



Department of
Infrastructure, Planning and Natural Resources

ASSESSMENT REPORT

DEVELOPMENT APPLICATION (DA-10-1-2005)

**PROPOSED SAND AND BASALT EXTRACTION
ARDMORE PARK, BUNGONIA**

MAY 2005

1. INTRODUCTION

On 10 January 2005, CEAL Limited, trading as Multiquip Quarries (the Applicant) lodged a Development Application (DA-10-1-2005) and Environmental Impact Statement with the Department of Infrastructure, Planning and Natural Resources (the Department) to establish a sand and basalt (hard rock) extraction operation on Ardmore Park, near Bungonia in the Goulburn Mulwaree local government area.

The proposal involves the extraction, processing and stockpiling of up to 400,000 tonnes of sand and rock products per year, transport of the product by road, and importation of excavated natural products for site rehabilitation.

This report presents the outcomes of the Department's assessment, and a final position in relation to the environmental impacts of the proposed development. The Department concludes that the proposed transport route has significant adverse amenity and social impacts on Bungonia Village, the transport route is inadequate for the proposed traffic movements, and the proposal is not in the public interest, and recommends that the Minister refuse the Development Application.

1.1 Background

The former Mulwaree Shire Council (now Goulburn Mulwaree Council) approved a cricket pitch soil extraction operation on part of the property (about 2 ha in area) in 2001. The consent permitted 28 truck movements per day over a 2-3 week period each year.

Bungonia is located approximately 160 km south west of Sydney, 25 km south east of Goulburn and 17 km south of Marulan (see Figure 1). The Ardmore Park property is located 4 km south of Bungonia and has an area of 185 ha (see Figure 2) and is currently grassed and used for beef cattle and sheep grazing.



Figure 1 – Regional Context

The surrounding land uses include livestock grazing and cattle stud, intensive agricultural uses (such as goat farms and yabby farming) and rural residential properties. The Bungonia district is characterised by agricultural uses (livestock grazing and intensive agricultural uses), rural residential development and emerging tourism and horticultural activities (eg. vineyards). Bungonia is a rural village with a population of about 35. The village contains many historic buildings and dwellings.

