



MAJOR PROJECT ASSESSMENT
New Berrima Shale Quarry
Project (08_0212)



Director-General's
Environmental Assessment Report
Section 75I of the
Environmental Planning and Assessment Act 1979

July 2012

Cover Photo: Aerial view of the 'Mandurama' Property

© Crown copyright 2012

Published July 2012

NSW Department of Planning & Infrastructure

www.planning.nsw.gov.au

Disclaimer:

While every reasonable effort has been made to ensure that this document is correct at the time of publication, the State of New South Wales, its agents and employees, disclaim any and all liability to any person in respect of anything or the consequences of anything done or omitted to be done in reliance upon the whole or any part of this document.

EXECUTIVE SUMMARY

The Austral Brick Company Pty Ltd (Austral) proposes to establish a shale quarry approximately 1.5 kilometres east of New Berrima within the Southern Highlands of NSW.

The Project - known as the New Berrima Shale Quarry Project - would produce up to 150,000 tonnes of extractive material per year for up to 30 years, which would be transported 23 kilometres by truck to the existing Bowral Brick Plant for processing. The Project seeks approval for a maximum of 136 truck loads per day to account for transport scheduling around bad weather. The Project has a capital investment value of \$1 million, and would generate 5 part-time jobs during operation.

The Department exhibited the Environmental Assessment (EA) of the Project between 15 December 2010 and 7 February 2011. The Department received eight submissions on the Project, including six from public agencies and two from the public. While none of the public agencies objected to the Project, some raised concerns about traffic, surface and groundwater, and provided recommended approval conditions. The public submissions objected to potential impacts on air quality, noise, water, traffic, biodiversity and visual amenity.

The Department's assessment has found that the Project would not result in significant air quality, noise, water, traffic, biodiversity and visual impacts. However, to ensure any potential residual impacts are suitably mitigated, managed and/or offset, the Department has recommended a range of approval conditions, which require Austral to:

- implement measures to minimise air quality, noise, water, traffic and visual impacts;
- progressively rehabilitate the site;
- pay Wingecarribee Shire Council an agreed annual contribution toward road maintenance;
- monitor and regularly report on environmental performance; and
- commission independent audits of operations, to ensure compliance with approval conditions and to ensure implementation of best-practice environmental management.

The New Berrima Clay/Shale Quarry, if approved, would be able to provide the bulk of the brick manufacturing raw materials required for the ongoing operation of the existing Bowral Brick Plant, which is the company's only dry-press brick manufacturing plant in NSW. The main raw material used in the manufacture of the dry-pressed bricks at the plant is Ashfield Shale, which is currently extracted from a quarry adjacent to the plant. However, the remaining sources at this quarry are likely to be exhausted within five years. This Project would not only create new jobs at the quarry but also provide for continued employment at the Bowral Brick Plant.

The Project addresses the 'NSW 2021' goal of driving economic investment in regional NSW, as it would attract \$1 million worth of capital investment in the region and create up to 5 part-time operational jobs for a period of up to 30 years.

The Department is satisfied that the Project would provide economic and social benefits to both the region and NSW, including:

- employment for up to 5 part-time employees during operation of the proposed quarry;
- beneficial use of a natural resource;
- continuation of the employment of 38 full-time employees at the existing Bowral Brick Plant;
- a capital investment of \$1 million; and
- ongoing supply of dry pressed bricks throughout NSW.

The Department is also satisfied that the Project's impacts can be effectively mitigated and managed to ensure an acceptable level of environmental performance. Overall, the Department considers the benefits of the Project outweigh the costs, and the Project is in the public interest. The Department recommends that the Project be approved subject to strict conditions, which address quarrying operations, on-going environmental monitoring and management, rehabilitation, compliance, community consultation, independent reviews and performance audits.

1 PROPOSED PROJECT

1.1 Project background

The Austral Brick Company Pty Ltd proposes to establish a shale quarry on "Mandurama", a property in the Southern Highlands near New Berrima (see **Figure 1** below). The shale is intended to be used to manufacture architectural dress-bricks in the Bowral Brick Plant. The proposed quarry would continue shale supply to the brick plant once its on-site quarry closes in 5 years. The proposal involves quarrying up to 150,000 tonnes per year for up to 30 years. The shale would be transported 23 kilometres by trucks to the Bowral Brick Plant. The proposal has a capital investment value of \$1 million, and would create 5 part-time operational jobs.

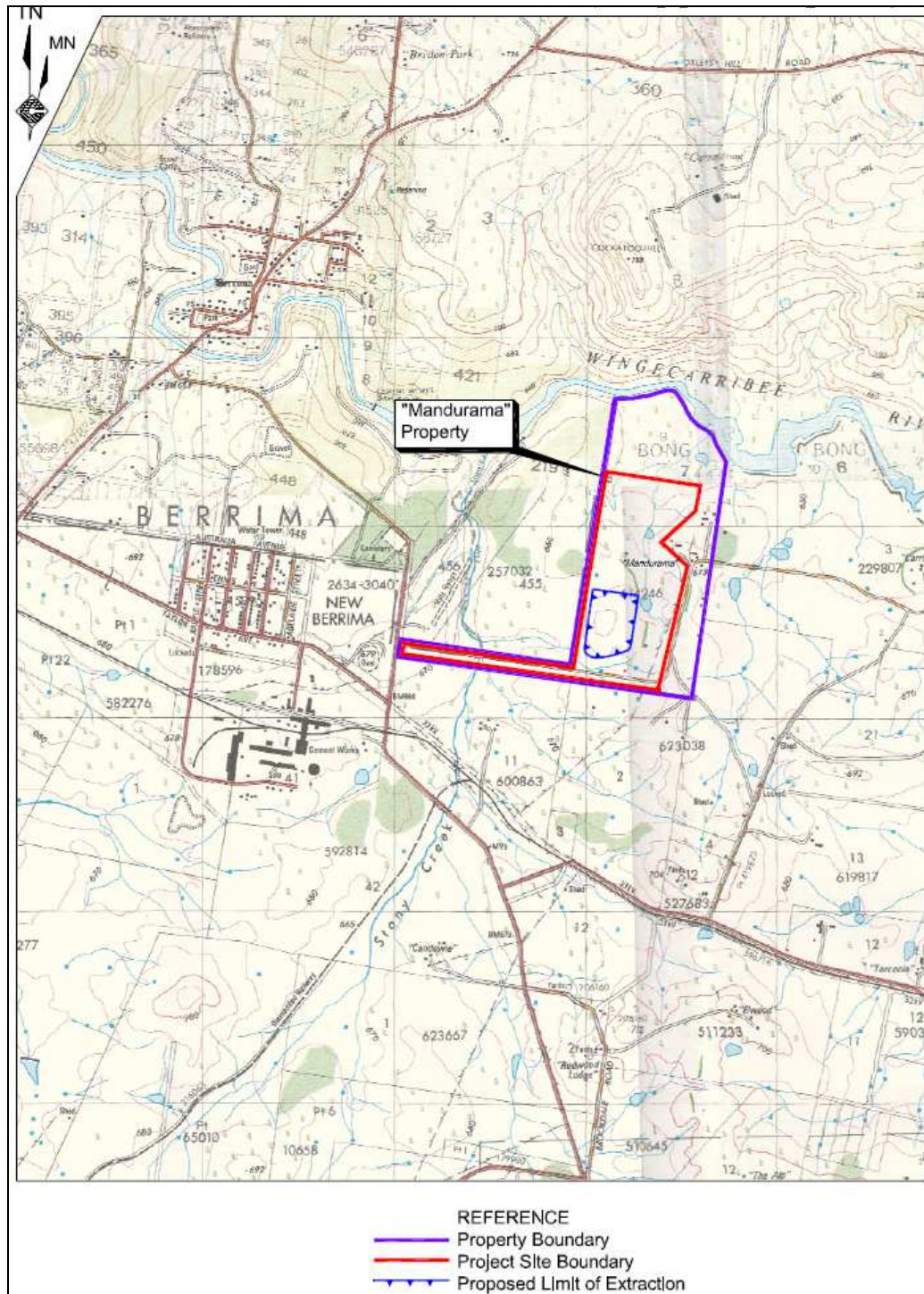


Figure 1 - Locality map

1.2 Site description and surrounding land uses

The Project site is an agricultural property 1.5-kilometres east of New Berrima. It is 51 hectares with undulating topography and few trees. Vehicular access is via a battle-axe driveway off Berrima Road, about 300-meters north of the Berrima Road/Tyler Avenue junction. Stony Creek passes under an existing bridge in the battle-axe driveway. The Wingecarribee River adjoins the northern boundary, although the proposed quarry is setback 730 metres from the river bank. There are several drainage depressions traversing the site and five farm dams, which are currently used for watering livestock.

The site is zoned 'Environment Management' and it lies immediately north of the "Moss Vale Industrial Corridor", an extensive tract of largely undeveloped land between New Berrima and Moss Vale that was zoned for industrial uses in 2008. Land to the west of the site is a Crown Reserve and zoned 'Environment Conservation' although it appears to be used in part for agriculture (possibly under a Crown lease). Land to the east and south is privately owned and under agricultural use. The nearest residence is a rural dwelling, 700 metres to the south west. Nearby industries include the Ingham Stock-Feed Processing Plant (1.8 kilometers to the south), Boral Cement Works (2.3 kilometers to the west-southwest) and the Bowral Brick Plant (5 kilometers to the north-east).

