



# Lynwood Quarry Proposal

## Environmental Studies Overview

MARCH 2005

Readymix Holdings Pty Ltd proposes to establish a major hard rock quarry on their land to the west of Marulan to provide high quality construction grade rock suitable for road, construction and building projects.

In November 2004, following consultation with over 200 residents in Marulan, a number of community issues were identified relating to the proposal (Community Information Sheet No.2).

The purpose of this information sheet is to summarise the key findings of the environmental studies undertaken as part of the Environmental Impact Statement (EIS) for the project. These studies have been undertaken by Umwelt (Australia) Pty Limited, specialised environmental consultants.

COMMUNITY INFORMATION SHEET NO.3

## KEY FEATURES OF THE PROPOSED LYNWOOD QUARRY

Details of the proposed Lynwood Quarry were included in our first community information sheet (No.1) which was sent to all local residents in August/September 2004.

Since this time, the project design has been refined taking into account a range of factors, including the findings of the environmental impact assessment and issues raised by the community during the consultation program.

The key features to date of the refined Lynwood Quarry proposal and the layout of the quarry are outlined in the map on page 2.

### Key features

- Approval is being sought for an initial minimum 30 year quarry life. Readymix is likely to continue quarrying at the site beyond this 30 year period, but the company would need to seek future approvals to extend the quarry life.
- Production of up to 5 million tonnes per annum (Mtpa) of hard rock products.
- Approval to transport up to 5 Mtpa from the site by rail – between 4 and 5 trains per day.
- Approval to transport up to 1.5 Mtpa of the 5 Mtpa from the site by road for delivery to local and regional markets.