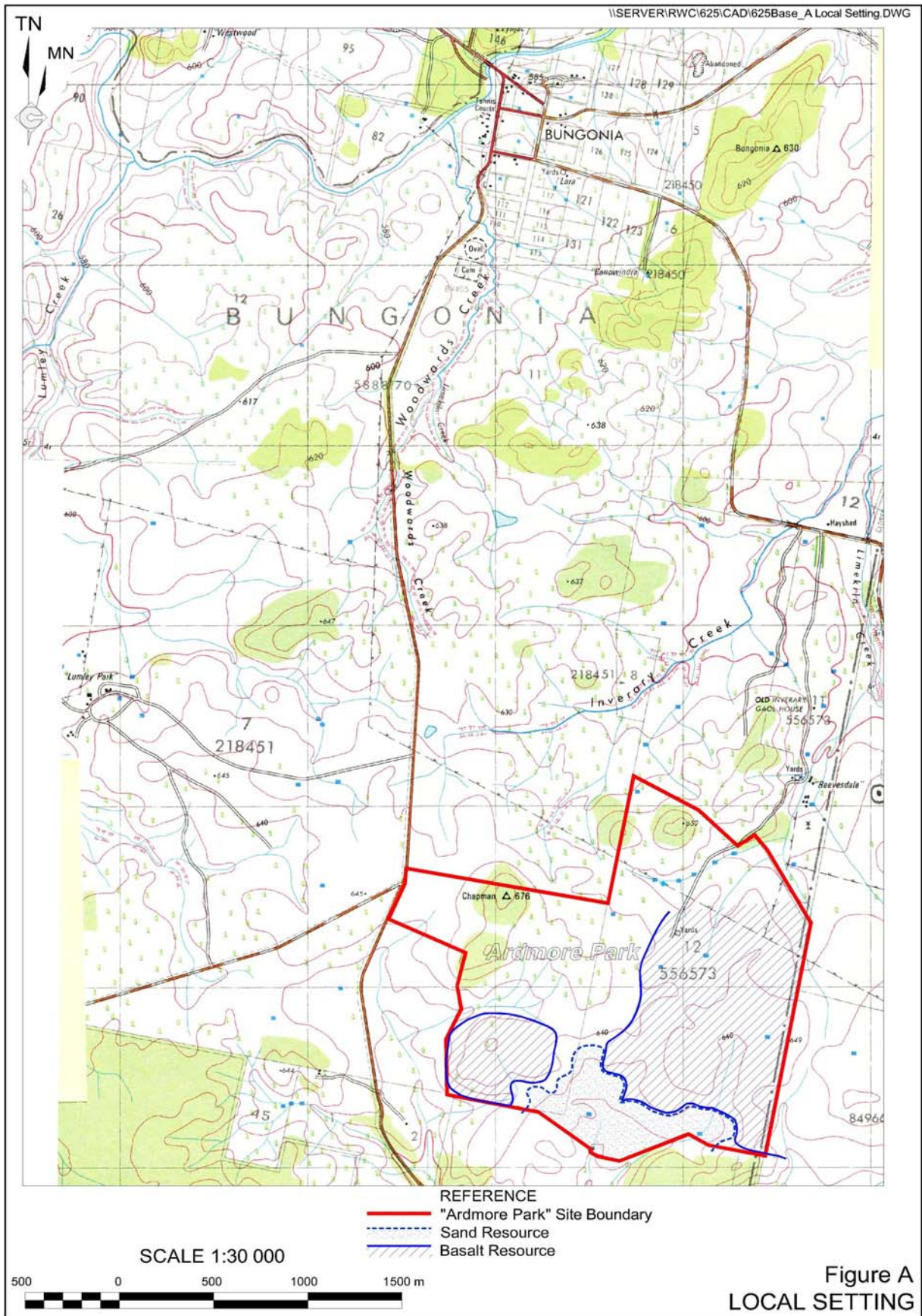


Figure 2 – Local Context

2. PROPOSED DEVELOPMENT

2.1 The Proposal

The Applicant proposes to establish a sand and hard rock extraction operation (see Figure 3) on 76 ha of the Ardmore Park property. The proposal involves the following:

- Extraction, processing and stockpiling of sand and hard rock (basalt);
- Production of up to 200,000 tonnes of sand and 200,000 tonnes of hard rock products, per year;
- Construction of bund walls, internal roads, quarry infrastructure, and water management structures;
- Transport of quarry products by road from the site to the Hume Highway;
- Progressive shaping and rehabilitation of the site; and
- Creation of a final landform using imported natural materials, overburden and oversized material.

The Applicant estimates a sand resource of 7.3 million tonnes is located in two areas on the property, the Southern Extraction Area and Central Extraction Area. In the Central Extraction Area the sand is beneath the basalt rock. The basalt resource in the Central Extraction Area is estimated at 16.1 million tonnes, and continues to the north, containing a further 30 million tonnes. The Applicant states the sand and basalt resource on the Ardmore Park property (Southern, Central and Northern Areas) would provide a 60-year supply of extractive materials.

The Applicant is seeking development consent for a 30-year period for the concurrent extraction of sand and basalt from the Southern and Central Extraction Areas. Extraction in the Central Extraction Area is proposed to be undertaken in 3 stages, however, consent is only being sought for Stages 1 and 2. Stage 3, covering approximately half the Central Extraction Area and the extraction of basalt in the Northern Extraction Area would be the subject of a future development application.

The proposal has a capital cost of \$5 million, and would generate permanent employment for 24 people.