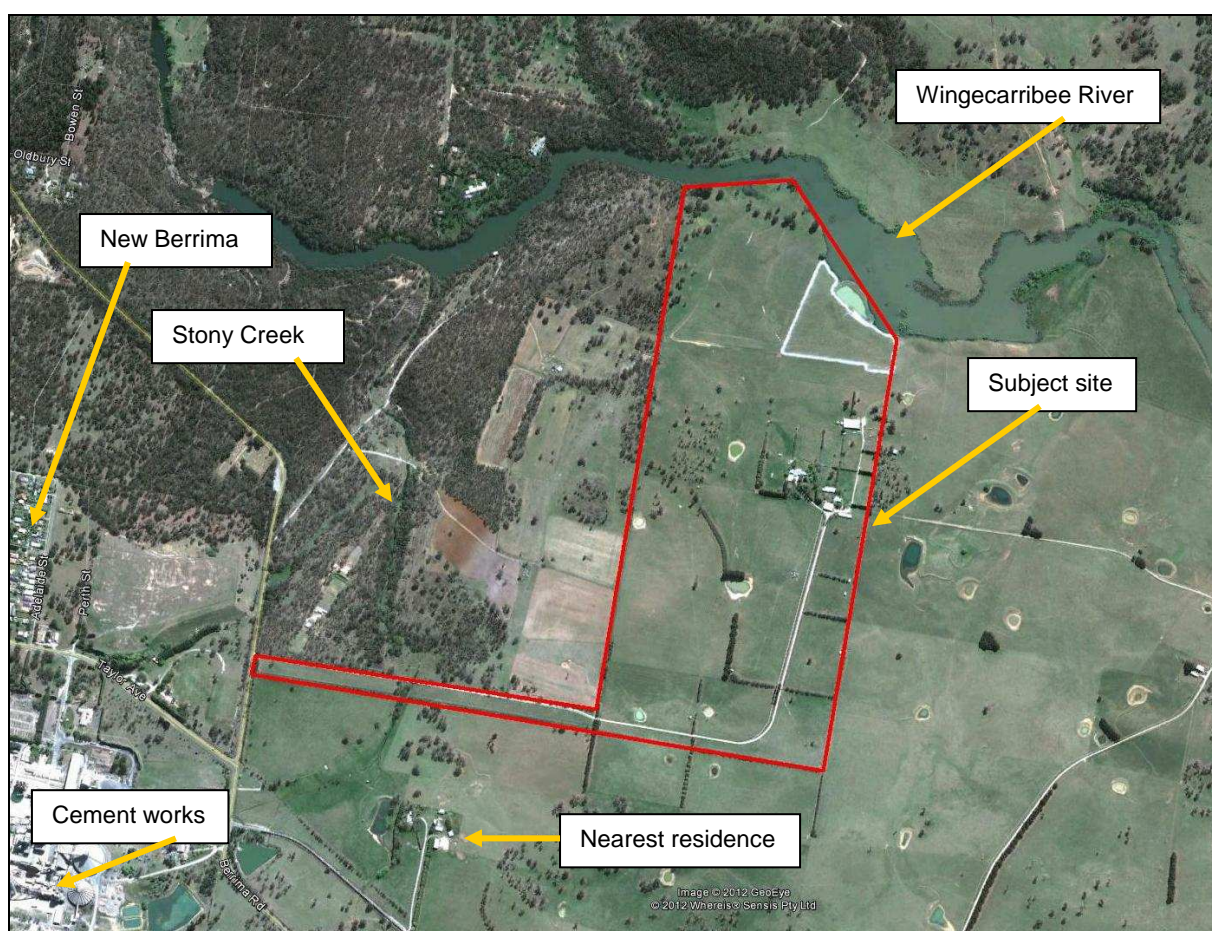


Figure 2 - Aerial photograph of the site

1.3 Project description

Shale extraction would take place in six stages. The first three stages in the south of the extraction area would take 18 years. The final three stages in the north of the extraction area would proceed from year 19 to year 30. Extraction would involve two to three campaigns per year, with each campaign being four to six weeks long. Up to 60,000 tonnes of shale would be stockpiled to a height of 4.5m during each campaign. The shale would be transported 23 kilometres by road in 34 (one-way) truck movements per day (on average) to the Bowral Brick Plant. The Project seeks approval for a maximum of 136 (one way) truck movements per day to account for transport scheduling around bad weather. Transport would be year-round and not on a campaign basis.

The key components of the Project are summarised in **Table 1** below (as modified by the Department's recommended conditions) and depicted in **Figure 3** on page 4, **Figure 4** on page 5 and

Figure 5 on page 6. The Project is described in detail in Austral's Environmental Assessment (EA), which is attached as **Appendix C**).

Table 1 - Key Components of the New Berrima Shale Quarry Project

Aspect	Summary	
<i>Project Summary</i>	Construction and operation of a shale quarry involving: <ul style="list-style-type: none"> staged extraction of up to 150,000 tonnes of shale/year for up to 30 years; and transporting shale from the site via road to the existing Bowral Brick Plant. 	
<i>Total Site Area</i>	51 hectares	
<i>Extraction Area</i>	7.7 hectares	
<i>Extraction Resource</i>	3.6 million tonnes	
<i>Extraction Method</i>	Extraction with the use of scraper, bulldozer, haul-truck and front-end loader.	
<i>Extraction Set Back</i>	The extraction area is set back about 730m from the Wingecarribee River.	
<i>Extraction Depth</i>	To RL 645 (35 meters maximum).	
<i>Amenity bund height</i>	7 metres above natural ground level.	
<i>Stockpile height</i>	Up to 4.5 metres above quarry floor.	
<i>Proposed Infrastructure</i>	<ul style="list-style-type: none"> a storage and workshop area located within a shipping container; a transportable lunchroom/amenities building; three perimeter amenity bunds to the north, west and south; a water management system; use of the existing site access road and bridge over stony creek a new intersection to allow site access from Berrima Road; and ancillary infrastructure, including soil stockpiles, internal roads and tracks and surface water management structures. 	
<i>Water Demand and Supply</i>	8.05 mega-litres per year for dust suppression and machinery wash-down. Sourced from surface water from harvestable rights storage dams.	
<i>Traffic generation</i>	<ul style="list-style-type: none"> 34 one-way heavy vehicles per day on average; and 136 one-way heavy vehicles per day maximum (following bad weather). 	
<i>Hours of Operation</i>	Operation, vegetation clearing, topsoil stripping and rehabilitation	7am-5pm Monday to Friday; and 8am-1pm on Saturday
	Transport	7am-4pm Monday to Friday; and 8am-1pm Saturday
<i>Rehabilitation and Final Landform</i>	The site will be progressively rehabilitated and the final void will be returned to agricultural uses (ie grazing land). Constructed amenity bunds will remain in-situ.	
<i>Employment</i>	5 part-time operational employees.	
<i>Capital Investment</i>	\$1 million.	

1.4 Haul route description

All trucks would exit the Project Site and turn left on to Berrima Road and turn right on to Taylor Avenue before following the existing heavy vehicle route through New Berrima to the Hume Freeway. Once off the freeway, trucks would follow the existing heavy vehicle route through Mittagong and Bowral to the Bowral Brick Plant. Trucks returning to the Project Site would travel this route in reverse. The haul route is 23 kilometres. Berrima Road to the north of the site is a shorter route but cannot be used because it has a 10 tonne load limit. **Figure 6** on page 12 shows the proposed haul route.

1.5 Project need

Austral owns and operates the Bowral Brick Plant, which is the company's only dry-press brick manufacturing plant in NSW. The main raw material used in the manufacture of the dry-pressed bricks at the plant is Ashfield Shale, which is currently extracted from a quarry adjacent to the plant. However, the remaining sources at this quarry are likely to be exhausted within five years. The New Berrima Shale Quarry, if approved, would be able to provide the bulk of the raw materials required for the ongoing operation of the existing Bowral Brick Plant. This would not only create jobs at the new quarry but also provide for continued employment at the Bowral Brick Plant.