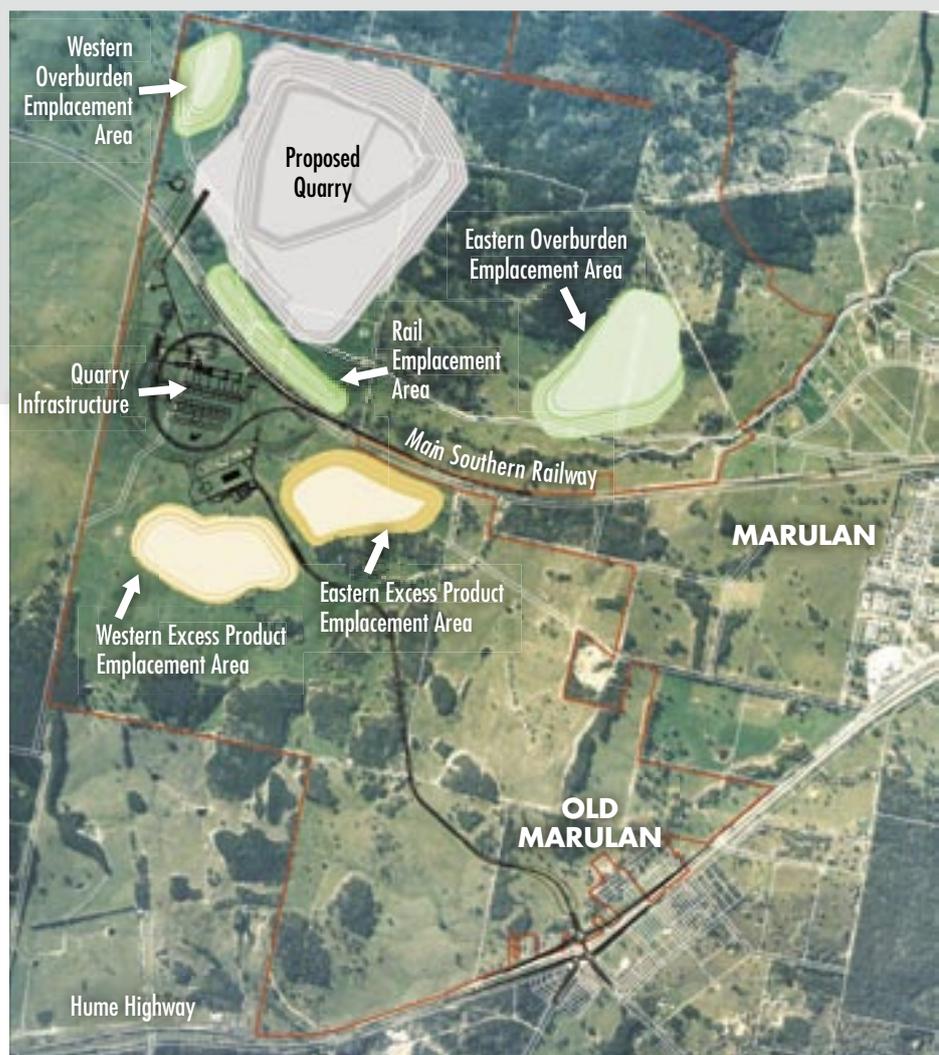


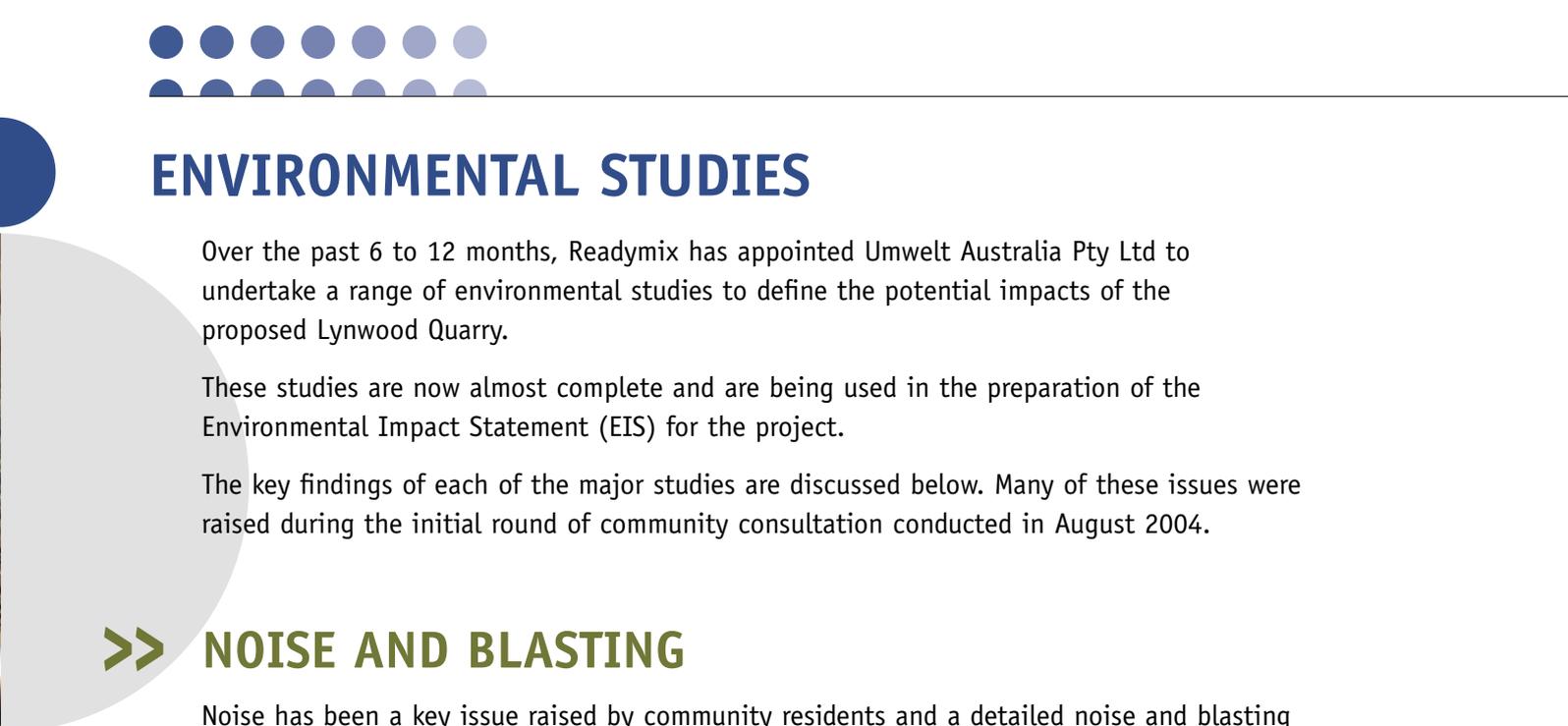
- Key infrastructure to be established for the quarry will include:
  - a modern three phase crushing and screening plant which will be enclosed and have a dust extraction system;
  - a balloon rail loop and rail loading facility for loading product onto trains;
  - a truck loading facility for loading product into road haulage trucks;
  - an access road linking directly with the Hume Highway via an intersection proposed to be constructed at one of two locations south of Marulan. The final location will be determined in consultation with the RTA;
  - various other infrastructure including a pre-coat plant, workshop, laboratory, office buildings, truck wash station, weighbridge and other minor infrastructure.
- Hours of operation will vary for different quarry activities: drilling and overburden removal will occur during daytime hours only; quarrying during daytime and evening periods; and crushing, screening and product loading undertaken 24 hours per day.
- The quarry is expected to employ approximately 80 people at full production, approximately 15 of which are likely to be full-time contractor positions. There will be additional contract workers required for activities including maintenance and product haulage.

