

Holcim (Australia) Pty Ltd

**Construction Traffic Management
Plan, Lynwood Quarry, Marulan NSW
Revision 2**

June 2011

Construction Traffic Management Plan, Lynwood Quarry, Marulan NSW Revision 2

Prepared by

Umwelt (Australia) Pty Limited

on behalf of

Holcim (Australia) Pty Ltd

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1.0 Introduction

Holcim (Australia) Pty Limited (Holcim) (formerly CEMEX and Readymix Holdings Pty Limited) was granted development consent on 21 December 2005 (DA 128-5-2005) (Consent) by the New South Wales (NSW) Minister for Planning, to construct and operate a 5 million tonne per annum (Mtpa) hard rock quarry, known as the Lynwood Quarry (Quarry). The approved Quarry is located near Marulan in the Southern Tablelands region of NSW, approximately 160 kilometres south-west of Sydney and approximately 27 kilometres north-east of Goulburn (refer to **Figures 1.1 to 1.3**).

Since approval, two minor modifications to the development consent have been approved. These related to modifications to proposed Quarry operations. The details of the modifications have been provided in the “Statement of Environmental Effects (SEE) – Proposed Minor Modifications to Lynwood Quarry, Marulan” (Umwelt, 2009) and the “Environmental Assessment (EA) – Proposed Modification to Lynwood Quarry, Marulan” (Umwelt, 2010).

This is the second revision of this Construction Traffic Management Plan (CTMP). The first revision was approved by the then Department of Planning (DoP) on 11 November 2010. This revision to the plan was undertaken following the approval of the second consent modification in March 2011. Construction of the Quarry commenced in November 2010, and is planned to be undertaken over four phases. Three of these phases are covered by this CTMP as per the following dot points. The four construction phases are as follows:

1. **Early works phase** - which is now complete and included clearing, excavating and site preparation;
2. **Civil works phase** - associated with the Quarry pit and infrastructure area, which is currently underway and includes transporting plant and offices to the site along with civil construction works;
3. **Quarry infrastructure construction phase** - including the transport of the processing equipment to site and then construction of the plant and processing equipment; and
4. **Hume Highway interchange construction** - a separate traffic management plan will be developed specifically for this aspect of the project and details of this phase are not covered in this CTMP.

This CTMP has been prepared as an overall framework traffic management plan for the three phases (refer dot points 1-3 above) of construction to ensure all traffic impacts are minimised and managed effectively. A specific Construction Traffic Management Protocol will also be developed under this plan for each of the construction phases (refer to **Section 2.3**). These protocols will address in more detail the specific traffic management strategies for each of the three phases. This CTMP meets the requirements of the Lynwood Quarry development consent by addressing all items of the approval condition (refer to **Section 1.1**).

1.1 Traffic Management Context

This CTMP has been prepared for Holcim by Umwelt (Australia) Pty Limited (Umwelt), to address Schedule 3, Condition 28 of the Lynwood Quarry consent (refer to **Section 1.1.1**). The CTMP has been prepared in consultation with the Roads and Traffic Authority (RTA), Goulburn Mulwaree Council (Council) and the Department of Lands (refer to **Section 2.4**). This Plan also incorporates the relevant aspects of Conditions 26 and 27 of Schedule 3 of the Lynwood Quarry development consent.

1.1.1 Development Consent Condition

Condition 28 of Schedule 3 of the Development Consent outlines the requirement for a CTMP. Details of the requirements of Schedule 3, Condition 28 are outlined in **Table 1.1**, along with an indication of where each requirement is addressed in this CTMP.

Table 1.1 – Construction traffic approval condition

Development Consent Condition	Condition Title	Condition Detail	Relevant section of CTMP
SCHEDULE 3 Condition 28	Construction Traffic	Prior to carrying out any development, the Applicant shall prepare (and following approval implement) a Construction Traffic Management Plan for the development, in consultation with the RTA, Council and the Department of Lands, and to the satisfaction of the Director-General.	Entire document
		This plan must: (a) include a Road Dilapidation Report of the public roads on the construction access routes; and	Section 2.5 and Appendix 2
		(b) describe what measures would be implemented to: <ul style="list-style-type: none">• maintain the public roads;• minimise the potential noise and safety impacts associated with the construction traffic; and• keep the community informed of any traffic disruptions that would be caused by the development.	Section 2.3, Section 2.4 & Section 3.0

Further information regarding compliance with Conditions 26 and 27 of the Development Consent is provided in **Section 2.0**.

1.2 Purpose and Scope

The purpose of this CTMP is to manage and minimise potential traffic impacts on the community and surrounding area by addressing the following issues:

- maintenance of the public road network;
- minimising the potential noise and safety impacts associated with the construction traffic; and
- keeping the community informed of any traffic disruptions that would be caused by the development.

The key management strategies to be used to address the above issues are detailed in **Section 2.0**, and are as follows:

-
- construction access routes;
 - construction traffic volumes;
 - consultation to be undertaken (includes both the community and Government consultation);
 - road condition management; and
 - monitoring and complaints management.

It should be noted that this CTMP does not address works associated with the construction of the Hume Highway interchange as this will be subject to a separate management plan prepared by the Contractor who is awarded the works.

1.3 Construction Activities

As the Quarry is a greenfields project, substantial construction works will be required prior to the Quarry becoming operational. The details of the construction phases that are the subject of this CTMP are listed below. These three phases are expected to last approximately two years and will include the following key activities:

Early Works Phase (completed in late 2010)

- site excavation, clearing and preparation in areas affected by early works; and
- construction of water management structures including site dams.

Civil Works Phase (commenced in February 2011 and is ongoing)

- construction of construction site access road and set-up of construction compounds including supply of services (e.g. electricity, water, etc.);
- continued clearing works and site preparation in areas affected by the civil works phase;
- construction of the overpass over the Main Southern Railway for access between the Quarry pit and infrastructure areas;
- construction of the main access road;
- construction of the remaining water management structures and installation of pumps, pipelines and other components of the water management system;
- installation of security fencing and gates to ensure public safety and security for the quarry operations;
- construction of rail lines and connection to the Main Southern Railway;
- preparation of an initial extraction of material from the Quarry infrastructure areas to prepare for plant construction; and
- excavations for the rail spur and reclaim tunnel.

Quarry Infrastructure Construction Phase (April 2012)

-
- construction of the crushing and screening plant, rail facility, truck loading facility and other infrastructure; and
 - construction of the remaining facilities including workshops, site offices, amenities, laboratory, weighbridge, stores, parking areas, site roads and safety bunds.

1.3.1 Construction Hours

The construction hours for the Quarry for the three construction phases outlined above will be restricted to 7.00 am to 6.00 pm Monday to Friday and 8.00 am to 1.00 pm on Saturday. No audible construction activity will be undertaken outside these hours.

2.0 Construction Traffic Management Plan

This CTMP outlines details of the traffic and transport routes and movements during the construction phase, along with mitigation measures to be implemented in order to identify the necessary management controls to minimise construction phase traffic impacts. The community will be kept informed of all traffic management arrangements throughout each phase of the Quarry construction (refer to **Section 2.4**).

2.1 Construction Access

The construction access routes are presented on **Figure 2.1** and are as follows:

- construction traffic travelling on the northbound lanes on the Hume Highway will exit the Hume Highway at Portland Avenue, and then proceed along Wilson Drive to the Quarry site; and
- construction traffic travelling on the southbound lanes on the Hume Highway will access Portland Avenue via the following routes:
 - exiting the Hume Highway at the truck inspection stations and going through the Marulan Township to access Portland Avenue via Brayton Road/George Street; and
 - prior to the commencement of construction of the Hume Highway South Marulan Road interchange, south bound traffic may also utilise the existing truck parking area at South Marulan Road to turn right onto the Hume Highway.

In accordance with Condition 26 (f) of Schedule 3 of the development consent, all of these routes will be used to access the Quarry site until the Hume Highway interchange is constructed, after which all site access will be via the interchange.

Vehicles leaving the Quarry site will access the Hume Highway by either exiting at Portland Avenue (i.e. the vehicles travelling north), or by travelling along George Street and Brayton Road to access the south bound entry ramp of the Hume Highway.

The northern portion of the site will be accessed via Stoney Creek Road off Brayton Road.

2.2 Construction Traffic

The light vehicle movements accessing the site via Portland Avenue are estimated to be an average of 117 vehicle trips per day and the estimated heavy vehicle movements are

estimated to be an average of 20 loads per day (maximum of 40 loads per day). Further details of the traffic movements in each phase will be included in the Construction Traffic Management Protocols for each phase (refer to **Section 2.3**).

On Stoney Creek Road (i.e. access point for the northern portion of the Quarry site) the estimated vehicle trips per day is 10 light vehicle trips per day and 20 heavy vehicle trips per day, with an estimated maximum of 45 heavy vehicle trips per day over a 90 day period during the civil works phase of construction, when material from the Quarry site may be transported to the Hume Highway interchange to be used for construction. The use of Stoney Creek Road is estimated to be for a period of approximately 8 months prior to the commissioning of the rail bridge in the Quarry site, which will allow access via the main construction access route along Portland Avenue and Wilson Drive.

2.3 Construction Traffic Management Protocol

Specific management measures will be implemented in each of the construction phases in order to minimise the potential for construction related traffic impacts in regards to the specific activities involved in each phase as outlined below.

2.3.1 Early Works Phase

The early works phase of the Quarry included clearing, excavating, general site preparation and construction of onsite water management structures and was completed in late 2010. The specific traffic management protocol that was implemented to manage this phase of the Quarry construction is included as **Appendix 1**.

2.3.2 Civil Works Phase

A Traffic Management Plan was developed in accordance with this CTMP prior to the commencement of the civil works phase, which was January 2011 by the construction contractor. A copy of this plan is provided in Appendix 1. This plan will be updated following the approval of this revision (Revision 2) of the CTMP.

2.3.3 Quarry Infrastructure Construction Phase

A detailed Traffic Management Protocol will be developed in accordance with this CTMP prior to the commencement of this phase of works, which is estimated to commence in April 2012.

The traffic management measures that will apply to all phases of construction are listed in **Table 2.1** below.

Table 2.1 – Construction Traffic Management Measures

Consent Condition Issue to be Addressed	Mitigation/Control Measure
Maintain the public roads	<ul style="list-style-type: none"> • weekly inspections of the construction access routes will be undertaken to ensure that any maintenance requirements are identified as soon as practicable; • upgrade works will be undertaken along the proposed construction phase access route as outlined in Section 2.6; • upon completion of the construction phase the local roads utilised for construction traffic will be returned to their pre-construction condition or better.
Minimise the potential noise and safety impacts associated with the construction traffic	<ul style="list-style-type: none"> • oversized loads will be transported according to the requirements of the RTA and Police, and have the appropriate approvals and escorts, as required; • heavy vehicle loads will use only designated entry and exit points to the Project Area; • heavy vehicle loads with the potential to cause significant traffic disruptions (e.g. oversized loads) will be delivered outside of the peak traffic hours for the local road network (i.e. excluding the Hume Highway) being 8:00 to 9:00 am, 12:00 to 1:00 pm and 5:30 to 6:30 pm, wherever possible; • no product for sale will be transported from the site prior to the commissioning of the Hume Highway Interchange; • temporary road closures, if required, will be undertaken with the approval of the Council and/or RTA in accordance with the <i>Roads Act 1993</i>, and in accordance with any specific requirements of such approval; • power line management, if required for oversized loads, will be in consultation with Essential Energy, and in accordance with any specific requirements; • parking for all construction related vehicles will be on Holcim Australia land or on land subject to an agreement between Holcim Australia and the landowner; • all loaded vehicles entering or leaving the site must be covered at all times in order to prevent spillage and dust generation; • all loaded vehicles leaving the site are to be cleaned of materials that may fall on to the road before leaving the site; • the construction phase induction will cover mechanisms to reduce the potential for transport impacts on the Marulan township, including noise minimisation, appropriate driver behaviour, fatigue management and the controls outlined in this CTMP. Periodic toolbox talks will be undertaken to reinforce these controls; • heavy vehicle movements along George Street will be limited to outside of school zone times (i.e. 8:00 am to 9:30 am and 2:30 pm to 4:00 pm on school days) wherever practicable, unless they are done under escort; • heavy vehicle construction traffic using George Street will not exceed 40 kilometres per hour (kph); • no traffic will use the construction site access routes (refer to Figure 2.1) once the proposed Hume Highway Interchange has been commissioned; and • audible construction works will only be conducted during the following operating hours: Monday – Friday 7am to 6pm, and Saturday 8am – 1pm.

Table 2.1 – Construction Traffic Management Measures (cont)

Consent Condition Issue to be Addressed	Mitigation/Control Measure
Keep the community informed of any traffic disruptions that would be caused by the development	<ul style="list-style-type: none"> • prior to the commencement of construction, Holcim will consult with the Marulan community regarding construction phase traffic arrangements and the controls that will be implemented to reduce impacts. The consultation mechanisms are discussed in Section 2.4; and • Holcim will provide the local residents with at least 7 days notice prior to any significant traffic disruptions.