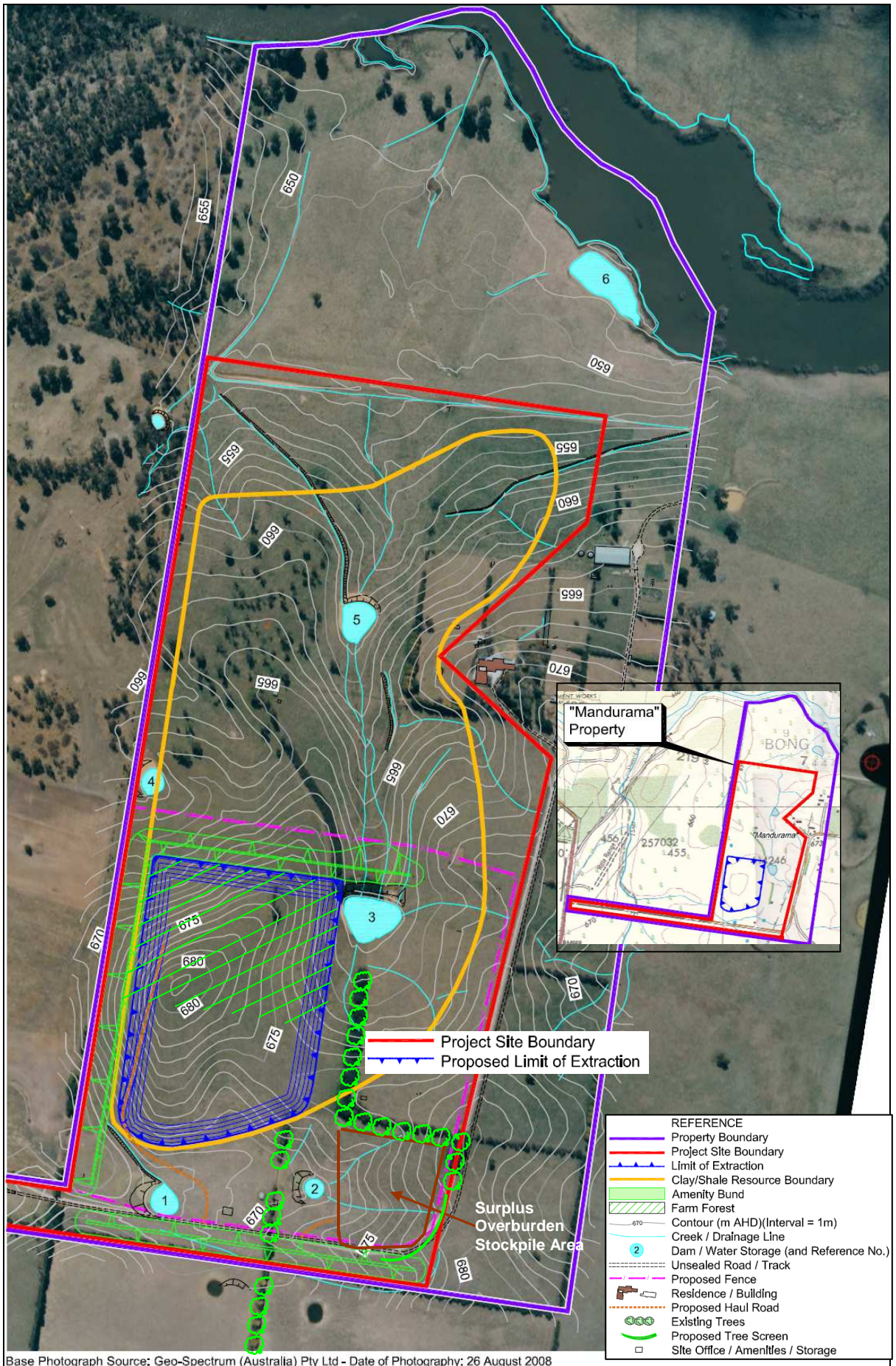


Figure 3 - Project Site Layout

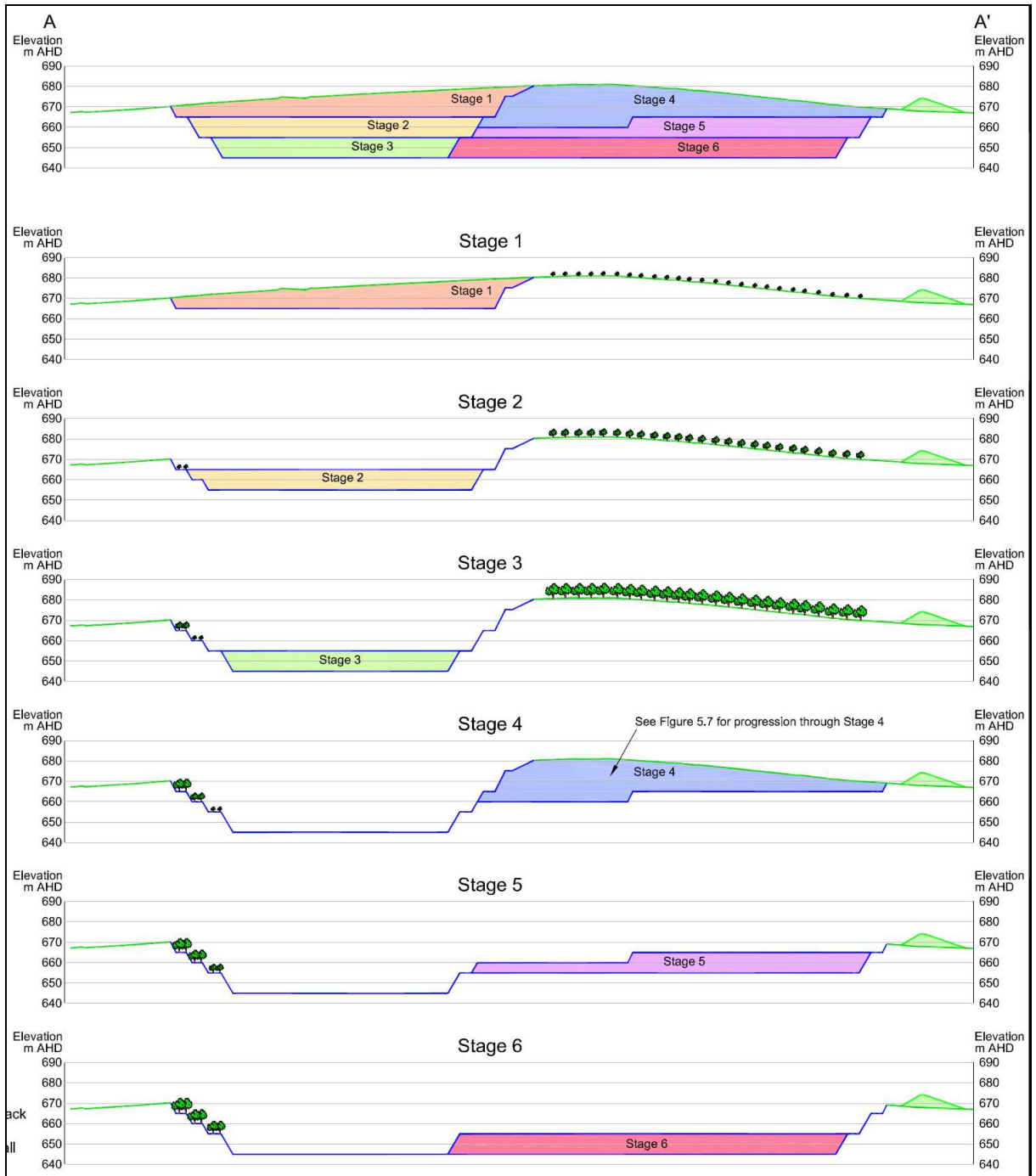


Figure 4 - Operational Stages (cross-sections)

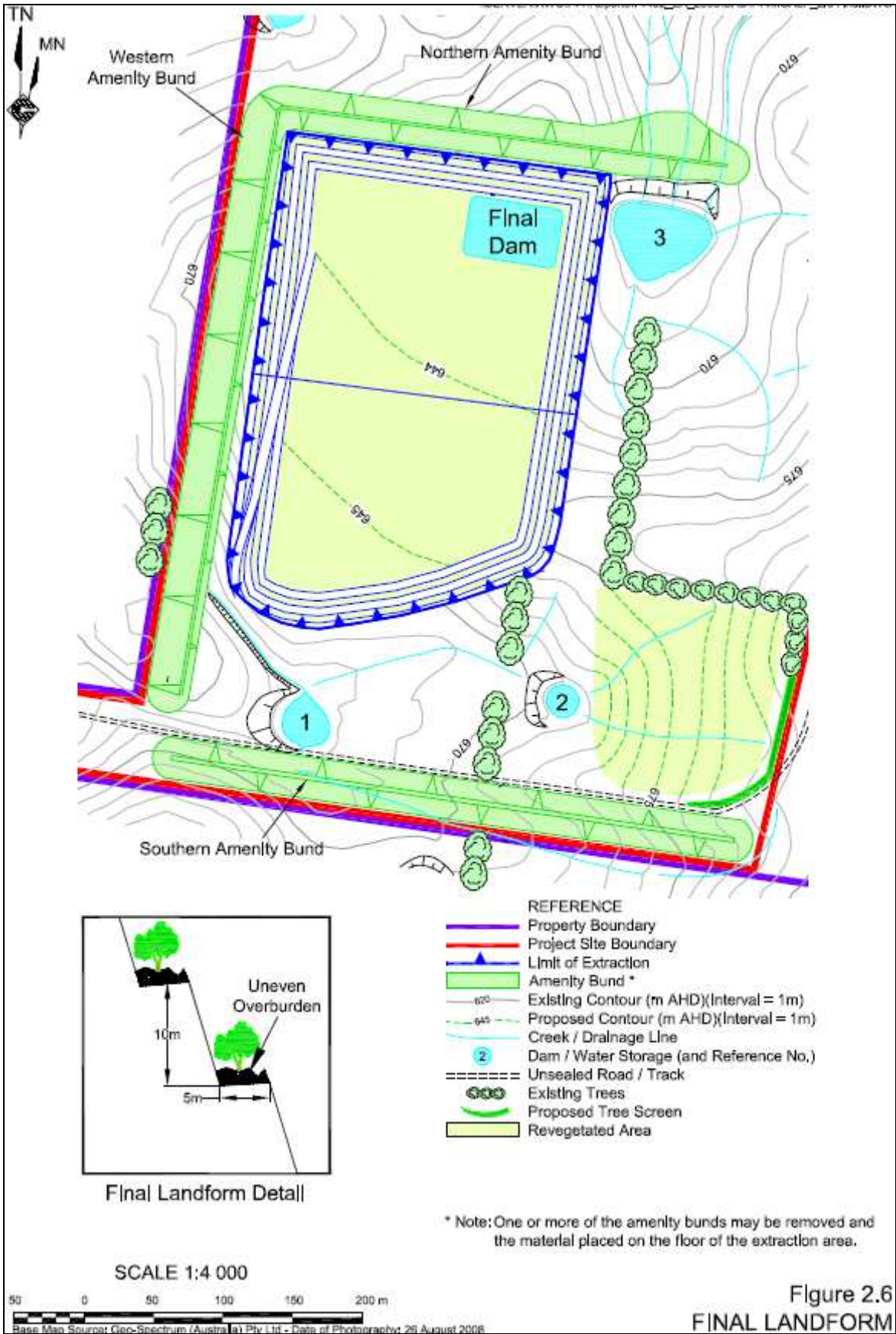


Figure 5 - Proposed final landform

2 STATUTORY CONTEXT

2.1 Major Project

The proposal is classified as a transitional Major Project under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act), because it is development for the purpose of an extractive industry that would extract from a total resource of more than 5 million tonnes and therefore triggers the criteria in Clause 7 of Schedule 1 of State Environmental Planning Policy (Major Development) 2005.

Part 3A of the EP&A Act 1979, as in force immediately before its repeal on 1 October 2011 and as modified by Schedule 6A to the Act, continues to apply to transitional Part 3A Projects. Director-General's environmental assessment requirements (DGRs) have been issued in respect of this Project and the environmental assessment report was lodged prior to the repeal of Part 3A on 1 October 2011. The Project is therefore a transitional Part 3A Project.

Consequently, this report has been prepared in accordance with the requirements of Part 3A and associated regulations, and the Minister (or his delegate) may approve or disapprove of the carrying out of the Project under section 75J of the Act.

The Minister has delegated his functions to determine Part 3A applications to the Department where:

- the Council has not made an objection;
- there are less than 25 public submissions objecting to the proposal; and
- a political disclosure statement has not been made in relation to the application.

There are two submissions from the public and although Council has made a number of submissions requesting additional information, Council has no formal objection to the Project. There has been no political disclosure statement made by the Proponent for this application or for any previous related applications, and no disclosures made by any persons who have lodged an objection to this application.

Accordingly, the application is able to be determined by the Deputy Director-General under delegation.

2.2 Other approvals

Section 75U of the EP&A Act provides that a number of other statutory approvals are integrated into the Part 3A assessment and approval process, and are therefore not required to be separately obtained for the Project. One of these approvals is water-related approvals under the *Water Management Act 2000*.

Under Section 75V of the EP&A Act, a number of other approvals are required to be obtained, but these approvals cannot be refused and must be "substantially consistent with" any Part 3A approval for the Project. These include:

- a road permit under the *Roads Act 1993*; and
- an Environment Protection Licence under the *Protection of the Environment Operations Act 1997*.

The Department has consulted with the relevant government authorities responsible for these other approvals (see Section 3.1 on page 9), and considered the relevant issues relating to these approvals in its assessment of the Project. None of the agencies object to the Project on grounds related to these other approvals.

2.3 Permissibility

Under Section 75J of the EP&A Act, the Minister or his delegate cannot approve the carrying out of a project that would be wholly prohibited under an environmental planning instrument.

The site is predominantly zoned E3 Environmental Management under the *Wingecarribee Local Environmental Plan 2010*. A small portion of the lot (adjacent the Wingecarribee River) is zoned E3 Environment Protection, however, the project is not located in this zone. Extractive industry development is not listed as a use that is permissible with consent in the E3 zone, and is therefore prohibited development in the E3 zone.

Notwithstanding this prohibition, Clause 7(3)(a) of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* makes extractive industry development permissible with consent in the E3 zone (as agriculture is permissible in the zone). Further, the Department has considered the Objectives of the zone including the objective to “provide for a range of development and land use activities that provide for rural settlement....and other types of economic and employment development”. The Department considers the proposal to be generally consistent with the objectives of the zone. Consequently, the Project as a whole is permissible with consent on the site. Consequently, the Minister or his delegate may approve the Project.

2.4 Exhibition and notification

Under Section 75H(3) of the EP&A Act, the Director-General is required to make the Environmental Assessment (EA) for the Project publicly available for at least 30 days. After accepting the EA for the Project, the Department:

- made the EA publicly available from 15 December 2010 until 7 February 2011:
 - on the Department’s website;
 - at the Department’s Information Centre, Wingecarribee Shire Council’s office; and
 - the office of Nature Conservation Council’s office;
- notified relevant State government authorities and Wingecarribee Shire Council by letter; and
- advertised the exhibition in the Bowral Highlands Post and Southern Highland News newspaper.

This satisfies the requirements of Section 75H(3) of the EP&A Act.

2.5 Environmental Planning Instruments

Under Section 75I of the EP&A Act, the Director-General’s report is required to include a copy of, or reference to, the provisions of environmental planning instruments that substantially govern the carrying out of the Project.

In relation to this particular Project, the key EPIs that potentially govern the Project are:

- SEPP (Mining, Petroleum Production and Extractive Industries) 2007
- SEPP (Infrastructure) 2007
- SEPP (Sydney Drinking Water Catchment) 2011
- SEPP No. 33 – Hazardous and Offensive Development
- SEPP No. 44 – Koala Habitat Protection
- SEPP No. 55 – Remediation of Land
- Wingecarribee LEP 1989

The Department has assessed the Project against the relevant instruments and considers:

- the Project can be managed in a manner that is generally consistent with the aims, objectives and provisions of SEPP (Mining, Petroleum Production and Extractive Industries) 2007 in relation to compatibility with other land uses; natural resource management, environmental management, resource recovery, transport, and rehabilitation.
- issues raised by the RMS during consultation under SEPP (Infrastructure) 2007 and related traffic impacts are discussed in section 4.1 on page 11.
- the Project would have a neutral effect on water quality and is therefore consistent with the aims, objectives and provisions of SEPP (Sydney Drinking Water Catchment) 2011.
- the proposed extractive industry is not an ‘industry’ to which SEPP No 33 – Hazard and Offensive Development applies;
- the site does not contain any core or potential Koala habitat as defined by SEPP No. 44 – Koala Habitat Protection;
- the site is not contaminated and will not require remediation for the proposed use under SEPP No. 55 – Remediation of Land; and
- the project is generally consistent with the aims and objectives of the Wingecarribee LEP 1989.