As this is a new quarry, there will also need to be substantial construction works undertaken prior to the commencement of quarrying. The key features of the construction phase are outlined below.

Key features of the construction phase:

- the construction phase will last for approximately 2 years;
- construction phase employment will peak at approximately 140 personnel;
- prior to the completion of the interchange and access road, construction access will be through the Marulan light industrial area (via Wilson Drive).





# ENVIRONMENTAL STUDIES

Over the past 6 to 12 months, Readymix has appointed Umwelt Australia Pty Ltd to undertake a range of environmental studies to define the potential impacts of the proposed Lynwood Quarry.

These studies are now almost complete and are being used in the preparation of the Environmental Impact Statement (EIS) for the project.

The key findings of each of the major studies are discussed below. Many of these issues were raised during the initial round of community consultation conducted in August 2004.

## >> NOISE AND BLASTING

Noise has been a key issue raised by community residents and a detailed noise and blasting assessment was undertaken for the proposed quarry to assess the potential impacts of noise, ground vibration and air-blast on surrounding residences.

### Noise – key findings

- A survey of existing noise levels was undertaken on and around the project area. This existing noise level information was used to determine the noise goals for the project – the noise goals are set in accordance with the NSW Department of Environment and Conservation (DEC) guidelines.
- Initial modelling was undertaken early in the design phase to identify possible noisy parts of the operation and based on this modelling numerous noise controls have been included in the project design. Some of these controls include:
  - Enclosing all sections of the crushing and screening plant located above ground.
  - The operation of much of the mobile equipment in daytime hours only.
  - Lining of the truck and train loading bins to reduce noise during loading.
  - Noise attenuation work will be undertaken on the trucks working on the eastern overburden emplacement area; and
  - Restriction on the number of night-time truck deliveries.
- The modelling results indicate that with these controls in place, the proposal will meet the relevant noise goals at all surrounding residences.
- Noise modelling of the construction phase was also undertaken and again indicated that noise goals will be met at all residences.
- The assessment also specifically considered noise impacts associated with rail and road haulage of product and found that the proposal's additional trains and trucks would make insignificant contributions to the existing noise levels along the transport routes.

## >> **Blasting – key findings**

- A detailed blasting impact assessment was undertaken to assess potential ground vibration and air blast impacts on all residential locations and infrastructure.
- The assessment compared predicted levels with the relevant ground vibration and air blast limits for private residences.
- The assessment found that predicted ground vibration and air blast levels from the proposed quarry will be within the limits for all surrounding residences and below the level which may impact on surrounding infrastructure.