2.4 Consultation

2.4.1 Community Consultation

Holcim will ensure the community is informed of any traffic disruptions that may be caused during each of the construction phases of the Quarry. The main mechanisms for informing the community about the Quarry include the delivery of periodic newsletters to the community, communication through the Lynwood Quarry Community Consultative Committee (CCC), consultation with the local primary school located on George Street and letterbox drops prior to the commencement of each phase of construction.

2.4.1.1 Community Newsletter

Prior to each of the construction phases outlined in **Section 1.3**, a community newsletter detailing construction traffic related information in relation to the Quarry will be delivered to residential houses and businesses in the local and surrounding community. The newsletters will contain information relating to any potential traffic disruptions, and detail what development activities are due to occur and the expected length of time for these activities. Each newsletter will also list contact details for community members to make enquiries throughout the construction process.

In the event that any traffic disruptions are likely to occur after or during each of the construction phases has commenced, the community will be informed of these planned activities via a separate newsletter or notice to be delivered via letterbox drop as outlined below.

2.4.1.2 Community Consultative Committee (CCC)

Holcim is committed to establishing and maintaining a process whereby it meets regularly with a group of local community representatives in relation to the Lynwood Quarry. This commitment was framed in the Consent for the project as a CCC. The purpose of the CCC is to provide the local community with a mechanism through which to provide feedback, raise any concerns and to provide input about the Lynwood Quarry community contributions program. The group will also provide a mechanism through which Holcim can provide information about the operation, including environmental performance information, to the local community.

The CCC is comprised of:

- two representatives from Lynwood Quarry, including the person responsible for environmental management of the Quarry (i.e. the Environmental Officer);
- one representative from Council; and

-
- at least three representatives from the local community.

The CCC meets at least twice a year to review Lynwood Quarry's performance with respect to environmental management and community relations. The CCC will also:

- undertake regular inspections of Quarry operations;
- review community concerns or complaints about Quarry operations and complaints handling procedures; and
- provide advice to:
 - Lynwood Quarry on improved environmental management and community relations, including the provision of information to the community and the identification of community initiatives to which Lynwood Quarry can contribute;
 - government authorities regarding the conditions of the Consent; and
 - the general community on the performance of Lynwood Quarry with respect to environmental management and community relations.

The CCC will be utilised as one of the mechanisms to keep the community informed of any traffic disruptions during the construction phase of the Lynwood Quarry.

2.4.1.3 Consultation with the Marulan Primary School

Holcim is committed to carefully managing all potential impacts from the Quarry construction and in particular will ensure construction traffic related impacts affecting the local school are minimised. In order to manage this, Holcim will consult with the school prior to each of the construction phases including traffic movements along George Street to communicate with the school principal any proposed or potential traffic related impacts that may affect the school and to agree with school representatives how these potential impacts can be most effectively managed.

To minimise disruptions to school activities, heavy vehicle movements accessing the Quarry along George Street will be limited to outside of school zone times (i.e. 8:00am to 9:30am and 2:30pm to 4:00pm on school days) wherever practicable, unless they are done under escort in accordance with Condition 26(d) of Schedule 3 of the Development Consent for the Quarry.

Lynwood Quarry has also limited construction traffic to 40 kilometres per hour on George Street for the duration of construction works in accordance with Condition 26 (e) of Schedule 3 of the Development Consent for the Quarry.

Following the commissioning of the Hume Highway Interchange, construction traffic will no longer enter the site via Marulan (including George Street) in accordance with Condition 26 (f) of Schedule 3 of the Development Consent.

2.4.1.4 Letterbox Drops

Holcim will ensure that prior to the commencement of any of the above phases a letterbox drop to residences along the affected routes will be undertaken providing details on the nature of traffic movements predicted, duration of works and contact details for complaints or other items that may be raised by the potentially affected residents.

2.4.2 Government Stakeholder Consultation

Detailed government and stakeholder consultation has been undertaken for the project over a number of years covering all relevant issues including construction traffic management issues. Government agency consultation has included the Department of Planning and Infrastructure (DP&I), the NSW Office of Environment and Heritage (OEH), the Roads and Traffic Authority (RTA), Goulburn-Mulwaree Council and the Department of Lands in relation to the implementation of the approved Quarry.

Holcim consulted with the RTA, Council and the Department of Lands in relation to Revision 1 of this Construction Traffic Management Plan. Details of these consultations are provided below and copies of all correspondence are included in **Appendix 3**.

The RTA reviewed the CTMP and raised no issues from a classified road perspective. The RTA also noted that the project will increase traffic through the township of Marulan. The RTA recommended that Holcim should consider and address any community concerns to ensure that the arrangements have minimal impact on safety and amenity (refer to **Appendix 3**). These issues are addressed in **Sections 2.3** and **2.4** of in this CTMP.

The Land and Property Management Authority (LPMA) advised that it has no issues with the CTMP, however noted that according to Authority records, a section of the waterway, Joarmin Creek, has been identified as Crown land within the Quarry Project area. The LPMA raised several issues regarding any potential impacts on this area. There are no works scheduled to take place within the section of Joarmin Creek that is Crown land and therefore no further issues that need to be addressed in this regard.

We note that LPMA also raised the issue of Crown public roads being intended to be used as egress and ingress into the proposed quarry site, as highlighted on the diagram that accompanied the LPMA letter dated 28 October 2010 (refer to those **Appendix 3**). The LPMA pointed out that given the level of construction, quarry and other public usage of these roads, it is not considered appropriate for these roads to remain under LPMA control, and that these roads should be transferred to the control of Goulburn Mulwaree Council pursuant to Section 151 of the Roads Act 1993. Holcim's representatives have raised this issue with Council and Council has confirmed that this is an issue to be resolved between Council and the LPMA.

Goulburn-Mulwaree Council has also been provided with a copy of the draft CTMP for comment and indicated in its email on 13 November 2010 that it had no comments on the draft plan. Holcim also held a meeting with Council representatives on Friday 22 October 2010 and they did not have any comments at this time.

In addition, Holcim will consult with the relevant Government agencies prior to the commencement of each phase of construction.

2.5 Road Dilapidation Report

In accordance with Condition 28(a) of Schedule 3 of the Consent, a Road Dilapidation Report of the public roads on the construction access routes was prepared by Douglas Partners (refer to **Appendix 2**). Holcim will maintain these roads during the construction phase to provide for safe use by all road users. On the completion of construction Holcim will repair any damage to the roads such that they are in the same or better condition than before construction works commenced.

2.6 Minor Upgrade and Maintenance Works

Holcim has committed to undertaking minor road upgrades and maintenance for local roads that will be utilised for construction traffic access. These minor upgrade works include:

- any works considered necessary to enable the safe passage of construction traffic along the access roads to the site;
- any works required during the course of construction to ensure the safety of the public using the road is maintained;
- provision of delineation along the route; and
- regular maintenance of the western section of Wilson Drive to remove tree debris from the road pavement.

Holcim has also committed to returning the local roads used for construction access routes to their pre-construction condition or better upon completion of the construction phases for the Quarry.

3.0 Monitoring Process

3.1 Regular Inspections

Holcim will undertake weekly inspections of the Quarry construction traffic routes whilst they are being used to ensure that all traffic impacts are being minimised and to ensure any required maintenance activities are carried out in accordance with this CTMP.

3.2 Complaints Management

Holcim will establish a free-call community contacts phone line which will be maintained for the duration of the Quarry. This contact point will provide the community with a mechanism by which to raise any concerns in relation to the construction and operation of the Quarry, including construction traffic. Lynwood Quarry's Environmental Officer will be responsible for the implementation of the complaints management process and will ensure a timely initial response to any complaints received and then, as appropriate, will provide a more detailed response outlining any complaint investigation findings and corrective actions to be implemented.

3.3 Corrective Action and Review

In the event that a construction traffic related incident occurs, all actions necessary will be taken to manage the incident. Any learning's from this incident or other non-conformance will then be incorporated into this CTMP to address any potential future occurrences.

This CTMP will be reviewed at the commencement of each subsequent phase of construction and will consider lessons learnt from the previous construction phase, and any changes in environmental legislation, guidelines, technology, construction activities or procedures. Where changes to the plan are required, these will be done in consultation with the relevant government agencies and submitted to the DP&I for re-approval.

4.0 Roles and Responsibilities

The Lynwood Quarry Environmental Officer is responsible for all environmental matters relating to Lynwood Quarry. In relation to construction traffic related matters, the Environmental Officer is responsible for:

- addressing any community enquiries or complaints;
- distributing community newsletters prior to each construction phase, and at other times as required;
- coordinating the Community Consultative Committee (CCC) meetings, including discussion of any construction traffic related issues; and
- coordinating inspections of the construction access routes to identify any traffic related issues and to ensure all traffic related activities are in compliance with CTMP.

The Holcim Construction Project Manager will be responsible for ensuring compliance with this CTMP including adequate provision of resources and maintenance of the construction access routes.

Holcim is committed to operating with high levels of safety and will ensure that the Principle Contractor responsibly manages traffic related issues through the construction phase of the project according to the requirements of this CTMP.

5.0 References

Umwelt (Australia) Pty Limited 2009, Statement of Environmental Effects Proposed Minor Modifications to Lynwood Quarry, Marulan, Prepared for CEMEX.

Umwelt (Australia) Pty Limited 2010, Environmental Assessment Proposed Modifications to Lynwood Quarry, Marulan. Prepared for Holcim (Australia) Pty Limited.

APPENDIX 1

Early Works Phase Construction Traffic Management Protocol

Appendix 1

Lynwood Quarry

Early Works Phase – Construction Traffic Management Protocol

Background

Schedule 3, Condition 28 of DA 128-5-2005 requires Holcim to prepare and implement a Construction Traffic Management Plan (CTMP) for the Lynwood Quarry. This Protocol sits under the CTMP and relates specifically to traffic management during the early works phase of construction associated with the development of Lynwood Quarry and is to be read in conjunction with the overarching CTMP.

Traffic Management Context

The early works phase of the Lynwood Quarry will involve the use of heavy vehicles to deliver materials to site and the floating of equipment to the site to be used for site preparation and clearing works. These heavy vehicle movements, at times, have the potential to impact on normal traffic flow external and internal to the Lynwood Quarry site.

Purpose and Scope

The purpose of this Protocol is to outline the appropriate processes to be followed for the management of heavy vehicle movements as part of early works construction phase for Lynwood Quarry. It is estimated that the average deliveries by heavy vehicles over the duration of the early works phase would be 5 per day (i.e. 10 movements) over a period of about 2 months. During peak times of the early works phase, traffic movements could be approximately 15 heavy vehicle trips (30 movements) per day.

The Protocol:

- outlines construction traffic management actions for heavy vehicles and general construction traffic accessing the Lynwood Quarry site; and
- encompasses transportation activities including transportation of plant, equipment and materials required for the early works phase from local, regional and interstate suppliers.

Objectives

The objective of the Protocol is to manage construction traffic including heavy vehicle and oversized movements during the early works phase of construction activities, ensuring that:

- road safety requirements are identified and managed as a priority; and
- impacts to local road users are controlled and minimised.

Construction Traffic Management Protocol

Holcim will adhere to the following principles for heavy vehicle, oversize loads and general construction traffic:

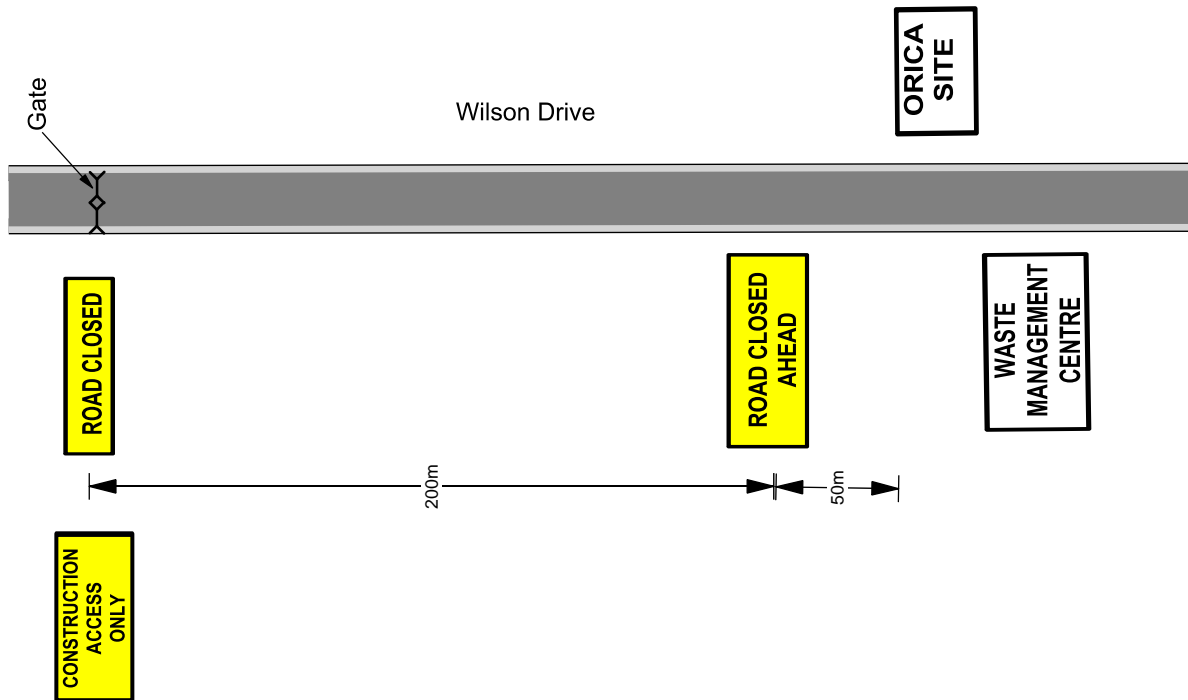
- undertake consultation as per **Section 2.4** of the CTMP;
- undertake road maintenance as per **Section 2.0** of the CTMP;
- oversized loads will be transported according to the requirements of the RTA and Police, and have the appropriate approvals and escorts, as required;
- heavy vehicle loads will use only designated entry and exit points to the Project Area;
- heavy vehicle loads with the potential to cause significant traffic disruptions (e.g. oversized loads) will be delivered outside of the peak traffic hours for the local road network (i.e. excluding the Hume Highway) being 8:00 to 9:00 am, 12:00 to 1:00 pm and 5:30 to 6:30 pm, wherever possible;
- no product for sale will be transported from the site prior to the commissioning of the Hume Highway Interchange;
- temporary road closures, if required, will be undertaken with the approval of the Council and/or RTA in accordance with the *Roads Act 1993*, and in accordance with any specific requirements of such approval;
- power line management, if required for oversized loads, will be in consultation with Country Energy, and in accordance with any specific requirements;
- parking for all construction related vehicles will be on Holcim land or on land subject to an agreement between Holcim Australia and the landowner;
- all loaded vehicles entering or leaving the site must be covered at all times in order to prevent spillage and dust generation;
- all loaded vehicles leaving the site are to be cleaned of materials that may fall on to the road before leaving the site;
- the construction phase induction will cover mechanisms to reduce the potential for transport impacts on the Marulan township, including noise minimisation, appropriate driver behaviour, fatigue management and the controls outlined in the CTMP;
- heavy vehicle movements along George Street will be limited to outside of school zone times (i.e. 8:00 am to 9:30 am and 2:30 pm to 4:00 pm on school days) wherever practicable, unless they are done under escort;
- audible construction works will only be conducted during the following operating hours: Monday – Friday 7 am to 6 pm, and Saturday 8 am – 1 pm;
- undertake monitoring as per **Section 3.1** of the CTMP; and
- a Traffic Control Plan (TCP) has been prepared by an RTA-accredited TCP design professional (Orange Card) for this phase. This TCP indicates the specific signage, and other controls that need to be installed on the road. The TCP is considered “live” and may be varied by an RTA-accredited TCP professional, as required to accommodate traffic conditions. The TCP is attached.

Lynwood Quarry TRAFFIC CONTROL PLAN Wilson Drive Site Access



Notes:

- 1. The Wilson Drive closure should be located to the west of the accesses for the Orca and Waste Management sites, so as to facilitate continued access for these facilities.
- 2. The "construction access only" sign is indicative, and may be replaced with a more detailed sign including information on UHF channels, site entry requirements or other relevant information.



Designed by: Patricia Tindall
RTA Design and Audit Traffic Control Plan Certificate Number: 2163004192
Expiry: 08/10/2012

Signed: P. Tindall

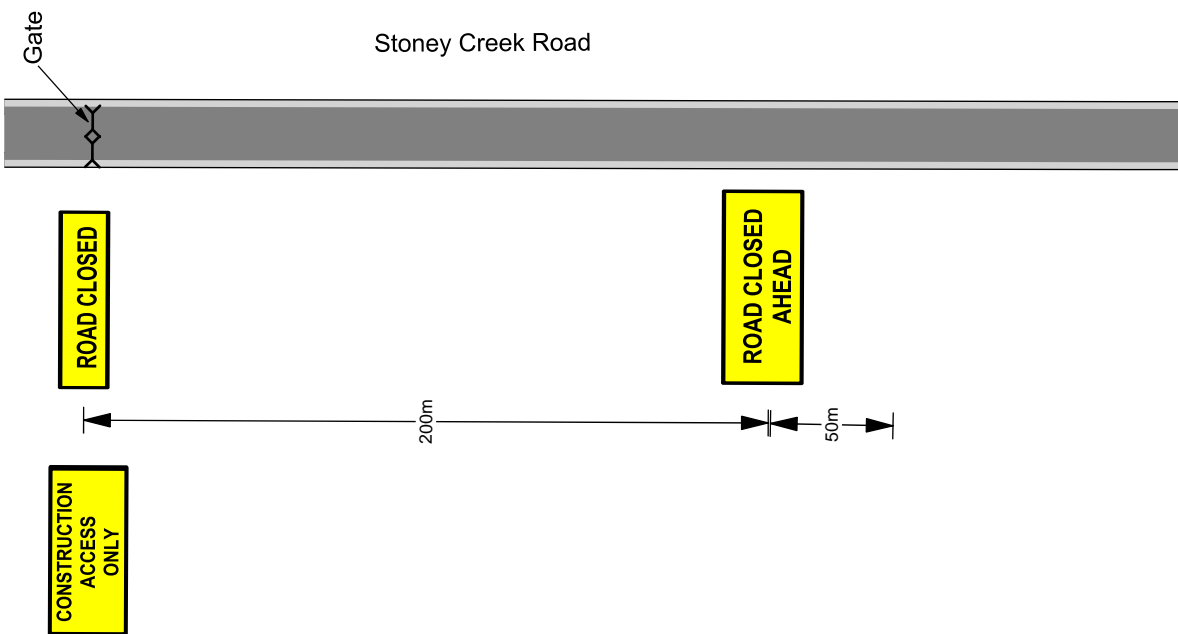
Date: 13/10/2010

Lynwood Quarry TRAFFIC CONTROL PLAN Stoney Creek Road Site Access



Notes:

1. The Stoney Creek Road closure is to be located in the vicinity of the property boundary.
2. The "construction access only" sign is indicative, and may be replaced with a more detailed sign including information on UHF channels, site entry requirements or other relevant information.



Designed by: Patricia Tindall
RTA Design and Audit Traffic Control Plan Certificate Number. 2163004192
Expiry: 08/10/2012

Signed: P. Tindall

Date: 13/10/2010



TRAFFIC MANAGEMENT PLAN

LYNWOOD QUARRY MARULAN

BMD Job No: 2031
Contract No:
Client: HOLCIM

Revision No: A

Revision Date: 20/01/11

All previous revisions are superseded

Authorised By:
(Print Name)

.....
(Signature)

Controlled Copy No.:

Issued To:

All hard copies are uncontrolled unless the copy no. is in red or blue ink.

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2.0	SCOPE OF WORKS	3	A	20/01/11
3.0	MANAGEMENT RESPONSIBILITIES	3	A	20/01/11
3.1	Project Manager	4	A	20/01/11
3.2	Project Engineer & Site Engineer	4	A	20/01/11
3.3	Foreman	4	A	20/01/11
3.4	Employees	4	A	20/01/11
3.5	Out-of-Hours Representative	5	A	20/01/11
4.0	ROAD USERS	5	A	20/01/11
5.0	VEHICLE MOVEMENT PLANS & TRAFFIC CONTROL PLANS	5	A	20/01/11
5.1	General	5	A	20/01/11
5.2	Project Specific Conditions	6	A	20/01/11
5.3	Traffic Control Devices	6	A	20/01/11
5.4	General Access to Site and Vehicle Movement Plans	6	A	20/01/11
6.0	IMPACTS & EFFECTS ON TRAFFIC	7	A	20/01/11
6.1	Local Roads	7	B	20/01/11
7.0	REVIEWING TCP's, MONITORING TRAFFIC & RECORDING FINDINGS	8	A	20/01/11
7.1	Daily inspections	8	A	20/01/11
7.2	Reviews of Traffic Management & Control Plans	8	A	20/01/11
7.3	Complaints	8	A	20/01/11
7.4	Accident Reporting and Investigation	8	A	20/01/11
7.5	Non Conformance	8	A	20/01/11
7.6	Records	8	A	20/01/11
8.0	NOTIFICATION & APPLICATION SUBMISSIONS	9	A	20/01/11
	APPENDIX A – Traffic Control Plans/ Vehicle Movement Plans		A	20/01/11
	APPENDIX B – Maintenance Inspection Checklist		A	20/01/11

1.0 INTRODUCTION

This report has been prepared to address the traffic management requirements for the construction of the Lynwood Quarry, located near Marulan in the Southern Tablelands region of NSW, approximately 160km south-west of Sydney and approximately 27km north-east of Goulburn.

The construction of the quarry can be broken into three (3) phases. Two of these phases are covered by this TMP. The 3 phases are as follows:

1. Early Works Phase – includes site compound preparation, clearing and excavating water management structures.
2. Civil Works Phase – associated with the quarry pit and infrastructure area.
3. Hume Highway Interchange Construction – a separate TMP will be developed specifically for this aspect of the project.

BMD Constructions will adopt a consultative approach to traffic management in which BMD Constructions will meet with representatives from the local council, local police and other relevant stakeholders prior to the implementation of the TMP

2.0 SCOPE OF WORKS

As the quarry is a greenfields project, substantial construction works will be required prior to the quarry becoming operational. The scope of works in this project includes (but not limited to):

- Site excavation, clearing and preparation
- Water management structures including site dams
- Site access road
- Overpass over the Main Southern Railway
- Main access road
- Installation of pumps, pipelines and other components of the water management system
- Rail lines and connection to the Main Southern Railway

The construction hours for the quarry will be restricted to 7:00am to 6:00pm Monday to Friday and 8:00am to 1:00pm on Saturday. No audible construction activity will be undertaken outside of these hours.

3.0 MANAGEMENT & STAFF RESPONSIBILITIES

This section outlines the responsibilities of BMD Constructions, Site Management & Staff members in the development, implementation and monitoring of the traffic management strategies detailed in this TMP. All site subcontractors will be required to safely work to the requirements of this TMP within their specific scope of works.

3.1 PROJECT MANAGER

- Review and approval of TMP and all subsequent revisions prior to submission to the RTA.
- Full awareness of all traffic management issues and planned control measures.
- Report all observed inadequacies in management measures to relevant staff for action.
- Liaison with relevant Government bodies and consultants as required.
- Develop the Traffic Control Plan as required

3.2 PROJECT ENGINEER/SITE ENGINEER

- Prepare and amend this TMP during the course of the project.
- Implement all monitoring and reporting requirements of this TMP, including regular site inspections to ensure all traffic management measures including signage, fencing etc. are in place and are adequate.
- Liaison with Foreman and Supervisor on corrective actions and preventative actions in response to non-compliance.
- Ensure any required approvals or permits are received prior to works commencing.
- Keeping a register of complaints of a traffic management nature, including corrective action taken to resolve such situations and the response time for each.
- Ensuring all relevant site employees and sub-contractors are aware of the traffic management strategies documented in this TMP.

3.3 FOREMAN

- Full awareness of all traffic management issues and planned control measures.
- Assist in preparation of Traffic Control Plans (TCP).
- Regular site inspections to ensure all traffic management measures including signage, fencing etc. are in place and adequate.
- Report all observed inadequacies in management measures to relevant staff for action.
- Ensuring all relevant site employees and sub-contractors are aware of the traffic management strategies documented in this TMP by method of toolbox meetings.
- Liaison with Project Engineer on corrective actions and preventative actions in response to non-compliance.
- Weekly inspections of traffic management measures and coordination of maintenance as required.
- Field implementation of Traffic Control Plans and TMP requirements on a day to day basis.
- Ensure relevant persons complete daily traffic management checklist including details of any non conformances and corrective actions taken, details of any changes to traffic control measures, damaged signs etc.

3.4 EMPLOYEES

- Adherence to TMP and TCP at all times.
- Adoption of a responsible and safety conscious attitude towards traffic management issues at all times.
- Report to relevant staff the effectiveness of, and suggested improvement to, traffic management practices.

3.5 OUT-OF-HOURS REPRESENTATIVES

Contact details for Senior Staff and the responsible Site Foreman will be supplied and with all TMC plans. These persons are:

Jay Eastley (General Foreman) – 0408 944 481
Brad Maiden (Project Manager.) - 0417 725 807

The names, numbers and means of communication with these nominated persons will be forwarded to the local police prior to any TCP being implemented. These will be persons that can adjust or maintain traffic control measures outside of normal working hours.

4.0 ROAD USERS

The following is a list of road users that will be affected by the proposed works and this traffic management plan. Consideration to all stakeholder issues will form part of all Plan development.