2.6 Objects of the *Environmental Planning and Assessment Act 1979*

The Minister should consider the objects of the EP&A Act when making decisions under the Act. The objects of most relevance to the Minister’s decision on whether or not to approve the Project are found in Section 5(a)(i), (ii), (vi) and (vii). They are:

To encourage:

- (i) *the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,*
- (ii) *the promotion and co-ordination of the orderly and economic use and development of land,*
- (vi) *the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats; and*
- (vii) *ecologically sustainable development.*

The Department is satisfied that the Project encourages the proper use of resources (Object 5(a)(i)) and the promotion of orderly and economic use of land (Object 5(a)(ii)), particularly as the site is located close to the existing Bowral Brick Plant, where the extracted shale would be transported for further processing.

The encouragement of environmental protection (Object 5(a)(vi)) is considered in detail in Section 4 of this report. Based on this consideration, the Department is satisfied that the impacts of the Project can be mitigated, managed and/or offset to ensure an acceptable level of environmental performance, and that the Project would maintain the biodiversity values of the locality.

Finally, the Department has fully considered the encouragement of ecologically sustainable development (ESD) (Object 5(a)(vii)) throughout its assessment of the merits of the Project application, and sought to integrate all significant economic and environmental considerations and avoid any serious or irreversible damage to the environment, based on an assessment of risk-weighted consequences. Austral has considered a number of alternatives to the proposed Project (including the alternative of not proceeding) and considered the proposal in the light of the ESD principles. Based on this consideration, the Department is satisfied that the Project can be carried out in a manner that is consistent with the principles of ESD.

2.7 Statement of Compliance

Under Section 75I of the EP&A Act, the Director-General's report is required to include a statement relating to compliance with the environmental assessment requirements issued for the Project. The Department is satisfied that the environmental assessment requirements of the Project have been complied with.

3 ISSUES RAISED IN SUBMISSIONS

The Department exhibited the EA for the Project between 15 December 2010 and 7 February 2011 and received eight submissions on the Project; six from public agencies and two from the public. Full copies of the submissions are attached at **Appendix D**. Austral has provided a formal response to the issues raised in these submissions (see **Appendix E**). A summary of the issues raised in the submissions is provided below.

3.1 Agency Submissions

The **Environment Protection Authority** did not raise any issues, but requested that certain changes be made to the intended statement of commitments and provided recommended licence conditions in relation to the management of air, noise and water quality. These requirements are reflected in the Department's recommended approval conditions.

The **NSW Office of Water** (NOW) did not object to the Project but raised concerns in relation to the adequacy of water supply during periods of prolonged low rainfall and possible groundwater interception during the course of the Project. NOW recommended conditions of approval to manage these issues. The Department has included these approval conditions in the recommendation.

Wingecarribee Shire Council did not object to the Project but raised concerns in relation to the adequacy of the traffic assessment and potential impacts on the proposed transport route. Council recommended a range of conditions in relation to the planning agreement, community consultative

committee, road works and landscape buffers. The Department has included appropriate conditions to address these issues.

The Council requested that Austral dedicate land adjacent to the Wingecarribee River for public reserve. The Department has not included this condition in the recommended approval instrument. This matter is discussed in more detail in Table 3 on page 21.

The Division of Resources and Energy within the Department of Trade and Investment, Regional Infrastructure and Services did not object or raise any concerns about the Project.

The **Sydney Catchment Authority** did not object to the Project but indicated that the EA should have included a more detailed consideration of the *Drinking Water Catchments Regional Environmental Plan No 1* and an assessment of whether the Project has a neutral or beneficial effect on water quality. Additionally, the Authority provided recommended conditions of approval in relation to the Soil and Water Management Plan, Incident Management Plan and Water Quality Monitoring Program. The Department's approval conditions reflect these requirements.

Roads and Maritime Services did not object to the Project but indicated that intersection of Berrima Road and Taylor Avenue may need to be upgraded to support the proposed traffic volume. This matter is addressed in section 4.1 on page 11.

3.2 Public Submissions

Two public submissions were received, both of which opposed the Project. The main grounds for objection were:

- noise impacts from operations and traffic;
- visual impacts on surrounding residences;
- concerns over the potential increases in traffic using the local road network;
- potential impacts on local air quality and health risks with PM10 emissions;
- concerns about the Project's impact on the Wingecarribee River;
- impact on flora and fauna; and
- inadequate consultation with the local community.

All of the issues raised by the community have been considered during the Department's assessment of the Project and where necessary the Department has recommended conditions of approval to address any residual concerns.

3.3 Response to Submissions

Austral has provided responses to the issues raised in submissions (see **Appendix E**) and a revised Statement of Commitments for the Project. The Department has considered all issues raised in submissions and Austral's responses to these issues in its assessment of the Project.

4 ASSESSMENT

In assessing the merits of the Project, the Department has considered:

- the Proponent's Environmental Assessment (See **Appendix C**);
- all submissions and the Proponent's Submissions Report (see **Appendix D** and **Appendix E**);
- the objects of the Environmental Planning and Assessment Act 1979 (the Act), including the object to encourage Ecologically Sustainable Development (see section 2.6 on page 8);
- relevant Environmental Planning Instruments (see section 2.5 on page 8);
- relevant guidelines and policies; and
- relevant statutory requirements of the Act and Regulations.

The Department considers the key issues for detailed assessment in this report are traffic, noise, air quality, water quality, rehabilitation and landscape management. The following sub-sections of this report assess the key issues in detail. **Table 3** on page 21 of this Report shows an assessment of all other relevant issues for the Project.

4.1 Traffic

Issue

The Project would increase the level of traffic on the local and regional road network. The haul route is 23 kilometres from the site to the Bowral Brick Plant. Trucks would exit the site and turn left on to Berrima Road then right on to Taylor Avenue before following the existing heavy vehicle route through New Berrima, Mittagong and Bowral to the brick plant. **Figure 6** on page 12 shows a map of the haul route.

Consideration

The EA includes a Traffic Assessment of the Project, undertaken by Traffic Solutions Pty Ltd (see Part 1 of the Compendium to the EA (see **Appendix C**)). The Assessment concluded that traffic impacts were acceptable subject to the upgrade of the Berrima Road site entrance with a BAR intersection sufficient for 19 metre articulated vehicles.

Council's submission raised concern about the adequacy of the Traffic Assessment because impacts along the entire transport route (ie Cavendish Street, Old Bowral Road, Lyle Avenue, Kirkham Road, Oxley Hills Road and Kiama Street) including all of affected intersections were not modelled. Austral subsequently obtained existing traffic flows for the roads in question from Council. The Department has reviewed this additional information in its assessment.

The revised Traffic Assessment predicted traffic flows along the haul-route near the site at Berrima Road and Taylor Avenue, and along the haul route at Cavendish Street, Lyle Avenue, Kirkham Road, Oxley Hills Road and Kiama Street in Mittagong and Bowral. The assessment considered:

- peak traffic generation of 136 truck and eight light vehicle one-way movements per day (such a peak would only occur following prolonged wet weather to allow the Bowral Brick Plant to quickly accumulate product shale which it had not been able to access during the wet weather, thus enabling the plant to remain operational);
- normal average traffic generation of 34 truck and eight light vehicle one way movements per day;
- morning and evening peak-hour traffic generation of 17 one way vehicle movements (comprising seven truck and four cars entering the site and six trucks exiting the site during the morning peak and the reverse in the evening peak).

Impact on Berrima Road and Taylor Avenue (near the site)

The peak traffic generation of the Project (as described above) would increase heavy vehicles:

- along Berrima Road (north of Taylor Avenue) from 7 to 20 during the morning peak hour (representing 8.5% of all peak hour traffic); and from 11 to 24 during the evening peak hour (representing 23.2% of all peak hour traffic); and
- along Taylor Avenue from 43 to 56 during the morning peak hour (representing 25.2% of all peak hour traffic); and from 52 to 65 during evening peak hour (representing 27% of all peak hour traffic).

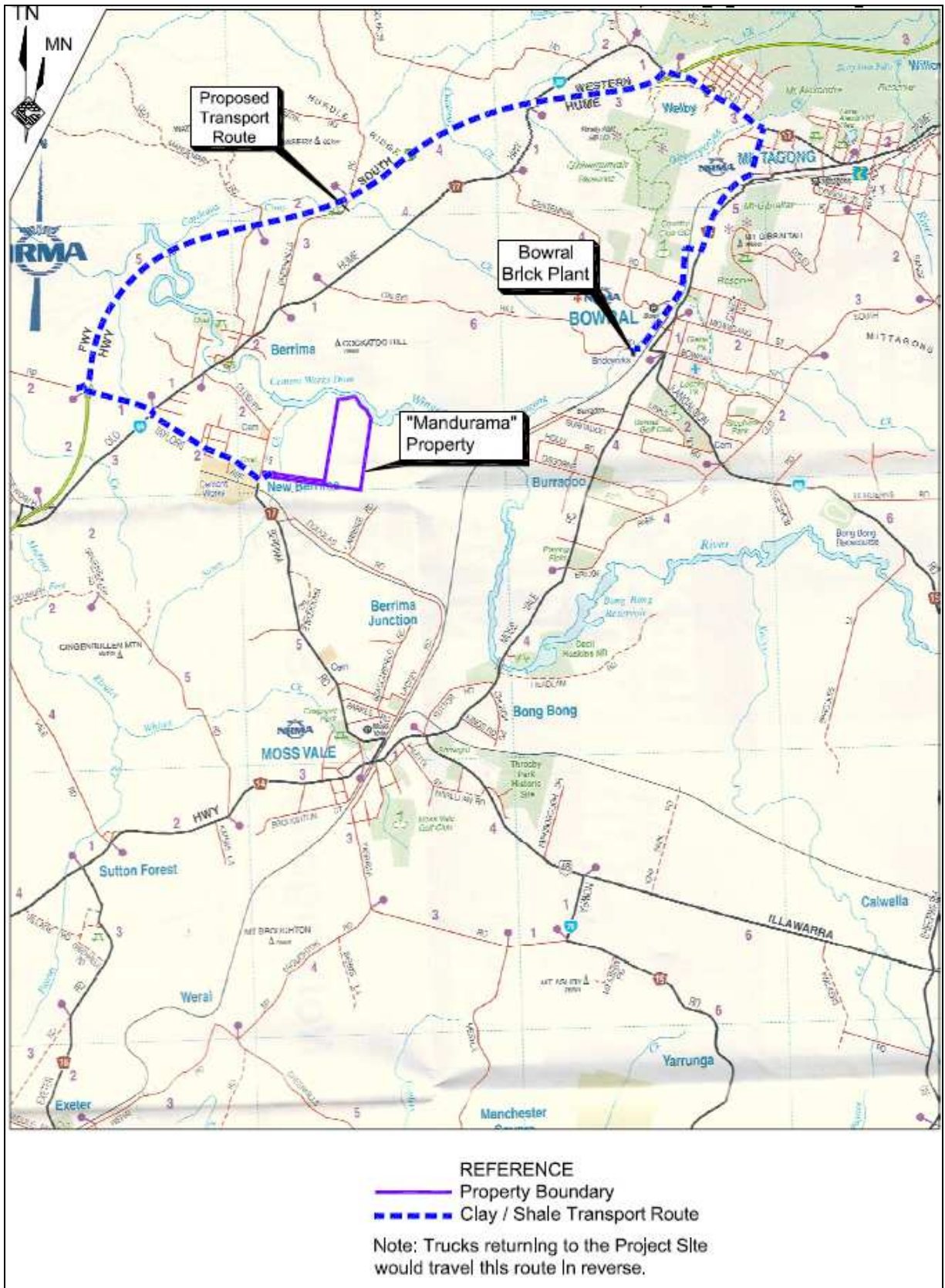


Figure 6 - Haul route

The traffic assessment concluded that these increases in traffic volumes would represent a minor increase in overall traffic and would have a minor impact on existing traffic conditions on Berrima Road and Taylor Avenue. The assessment confirmed that these roads would continue to operate at the current and highest performance rating: Level of Service A.

