site Access

Access to the site is from Taylor Avenue via two security gates, Gate 1 “Argyle Street Entrance” and Gate 2 “Perth Street Entrance”. These two entrances are adjacent to the village of New Berrima (refer Appendix 2 – Berrima Works Site Drawing).

Incoming heavy vehicles (Tippers, Tankers, B-doubles etc) are expected to use the Perth Street entrance. It may be necessary to allow heavy vehicle to use the Argyle Street entrance under strict conditions, for example, in periods of high movement volume or Perth Street entrance closure.

4.9 General Traffic Rules

As a minimum NSW Roads and Maritime Services Road Rules apply on site. Additionally;

- Vehicles requiring a licence must only be operated by personnel holding the appropriate licence.
- In the event that the rules for driving on site are not stipulated in this plan, the NSW Roads and Maritime Services Road Rules will apply.
- Appropriate signage will be identified through Risk Assessment;
- Passengers will only ride in seats provided for the purpose that have seatbelts fitted;
- Riding on running boards, bonnets, in utility trays or on vehicles not designed for passengers is prohibited;
- Seat belts will be worn where fitted whenever a vehicle is moving.
- All traffic warning signals and their instructions will be observed.
- All vehicles operating within a stockpile, quarry or the shale pad areas will have a clearly visible orange flashing light on at all times. (No strobe lights).
- All vehicles operating within a zone shared with heavy mobile equipment must have a two way radio either installed or hand-held.
- Drivers of any vehicles are to communicate via two-way radio prior to coming within 50 metres of any heavy mobile equipment.
- No smoking in any company vehicles (light, medium or heavy mobile equipment) is permitted;
- Mobile phones shall not be used while driving on site unless a hands-free device is used and is permitted by contemporary Boral policies. Mobile phones shall not be used in any heavy mobile equipment unless the vehicle is stopped in a safe place and in a safe manner;
- Operators shall operate their vehicle as close as practical to the left hand side of the road unless otherwise specified;
- No person shall get on or off a moving vehicle;
- Do not stand within 25m of tipping trucks;

- In tipping and loading/unloading areas, a person must not approach a vehicle until you have made radio or visual contact with the driver and the driver has confirmed your intention. Verbal (Radio) contact or eye to eye contact must be made before approaching (50 metre rule);
- The Central Control Room must give permission before a person may access the Shale Pad. Prior to accessing the area, contact must be made with the operators on the Shale Pad prior to accessing, and access shall only be made once all operations have ceased. Operations must not recommence until pedestrians have left the Shale Pad. Once granted, pedestrian access to the Shale Pad is only permitted either by car at the western entrance to the Shale Pad, or on foot via the stairs next to the Shale Crusher building;
- All vehicle operators will place a radio call prior to entering the quarry areas;
- Trucks must always reverse into the loading position under a loaded bucket. The vehicle must not be operated in such a way that the cab will pass under a loading machine's bucket at any time.
- Truck drivers may only leave the cab of their vehicle during the loading process following positive communication with the person loading the truck. See also section 5.21 "Vehicle Loads";
- Three points of contact is to be used while climbing on or off any piece of equipment. If the access is near vertical, face the ladder or catwalk when climbing on and off the item of equipment, and never jump off machinery.
- Drivers must not travel along rail lines, particularly when either the line is not isolated, or the track is not supported by concreted access ways.

4.10 Signage

Roads, traffic ways, pedestrian traffic ways and parking areas are to be clearly sign posted and carry adequate ground markings (where possible) to define the requirements.

Compliance with signage may include but is not limited to:

- Speed of travel;
- Direction of travel (and contra flows);
- Give Way signs;
- Parking in the correct areas and in the correct manner;
- Entry and Exit;
- Rail Crossings;
- Pedestrian crossings;
- 'Authorised Personnel Only' requirements.

4.11 Speed Limits

The speeds shown below are the maximum allowable speed, however operators must drive to the prevailing conditions. Be wary of poor visibility, crowded areas and poor road surfaces.

The following **MAXIMUM** speed limits apply on the Cement Works site:

- General site speed limits unless signposted 50 km/h;
- Congested or restricted areas 20 km/h;
- Shared Zones 10 km/h.

4.12 Accessing the Rail Corridor

Vehicles shall cross the rail corridor at designated crossings. Trains have right of way at all crossings. In the event a moving train is approaching a crossings, all vehicle drivers are required to stop at the crossing until any approaching train has stopped and it has been deemed safe to cross.