- Local residents using Georges St/Brayton Rd.
- Emergency Response Vehicles.
- Heavy goods vehicles.
- Personnel working onsite.
- Delivery vehicles.
- Cyclists.
- Pedestrians.
- Council Services Vehicles
- Postal Service Vehicles

5.0 VEHICLE MOVEMENT PLANS & TRAFFIC CONTROL PLANS

BMD have prepared preliminary Vehicle Movement Plans for the main Construction Stage of this project. This shows the expected vehicle movements of both construction and public vehicles through each stage. On these preliminary VMPs, there are also the standard advance warning signs that will be on display, as a minimum, throughout the duration of the works. The TCP will be developed through the consultative process as described in Item 1 above and kept in Appendix C of this document. The TCP for the construction stage of work will be developed and submitted for approval separately to this Traffic Management Plan.

Traffic Control Plans are to be prepared, and submitted to the Principal for approval, for each individual traffic arrangement and rearrangement required as the job progresses, refer to Item 8.0 Notification of this Traffic Management Plan.

5.1 GENERAL

- Appropriate delineation, advance warning signage and speed zoning will be in place at all times.
- Traffic Controllers (if required) will hold an RTA certificate (blue) for “Traffic Control Using a Stop/Slow Bat.”
- Traffic Controllers (if required) will wear a yellow ‘high-viz’ vest which will bear the RTA logo. These will only be worn (as outer garments) when controlling traffic.

- Adequate lighting will be provided for temporary diversions and nightworks, where required
- Maintain adequate provision for wider loads like B-doubles and semi trailers.
- Provide access to affected properties at all times outside the approved working hours, except where prior agreement with residents exists.
- Emergency vehicles will be given free uninterrupted access at all times.
- Emergency services will be notified of any change to traffic conditions. All traffic controls will be designed and staged to ensure minimum disruption to existing road users.
- All traffic control plans adopted will ensure that the safety of workers is maintained.
- Traffic control devices are to provide adequate advance warning and guidance to road users through the work area and past the work area.
- Capacity will be provided onsite to provide basic early traffic control that may be required at an incident. Such items will include cones and signs.

5.2 PROJECT SPECIFIC CONDITIONS

The following is a list of the project specific restriction placed on the movement of construction vehicles. Construction vehicles are those that are connected to the project in any way including staff vehicles, delivery vehicles, workers' vehicles and traffic control vehicles. These restrictions will remain in place for the duration of the works unless approval to change them has been given by the Principal.

Construction Access:

The construction access routes are presented on Figure 1 & 2 (Appendix A) and are as follows:

- Construction traffic travelling on the northbound lanes on the Hume Highway will exit the highway at Portland Ave and then proceed along Wilson Dve to the quarry site
- Construction traffic travelling on the southbound lanes on the Hume Highway will exit the highway at the truck inspection station and going through the Marulan Township to access Portland Ave via Brayton Rd/George St

Both of these routes will be used to access the site compound until the Hume Highway Interchange is constructed, after which all site access will be via the interchange. The northern portion of the site will be accessed via Stoney Creek Rd off Brayton Rd, which is currently used as the access point for the Lynwood property.

5.3 TRAFFIC CONTROL DEVICES

- All temporary signage is to be type B sizes erected on posts with reflective material.
- Temporary signs will be replaced as soon as they are damaged or become dilapidated.

5.4 GENERAL ACCESS TO SITE AND VEHICLE MOVEMENT PLANS

- BMD Constructions have prepared preliminary Vehicle Movement Plan for each Construction Stage that identifies the traffic movement patterns of all vehicles entering and exiting the work areas and for vehicle travel within work areas.

- These Gates will be clearly shown on all appropriate Traffic Control Plans. The general traffic will be warned of these gates and the movement of construction vehicles into and out of them by appropriate warning signs.
- All construction traffic may only enter and leave the work site as specified in the Traffic Control Plans and Vehicle Movement Plans.
- All drivers who come onto the site will be instructed in the access to and egress from the site. A specific induction will be held for major supplies to ensure that drivers are aware of the access and egress arrangements. Instructions will be supplied to smaller suppliers via fax/email. Access and egress arrangements will be re-iterated during the site specific induction.
- All vehicles will be fitted with flashing yellow lamps. Vehicles must engage their hazard lights and flashing lights prior to entering and exiting the site.
- Trucks coming onto or leaving site must not be loaded to the point that there is any spillage whatsoever on the pavement. All loads must be covered.
- Vehicles will be clean before leaving site.
- All vehicles entering/exiting site will announce over UHF radio (Channel 28)

6.0 IMPACT & EFFECTS ON TRAFFIC

6.1 LOCAL ROADS

Early Works Phase:

The impact on local roads in Marulan is not expected to be of a significant nature during the early works phase. The impact will mainly be as a result of installing traffic control measures to allow the construction phase to commence. This may consist of the management of traffic around the works areas while the traffic signs and materials are being delivered and when plant mobilise on to site.

Construction Phase:

Local roads in Marulan will be affected during the construction phase. BMD Constructions will adhere to the following principles during the construction phase:

- Oversized loads will be transported according to the requirements of the RTA and Police and have the appropriate approvals and escorts as required;
- Heavy vehicle loads will use only designated entry and exit points to the quarry;
- Heavy vehicle loads with the potential to cause significant traffic disruptions will be delivered outside of the peak traffic hours for the local roads network being 8:00 to 9:00am, 12:00 to 1:00pm and 5:30 to 6:30pm, wherever possible;
- Temporary road closures (if required) will be undertaken with the approval of the Council and/or RTA in accordance with the Roads Act 1993;
- Power line management (if required) for oversized loads will be in consultation with Country Energy;
- All loaded vehicles entering or leaving the site must be covered at all times in order to prevent spillage and dust generation;

- All loaded vehicles leaving the site are to be cleaned of materials that may fall on to the road;
- Heavy vehicle movements along George St will be limited to outside of school zone times, i.e., 8:00 to 9:30am and 2:30 to 4:00pm on school days, wherever practicable, unless they are done under escort;

7.0 REVIEWING TCPs, MONITORING TRAFFIC AND RECORDING FINDINGS

7.1 DAILY INSPECTIONS

The nominated BMD Representative will check the Implementation of the Traffic Control Plans on a twice daily basis – Morning and Evening. The check sheet for undertaking this is contained in Appendix 3.

7.2 REVIEWS OF TRAFFIC MANAGEMENT AND CONTROL PLANS

The nominated BMD Representative will review and document the effectiveness of the Traffic Management Plan monthly and more frequently if additional risk issues are encountered during the duration of the project works.

All Traffic Control Plans will be reviewed and verified by a person independent of the author.

7.3 COMPLAINTS

All complaints relating to traffic management issues will be recorded and promptly investigated as addressed in the BMD Integrated Project Management Plan (IPMP) section 5.6.

7.4 ACCIDENT REPORTING AND INVESTIGATION

Accidents involving vehicles and/or pedestrians within the boundaries of this project shall be reported and investigated by BMD Constructions Pty Ltd as soon as practicable. Accident reporting and investigation will be conducted in accordance with the BMD IPMP section 6.5.

7.5 NON CONFORMANCE

All BMD Major Projects employees shall be aware of the requirements of the Traffic Management Plan and be alert for any non-conformances.

Non-conformances shall be reported on a Corrective Action Report, which shall include details of the non-conformance, corrective actions proposed and details of preventative action to avoid a reoccurrence.

7.6 RECORDS

A Traffic Control Status Register will be maintained showing the current status of each Traffic Control Plan and the dates when installed and removed. Copies of daily and weekly inspections will also be kept.

8.0 NOTIFICATION AND APPLICATION SUBMISSIONS

All Traffic Control Plans (TCPs) and/or Vehicle Movement Plans (VMPs) will be submitted separately to this Traffic Management Plan.

All TCPs and VMPs will be submitted at a minimum of 10 working days prior to BMD Constructions proposed use of the TCP.

Additional information required by the Principal for clarification will be provided, on request, by BMD Constructions.

All relevant Authorities, stakeholders and Emergency Services shall be given notice of any traffic changes.

BMD will submit all information required as part of the Hold Points that prevent any work from commencing which would involve any obstruction whatsoever to traffic.



LYNWOOD QUARRY

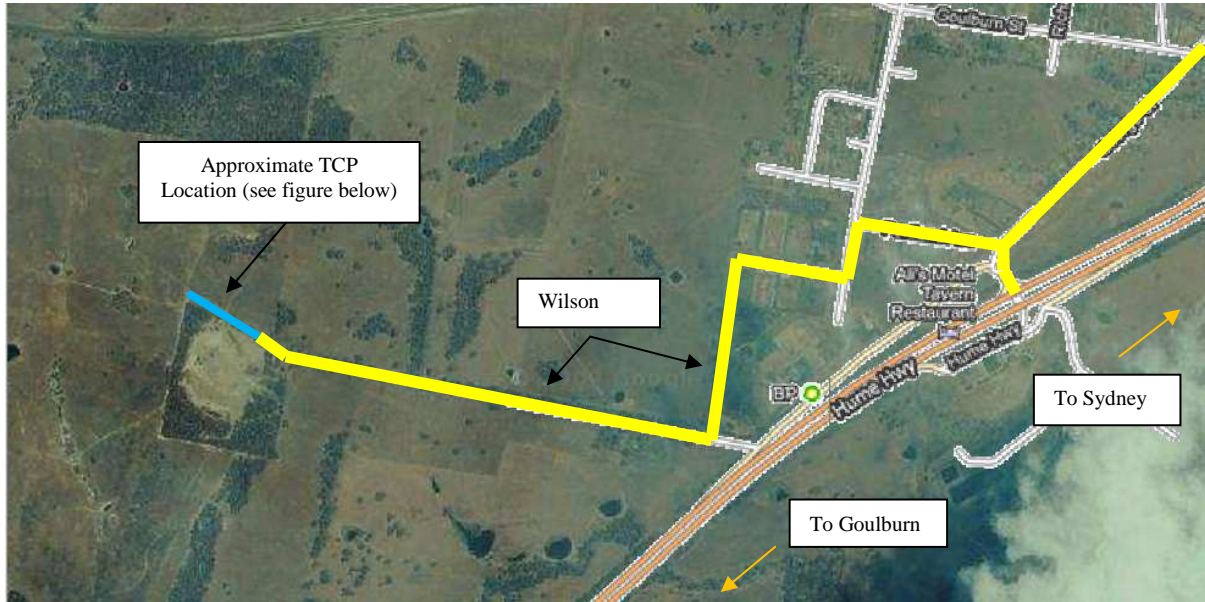
Traffic Control Plans/Vehicle Movement Plans

APPENDIX A

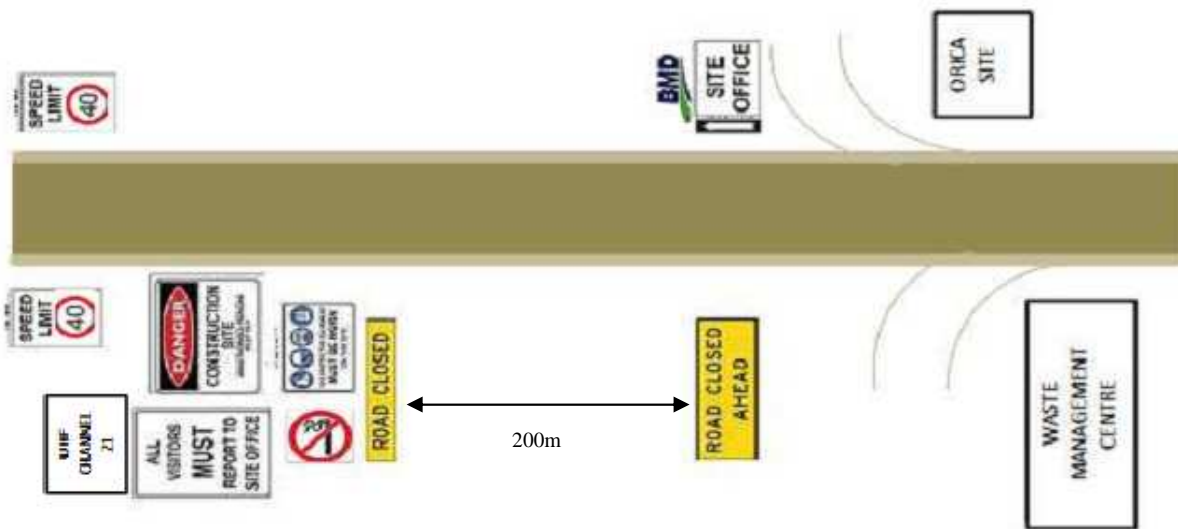
LYNWOOD QUARRY

TRAFFIC CONTROL PLAN

WILSON DVE SITE ACCESS



The Wilson Dve closure signs will be located to the west of the accesses for the Orica and Waste Management sites so as to facilitate continued access for these facilities.
 40km/hr speed limit signs to be installed every 500m.