Austral propose a BAR intersection for 19 metre articulated vehicles at the site access of Berrima Road. The Department has included a requirement to upgrade this intersection to BAR standard in the recommended approval conditions.

The Department is satisfied that the proposed site entry intersection off Berrima Road would operate at a good level of service.

Impact on haul-route roads

The RMS and Council submissions recommended that Austral upgrade the Berrima Road/Taylor Avenue junction and provide a concrete median on the south bound Berrima Road approach. A basic intersection treatment and concrete median would give priority to Main Road 372 (indicated by blue arrow in **Figure 7**). This would allow Council and RMS to reprioritise the intersection so that southbound vehicles on Berrima Road would be required to give way to vehicles on the main road. Austral suggested that the average one truck every four minutes and 37 seconds does not meet the AUSTROADS threshold for this intersection configuration.

However, the Department considers that the intersection treatment and concrete median is warranted in these particular circumstances because:

- despite retaining a good level of service at the intersection, delays experienced by a south-bound vehicle on Berrima Road could largely be attributed to trucks leaving the project site. A basic intersection upgrade would allow a car to pass an Austral truck waiting to turn right into Taylor Avenue; and
- the right turn manoeuvre into Taylor Avenue is acute (indicated by red arrow in **Figure 7** below), which increases the chances that a driver might opportunistically cut the corner, giving rise to a risk of traffic conflict with traffic on main road 372. Reprioritising the intersection and provided a concrete median would ensure a proper and lawful right turn into Taylor Avenue and the safe function of Main Road 372.

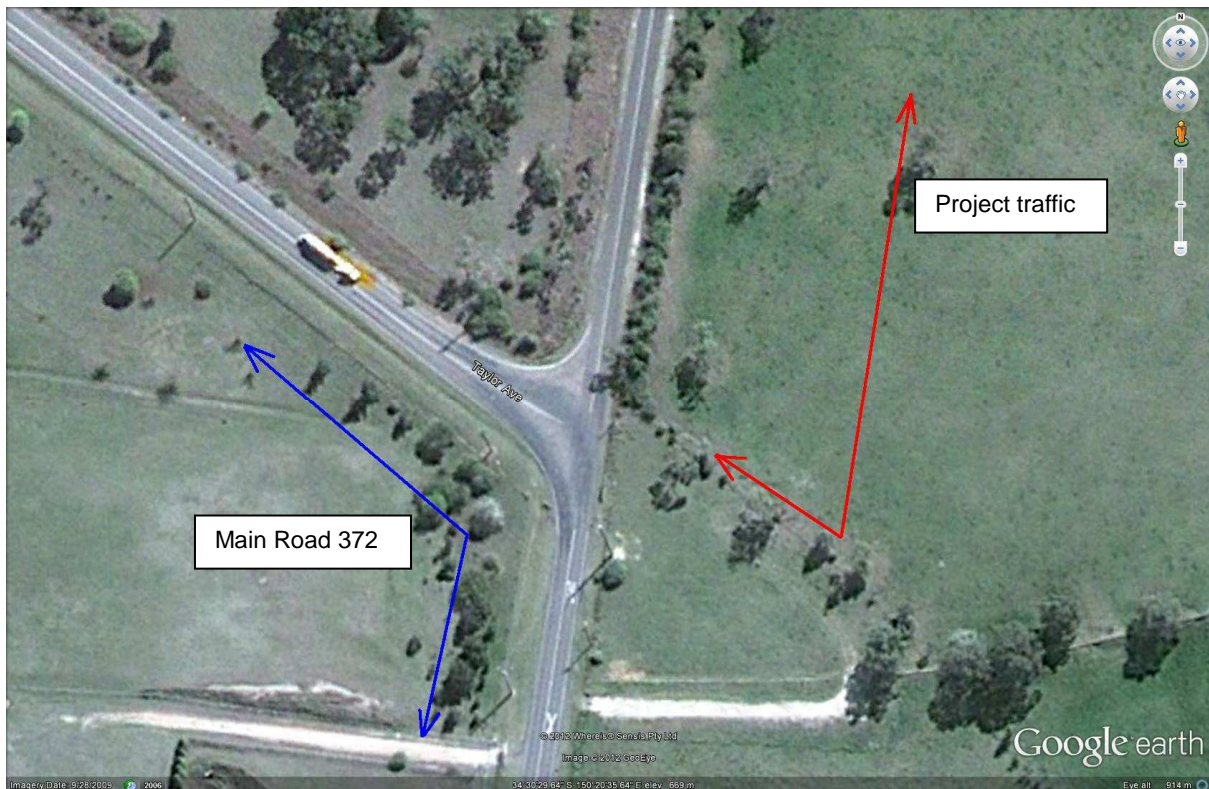


Figure 7 - Right turn into Taylor Avenue

The Department is satisfied that the additional peak heavy-vehicle traffic would not diminish the current level of service along the remainder of the proposed haul route (ie Cavendish Street, Lyle Avenue, Kirkham Road, Oxley Hills Road and Kiama Street).

To ensure intersections operate adequately and that local traffic is not adversely affected by Project-related traffic, the Department has recommended that Austral be required to prepare and implement a

Traffic Management Plan to monitor traffic movements and implement additional management measures if motorists are being unreasonably delayed.

Road Safety

Council and one public submission raised concern about the potential for driver behaviour to create road safety problems. To address this issue Austral has committed to implement a Driver's Code of Conduct for the Project. This is included as a recommended approval condition. With the implementation of this Code of Conduct, the Department is satisfied that the driver behaviour should not substantially impact on road safety.

Conclusion

The Department is satisfied that the proposed truck haulage-route has sufficient capacity to accommodate the peak predicted additional 136 truck movements per day. The Traffic Assessment demonstrates that all intersections would operate satisfactorily and that the proposal is unlikely to result in undue delays or queuing.

Notwithstanding, to ensure any potential impacts on the safety or capacity of the surrounding road network are appropriately managed, the Department has recommended that Austral be required to:

- upgrade the site access to a BAR for a 19 metre articulated vehicle;
- upgrade the Taylor Avenue/Berrima Road junction in accordance with Council and RMS requirements; and
- prepare and implement a Traffic Management Plan including a Driver's Code of Conduct.

4.2 Air quality

Issue

The Project would generate dust from site establishment and extraction activities, unsealed surfaces and truck transport on unsealed roads.

Consideration

The EA includes a specialist Air Quality Assessment prepared by Heggies Pty Ltd. The Heggies report presents a contemporaneous assessment of the likely Project air-emissions against a year of known climate and air quality data from 2007. This is known as a Level 2 assessment under the 'Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales' (Approved Methods) and is the more rigorous of the two assessment methods specified in that document (refer to Part 6 of the Compendium to the EA in **Appendix C**).

In this case, the Air Quality Assessment models a worst case scenario for the Project's potential air quality impacts. In practice this kind of scenario is highly unlikely to occur. It assumes, for demonstrative purposes:

- year-round shale extraction at maximum rate, whereas in practice, the maximum shale extraction rate would only occur during extraction campaigns (two or three times per year, for four to six weeks at a time);
- year-round transport at peak traffic volume, whereas peak traffic volume would only occur following prolonged rain when background PM₁₀ is likely to be very low; and
- year-round site establishment activities such as top-soil ripping and amenity-bund construction, whereas once the amenity bunds are constructed and vegetated, they will no longer contribute to dust emissions.

For cumulative impact, the Air Quality Assessment assumes background PM₁₀ (24 Hour) as 49.2 µg/m³, which was recorded on a day in May 2007, known then as the 6th driest May on record. This background figure is somewhat of an anomaly and a more realistic background is the average annual PM₁₀(24 Hour) in 2007 of 12.8 µg/m³.

In addition, the Air Quality Assessment assumes dust suppression only from haul-road watering and wind protection from the amenity bunds (except for during bund construction). In practice, the Project would operate with more sophisticated air quality impact mitigation measures including:

- stockpile and unsealed surface water spraying, in addition to haul road water spraying;
- operational amendments including shut-down during adverse weather;

- progressive rehabilitation of un-sealed surfaces including the amenity bunds;
- haul truck practices such as proper covering to prevent product build-up on paved roads.

The overall effect of modelling these worse case conditions is that the assessment results presented below are conservative. The Project's actual air impacts would be considerably better.

Assessment against air quality criteria

The results of the modelling suggest that the proposal would generally make a very small contribution to dust levels in the surrounding area. **Table 2** below shows the Project's air quality performance against the relevant air quality criteria in the Approved Methods. The location of nearby residences is shown in **Figure 8** on page 16.

Table 2 - Air quality criteria compliance table

Averaging period	Background	Maximum predicted at worst affected receiver(s)	Deduced project contribution	Compliance criteria
Annual PM ₁₀	12.8µg/m ³	15.1µg/m ³ (residence R2)	2.3µg/m ³	30µg/m ³
24-hour PM ₁₀	49.2µg/m ³	56µg/m ³ (residence R3N) 50.6µg/m ³ (residence R19)	6.8µg/m ³ 1.4µg/m ³	50µg/m ³
Monthly dust deposition (project)	n/a	1.9g/m ² (residence R3N)	1.9 g/m ²	2g/m ²
Monthly dust deposition (total)	2g/m ²	3.9g/m ² (residence R3N)	1.9g/m ²	4g/m ²
Annual TSP	19.2µg/m ³	26.4µg/m ³ (residence R2)	7.2µg/m ³	90µg/m ³

The results in **Table 2** above show that the Project would comply with the relevant compliance criteria in the Approved Methods, except for two instances of modelled non-compliance with 24-hour PM₁₀ criteria at residence R2 and residence R3N.

The Department considers these modelled exceedences to be highly unlikely to occur in practice. They require worst case scenario operating conditions during an anomalously high background PM₁₀ event. In practice, quarry operations would be adjusted (by way of additional water spraying, or the cessation of activity) during such background conditions. Notwithstanding, the Department has recommended conditions to ensure Austral implement best practice air quality management on site, and complies with the relevant air quality standards.

Cumulative impact assessment

Two public submissions raised the issue that the cumulative assessment of PM₁₀ should have:

- taken into consideration point source emissions from the Blue Circle Cement Works in New Berrima to the west of the site; and
- been modelled from the most northerly/north-west location on site, instead of in the southern section of the site.

In respect of the first point, the assessment-model does model emissions data relating to the cement works. The data was sourced from reports to the National Pollution Inventory. The data was modelled crudely as a single volume source, because point sources are not reported. To over-compensate for the crude methodology, the model assumed continuous emissions at the cement works, which would have yielded exaggerated emissions results. Therefore, the Department is satisfied that the predicted cumulative impacts for the Project and the cement-works are conservative and need not be modelled in finer detail.

Regarding the second point above, there is no extraction, overburden dumping or stockpiling in the northern part of the site. The extraction area in the southern part of the site, as used in the assessment-model, is the most appropriate location to model air quality impacts from.