No vehicle shall access the rail corridor and travelling along the rail line unless;

- The rail line is isolated, AND;
- The rail infrastructure is concreted to protect it from damage.

4.13 Give Way / Right of Way Rules

The NSW Road Rules apply when driving on site.

Certain specific conditions may be applied on roads particularly where the road is only one lane/half road closed. Traffic Management Plans for those conditions shall be developed and communicated.

Emergency Vehicles and their escort vehicles have right of way at all times on site.

4.14 Light Vehicles (3 Tonne and Under)

Light vehicles must not enter the quarry area without:

- An operator who is aware of the Cement Works environments, the content of this traffic management;
- A clearly visible orange flashing light on at all times.
- A two way radio either installed or hand-held.
- Having contacted the machine operators on the radio stating their intention to enter the quarry area.

4.15 Pre Starts and Defects

All mobile plant, machinery and vehicles, excluding light vehicles, require a documented daily pre-start inspection. Whenever work is required within the footprint of the machine, isolation is required as per the Boral Isolation Standard/Protocol.

Light vehicles are to be serviced and maintained by the regular driver/responsible person in accordance with the Boral Driver Guide (available on the intranet: http://intranet.boral.com.au/Shared_Business_Services/docs/TFM-Boral-driver-guide.pdf) ;

Defects must be reported on the pre-start check list and a copy given to the immediate Supervisor.

- Category A faults mean that the machine is not to be operated until the fault has been rectified.
- Category B faults mean that the machine is not to be operated unless the fault is rectified or operation is approved by an appropriate person (e.g. a Fitter, Service Personnel)
- Category C faults mean that the machine can be operated, monitored and the fault rectified during the next service

4.16 Communication

Communication on the Berrima Cement Works site Mine site is conducted on UHF Channels 1 & 3 (private frequencies).

All vehicles must communicate their intentions when;

- Needing to come within 50m of heavy mining equipment. A response must be obtained from the Operator before proceeding, and the equipment has been powered down and parked in a safe manner;
- Entering a stockpile area;
- Entering any single lane area or restricted area;

When using the two-way radios hold down the button for a full second prior to speaking to ensure your full message is transmitted.

4.17 Barricades/Restricted Area

No person is permitted to pass through a barricade or similar barrier without seeking approval from the area supervisor (see also CEM-OHS-006 Barricading).

No person is permitted to pass/drive over the peak of a windrow/bund.

Appointed traffic controllers will control vehicle interactions when required.

4.18 Towing

No vehicle may tow another vehicle unless engineered to do so. Before towing commences the supervisor shall ensure all required control measures are in place before commencing the task, e.g. - Take 5 or SWMS completed and documented controls implemented.

All Heavy vehicle recovery operations shall involve a suitably qualified person/s and applicable safety planning.

The use of high tensile chains for towing purposes is prohibited.

4.19 Equipment Positioning in Workshop

The following rules apply in and around the workshop;

- Entry is via the south facing roller door, exit via the north facing roller door;
- In the confines of the Maintenance Workshop, all heavy mobile equipment will have the right of way at all times.
- The use of horn signals prior to entering or moving to warn pedestrians of the intent to enter is mandatory;
- A spotter must direct all heavy mobile equipment when reversing in and out of the workshop. Barricading should be used to prevent inadvertent access when guiding in heavy mobile equipment;
- Buckets of heavy mobile equipment must be emptied before entering the workshop;
- If the body or bucket of a vehicle is raised, the body or bucket must be empty of material outside before it is raised and safety pins installed and or props used to prevent unwanted lowering of the body or bucket.

4.20 Night Operation

All vehicles that are to be used during hours of darkness must have serviceable lights that provide adequate illumination for safe operation in forward and reverse mode. They must be tested and recorded during pre start inspections.

Operators must dip their high beam headlights when other vehicles are approaching.

Operators must drive to the changing weather conditions at any given time.

4.21 Pedestrian Access to Quarry

Any person entering the pit must do so via vehicle after obtaining permission from the machine or heavy mobile equipment operators. The vehicle must approach the site to be accessed, and pedestrians are allowed to exit the vehicle from a safe location, and should stay within the vicinity of the vehicle

4.22 Over-Taking

There is no overtaking allowed on Berrima Cement Works Roads.

If a driver wishes to pass another vehicle;

- Slow down;
- Wait for a positive response from that operator confirming that you may pass;
- Ensure that passing can be performed safely. e.g., no oncoming traffic;
- The vehicle being passed must pull over to allow the vehicle to pass.