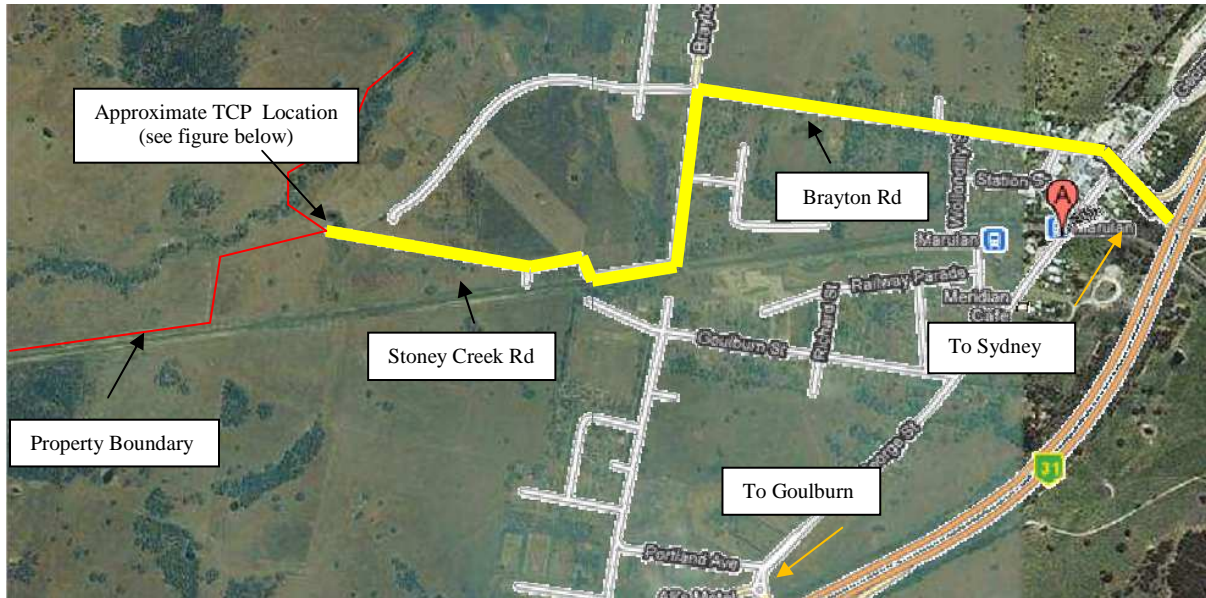
Designed By: Brad Maiden
 RTA Design and Inspect TCP: 2163008186
 Expiry Date: 24/6/2011

Signed: Date: 10/02/2011

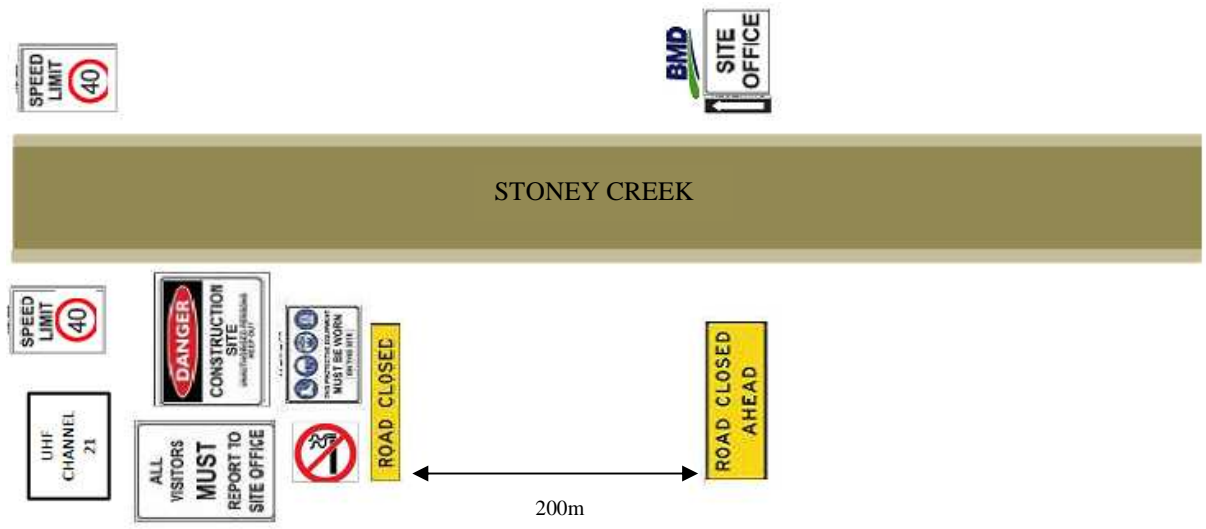
LYNWOOD QUARRY

TRAFFIC CONTROL PLAN

STONEY CREEK RD SITE ACCESS



The Stoney Creek Rd closure is to be located in the vicinity of the property boundary. 40km/hr speed limit signs to be installed every 500m.



Designed By: Brad Maiden
 RTA Design and Inspect TCP: 2163008186
 Expiry Date: 24/6/2011

Signed: Date: 10/02/2011



LYNWOOD QUARRY

Maintenance Inspection Checklists

APPENDIX B

Project name.....

Job number.....

DAILY TRAFFIC MANAGEMENT CHECKLIST

Date:/...../.....

Inspection Times: Morning
Evening

Inspection By:.....

Working in following areas:.....

	Conforms (Y/N)		Requires Action
	AM	PM	
<ul style="list-style-type: none"> • Traffic signs erected in accordance with Traffic Plans • Signs not required are covered or removed • Road Closure Permit current & in place (if applicable) • All work areas adequately fenced or delineated • Vehicular and Pedestrian access to properties maintained • Concrete barriers placed where works are within 3m of traffic (Barriers/controls are in place as per the approved Traffic Management Plan) • Roadways kept clean to minimise dust problems • Required linemarking in place and clearly visible • Appropriate measures in place for night work • In NSW, working to current ROL (Road Occupancy Licence) Licence number..... 			

Comments:.....
.....

USE OF TRAFFIC CONTROLLERS

Police No:..... Where Used:.....
(Start..... Finish))

Ticketed Traffic Controllers No:..... Where Used:.....
(Start..... Finish))

APPLICABLE TRAFFIC CONTROL PLANS

(Indicate applicable TCPs in use today)

.....
.....

CHANGES TO TRAFFIC MANAGEMENT

(Provide details on any changes made to Traffic Management Measures including times)

.....
.....
.....
.....
.....
.....
.....
.....

GENERAL COMMENTS :

.....
.....
.....
.....

CORRECTIVE ACTIONS :

.....
.....
.....
.....

Signed:..... Date:...../...../.....

PQR:..... Date:...../...../.....

APPENDIX 2

Road Dilapidation Report



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Integrated Practical Solutions

DILAPIDATION REPORT

**PORTLAND & WILSON AVENUES
MARULAN**

Prepared for:
CEMEX AUSTRALIA PTY LTD

**PROJECT 46227
MARCH 2008**



Douglas Partners

Geotechnics • Environment • Groundwater

DILAPIDATION REPORT

PORTLAND & WILSON AVENUES MARULAN

Prepared for:
CEMEX AUSTRALIA PTY LTD

**PROJECT 46227
MARCH 2008**

Douglas Partners Pty Ltd
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DILAPIDATION REPORT SUMMARY

CLIENT: CEMEX AUSTRALIA PTY LTD

DATE: 13 MARCH 2008

PROJECT: EXISTING PAVEMENT CONDITION REPORT

PROJECT: 46227

ADDRESS: PORTLAND & WILSON AVENUES, MARULAN

Page 1 of 60

INTRODUCTION

This report describes the results of an inspection undertaken of the existing roads known as Portland Avenue and Wilson Avenue located within the township of Marulan. The work was requested by Cemex Australia Pty Ltd.

It is understood that the client proposes to start quarrying activities at a nearby site and that access to the site via Portland and Wilson Avenues is required. As such, a general inspection of the existing pavement condition was required to document pre-construction conditions.

SITE LOCATION

The section of pavement described within this report is bounded at the eastern extent by a roundabout at the intersection of George Street and Portland Avenue and at the western extent by the Marulan garbage tip and entry to the Orica quarry.

NEARBY SITE DEVELOPMENT/ACTIVITIES

Along the alignment of Portland Avenue, existing site development comprised a truck stop/service centre, existing residential access and rural supplies and landscaping businesses.

Along Wilson Avenue, existing development comprised several light industrial businesses, a concrete batching plant, residential access and at the western extent a garbage tip and entrance to an existing quarry.

Attached:

- A listing of observations and defects is presented on the following sheets.
(See next page for list of observations and plates)
- Photographic plates

Prepared by:



Michael Jones
Associate



Douglas Partners
Geotechnics • Environment • Groundwater

DILAPIDATION REPORT SUMMARY

CLIENT: CEMEX AUSTRALIA PTY LTD	DATE: 13 MARCH 2008
PROJECT: EXISTING PAVEMENT CONDITION REPORT	PROJECT: 46227
ADDRESS: PORTLAND & WILSON AVENUES, MARULAN	<i>Page 2 of 60</i>

LIST OF OBSERVATIONS/PHOTOPLATES AND LOCATION			
<u>Observation/ Plate No</u>	<u>Approximate Location (Easting/Northing)</u>	<u>Observation/ Plate No</u>	<u>Approximate Location (Easting/Northing)</u>
1	56H 225305 6154308	26	55H 774449 6154373
2		27	
3		28	
4	56H 225300 6154311	29	55H 774439 6154365
5		30	
6	56H 225281 6154318	31	55H 774431 6154314
7		32	
8		33	
9	55H 774738 6154325	34	55H 774421 6154290
10	55H 774711 6154329	35	55H 774416 6154267
11	55H 774698 6154333	36	
12	55H 774687 6154336	37	
13	55H 774665 6154338	38	
14	55H 774603 6154345	39	
15		40	
16	55H 774582 6154352	41	
17		42	
18	55H 774549 6154359	43	
19		44	
20		45	55H 774399 6154259
21	55H 774522 6154367	46	55H 774390 6154260
22	55H 774480 6154373	47	55H 774357 6154277
23		48	55H 774331 6154279
24		49	
25	55H 774449 6154373	50	55H 774303 6154282

DILAPIDATION REPORT SUMMARY

CLIENT: CEMEX AUSTRALIA PTY LTD	DATE: 13 MARCH 2008
PROJECT: EXISTING PAVEMENT CONDITION REPORT	PROJECT: 46227
ADDRESS: PORTLAND & WILSON AVENUES, MARULAN	<i>Page 3 of 60</i>

LIST OF OBSERVATIONS/PHOTOPLATES AND LOCATION			
<u>Observation/ Plate No</u>	<u>Approximate Location (Easting/Northing)</u>	<u>Observation/ Plate No</u>	<u>Approximate Location (Easting/Northing)</u>
51	55H 774274 6154286	76	55H 774135 6154010
52		77	55H 774129 6153997
53	55H 774238 6154294	78	55H 774138 6153977
54	55H 774241 6154293	79	
55	55H 774208 6154295	80	55H 774112 6153913
56		81	
57	55H 774183 6154301	82	
58		83	
59		84	
60		85	
61		86	
62		87	
63		88	
64		55H 774177 6154252	
65	55H 774163 6154195	90	55H 773755 6153967
66		91	
67	55H 774164 6154171	92	55H 773798 6153967
68	55H 774156 6154103	93	
69	55H 774152 6154081	94	55H 773783 6153971
70		95	
71		96	
72		97	
73	55H 774135 6154010	98	55H 773689 6153984
74		99	
75		100	55H 773613 6153997

DILAPIDATION REPORT SUMMARY

CLIENT: CEMEX AUSTRALIA PTY LTD	DATE: 13 MARCH 2008
PROJECT: EXISTING PAVEMENT CONDITION REPORT	PROJECT: 46227
ADDRESS: PORTLAND & WILSON AVENUES, MARULAN	<i>Page 4 of 60</i>

LIST OF OBSERVATIONS/PHOTOPLATES AND LOCATION			
<u>Observation/ Plate No</u>	<u>Approximate Location (Easting/Northing)</u>	<u>Observation/ Plate No</u>	<u>Approximate Location (Easting/Northing)</u>
101	55H 773525 6154011		
102	55H 773316 6154059		
103	55H 773246 6154075		
104	55H 773219 6154083		
105			
106			
107	55H 773210 6154088		
108			
109			
110	55H 773152 6154093		
111	55H 773140 6154099		
112	55H 773114 6154144		



PHOTO 1: Concrete roundabout



PHOTO 2: Cracking in asphalt at edge of roundabout

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PHOTO 3: Cracking in asphalt at start of Portland Avenue



PHOTO 4: Cracking in asphalt and some repaired potholes

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PHOTO 5: Start of cracking in asphalt



PHOTO 6: Cracking in asphalt next to repaired section

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PHOTO 7: Cracking in asphalt



PHOTO 8: Cracking in asphalt

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PHOTO 9: Change in seal, cracking in asphalt with some repaired sections



PHOTO 10: Change in seal, some repaired sections

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PHOTO 11: Repaired sections/potholes



PHOTO 12: Loss of seal

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PHOTO 13: Repaired sections



PHOTO 14: Entry to Marulan Rural Services, signs of rutting, repaired potholes and loss of seal

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PHOTO 15: Repaired potholes, loss of seal



PHOTO 16: Shoulder widened/repaired

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PHOTO 17: Start of cracking in asphalt



PHOTO 18: Repaired sections, loss of seal

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PHOTO 19: Start of pothole, some repaired sections



PHOTO 20: Start of cracking in asphalt

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PHOTO 21: Loss of seal, slight rutting