Conclusion

The Department is satisfied that the Project can be suitably managed to ensure there are no significant air quality impacts on surrounding privately owned residences. A range of impact mitigation strategies are included in the proposal including water spraying and progressive rehabilitation of exposed land surfaces. Notwithstanding, the Department has included a suite of air quality related approval conditions in the recommendation that require compliance with contemporary air quality

criteria; best practice air quality management on site; and a detailed Air Quality Monitoring Program for the Project.

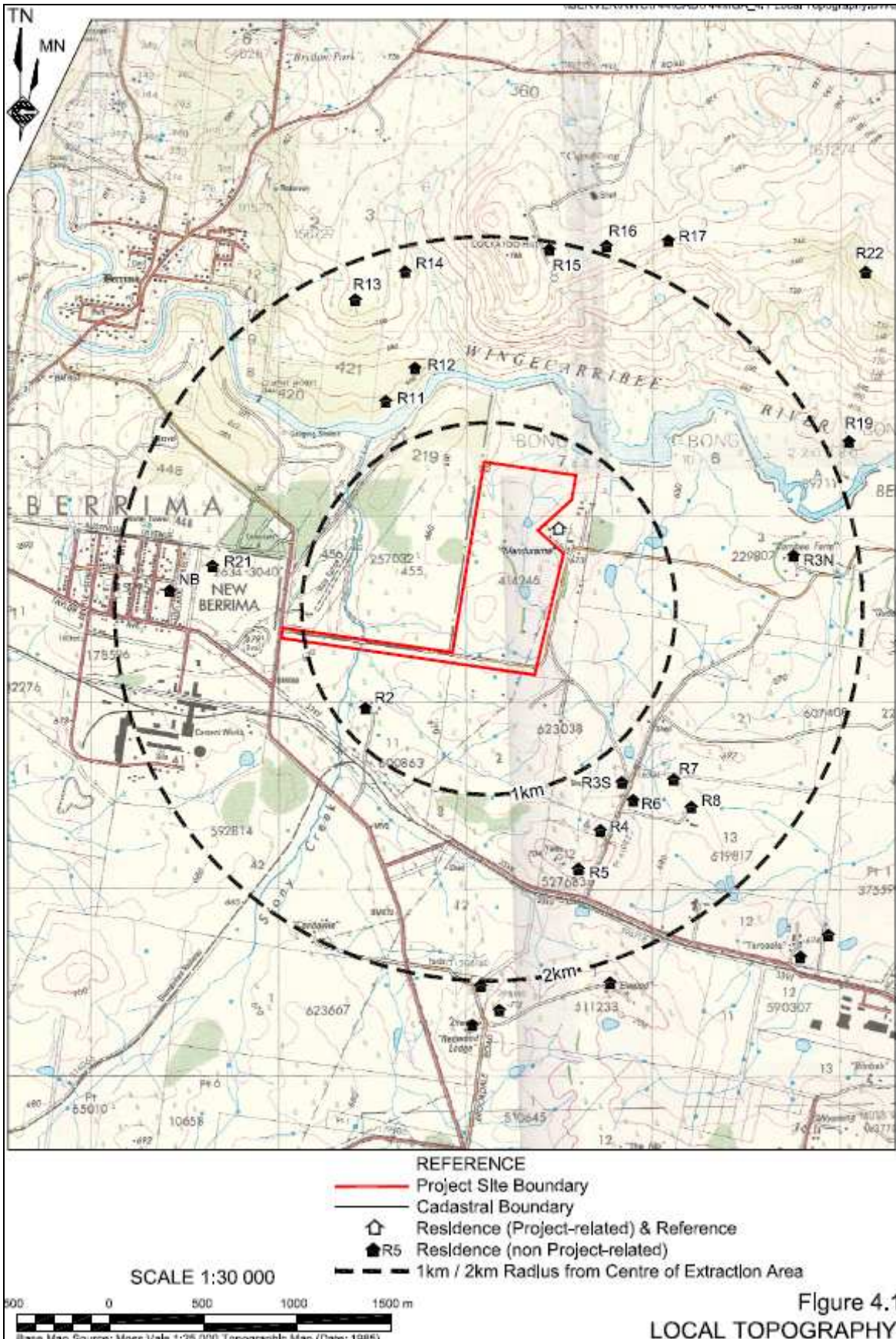


Figure 8 - Location of nearby residences

4.3 Water Quality

Issue

The Project has the potential to impact on surface and ground-water.

Consideration

The EA includes a Water Impact Assessment, including a Site Water Balance, undertaken by Strategic Environmental and Engineering Consulting (SEEC) (refer to Part 2 of the Compendium to the EA (see **Appendix C**)).

Surface Water

The northern boundary of the Project Site adjoins a bank of the Wingecarribee River. The proposed extraction area would disturb three small catchments that drain to the Wingecarribee River. The site access road connecting the quarry site with Berrima Road traverses Stony Creek by way of an existing bridge. Five farm dams are located on the site, which are currently used for watering livestock (see **Figure 9** on page 18).

The Project involves disturbing about 13.6 hectares to establish the extraction pit, amenity bunds, quarry infrastructure and an overburden stockpile. The most significant potential impact from the Project would be erosion from exposed areas, particularly during site establishment, leading to sedimentation in the river.

However, the extraction area is set back about 730 metres from the river. The site layout is designed to capture and contain all runoff from disturbed areas within the extraction void. The surface disturbance would be greatest during site establishment at 11.6 hectares; reducing to 7.7 hectares following rehabilitation of the amenity bunds; and reducing again to 2.5 hectares during active extraction activity. Any part of the site that is not under active extraction would be stabilised throughout the quarry's life.

The Project includes:

- erosion and sediment control measures, such as sediment barriers and settlement ponds, which would be designed according to the Sydney Catchment Authority's requirements; and
- a surface water monitoring program to ensure discharge of surface waters does not impact on water quality in the river.

While the Project does not include upgrades to the Stony Creek vehicular crossing, the NSW Office of Water recommend an approval condition to ensure that any future upgrade (should it become necessary) complies with the 'Guidelines for Controlled Activities – Water Crossings'. This condition is included in the Department's recommendation.

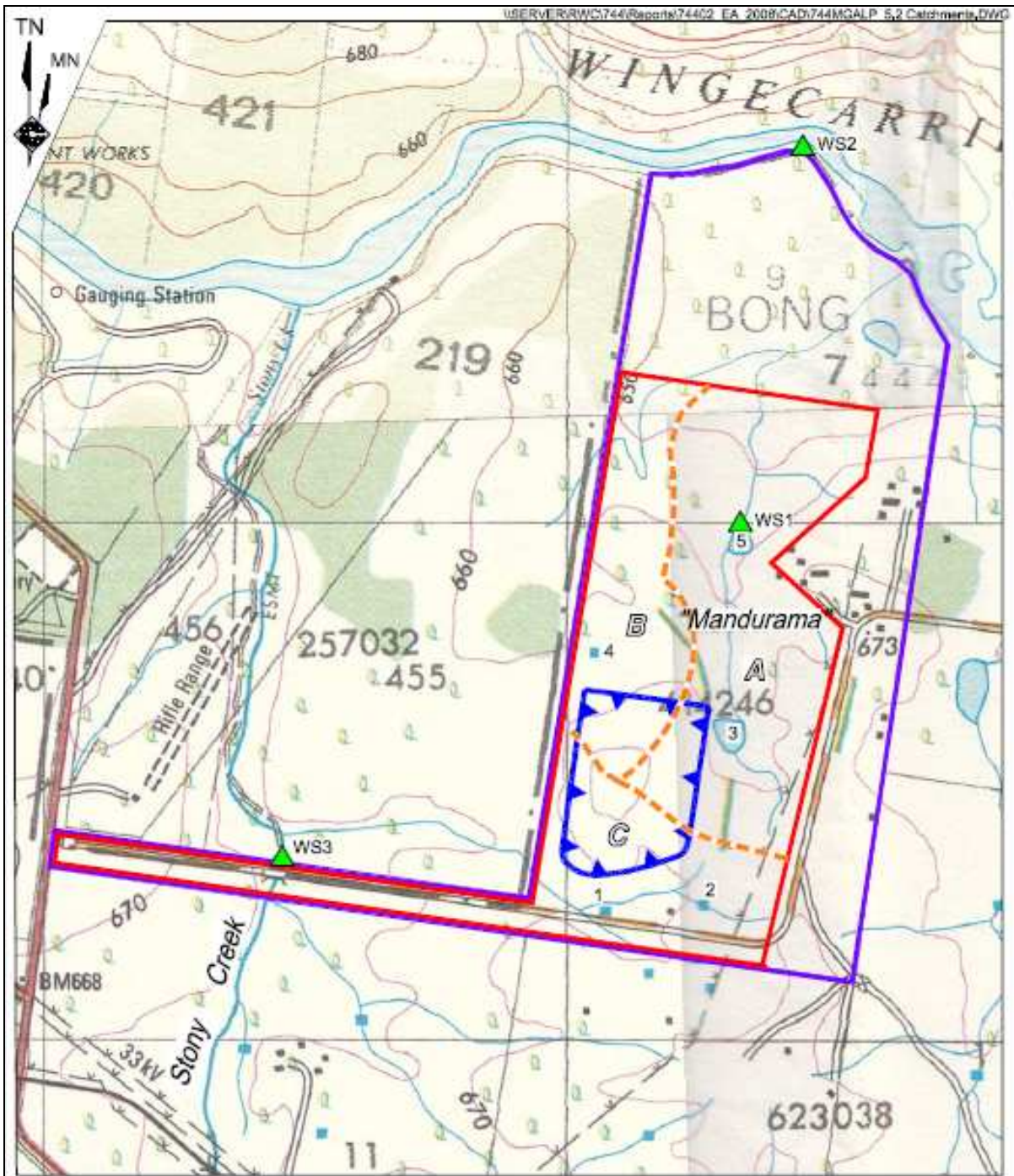
The Department is satisfied that the Project would not adversely affect local or regional water quality, subject to the implementation of measures described above. Furthermore, it is important to note that all of this land would be progressively rehabilitated, and ultimately returned to the catchment upon the completion of extraction operations. Notwithstanding, the Department has included approval conditions in the recommendation that require Austral to prepare an Erosion and Sediment Control Plan, and a Surface Water Monitoring and Response Plan.

Groundwater

The quarry base is predicted to remain at all times above low-flow level in the Wingecarribee River avoiding lateral displacement of river flow to the quarry. The Water Impact Assessment submitted with the EA indicated that the Project is unlikely to intercept groundwater because:

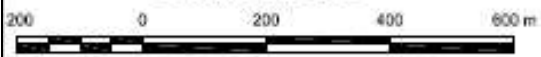
- shale would be extracted to approximately 645m AHD, which is above low flow level in the Wingecarribee River at 640m AHD (see Figure 3); and
- exploratory drilling undertaken at the site in 2008 to approximately 630m AHD did not intercept groundwater.

In respect of other groundwater users, Hawkesbury Sandstone is the primary water supply stratum for the closest five groundwater bores within a 2km of the site, and this stratum is much deeper at approximately 554m AHD.



- REFERENCE
- Property Boundary
 - Project Site Boundary
 - ▲— Proposed Limit of Extraction
 - - - Catchment Boundary
 - ▲ Catchment Reference
 - ▲ WS1 Water Sampling Location
 - 1 Dam/Water Storage Reference No.