4.23 Safe Operating / Approach Distance

It is necessary to keep a buffer zone between mobile equipment and other vehicles and pedestrians;

- The safe distance for following behind an empty or loaded haul-truck is 50m;
- The safe approach distance to approaching a loading, dozing or grading unit is 50m before making radio contact. Positive contact is defined as an understandable radio reply and a visual gesture confirming permission to approach the machine.
- There is no need to call equipment that is travelling in the opposite direction on the same road unless there is a restriction in operating room or single lane, two-way haul roads.

4.24 Parking

Any vehicle parked for the purposes of maintenance should have the wheels chocked prior to work commencing.

Light Vehicles shall be parked / stowed in the following manner

- Reverse parking is required in all designated reverse signed parking areas;
- If exiting your light vehicle it must be parked with the engine turned off and in gear. Light vehicles parked on a slope must have the wheels turned into the face/bund
- When selecting an area to park a vehicle, ensure that should the park brake fail, the vehicle will not move (fundamental stable parking);
- Light vehicles must not be parked closer than 50m to operating equipment unless radio contact has been made with the operator, the light vehicle driver has been given permission to approach;
- Light vehicles must never be parked immediately in front of or behind Heavy Mobile Equipment without prior positive contact – it is always safest to park beside and or in full view of the equipment driver.

Mobile Equipment shall be parked / stowed in the following manner

- Mobile equipment shall be parked in their designated parking bays where provided;
- When parking temporarily, where possible reverse into a safe location that allows maximum visibility when moving off;
- All heavy vehicles parked as a result of a break down must have the wheels chocked.

4.25 U-Turns

Vehicles making U-turns must obey the following procedure:

- Pull into a safe turning area and communicate by way of positive two-way communication with all other appropriate mining and light vehicles of the impending u-turn;
- Ensure no traffic is approaching or following for a minimum of two hundred (200) metres;
- Indicate your intention by the use of indicators;
- Look over your shoulder;
- Make the U-turn.

4.26 Horn Signals

Before starting or moving mobile equipment you must use the correct horn signals to inform other people in the area know what you are going to do. This applies in all areas including the workshop.

The horn signals are:

- One Blast Start up;
- Two Blasts Moving Forward;
- Three Blasts Moving Backwards.

Heavy equipment operators must call a radio check before operating any item of equipment. If the radio is not operational shall not be operated until the radio fault is rectified or a replacement radio is obtained.

4.27 Stockpile Access

Any tipping / dumping is to be carried out in accordance with the site dumping procedures.

Tipping of material on a stockpile is not permitted if it is being reclaimed from below. All active tip-heads or tip areas shall be demarcated as closed below to prevent vehicles from becoming exposed to falling rocks.

Prior to tipping on a new tip-head, a windrow must be established and the Production Services and Logistics Supervisor must inspect the stockpile.

4.28 Pit Windrows

Windrows (safety bunds) or guard rails must be at least equal to the height of half of the diameter of the largest wheel of any vehicle, which is to be driven along the road. They shall be constructed on all quarry haul and access roads.

All windrows must be constructed from suitable material and must be inspected prior to use by the pit supervisor.

Guideposts with reflective surfaces shall be installed along the edges of permanent roadways at a minimum separation distance of 50 metres and closer on corners or where necessary.

4.29 Bodies of Water

Bunding or a security fence shall be built around permanent bodies of water like ponds, dredged areas, dams and silt ponds if wheeled medium or heavy mobile plant and equipment is used within 5 metres of the sloping or slumping edge.

4.30 Vehicle Loads

All vehicles are to be loaded in such a manner so as to minimise spillage and the load is to be safely distributed. No truck is at any time to be overloaded.

Drivers of flat-bed trucks being loaded or unloaded by forklift need to communicate with the forklift operator and establish protocols to ensure the truck is not able to move unexpectedly and the driver is positioned in a safe location. The driver of the truck shall either remain in the cab and the keys given to the forklift operator or driver to exit the cab with his keys and position himself in an agreed location until un/loading is complete.

4.31 Use of Dump Stops

Under suitable conditions dumping may be carried out over a metal dump stop. The dump stop will be placed by a Loader Operator in an appropriate place in the bund wall. This will be suitably compacted into position and inspected by the Production Services and Logistics Superintendent. When the dump stop position is filled, call for the Loader to move it to the next position.