PHOTO 22: Loss of seal, repaired potholes

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PHOTO 23: Shoulder repair/widening, loss of seal, repaired sections



PHOTO 24: Repaired sections

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PHOTO 25: Corner of Portland Avenue/Wilson Avenue



PHOTO 26: Bitumen bleeding, shoving/rutting in asphalt, repaired potholes

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PHOTO 27: Bitumen bleeding, shoving/rutting in asphalt, repaired potholes



PHOTO 28: Cracking in asphalt, repaired potholes/section

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PHOTO 29: Series of pothole repairs



PHOTO 30: Loss of seal, cracking in asphalt, repaired sections/potholes

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PHOTO 31: Cracking in asphalt, loss of seal, repaired shoulder, rutting at pavement edge



PHOTO 32: Loss of seal



PHOTO 33: Repaired potholes



PHOTO 34: Repaired/widened shoulder

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PHOTO 35: Loss of seal



PHOTO 36: Loss of seal

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PHOTO 37: Settlement, cracking/rutting in asphalt at pavement edge



PHOTO 38: Settlement, cracking/rutting in asphalt at pavement edge

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PHOTO 39: Repaired potholes, gauging in asphalt



PHOTO 40: Failure at pavement edge

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PHOTO 41: Cracking in asphalt, repaired sections, loss of seal



PHOTO 42: Loose gravel, repaired potholes/sections

TITLE
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PHOTO 43: Cracking in asphalt, rutting



PHOTO 44: Failing repaired section



PHOTO 45: Repaired sections and shoulder, some cracking at shoulder edge



PHOTO 46: Repaired sections/potholes

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PHOTO 47: Entrance to Ploughmaster Engineering, shoulder failures and repairs



PHOTO 48: Entrance to Ploughmaster Engineering, shoulder failures and repairs

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PHOTO 49: Entrance to Ploughmaster Engineering, loss of seal, repaired sections



PHOTO 50: Repaired sections

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PHOTO 51: Shoulder and pavement repairs, settlement at shoulder



PHOTO 52: Concrete batch plant entrance

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PHOTO 53: Loss of seal



PHOTO 54: Service crossing

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PHOTO 55: Shoulder repairs



PHOTO 56: Pothole repairs

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PHOTO 57: Extensive failures at corner



PHOTO 58: Loose gravel, cracking in asphalt, failed pothole repair

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PHOTO 59: Repaired and failed sections, some rutting/shoving



PHOTO 60: Repaired and failed sections/potholes, cracking in asphalt, shoulder failure

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PHOTO 61: Settlement of repaired section



PHOTO 62: Loose gravel at pavement edge

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PHOTO 63: Shoulder/pothole repairs, loose gravel at pavement edge



PHOTO 64: Pavement edge failure

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PHOTO 65: Repaired section, loss of seal/cracking



PHOTO 66: Cracking in asphalt at edge of repaired section

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PHOTO 67: Edge failures, repaired potholes



PHOTO 68: Repair in pavement edge

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PHOTO 69: Back entrance to BP Service Centre, loss of seal, slight rutting, edge failure



PHOTO 70: Loss of seal, edge failures, repaired pothole

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PHOTO 71: Repair to pavement edge, settlement



PHOTO 72: Shoving/settlement of shoulder/pavement edge, loose gravel

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PHOTO 73: Settlement of shoulder repair, loose gravel



PHOTO 74: Repaired pothole

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PHOTO 75: Pavement edge failure



PHOTO 76: Pavement edge failure

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PHOTO 77: Depression in pavement



PHOTO 78: Shoulder widening/repair

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PHOTO 79: Lifting/shoving of shoulder repair/widening



PHOTO 80: Loss of seal, cracking in asphalt

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PHOTO 81: Repaired sections/potholes, loss of seal, settlement/rutting



PHOTO 82: Repaired sections/potholes, loss of seal, settlement/rutting

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PHOTO 83: Numerous failed and repaired section/potholes



PHOTO 84: Loss of seal, cracking in asphalt

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PHOTO 85: Settlement/rutting of repaired section at pavement edge



PHOTO 86: Settlement/rutting of repaired section at pavement edge, small potholes, loss of seal

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PHOTO 87: Repaired potholes



PHOTO 88: Extensive cracking in asphalt

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PHOTO 89: Stripped aggregate, repaired pothole



PHOTO 90: Stripped aggregate



PHOTO 91: Stripped aggregate, slight rutting



PHOTO 92: Stripped aggregate centreline



PHOTO 93: Stripped aggregate, slight rutting



PHOTO 94: Bitumen bleeding

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PHOTO 95: Slight rutting



PHOTO 96: Slight rutting

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PHOTO 97: Repaired pothole, shoulder repair/widening



PHOTO 98: Stripped aggregate, settlement/rutting

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PHOTO 99: Stripped aggregate, settlement/rutting



PHOTO 100: Culvert crossing

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PHOTO 101: Small pothole



PHOTO 102: Depressions in pavement

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PHOTO 103: shoving of pothole repair, erosion at pavement edge



PHOTO 104: Failure at pavement edge, erosion

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PHOTO 105: Pavement edge repairs and erosion



PHOTO 106: Pavement edge repairs and erosion

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PHOTO 107: Bitumen bleeding



PHOTO 108: Pavement edge failure, erosion

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PHOTO 109: Pavement edge repairs



PHOTO 110: Gouging of asphalt

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PHOTO 111: New seal at Orica gate



PHOTO 112: Edge failure of new seal at Orica gate

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Dilapidation Report

Client	Holcim (Australia) Pty Ltd	Project No.	46227.01.00
Project	Existing Pavement Condition Report	Date	17 October 2010
Address	George Street, Brayton Road, Maclura Drive and Stoney Creek Road, Marulan	Doc No.	2

Introduction

This report describes the results of an inspection undertaken of parts of the existing roads known as George Street, Brayton Road, Maclura Drive and Stoney Creek Road located within the township of Marulan. The work was requested by GHD Pty Ltd on behalf of Holcim (Australia) Pty Ltd.

It is understood that the client proposes to start quarrying activities at a nearby site and that access to the site via the above roads is required. As such, a general inspection of the existing pavement condition was required to document pre-construction conditions.

Site Location

The section of pavement described within this report is defined as follows:

- George Street – from the roundabout intersection with Portland Avenue at the south western end extending to the intersection with Brayton Road at the north eastern end.
- Brayton Road – from the intersection with George Street extending to the start of Maclura Drive.
- Maclura Drive – from the intersection with Brayton Road to the end of the road at the western end (edge of spray seal).
- Stoney Creek Road – from the intersection with Brayton Road to the railway line extending along the unsealed portion to a stock grid at the west.

Refer to attached site plan indicating the extent of the survey area.

Nearby Site Development & Activities

Along the existing roads site development generally comprised retail/commercial businesses, urban residential and rural residential properties. The south western end of George Street is bounded to the west by a truck stop/service centre.

During the survey, a significant volume of truck traffic was observed entering/exiting at the Maclura Drive/Brayton Road intersection, the George Street/Brayton Road intersection and roundabout intersection between George Street/Portland Avenue. It is expected that the truck traffic is due to a nearby quarry.

Dilapidation Report

Client	Holcim (Australia) Pty Ltd	Project No.	46227.01.00
Project	Existing Pavement Condition Report	Date	17 October 2010
Address	George Street, Brayton Road, Maclura Drive and Stoney Creek Road, Marulan	Doc No.	2

Summary of Observations

George Street – The majority of George Street is characterised by patches of crocodile and plate cracking, transverse and longitudinal cracks which some have been attempted to be sealed with a bitumen emulsion. Further cracking was noted in numerous previously sealed cracks.

Brayton Road – Large sections/strips of Brayton Road exhibit bitumen bleeding with some small repaired potholes and minor potholes beginning to form. Rutting was observed in several locations.

Maclura Drive – The majority of Maclura Drive was in relatively good condition with areas of aggregate loss/bitumen bleeding. This however could have been the result of poor spreading of aggregate during spray sealing activities.

Stoney Creek Road – The majority of the sealed section of Stony Creek Road was in fair to good condition with areas of bitumen bleeding, aggregate loss and slight rutting. Small areas of shoving were noted at the intersection with Jilba Avenue. The unsealed section was in fair condition with section of potholing, wheel depressions and corrugation. Minimal coverage of good quality pavement material mainly comprising gravelly sand.

Attached:

- A listing of observations is presented in the following sheets.
(See next page for list of observations and plates)
- Photographic plates
- Site plan of survey area

Prepared by:

Reviewed by:

Michael Jones
Senior Associate

G W McIntosh
Principal

Dilapidation Report

Client	Holcim (Australia) Pty Ltd	Project No.	46227.01.00
Project	Existing Pavement Condition Report	Date	17 October 2010
Address	George Street, Brayton Road, Maclura Drive and Stoney Creek Road, Marulan	Doc No.	2

List of Observation/Photoplate Locations

Observation No	Approximate Location (Easting/Northing)	Observation No	Approximate Location (Easting/Northing)
1 – 4	56 H 225315 6154320	73	56 H 225356 6155357
5 – 7	56 H 225324 6154328	74	56 H 225291 6155367
8 – 10	56 H 225345 6154350	75	56 H 225291 6155372
11	56 H 225383 6154374	76	55 H 774676 6155420
12	56 H 225380 6154396	77 – 78	55 H 774650 6155391
13 – 14	56 H 225409 6154415	79	55 H 774591 6155430
15 – 16	56 H 225449 6154466	80 – 81	55 H 774557 6155408
17 – 18	56 H 225537 6154522	82	55 H 774532 6155412
19 – 21	56 H 225547 6154532	83	55 H 774473 6155425
22	56 H 225581 6154582	84	55 H 774279 6155394
23	56 H 225604 6154610	85 – 86	55 H 774108 6155276
24	56 H 225613 6154626	87	55 H 774040 6155174
25 – 26	56 H 225635 6154635	88	55 H 774670 6155377
27	56 H 225678 6154687	89	55 H 774670 6155379
28	56 H 225689 6154717	90	55 H 774663 6155352
29	56 H 225715 6154726	91	55 H 774658 6155333
30 – 34	56 H 225727 6154759	92	55 H 774649 6155262
35	56 H 225776 6154802	93	55 H 774644 6155228
36 – 37	56 H 225792 6154835	94	55 H 774637 6155208
38	56 H 225814 6154878	95	55 H 774635 6155173
39 – 40	56 H 225847 6154912	96	55 H 774620 6155134
41	56 H 225853 6154921	97	55 H 774622 6155028
42 – 43	56 H 225868 6154940	98	55 H 774606 6155014
44 – 46	56 H 225885 6154963	99	55 H 774566 6155001
47	56 H 225917 6155008	100	55 H 774519 6155000
48	56 H 225913 6155020	101	55 H 774411 6154991
49	56 H 225928 6155049	102	55 H 774370 6155006
50 – 51	56 H 225949 6155049	103	55 H 774355 6155009
52	56 H 225947 6155082	104	55 H 774284 6155009
53 – 54	56 H 225976 6155113	105	55 H 774149 6155015
55	56 H 226095 6155230	106	55 H 774093 6155028
56	56 H 226039 6155275	107	55 H 774048 6155035
57 – 58	56 H 226029 6155271	108	55 H 773937 6155099
59 – 60	56 H 226010 6155265	109	55 H 773870 6155070
61	56 H 225943 6155274	110	55 H 773800 6155080
62	56 H 225866 6155283	111	55 H 773764 6155095
63	56 H 225780 6155277	112	55 H 773754 6155099
64 – 65	56 H 225730 6155312	113 – 115	55 H 773725 6155083
66 – 67	56 H 225712 6155316	116	55 H 773691 6155064
68	56 H 225655 6155261	117	55 H 773637 6155043
69	56 H 225490 6155328	118	55 H 773617 6155036
70 – 72	56 H 225403 6155350	119	55 H 773591 6155033



Photo 1 – Portland Ave/George St intersection. Extensive cracking, minor rutting and previous repairs.



Photo 2 – George St at Truck Stop 31 entrance. Patching from previous failure with deformation still present.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 1

REV: A

DATE: 8-Oct-10



Photo 3 – Portland Ave/George St intersection. Extensive cracking, minor rutting and previous repairs.



Photo 4 – Portland Ave/George St intersection. Extensive cracking, minor rutting and previous repairs.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 2

REV: A

DATE: 8-Oct-10



Photo 5 – Entrance to Truck Stop 31. Extensive edge failures and cracking. Some old patches.



Photo 6 – Entrance to Truck Stop 31. Extensive edge failures and cracking. Some old patches and bitumen emulsion sealing of old cracks.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 3

REV: A

DATE: 8-Oct-10



Photo 7 – Opposite entrance to Truck Stop 31. Extensive cracking with some old patching.



Photo 8 – In between entrance/exit driveways for Truck Stop. Shoulder failure, extensive cracking and bitumen emulsion sealing of some old cracks.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 4

REV: A

DATE: 8-Oct-10



Photo 9 – In between entrance/exit driveways for Truck Stop. Extensive cracking, old patching and bitumen emulsion sealing of some old cracks.