SCALE 1:12 000



Source: SEEC (2010) - Figure 4

Figure 5.2
PROJECT SITE CATCHMENTS

Figure 9 - Project Site Catchments (marked 'A', 'B', and 'C')

Groundwater (continued)

The NSW Office of Water recommends an approval condition for a groundwater monitoring and response program to ensure contingency actions in the unlikely event that groundwater is encountered. The Department has included this condition in the recommendation.

The Department is satisfied that the Project is unlikely to intercept or impact on groundwater for the aforementioned reasons. Notwithstanding, the Department has included an approval condition, as recommended by the NSW Office of Water, that requires Austral to implement a Groundwater Monitoring and Response Plan for evaluating and responding to any groundwater issues.

Conclusion

The Department is satisfied that the Project would not have significant impacts on the region's surface or groundwater resources. Notwithstanding, the Department has included approval conditions in the recommendation that require Austral to:

- prepare a Site Water Balance (reviewable) to ensure there is sufficient water for all stages of the Project, and if necessary, adjust the scale of extraction to match supply of water;
- develop a comprehensive Soil and Water Management Plan, including Site Water Balance, Erosion and Sediment Control Plan, Surface and Ground Water Monitoring Programs and Surface and Ground Water Response Plans, for the Project in consultation with OEH, Council, NOW and SCA; and
- ensure any surface water discharges, from the site comply with the limits in its Environment Protection Licence.

4.4 Noise

Issue

The Project has the potential to generate construction, operational and road traffic noise impacts.

Consideration

Austral engaged specialist acoustic consultants Spectrum Acoustics Pty Limited to undertake a noise assessment of the Project in accordance with applicable guidelines, including the NSW Industrial Noise Policy, Environmental Criteria for Road Traffic Noise and Interim Construction Noise Guideline (refer to Part 3 of the Compendium to the EA in **Appendix C**).

The assessment identified the worse-case-scenario noise impact conditions were:

- during construction where heavy machinery would be working without the protection of the amenity bunds, particular in the south of the site closest to the nearest residence; and
- during stage one extraction (at the highest point, 680m AHD) with peak product haulage of 136 truck movements per day (or 4 trucks every 15 minutes).

The assessment also modelled an intermediate noise impact scenario, which was stage 4 extraction, haulage to the overburden stockpile and product haulage of 64 truck movements per day.

The assessment concluded that the relevant construction, operation and traffic noise criteria will generally be readily achievable.

Construction Noise

The Project can comply with construction noise criteria of 43 dB(A), $L_{eq(15min)}$ except for potential exceedences under certain meteorological conditions at the closest residence (residence R2 as shown in **Figure 8** on page 16).

The potential exceedence at residence R2 is 4 dB (47 dB(A), $L_{eq(15min)}$) when constructing the southern amenity bund, and the southern section of the western amenity bund during north-easterly winds. The exceedence reduces to 2 dB (45 dB(A), $L_{eq(15min)}$) during no wind. There is no exceedence during westerly wind conditions. The exceedence can easily be avoided by modifying construction during north-easterly winds.

The Department is satisfied that the 2dB exceedence is minor and that construction of the amenity bunds can proceed under all wind conditions (including no-wind) except north-easterly winds. The Department has included approval conditions that require implementation of a Noise Management Plan that addresses meteorological conditions during construction of the amenity bunds in the manner described above.

Operational Noise

The project can comply with operational noise criteria ($38\text{dB(A)}_{\text{Leq}(15\text{min})}$) at all nearby residences. The proposed amenity bunds would be substantially responsible for such compliance. The Department has included conditions of approval that require:

- construction of the amenity bunds before quarrying operations; and
- implementation of a Noise Management Plan to ensure Austral adhere to the modelled noise conditions and carry out noise monitoring for the life of the Project.

Road Noise

The project can achieve all relevant traffic noise criteria. During the peak haulage movements with 4 trucks every 15 minutes, the $L_{\text{Aeq}(1 \text{ hour})}$ traffic noise contribution of the Project resulted in 51 dB(A) at the nearest residence to the haulage route; 17m away from the Taylor Avenue. This is 4 dB below the day-time criterion of 55 dB(A) for receivers adjacent to a local road and 9 dB below the day-time traffic noise criterion of 60 dB(A) for receivers adjacent to a collector road.

Notwithstanding, the Department includes an approval condition in the recommendation that requires a Drivers' Code of Conduct to include measures that minimise the noise impacts of haulage trucks.

Conclusion

The Department and OEH are satisfied that Austral has assessed the potential noise impacts of the Project in accordance with relevant OEH guidelines, and appropriately considered reasonable and feasible noise mitigation measures. The Department is satisfied that, with the implementation of mitigation measures, the Project would comply with the applicable noise criteria. The Department has included approval conditions that require, among other things, implementation of a Noise Management Plan and monitoring regime to ensure Austral adhere to the predicted noise impacts.

4.5 Views

The site is screened to views from residences to the south, east and west by the natural topography and existing vegetation. The site is also generally screened from residences to the north by vegetation or natural topography. In some instances, viewers can only see the site from a considerable distance (>2km).

Views to the site from Residence 15, which is directly north of the proposed extraction area (see location in Figure 8 on page 16), are screened by trees on that property. There are also clear views to the site from Residences 16 (1.9km north) and 17 (2km north) (see location in Figure 8 on page 16). Views to the site from Residence 17 are depicted in Figure 10 on page 21.

To mitigate the Project's visual impacts to surrounding land and residences to the north, Austral proposes to:

- construct and vegetate an amenity bund on the northern side of the extraction area;
- construct and vegetate a 7m-high amenity bunds on the southern and western sides of extraction area;
- plant tree screenings at the eastern side of the surplus overburden stockpile area;
- establish a farm forest over the Stage 4 area at the commencement of the Project; and
- commence progressive rehabilitation of completed faces and all other completed disturbed areas as soon as possible after completion of extraction.

With these measures in place, the Department is satisfied that the Project would not adversely affect the visual amenity of the locality. Notwithstanding, the Department has included conditions of approval that require:

- a Landscape Management Plan to implement the aforementioned visual impact mitigation measures; and
- additional screen plantings on affected properties R16 and R17 (at the Proponent's expense) upon request.

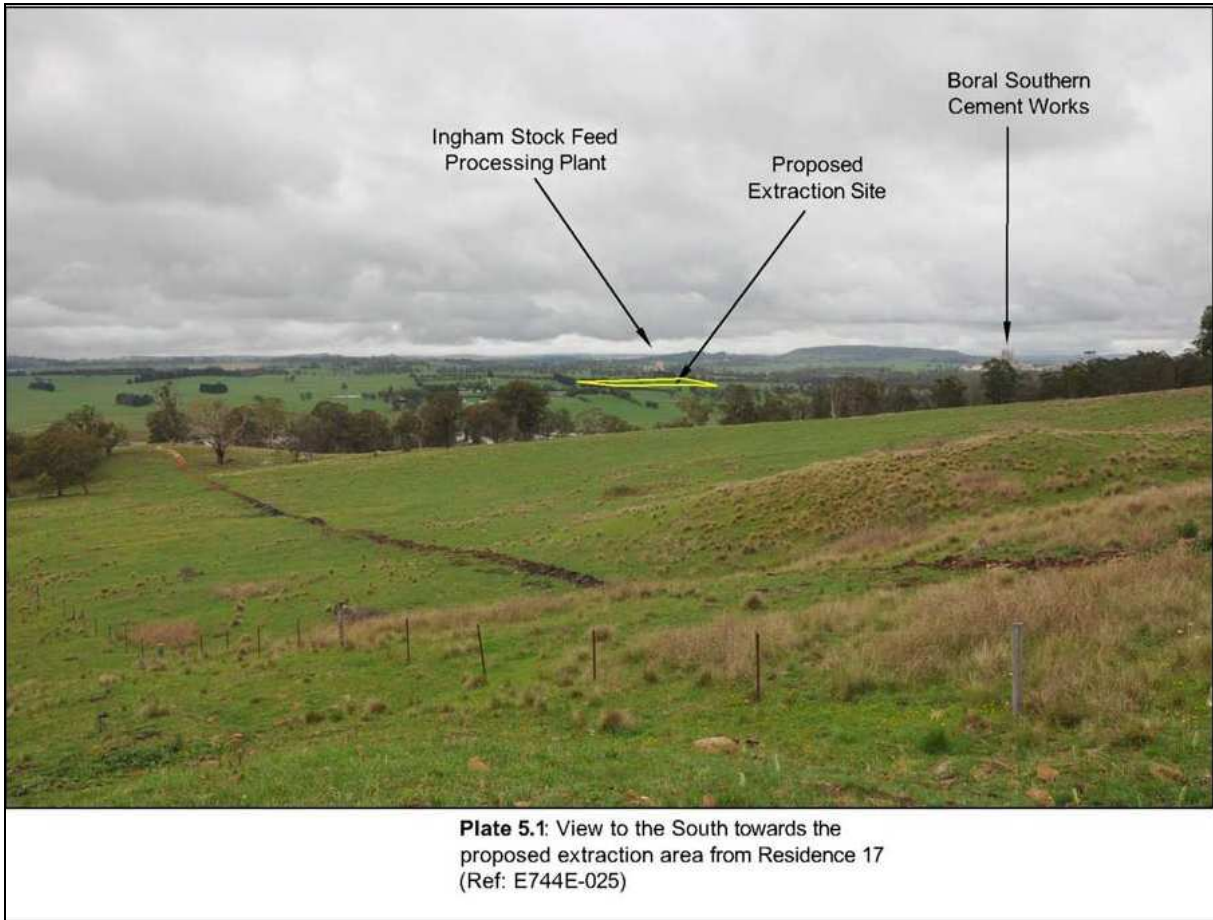


Figure 10 - View toward the Extraction Area from Residence 17

4.6 Assessment of other issues

The Department is satisfied that other environmental and social impacts are acceptable or can be addressed by way of appropriate conditions of approval. These issues and the Department's assessment are set in **Table 3** below.

Table 3- Assessment of other issues

Issue	Consideration	Recommendation
Rehabilitation and landscape management	<ul style="list-style-type: none"> • The EA includes specialist soils, land capability and agricultural suitability assessment (refer to Part 7 of the Compendium to the EA (see Appendix A)). • The assessment found that impacts on the soil resources would be moderate and temporary and that much of the final landform would approximate that of the pre-quarry environment. • Approximately three hectares of the final landform would comprise extraction faces and benches which would not be suitable for agriculture. • Austral proposes to progressively rehabilitate the site following the completion of each extraction stage (see Figure 5 on page 6). Rehabilitation work would include: <ul style="list-style-type: none"> – removing all site infrastructure following the completion of the Project; – landform shaping to create stable landforms that would blend with the surrounding topography 	<p>Recommended conditions require:</p> <ul style="list-style-type: none"> • lodgement of a rehabilitation bond and implementation of a Landscape Management Plan. This plan would outline methods, performance criteria and responsibilities for revegetation and rehabilitation of the site, as well as outlining the objectives and criteria for quarry closure.