4.32 Auditing

The Traffic Management Plan Assessment checklist is designed as the audit tool for determining needs, reviews and compliance to this plan. The Traffic Management Plan shall be reviewed every two years.

4.33 Incident and Near Miss Management - Internal

All incidents and near misses shall be managed as per the requirements of the Boral Group Standard 3-02 Incident Reporting, Investigation and Action Management. In the event of a breach of the Traffic Management Plan or Driver Codes of Conduct, the potential causes of the breach will be investigated and appropriate corrective and preventative actions undertaken.

Any preventative actions and changes to work instructions and procedures determined will be documented and included in the Traffic Management Plan and Driver Code of Conduct.

4.34 Reporting – External

Pursuant to the POELA Act 2011, Boral Cement must notify the EPA, NSW Fire & Rescue, Wingecarribee Council, WorkCover and the NSW Department of Health of any incident with actual or potential material on-site or off-site impacts on people or the biophysical environment immediately after the occurrence of the incident. Refer to the site Standard Operating Procedure CMT-ENV-009 - Berrima Pollution Incident Notification.

The Director General of the Department of Planning and Environment has also to be informed of material incidents as soon as practicable as per Development Approval requirements.

Boral Cement has to provide written details of the incident to the EPA and the Director General of DoP&E within seven days of the date on which the incident occurred. Boral Cement has to meet any requirements of the Director General to address the cause or impact of any incident.

4.35 Emergency Response

All emergencies shall be managed as per the Berrima Cement Works Emergency Response Plan.