Photo 10 – Near exit driveway for Truck Stop 31. Extensive cracking and some old patching.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

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PLATE No: 5

REV: A

DATE: 8-Oct-10



Photo 11 – Opposite exit driveway Truck Stop 31. Extensive cracking, old patching and bitumen emulsion sealing of some old cracks.



Photo 12 – Opposite exit driveway Truck Stop 31. New and repaired potholes in shoulder.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 6

REV: A

DATE: 8-Oct-10



Photo 13 – George Street, opposite vacant blocks. Numerous cracking some sealed with bitumen emulsion.



Photo 14 – George Street, opposite vacant blocks. Numerous cracking some sealed with bitumen emulsion.



Site Photographs
Existing Pavement Condition
Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 7

REV: A

DATE: 8-Oct-10



Photo 15 – George Street, opposite vacant blocks. Numerous cracking some sealed with bitumen emulsion.



Photo 16 – George Street, opposite vacant blocks. Edge failure, numerous cracking some sealed with bitumen emulsion.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 8

REV: A

DATE: 8-Oct-10



Photo 17 – Opposite No 30 George St. Resealed shoulder (west).



Photo 18 – Opposite No 30 George St. Wearing course loss in shoulder.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 9

REV: A

DATE: 8-Oct-10



Photo 19 – Opposite No 36 George St. Resealed shoulder (east).



Photo 20 – Opposite No 36 George St. Resealed shoulder (west) with areas of wearing coarse loss/potholing.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 10

REV: A

DATE: 8-Oct-10



Photo 21 – Opposite No 36 George St. Bitumen emulsion sealed transverse crack.



Photo 22 – Opposite No 39 George St. Longitudinal cracking at edge of line marking.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 11

REV: A

DATE: 8-Oct-10



Photo 23 – Opposite Marulan Auto Port (south). Crocodile cracking.



Photo 24 – Opposite Marulan Auto Port. Previously patched failed areas in shoulder.



Site Photographs
Existing Pavement Condition
Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 12

REV: A

DATE: 8-Oct-10



Photo 25 – Opposite Brewer Centre. Bitumen emulsion sealed cracks and some unsealed cracks.



Photo 26 – Opposite Brewer Centre. Aggregate loss and bitumen emulsion sealed cracks.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 13

REV: A

DATE: 8-Oct-10



Photo 27 – Opposite church. Gutter failure due to tree roots.



Photo 28 – Opposite church. Pavement cracking post application of bitumen emulsion.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 14

REV: A

DATE: 8-Oct-10



Photo 29 – Opposite No 46 George St. Crocodile cracking in shoulder.



Photo 30 – Goulburn St at intersection with George St. Crocodile cracking.



Site Photographs
Existing Pavement Condition
Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 15

REV: A

DATE: 8-Oct-10



Photo 31 – Goulburn St at intersection with George St. Pavement failure in left wheel path.



Photo 32 – Opposite school. Pavement cracking post application of bitumen emulsion. Edges of cracking rising.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 16

REV: A

DATE: 8-Oct-10



Photo 33 – George St/Goulburn St intersection. Pavement cracking post application of bitumen emulsion. Edges of cracking rising.



Photo 34 – Opposite school. Intermediate cracking along line marking edge.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 17

REV: A

DATE: 8-Oct-10



Photo 35 – Opposite pub. Numerous cracking with bitumen emulsion sealing.



Photo 36 – Opposite butcher. Numerous cracking mainly sealed with bitumen emulsion some unsealed.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 18

REV: A

DATE: 8-Oct-10



Photo 37 – Opposite butcher. Extensive cracking mainly sealed with bitumen emulsion some unsealed.



Photo 38 – Opposite post office. Pavement cracking post application of bitumen emulsion. Edges of cracking rising.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 19

REV: A

DATE: 8-Oct-10



Photo 39 – Opposite post office. Extensive pavement failure some old patches.



Photo 40 – Opposite post office. Extensive pavement failure some old patches.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 20

REV: A

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Photo 41 – Opposite No 83 George St. Extensive pavement failure some old patches.



Photo 42 – Opposite park. Extensive pavement failure some old patches.



Site Photographs
Existing Pavement Condition
Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 21

REV: A

DATE: 8-Oct-10



Photo 43 – Opposite park. Extensive pavement failure some old patches.



Photo 44 – Opposite park looking back on significantly failed section.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 22

REV: A

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Photo 45 – Opposite park. Extensive pavement failure some old patches.



Photo 46 – Opposite park. Extensive pavement failure some old patches.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 23

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Photo 47 – Opposite Uniting Church. Cracking in section of newer pavement.



Photo 48 – Opposite Uniting Church. Cracking in section of newer pavement.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 24

REV: A

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Photo 49 – Opposite police station. Longitudinal cracking in centre line marking.



Photo 50 – Opposite police station. Start of cracking in newer pavement.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 25

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Photo 51 – Opposite police station. Start of crocodile cracking and longitudinal cracking along edge lane marking.



Photo 52 – Railway Bridge. Crocodile cracking with some patched areas and rutting.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 26

REV: A

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Photo 53 – Railway Bridge. Crocodile cracking with some patched areas and rutting.



Photo 54 – Railway Bridge. Cracking in brick wall.



Site Photographs
Existing Pavement Condition
Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 27

REV: A

DATE: 8-Oct-10



Photo 55 – Intersection of George St/Brayton Rd. Cracking along pavement joints.



Photo 56 – Start of Brayton Rd. Crocodile cracking.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 28

REV: A

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Photo 57 – Brayton Rd, near end of newer pavement. Difference in asphalt height possible rutting with cracking.



Photo 58 – Brayton Rd, near end of newer pavement. Difference in asphalt height possible rutting with cracking.



Site Photographs
Existing Pavement Condition
Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT:	46227.01
PLATE No:	29
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Photo 59 – Brayton Rd, edge of new/old pavement. Bitumen bleeding and slight rutting.



Photo 60 – Brayton Rd, edge of new/old pavement. Bitumen bleeding and slight rutting.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 30

REV: A

DATE: 8-Oct-10



Photo 61 – Brayton Rd/Station St intersection. Bitumen bleeding and slight rutting.



Photo 62 – Opposite No 6 Brayton Rd. Bitumen bleeding and slight rutting.



Site Photographs
Existing Pavement Condition
Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 31

REV: A

DATE: 8-Oct-10



Photo 63 – Opposite No 16 Brayton Rd. Bitumen bleeding (east bound).



Photo 64 – Near Brayton Rd/Wollondilly St intersection. Bitumen bleeding, start of small potholes.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 32

REV: A

DATE: 8-Oct-10



Photo 65 –Brayton Rd/Wollondilly St intersection. Bitumen bleeding, start of small potholes and slight rutting.



Photo 66 – Near Brayton Rd/Wollondilly St intersection. Bitumen bleeding, start of small potholes.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 33

REV: A

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Photo 67 – Near Brayton Rd/Wollondilly St intersection. Bitumen bleeding, start of small potholes.



Photo 68 – Opposite No 39 Brayton Rd. Bitumen bleeding, start of small potholes and slight rutting.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 34

REV: A

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Photo 69 – Opposite No 51 Brayton Rd. Bitumen bleeding and slight rutting.



Photo 70 – Near tennis courts. Opposite No 39 Brayton Rd. Bitumen bleeding, start of small potholes and slight rutting.



Site Photographs
Existing Pavement Condition
Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 35

REV: A

DATE: 8-Oct-10



Photo 71 – Opposite tennis courts. Bitumen bleeding minor rutting.



Photo 72 – Opposite tennis courts. Bitumen bleeding, small potholes and slight rutting.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 36

REV: A

DATE: 8-Oct-10



Photo 73 – Culvert structure neat tennis courts. Old repair patch with small failures surrounding.



Photo 74 – Opposite tennis courts. Bitumen bleeding, small potholes and slight rutting.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

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DATE: 8-Oct-10



Photo 75 – Opposite No 72 Brayton Rd. Bitumen bleeding and rutting.



Photo 76 – Near Brayton Rd/Stony Creek Rd intersection. Rutting.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 38

REV: A

DATE: 8-Oct-10



Photo 77 – Start of Maclura Dr. Crocodile cracking.



Photo 78 – Start of Maclura Dr. Aggregate loss.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 39

REV: A

DATE: 8-Oct-10



Photo 79 – Opposite No 3 Maclura Dr. Bitumen bleeding.



Photo 80 – Near Patrick Pl/Maclura Dr intersection. Bitumen bleeding.



Site Photographs
Existing Pavement Condition
Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 40

REV: A

DATE: 8-Oct-10



Photo 81 – Patrick Pl/Maclura Dr intersection. Bitumen bleeding.



Photo 82 – Patrick Pl/Maclura Dr intersection. Repaired pothole and aggregate loss.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 41

REV: A

DATE: 8-Oct-10



Photo 83 – Entrance to Lot 9 Maclura Dr. Uneven surface some bitumen bleeding.



Photo 84 – Opposite No 38 Maclura Dr. Aggregate loss.



Site Photographs
Existing Pavement Condition
Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 42

REV: A

DATE: 8-Oct-10



Photo 85 – Opposite Lots 18/19 Maclura Dr. Aggregate loss.



Photo 86 – Opposite Lots 18/19 Maclura Dr. Aggregate loss.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 43

REV: A

DATE: 8-Oct-10



Photo 87 – Opposite Lot 18 Maclura Dr. Aggregate loss.



Photo 88 – Intersection of Brayton Rd & Stoney Creek Rd. Bitumen bleeding and uneven surface.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 44

REV: B

DATE: 17-Oct-10



Photo 89 – Near intersection of Brayton Rd & Stoney Creek Rd. Bitumen bleeding.



Photo 90 – Opposite No 29 Stoney Creek Rd. Small potholes.



Site Photographs
Existing Pavement Condition
Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 45

REV: B

DATE: 17-Oct-10



Photo 91 – Opposite No 29 Stoney Creek Rd. Aggregate loss near centreline and slight rutting.



Photo 92 – Opposite No 22 Stoney Creek Rd. Aggregate loss and slight rutting.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 46

REV: B

DATE: 17-Oct-10



Photo 93 – Opposite No 17 Stoney Creek Rd. Bitumen bleeding.



Photo 94 – Intersection of Stoney Creek Rd & Jilba Ave. Bitumen bleeding.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 47

REV: B

DATE: 17-Oct-10



Photo 95 – Intersection of Stoney Creek Rd & Jilba Ave. Bitumen bleeding and shoving.



Photo 96 – Intersection of Stoney Creek Rd & Jilba Ave. Bitumen bleeding.



Site Photographs
Existing Pavement Condition
Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 48

REV: B

DATE: 17-Oct-10



Photo 97 – Opposite No 15 Stoney Creek Rd. Bitumen bleeding and slight rutting.



Photo 98 – Opposite No 15 Stoney Creek Rd. Bitumen bleeding, slight rutting and aggregate loss.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 49

REV: B

DATE: 17-Oct-10



Photo 99 – 90 bend in Stoney Creek Rd. Aggregate loss and uneven surface.



Photo 100 – End of spray seal/start of unsealed road Stoney Creek Rd. Excessive surface aggregate.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 50

REV: B

DATE: 17-Oct-10



Photo 101 – Start of unsealed section Stoney Creek Rd. Uneven surface, slight erosion northern side.



Photo 102 – Stoney Creek Rd (unsealed). Series of potholes.



Site Photographs
Existing Pavement Condition
Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 51

REV: B

DATE: 17-Oct-10



Photo 103 – Stoney Creek Rd (unsealed). Small pothole.



Photo 104 – Stoney Creek Rd (unsealed). Series of potholes southern side.



Site Photographs
Existing Pavement Condition
Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 52

REV: B

DATE: 17-Oct-10



Photo 105 – Stoney Creek Rd (unsealed). Series of potholes southern side.



Photo 106 – Stoney Creek Rd (unsealed). Depressioning along southern wheel path.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 53

REV: B

DATE: 17-Oct-10



Photo 107 – Stoney Creek Rd (unsealed). Section of minimal gravel southern wheel path.



Photo 108 – Stoney Creek Rd (unsealed). Depressioning along southern wheel path.



Site Photographs
Existing Pavement Condition
Marulan

PROJECT: 46227.01

PLATE No: 54

REV: B

CLIENT: Holcim (Australia) Pty Ltd

DATE: 17-Oct-10



Photo 109 – Stoney Creek Rd (unsealed). Section of coarse gravel with depressioning along southern wheel path.



Photo 110 – Stoney Creek Rd (unsealed). Depressioning along both wheel paths.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 55

REV: B

DATE: 17-Oct-10



Photo 111 – Intersection of Stoney Creek Rd & Maclura Dr. Loose aggregate and uneven surface.



Photo 112 – Stoney Creek Rd (unsealed). Uneven surface.



Site Photographs
Existing Pavement Condition
Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 56

REV: B

DATE: 17-Oct-10



Photo 113 – Stoney Creek Rd (unsealed). Loose aggregate and depressioning along wheel paths.



Photo 114 – Stoney Creek Rd (unsealed). Potholes and uneven surface.



Site Photographs
Existing Pavement Condition
Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 57

REV: B

DATE: 17-Oct-10



Photo 115 – Stoney Creek Rd (unsealed). Small potholes, uneven surface and corrugations.