**In summary, the noise and blasting assessment found that with management controls in place, noise and blasting limits will be met at all surrounding residences.**

## >> **TRANSPORT**

Transport was a further issue raised by community residents in relation to the quarry proposal. Impacts can be divided into three key sections, these are: rail transport; construction traffic; and operational traffic. These issues are discussed further below.

### **Rail transport – key findings**

- The Main Southern Railway has sufficient capacity for the additional trains proposed by this development.

### **Construction traffic – key findings**

- Construction access will be through the Marulan light industrial area.
- Readymix will hold further discussions with Council about the use and condition of the roads planned for construction access.

### **Operational traffic – key findings**

- Construction of the major interchange on the Hume Highway allows direct access from the quarry onto the Highway preventing operational traffic impacts on Marulan. The intersection has been designed to comply with the RTA's requirements ensuring safety for road users.



## >> AIR QUALITY

An air quality assessment has been undertaken to assess potential dust impacts associated with the proposed quarry. Once again, this was a key issue raised by local residents during the consultation process.

### Key findings

- A dust monitoring network was established early in the project to measure existing dust levels in the vicinity of the proposed quarry. This included both depositional dust (dust which settles onto the ground) and fine dust which remains suspended in the air.
- A detailed dust model was developed to determine the potential dust impacts associated with the quarry. The model included a range of dust controls which were built into the project design including:
  - Enclosure of the crushing and screening plant and installation of a dust extraction system;
  - Covering of all conveyors;
  - Installation of water sprays on some stockpiles;
  - Watering of haul roads to reduce dust; and
  - Timely rehabilitation of disturbed areas.
- The predicted dust impacts were compared to DEC specified dust limits. These criteria are designed to ensure that projects don't impact on either health or public amenity (i.e. don't create nuisance dust).

**In summary, the air quality assessment found that with management controls in place, dust limits will be met at all surrounding residences.**



## >> VISUAL

A visual assessment has been undertaken to determine the impact of the proposed quarry on the visual amenity of the area.

### Key findings

- Views of the quarry pit and quarry infrastructure are only expected to be possible from one residence to the south of the quarry. This residence will also have views of overburden and excess product emplacement areas. Readymix will discuss management of these impacts with this resident.
- The tops of the overburden emplacement areas and excess product emplacement areas will be visible from a number of residences to the east of the quarry (potentially including residences on the western edge of Marulan), however, these views will be partially screened by existing vegetation.
- The emplacement areas will be rehabilitated in a timely manner so that the visual impacts associated with their establishment are as short-term as possible.
- In addition to timely rehabilitation, Readymix also propose to plant trees in specific locations to assist in screening views of the emplacement areas.

**In summary, elevated sections of the proposed quarry emplacement areas will be visible from residences to the east of the quarry, including residences on the edge of Marulan, however, significant views of the quarry will be limited to an isolated residence.**



## >> WATER MANAGEMENT

Assessments of the potential impacts of the quarry on both surface water and groundwater have been undertaken. Of particular concern to the community is the supply of water for production and dust suppression and the impact on the local water supply. The key findings are discussed below.

### Groundwater – key findings

- There will be minimal groundwater inflow into the quarry pit.
- Groundwater drawdown effects associated with the quarry will be limited to the area surrounding the quarry and will not therefore impact on any surrounding groundwater bores.

### Surface water – key findings

- The quarry has been designed to ensure that clean runoff is separated from runoff from disturbed quarry and infrastructure areas. Sediment and erosion controls have been designed to ensure any runoff from disturbed areas is appropriately treated.
- No groundwater or water from the infrastructure areas or quarry pit will be allowed to discharge from the site. This water will be captured and used on-site in the crushing and screening plant and for dust suppression.

**In summary, the quarry design maximises water efficiency and reuse, with other water supply options currently being investigated by Readymix to provide security of supply.**



## >> ECOLOGY

During the consultation process, residents raised the issue of clearing land for development of the quarry and the impacts on local flora and fauna. The ecology study was undertaken to assess the impact of the proposed quarry on native flora and fauna.