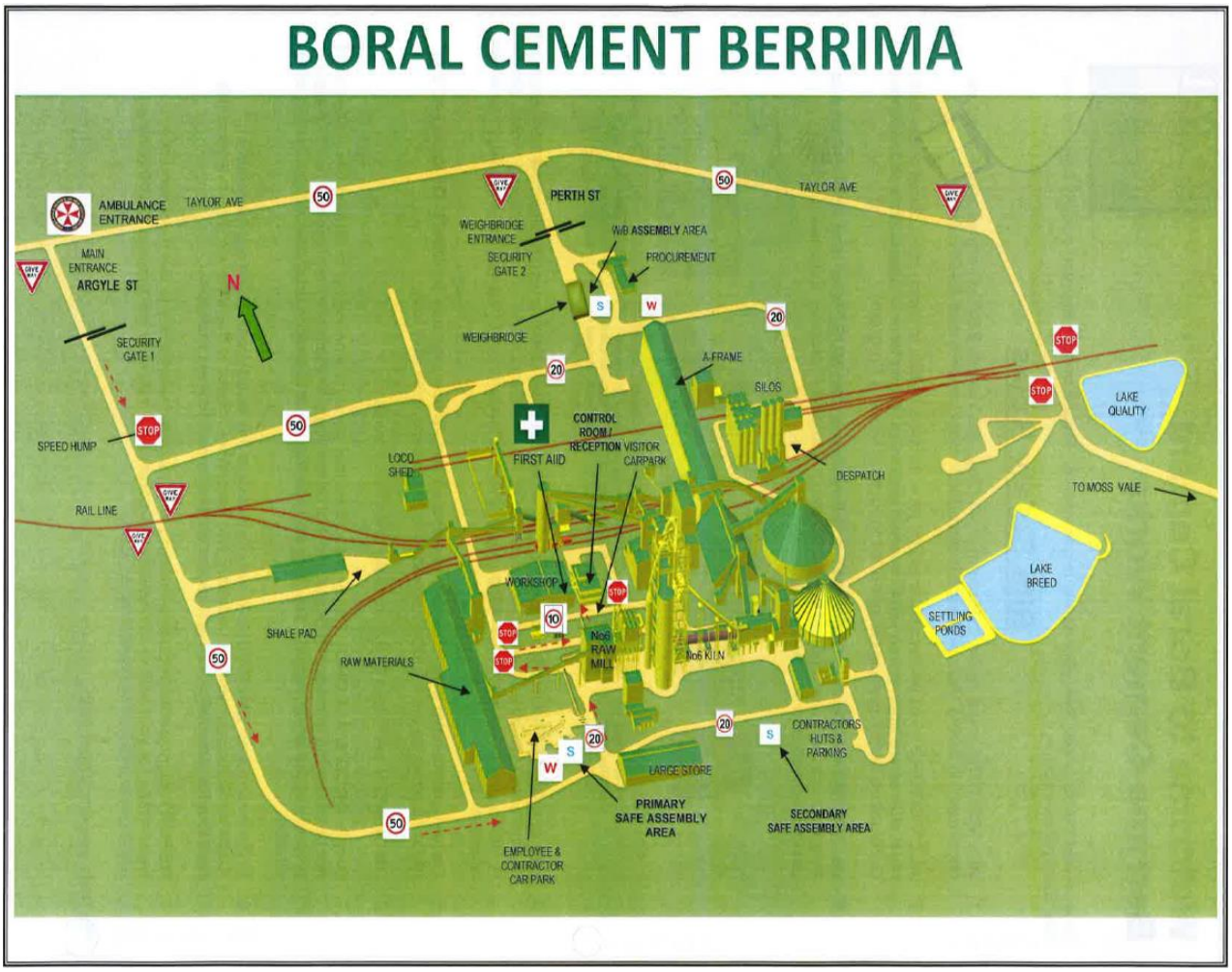
4.36 Annual Reporting

In addition to the requirement to report all incidents there are a number of other annual reporting requirements, particularly in relation to the Environment. These are detailed in the Operations Environmental Management Plan, and are also reported as part of the Annual Environmental Management Reporting process to the EPA.

5. Revision History

Version	Date	By Whom	Description of Changes
1	November 2007	Grant Williams	Original version
2	September 2011	Alex Wnorowski	Global revision and formatting change
3	September 2014	Michael Curley	3-yearly review
4	August 2017	Michael Curley	Major revision and formatting changes