Photo 116 – Stoney Creek Rd (unsealed). Small potholes, uneven surface and corrugations.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 58

REV: B

DATE: 17-Oct-10



Photo 117 – Stoney Creek Rd (unsealed). Small potholes, uneven surface and corrugations.



Photo 118 – Stoney Creek Rd (unsealed). Small potholes, uneven surface and corrugations.



Site Photographs

Existing Pavement Condition

Marulan

CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 59

REV: B

DATE: 17-Oct-10



Photo 119 – Stoney Creek Rd (unsealed)/stock grid. Small potholes, uneven surface and corrugations.



Site Photographs
Existing Pavement Condition
Marulan

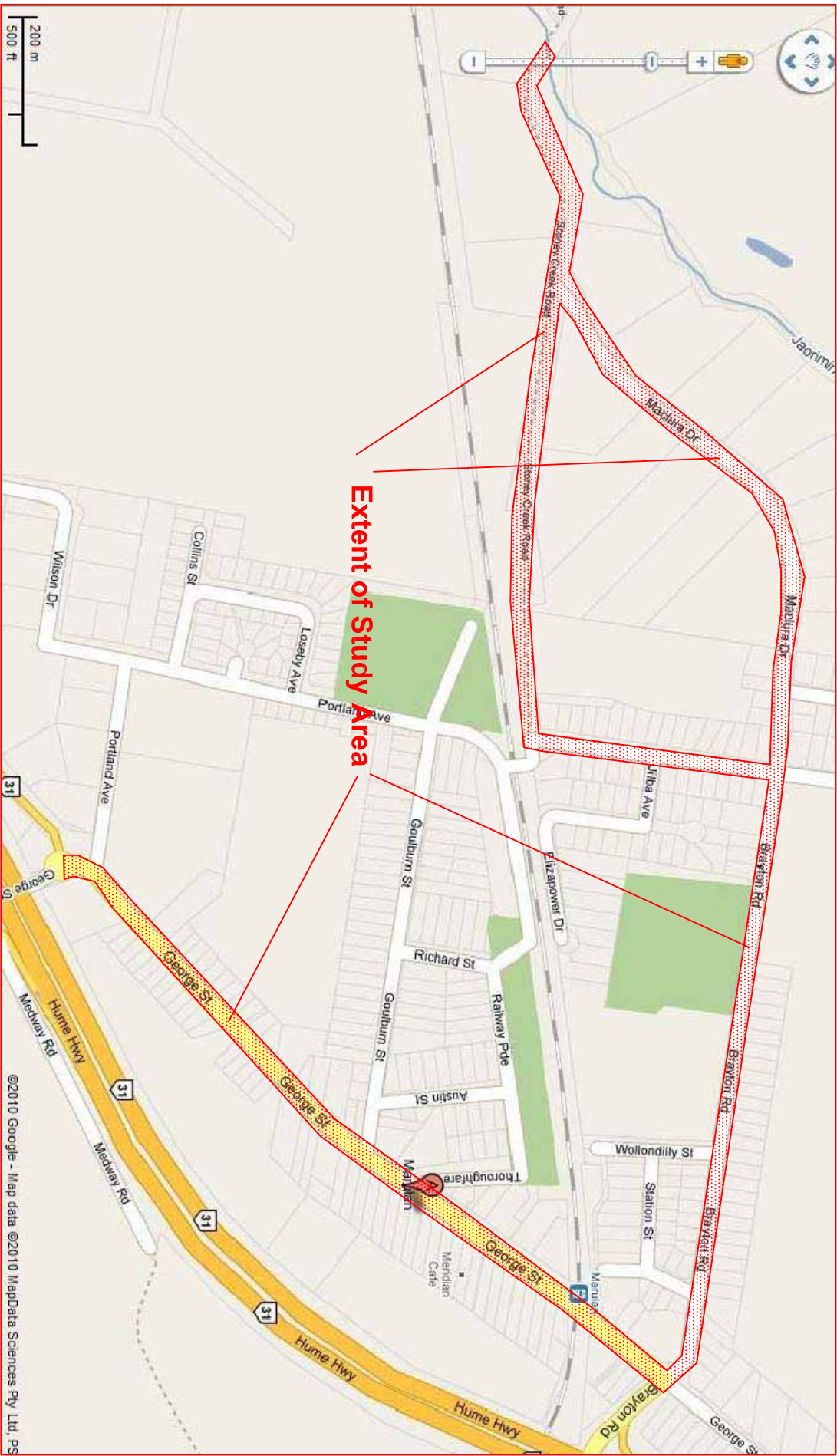
CLIENT: Holcim (Australia) Pty Ltd

PROJECT: 46227.01

PLATE No: 60

REV: B

DATE: 17-Oct-10



Extent of Study Area



CLIENT: Holcim (Australia) Pty Ltd

OFFICE: Canberra

DATE: 18.10.10

Existing Pavement Condition Report

George Street, Brayton Road and Maclura Drive

MARULAN

PROJECT No: 46227.01

DRAWING No: 1

REVISION: B

APPENDIX 3

Copies of Agency Correspondence

Email correspondence between Holcim and RTA dated 27 October 2010

From: MILLET Chris P [mailto:Chris_MILLET@rta.nsw.gov.au]
Sent: Wednesday, 27 October 2010 3:34 PM
To: Savage, Richard
Cc: BOYD Nick M; BERRY Adam; MCCLURE Trish J
Subject: RE: Lynwood CTMP

Richard

Reference is made to the attached Construction Traffic Management Plan, Lynwood Quarry.

The RTA has reviewed the plan and has no objections in principle from a classified road perspective. The RTA notes that the plan will increase traffic through the township of Marulan and notes Holcim commitment to community consultation throughout the process. In this regard, the RTA recommends that Holcim consider and address any community concerns to ensure that the arrangements have minimal impact on safety and amenity.

Cheers

Chris Millet
Manager, Land Use Development
Road Safety & Traffic Management
Regional Operations & Engineering Services

Roads and Traffic Authority

Level 4, 90 Crown Street, Wollongong NSW 2500
PO Box 477 Wollongong NSW 2520 DX 5178
T 02 4221 2570 | F 02 4221 2777
www.rta.nsw.gov.au chris_millet@rta.nsw.gov.au

From: Savage, Richard [<mailto:richard.savage@holcim.com>]
Sent: Wednesday, 27 October 2010 2:45 PM
To: MILLET Chris P
Subject: FW: Lynwood CTMP

Hi Chris,

As discussed please find attached the draft plan for your review and comment. The dilapidation reports which make up the appendix will follow in a separate email due to size.

It would be greatly appreciated if you could please provide any comments as soon as possible so that Holcim can lodge the draft plan with the Department of Planning for approval.

Please don't hesitate to give me a call on 0419476397 if you have any questions.

Cheers,

Richard

Richard Savage
Project Coordinator
Holcim (Australia) Pty Ltd
PO Box 258, Penrith, NSW, 2751
Phone 0247305219
Mobile 0419476397
Fax 0247305201
www.holcim.com.au

John Merrell & Associates
P.O. Box 838,
TORONTO NSW 2283

Dear Mr Merrell

SUBJECT: DRAFT LYNWOOD QUARRY CONSTRUCTION TRAFFIC MANAGEMENT PLAN

Reference is made to our email of 13th October 2010, together with attaching documents, concerning the draft Lynwood Quarry Construction Traffic Management Plan.

In relation to the construction traffic management plan be advised:

1. Generally LPMA has no issues with the draft proposals;
2. Waterways

According to Authority records, a section of waterway i.e. Joarmin Creek, has been identified as Crown land within the Quarry Project area.

All current access points to Joarmin Creek in the project area must remain unimpeded and available.

Any works or operational activities must NOT impact on the bed and bank of the waterway, riparian land, or affect flows to or within the waterway.

Prior to any access and or disturbance to Crown waterways within the project area, the proponent must seek the approval of LPMA.

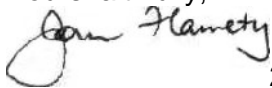
Any disturbance must be must be rehabilitated to its original condition to the satisfaction of LPMA and ensure that there is no long term impact on Crown waterways and the adjoining riparian lands.

3. It is also noted that a number of Crown public roads are intended to be used as egress and ingress into the proposed quarry site (refer to those roads shown by green could on the attached diagram). Given the level of construction, quarry and other public usage of these roads, it is not considered appropriate for these roads to remain under LPMA control.

These roads should be transferred to the control of Goulburn Mulwaree Council pursuant to Section 151 of the Roads Act 1993. A fee of \$200 is required (together with Council's concurrence) to instigate the transfer to Council.

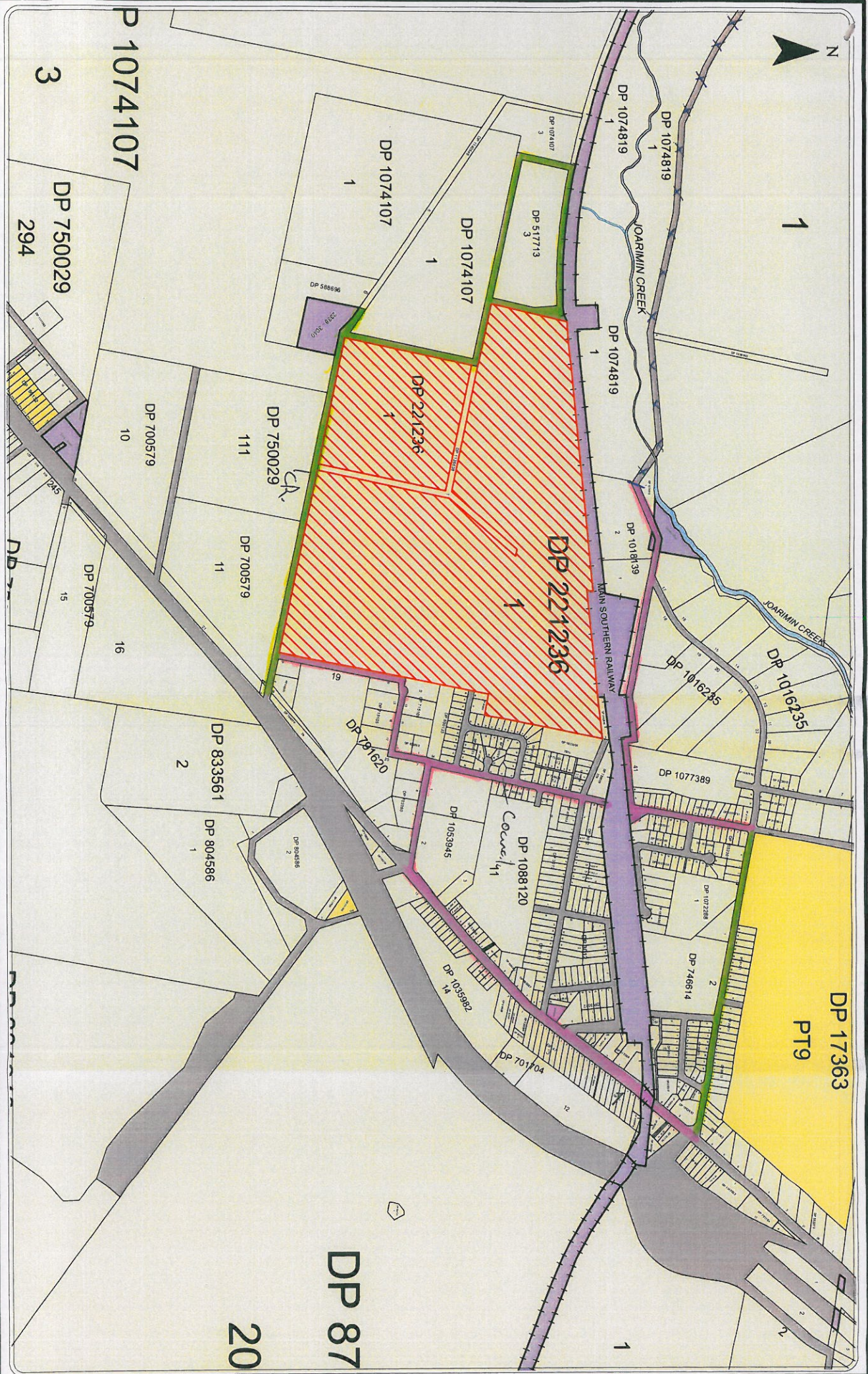
If you have any queries in relation to any matter raised please do not hesitate to give me a call on (02) 4824-3714.

Yours faithfully,



28/10/10

John Flarrey
Program Manager, Goulburn



DISCLAIMER
 The Crown Information shown has not been
 validated and Crown errors are possible.
 Validated and Crown errors are possible.
 made through the Land NSW office displayed.
 This is a diagrammatic representation only.

Printed By: John Flarrelly
Date Printed: 14/10/2010
Land NSW Office: GOULBURN
Telephone: (02) 4824 3700

Scale 1:15,000
 120 0 120 240 360
 Metres

PARISH: MARULAN
COUNTY: ARGYLE
LGA: GOULBURN MULWAREE
SUBURB: MARULAN



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