2.2 Production and Hours of Operation

Sand extraction in the Southern Extraction Area is proposed to proceed in an easterly direction over 6 stages. Sand production in the first 20 years is expected to be sourced from the Southern Extraction Area. The sand resource in the Central Extraction Area would commence following the extraction of the basalt. Extraction in the Central Extraction Area would proceed in a south to north direction, in Stages 1 and 2.

Processing of the extractive material would occur in 2 areas, the sand washing plant adjacent to the Southern Extraction Area and the basalt processing area adjacent to the Central Extraction Area. Product stockpiles would be located adjacent to the processing areas and an additional stockpile area located between the two processing areas.

Production is expected to total 200,000 tonnes of sand and 200,000 tonnes of hard rock per year. Approximately 5000 tonnes of natural excavated material is proposed to be imported for site rehabilitation.

The proposed hours of operation are:

Construction, extraction and processing - Monday to Friday	7.00am to 7.00pm
Saturday	7.00am to 6.00pm

2.3 Transport of Material

The Applicant proposes to haul sand and hard rock products by road from the site to the Hume Highway for distribution to Canberra, Goulburn and Sydney. The proposed route is north from the site along Oallen Ford Road to King Street, Bungonia and Jerrara Road before intersecting with Marulan South Road and the Hume Highway at Marulan. The distance of the road route to the Hume Highway is approximately 21 km. The existing site access and transport route from Ardmore Park to the Hume Highway would be retained for the life of the development.