### Key findings

- Much of the study area has been cleared, however, areas of woodland and dry forest vegetation remain, particularly to the north of the Main Southern Railway.
- Five threatened fauna species were recoded at the site, including one glider, one woodland bird and three insectivorous bats.
- No threatened flora species were recorded.
- An assessment of the potential impact of the project on the threatened fauna species recorded indicated that the local populations were unlikely to be significantly impacted. However, a range of management measures will be put in place to further reduce potential impacts.
- Management measures proposed include:
  - All vegetation not required to be disturbed for the initial quarry life will be retained and protected;
  - A flora and fauna management area will be established;
  - Riparian corridor areas will be protected and enhanced through natural and assisted regeneration; and
  - Readymix proposes to plant additional vegetation aiming to provide connections between existing areas of native vegetation.



**In summary, with the proposed management measures in place, the proposed quarry is considered unlikely to significantly impact on locally occurring threatened flora and fauna species.**



## >> ABORIGINAL ARCHAEOLOGY

The Aboriginal Archaeology study was undertaken to identify and assess the nature and significance of Aboriginal cultural heritage within the study area. The study was undertaken in conjunction with the Pejar Local Aboriginal Land Council and the Gundungurra Tribal Council Aboriginal Corporation who are representatives of the local Aboriginal community.

### Key findings

- A total of 52 previously unrecorded Aboriginal heritage sites were located during the study. Of these, 31 were artefact scatters; 12 were isolated finds (single artefacts); seven were scarred trees and two were stone arrangements.
- Of the sites recorded in the study area, several will be need to be disturbed for the proposed quarry and associated infrastructure. The remaining sites will be protected including the formation of an Aboriginal Cultural Heritage Management Area.
- Permits for the destruction of the sites within the quarry footprint will be required from the NSW DEC.

**In summary, the proposed quarry will impact on a number of Aboriginal heritage sites, however, the majority of sites will be protected.**



## >> HISTORIC HERITAGE

The Historic Heritage study was undertaken to identify any items of European heritage within the study area and to assess the potential impacts of the proposed quarry on these items.

### Key findings

- A section of the Readymix land adjacent to the Hume Highway was formerly part of the old Marulan township and is listed on the State Heritage Register (SHR).
- In addition to the SHR area, the study located another eight historic heritage sites within the study area.
- Up to four of these sites plus a section of the SHR area may be impacted by the proposed quarry and permits to impact these sites will be required from the NSW Heritage Office.

**In summary, the proposed quarry will impact on several historic heritage sites and a section of the old Marulan township SHR area and will require specific approvals to undertake works in these areas.**