6. Appendix 1 - Site Plan



7. Appendix 2 – Front End Loader and Bulk Truck Traffic Routes

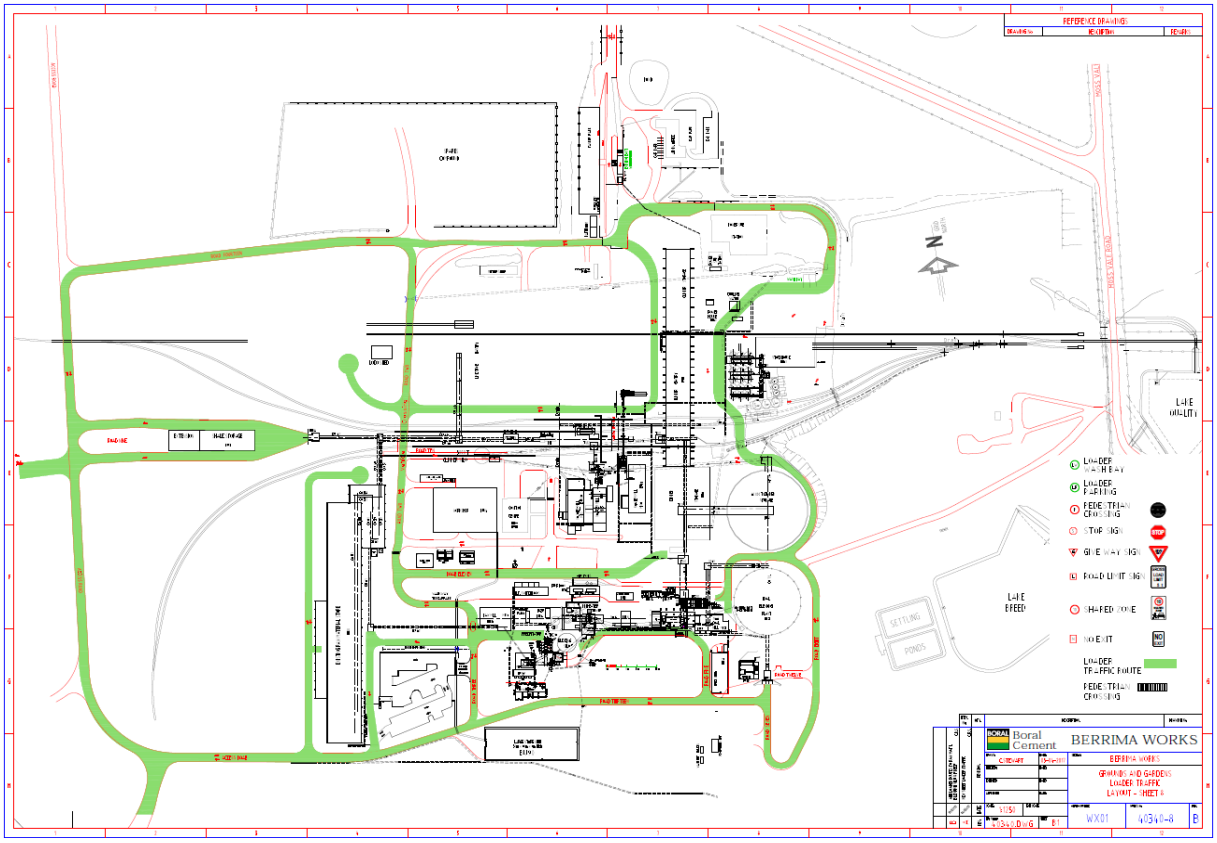


Figure 1. Front End Loader Designated Routes

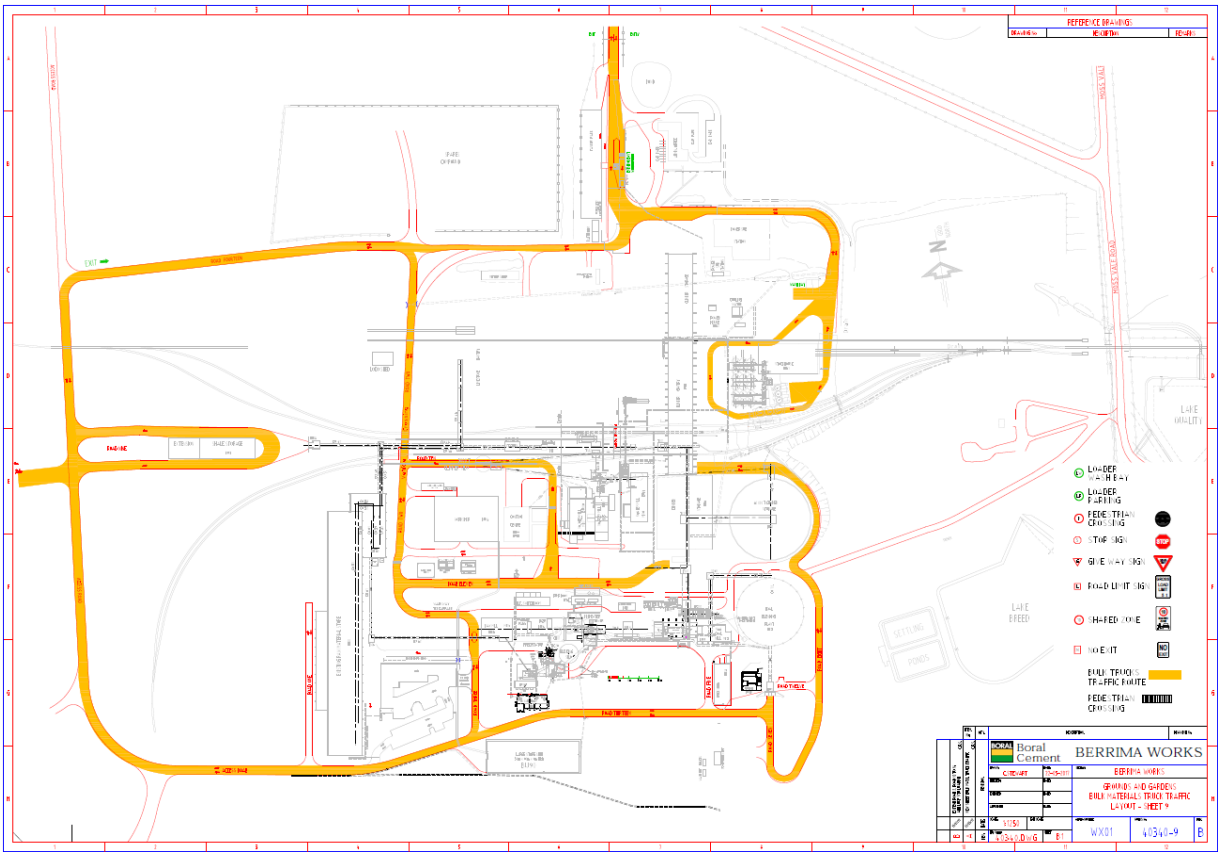


Figure 2. Bulk Materials (Tankers and Tippers) Designated Routes

8. Associated Documents

- HSEQ-7-09-F02 Traffic Management Risk Assessment;
- HSEQ-7-09-F03 Traffic Management Plan Assessment Checklist;
- Berrima Drawing 40340-8-LOADER TRAFFIC;
- Berrima Drawing 40340s9r-BULK TRUCKS