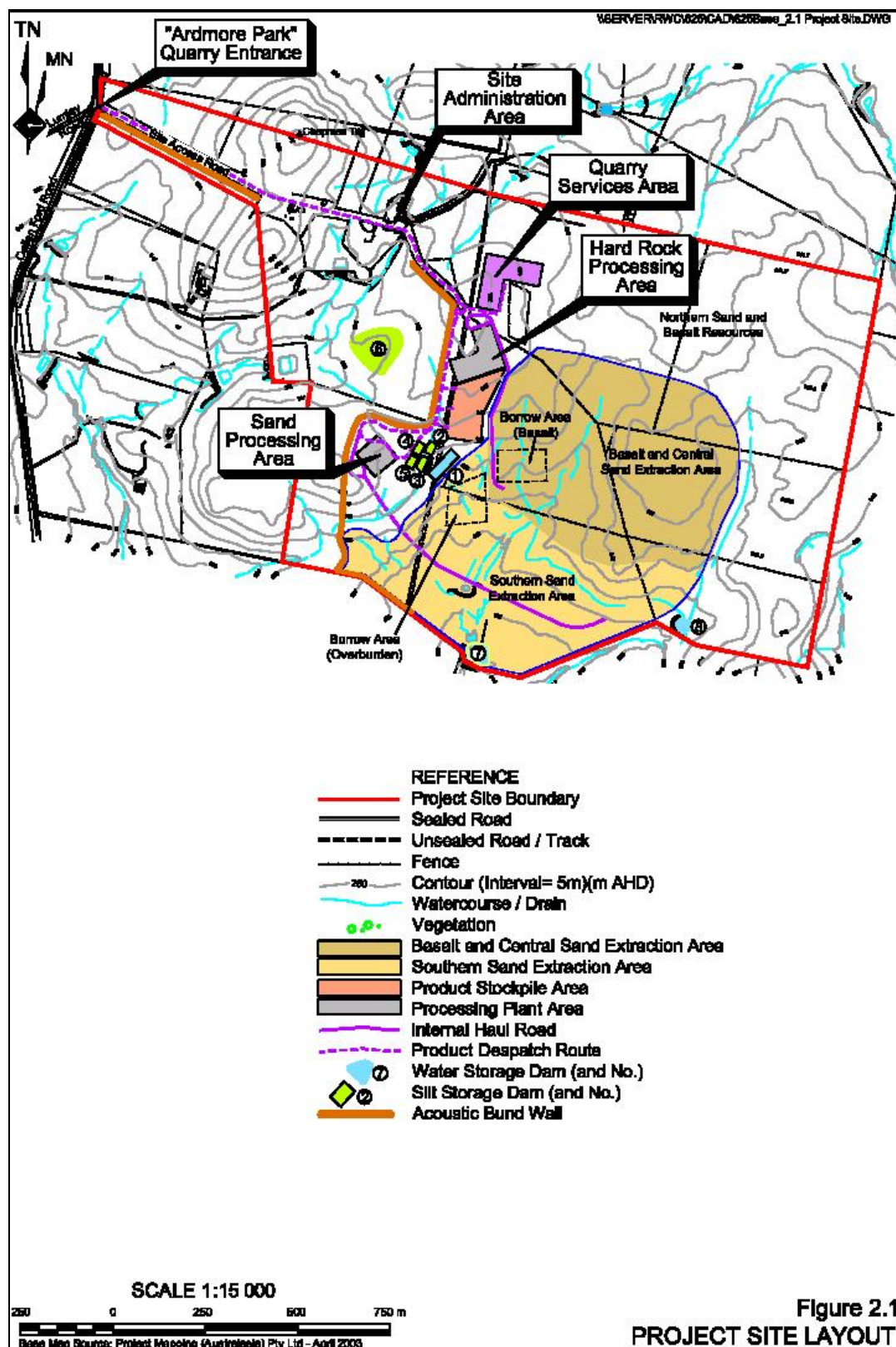


Figure 3 – Site Context

At maximum production the proposal is expected to generate 25,000 truck movements per year or an average of 80 per day (40 laden trucks per day). The Applicant proposes to adopt a 3-phase approach to

product distribution. The satisfaction of environmental criteria and community consultation would be a pre-requisite to the staged increase in traffic movements. The proposed stages are:

- Phase 1 – an average of 28 truck movements per day between 7.00am and 6.00pm Monday to Saturday, for the first 6 months. The maximum truck movements during Phase 1 would be 42 movements per day. On demonstration of compliance with environmental criteria, truck movements would increase to Phase 2 levels.
- Phase 2 – an average of 56 truck movements per day between 7.00am and 8.00pm Monday to Friday, within 12-24 months of operations commencing- No change to transport hours on Saturdays. The maximum truck movements during this period would be 84 per day. On demonstration of compliance with environmental criteria and community comments, transportation would proceed to Phase 3 levels.
- Phase 3 – an average of 80 truck movements per day after 2-years. The maximum truck movements during this phase would be 120 per day. Transportation hours would increase (5.00am to 10.00pm Monday to Friday, and 5.00am to 5.00pm Saturday).

The Applicant lodged the Development Application (DA) and Environmental Impact Statement (EIS) for the proposed sand and hard rock quarry with the Department on 10 January 2005.

3. STATUTORY PLANNING FRAMEWORK

3.1 State Significant Development

The proposed development constitutes State significant development, as defined by section 76A(7) of the *Environmental Planning and Assessment Act 1979* (the Act), as it meets the criteria in the Minister's Declaration dated 3 August 1999 applying to extractive industries with a proposed extraction rate greater than 200,000 tonnes per annum. Consequently the Minister for Infrastructure and Planning is the consent authority for the proposal.

3.2 Designated Development

Under Schedule 3 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation), the proposed development is defined as 'designated development' since it meets the criteria listed in Clause 19 of Schedule 3 of the Regulation applying to an extractive industry. Consequently, the proposal required the preparation of an Environmental Impact Statement (EIS) in support of the Development Application.

3.3 Integrated Development

The development proposal constitutes integrated development, as defined by section 91 of the Act. In addition to development consent the proposed development requires an Environment Protection Licence (EPL) from the Department of Environment and Conservation (DEC) under the *Protection of the Environment Operations Act 1997* and a water licence from the Department under the *Water Act 1912*.

3.4 Permissibility

The site is zoned 1(a) General Rural under the Mulwaree Local Environmental Plan 1995. An extractive industry is permissible with consent in this zone.