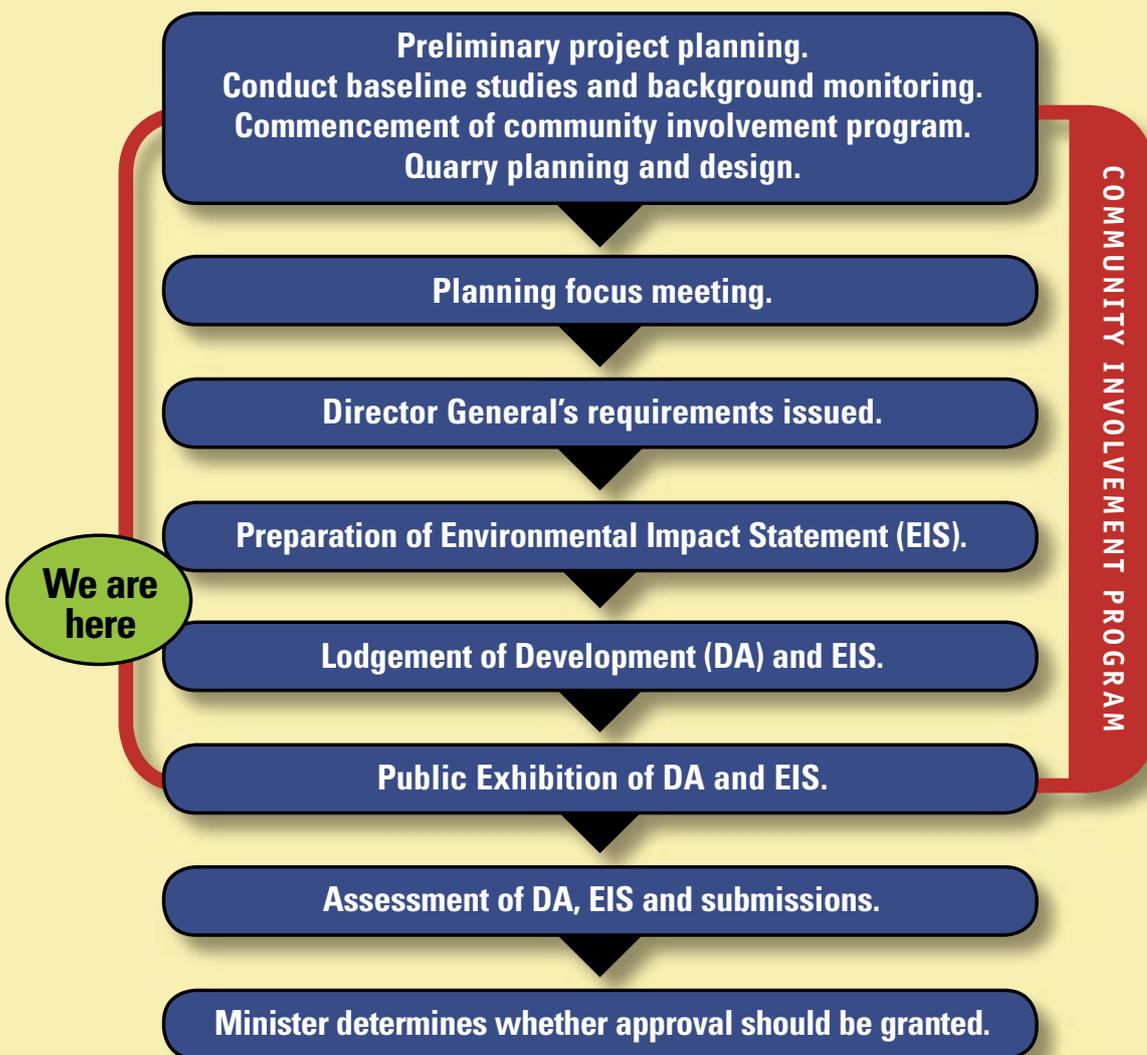


# WHERE TO FROM HERE?

Given that the environmental studies are nearing completion, the environmental impact statement is in the process of being finalised. However, prior to finalisation, further consultation is being undertaken with residents in the Marulan township. This is involving personal meetings with residents and key stakeholder groups and an information day on the project, which is being held on Saturday 12th March in the Marulan Public Hall in George Street, Marulan (adjacent to the Post Office).

Information and feedback collected as part of the consultation program will also be reported in the Social Impact Assessment, as part of the Environmental Impact Statement (EIS). This section will outline the likely social and economic impacts of the project on the community and will discuss the issues raised by residents during the consultation process.

However this is not the only opportunity for further input, community residents will be able to provide comments on the proposal once the Environmental Impact Statement (EIS) has been submitted to government as part of the formal public exhibition phase (see the chart below).





## >> FURTHER INFORMATION

If you would like to obtain further information on any of the environmental studies or on the proposal generally, please don't hesitate to contact:

Jacqueline Stokes	Coakes Consulting	0417 454 727
Mike Heath	Readymix	0438 243 054



Facilitated by



PO Box 30  
Bowral NSW 2576  
Telephone 02 4862 3936  
Facsimile 02 4862 3936

## Readymix™

**Mike Heath** – Project Manager  
Readymix Holdings Pty Ltd  
Tower B, Level 8  
799 Pacific Highway  
Chatswood NSW 2067  
Phone 02 9412 6600  
Fax 02 9412 6650  
Mobile 0438 243 054