Issue	Consideration	Recommendation
	<p>including:</p> <ul style="list-style-type: none"> o an overall maximum slope grade of 2:1 (vertical to horizontal); o a rectangular basin with a 2 mega-litre dam in the final sump location (collecting runoff from the 7.7 ha internal area of the extraction area); and o an access track to allow vehicular access to the basin; <ul style="list-style-type: none"> - planting vegetation to return the site to its current use as grazing; and - implementing a program to monitor rehabilitation progress and outcomes. <ul style="list-style-type: none"> • The Department is satisfied with the proposed rehabilitation proposal. 	
Road Maintenance Contribution	<ul style="list-style-type: none"> • Austral reached an agreement with Council to pay an annual contribution of 91.2 cents per cubic metre of shale exported from the site as a haul route maintenance contribution. 	<p>Recommended conditions require:</p> <ul style="list-style-type: none"> • Payment of an annual contribution for road maintenance as agreed with Council.
Water availability	<ul style="list-style-type: none"> • On site water demands include dust suppression and machinery wash down. • The site has Harvestable Right surface water storage availability of 4.59 mega-litres, which has been shown by Water Balance to be adequate for normal operating parameters. • The water demands for the site are not high because the soils are strongly aggregating and not highly vulnerable to wind dispersion. • NOW raises concerns about the adequacy of water supply during prolonged dry periods. It recommends that Austral confirm the water supply predictions in the Site Water Balance, adjust extraction operation to match water supply if necessary, or obtain the necessary licences for the harvest of surface water or the extraction of ground water. • The Department is satisfied that the Project will have sufficient water supply for normal operating conditions. 	<p>Recommended conditions require:</p> <ul style="list-style-type: none"> • confirmation of the Site Water Balance predictions, • adjustments to the scale of extraction to match water supply particularly in the event of unusually prolonged dry periods; and • obtaining any necessary licence for the use of water from other sources if it becomes necessary in the future.
Heritage	<ul style="list-style-type: none"> • The EA contains an Aboriginal Heritage Assessment undertaken by Archaeological Survey & Reports Pty Ltd. • The assessment identified two sites of Aboriginal cultural significance in the immediate vicinity of the site, namely axe grinding grooves in Stony Creek. However, none were identified on the site itself. • The assessment therefore concluded that the Project is unlikely to impact on Aboriginal items of significance. • There are no listed European Heritage sites within the Project site or adjoining land. • The Department is satisfied with the level of assessment undertaken in relation to Aboriginal heritage and the mitigation measures and management procedures proposed. 	<p>Recommended conditions require:</p> <ul style="list-style-type: none"> • implementation of an Aboriginal Heritage Management Plan in consultation with OEH and the Aboriginal Community.
Land dedication	<ul style="list-style-type: none"> • Council in its submission requested dedication of a reserve along the riparian corridor adjacent to the Wingecarribee River. • Council's request was based on : <ul style="list-style-type: none"> - Council's general commitment to obtaining waterfront reserves for environmental and community benefits; - the provisions of Council's Bicycle Strategy; and - a previous dedication precedent in Bowral in the late 1990s as part of the Bowral Brick Plant approval. • However, the public benefit of such a reserve dedication does not relate to an impact of the development, as such the Department does not consider there is sufficient nexus between the proposal and its impacts to warrant dedication of the land as a recommended condition of approval; and 	<p>No approval conditions required.</p>

Issue	Consideration	Recommendation
	<ul style="list-style-type: none"> The land is not specifically identified in Council's bicycle Strategy. Consequently, the Department does not consider there is adequate planning justification to require the dedication. 	
Flora and Fauna	<ul style="list-style-type: none"> The EA includes: <ul style="list-style-type: none"> Flora Impact Assessment, undertaken by Geoff Cunningham Natural Resource Consultants Pty Ltd; and Fauna Impact Assessment, undertaken by Aquila Ecological Surveys. The flora and fauna assessments did not locate any threatened flora or fauna species within the Project area. As the area proposed for the quarry and its infrastructure has been used extensively for grazing, and as only a small number of trees would be required to be cleared (ie five trees), the assessment concluded that impacts to flora and fauna would be minor. The Department notes that Austral would plant tree screenings at the eastern side of the surplus overburden stockpile area and establish a farm forest over the Stage 4 area at the commencement of the Project. The Department is satisfied that the minor nature of proposed vegetation clearing would not have a significant impact on any flora and fauna populations, either local or regional. 	<p>Recommended conditions require:</p> <ul style="list-style-type: none"> a Landscape Management Plan to implement the proposed screen planting.
Effluent Management	<ul style="list-style-type: none"> Austral proposes porta-loos for workers during excavation campaigns. While the Sydney Catchment Authority prefer a Council approved permanent on-site water management system, the Council have not specifically recommended such a system be installed. The Department is satisfied that on-site sewage can be managed under the usual Section 68 Local Government Act approval process. 	<p>Recommended conditions require:</p> <ul style="list-style-type: none"> Management of on-site sewage to the satisfaction of Council.
Nutrient enrichment	<ul style="list-style-type: none"> A public submission raised a concern that any fertiliser used in rehabilitation may impact on water quality in the river. Austral indicated that the proposed rate of fertiliser used in the land rehabilitation would be no different to that currently used on the site. The Department is satisfied with Austral's response. 	<p>Recommended conditions require:</p> <ul style="list-style-type: none"> a Landscape Management Plan to specify landscape maintenance and fertiliser application rates.
Greenhouse Gases	<ul style="list-style-type: none"> The EA contains a Greenhouse Gas (GHG) Assessment undertaken by Heggies Pty Ltd The assessment predicts a total of 16,740 tonnes carbon dioxide equivalent over the life of the Project (i.e. scope 1 and 3 emissions). The annual Scope 1 GHG emissions from the Project would be approximately 0.0002 % to 0.0003% of NSW emissions and approximately 0.0001% of Australian emissions. The Department considers that, on a comparative basis, the total GHG emissions from the Project are a very small proportion of the States GHG emissions, and when considered in isolation, the Project would have a negligible contribution to global warming/climate change. 	<p>No approval conditions required.</p>
Hours of operation	<ul style="list-style-type: none"> The Proponent has sought approval to conduct quarrying operations on Saturday afternoons, Sundays and public holidays. The Proponent claims that such hours would not typically be utilised, unless in the case the need to work around inclement weather to ensure a reliable supply of shale to the Bowral Brick Works. However, the proposed hours of operation are outside the standard hours normally approved by the Department for a development of this scale. The Proponent's requested hours are outside standard 	<p>Recommended conditions require:</p> <ul style="list-style-type: none"> Standard operating hours, which prohibit operations and extractive-material transport on Saturday afternoons, Sundays and public holidays.

Issue	Consideration	Recommendation
	hours ordinarily approved by the Department for such operations. The Department would prefer not to set such a precedent and suggests the proponent should be able to schedule activities for the Project within the standard hours. Overall, the Department does not consider it appropriate to grant hours of operation that are inconsistent with other developments of this scale.	

5 CONCLUSION

The Department has carried out a detailed assessment of the merits of the Project, in accordance with the requirements of the *Environmental Planning & Assessment Act 1979* (EP&A Act).

This assessment has found that the Project would not result in significant noise, water, traffic, dust or visual amenity impacts. However, to ensure any potential residual impacts are suitably mitigated, managed and/or offset, the Department has recommended a range of conditions which require Austral to:

- implement additional measures to minimise the dust, noise, water, traffic and visual impacts of the Project;
- progressively rehabilitate the site;
- pay Wingecarribee Shire Council a minimum quarterly contribution of 8 cents per kilometre per tonne for shale transported along Council maintained roads and a minimum quarterly contribution of 2 cents per kilometre per tonne for shale transported along joint Council/RMS maintained roads;
- monitor and regularly report on its environmental performance; and
- commission independent audits of its operations, to ensure that it is complying with its conditions of approval and implementing best practice on site.

The Department's assessment has also found that the Project would provide economic and social benefits to both the region and NSW, including:

- employment for up to 5 part-time employees during operation of the proposed quarry;
- continuation of the employment of 38 full-time employees at the existing Bowral Brick Plant;
- a capital investment of \$1 million;
- ongoing supply of dry pressed bricks throughout NSW; and
- royalties and payroll taxes for the State Government.

On balance, the Department believes that the Project's benefits sufficiently outweigh its residual costs and that it is in the public interest and should therefore be approved subject to strict conditions.

6 RECOMMENDATION

It is RECOMMENDED that the Deputy Director-General, Development Assessment and Systems Performance, as delegate for the Minister for Planning:

- **consider** the findings and recommendations of this report;
- **approve** the Project application, subject to conditions, under section 75J of the *Environmental Planning and Assessment Act 1979*; and
- **sign** the attached instrument of Project approval (see **Appendix B**).

Felicity Greenway
Felicity Greenway
Team Leader
Mining and Industry Projects
29/6/12

Chris Wilson
Chris Wilson
Executive Director
Major Projects Assessment
1.7.12

David Kitto
David Kitto
Director
Mining and Industry Projects
29/6/12

Richard Pearson
Richard Pearson
Deputy Director-General
Development Assessment and Systems Performance
6/7/12

David Mooney
A/Senior Planner

Appendix A - Summary of approval conditions

Aspect	Condition	Requirement
<u>Schedule 2: Administrative Conditions</u>		
<i>Minimising Harm</i>	1	Obligation to minimise harm to the environment
<i>Limits on Approval</i>	5	Approval for quarrying restricted to March 2042
	7	Restriction on extraction/transportation of 150,000 tonnes of product per year
<u>Schedule 3: Environmental Performance Conditions</u>		
<i>Boundaries</i>	1-2	Approved limits of excavation to be surveyed and marked
<i>Noise</i>	4-5	Noise impact assessment criteria
	6	Operating hours
	7	Noise related operating conditions
	8	Noise Management Plan
<i>Air Quality</i>	9	Air quality impact assessment criteria
	10	Air quality operating conditions
	11-12	Air quality management plan and meteorological monitoring
<i>Soil and Water</i>	13	Riparian buffer distance 730m
	14	Surface water discharge limits as per EPL
	15	Ensure adequate supply of water for operation
	16	Sewage Management
	17	Storage of chemicals and petrol
	18	Water Management Plan
<i>Visual</i>	19	Vegetation screens
	20	Limits on advertising structures
	21	Visual quality related operating conditions
	22	Additional visual mitigation measures
<i>Transport</i>	23-24	Haul road upgrades
	25	Approved transport route
	26	Road maintenance contributions
	27	On-site parking requirements
	28	Transport operational requirements
	29	Transport management plan
<i>Waste</i>	31	Waste management requirements
<i>Heritage</i>	32	Aboriginal Heritage Management Plan
<i>Landscape</i>	33	Rehabilitation objectives
	34	Progressive rehabilitation
	35	Landscape management plan
	36-37	Conservation and rehabilitation bond
<u>Schedule 4: Additional Procedures</u>		
<i>Notification</i>	1	Notify landowners of exceedences
<i>Environmental Review</i>	2	Independent environmental review on request
<u>Schedule 5: Environmental Management, Reporting and Auditing</u>		
<i>Environmental Management Strategy</i>	1	Environmental Management Strategy
<i>Adaptive Management</i>	2	Risk based environmental management
<i>Plan Requirements</i>	3	Requirements for management plans
<i>Annual Review</i>	4	Annual Review of environmental performance and approval compliance
<i>Revision of Strategies, Plans and Programs</i>	5	Requirement to revise strategies, plans and programs
<i>CCC</i>	6	Requirement for Community Consultative Committee
<i>Incident Reporting</i>	7-8	Requirement to report incidents
<i>Auditing</i>	9-10	Requirement to undertake regular independent environmental audits
<i>Access to Information</i>	11	Requirement to publicly report environmental information

Appendix B - Approval instrument

See relevant link

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=2713

Appendix C - Environmental assessment

See relevant link

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=2713

Appendix D - Final submissions

Appendix E - Response to submissions reports

See relevant link

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=2713