3.5 Environmental Planning Instruments

The Department has assessed the proposal against the requirements of relevant environmental planning instruments. See Section 79C Consideration at Appendix 1,

4. CONSULTATION

4.1 Exhibition and Notification

The Department:

- Notified all residents in the vicinity of the site and along the proposed transport route, who could be affected by the proposal;
- Notified Goulburn-Mulwaree Council and all relevant State government authorities;
- Advertised the exhibition of the DA and EIS on three occasions in the Goulburn Post;
- Put up notices about the proposal on the site; and
- Exhibited the DA and EIS at 4 locations from 21 January 2005 until 11 March 2005.

This satisfies the requirements for public participation in the Regulation.

4.2 Submissions

In accordance with section 79 of the Act, the Department received a total of 125 submissions in response to the exhibition of the proposal. Five submissions from public authorities (Department of Primary Industries; Roads and Traffic Authority; NSW Heritage Office; Sydney Catchment Authority, and Goulburn-Mulwaree Council), and 120 submissions from the general public (including 11 submissions from special interest groups), of which, 112 objected to the proposal.

- The Department of Primary Industries (DPI) provided comments on dust and groundwater issues relating to the agricultural use of the surrounding land, and rehabilitation of the site for pastoral purposes. The DPI noted the proposal has the potential to make a significant contribution to aggregate supply for the Sydney, local and regional markets.
- The NSW Heritage Office noted that no specific assessment of European heritage values was undertaken for the project. An assessment of the impact of the proposal on European heritage values, including archaeological sites, historic road alignments and bridges and road systems, should be undertaken before the project is commenced.
- The Sydney Catchment Authority (SCA) considers the EIS has not demonstrated that the proposal would have a neutral or beneficial effect on the quality of surface waters located off-site, and there is potential for extraction to impact on groundwater levels and discharges to local springs. The SCA considered the proposal has not addressed the matters in clause 10 of *State Environmental Planning Policy No. 58 – Protecting Sydney's Water Supply* in relation to water quality impacts.
- The Roads and Traffic Authority (RTA) recommended the Applicant contribute towards the upgrade of the South Marulan Road and Hume Highway junction, and upgrade the alignment of Jerrara Road (and culverts and bridges) to meet 500-2000 AADT criteria to ensure a safe and efficient local road network.
- The Goulburn-Mulwaree Council advised the proposal in its submitted form was not supported, in particular the deficiencies in offsite traffic impacts. However, Council also requested conditions to cover a range of matters, should consent be granted for the proposal.

The key issues raised by the 112 submissions which objected to the proposal are:

- Increased heavy vehicle movements in a rural community along Oallen Ford Road, King Street, Bungonia, and Jerrara Road, and the adequacy of the rural roads in terms of pavement, shoulder and bridge/culvert widths, road safety and road traffic noise;
- Air quality issues such as dust and particulate emissions along the transport route and the extraction operations;
- Impacts on the groundwater aquifer and surrounding water bores and surface springs, and surface water quality; and
- Vibration impacts on historic buildings and houses in Bungonia village.

The Department has considered the issues raised by the submissions in the following section of this report.

5. CONSIDERATION OF ENVIRONMENTAL ISSUES

The Department has undertaken a detailed review of the Environmental Impact Statement (EIS) and issues raised in submissions received in response to the public exhibition of the development application. The key issues raised by the proposal are:

5.1 Traffic and Transport

Proposed Transport Route

The proposal involves the transport of quarry products by road from the site to the Hume Highway for distribution to local and regional markets (Canberra and Sydney). The proposed transport route between the site and the Hume Highway is via Oallen Ford Road, King Street and Jerrara Road. This route was considered by the Applicant to be the most appropriate after considering several other road and road/rail options (see Figure 4.1 below). The route was considered suitable in terms of route length, road condition, safety, passing opportunities, possible flooding and impacts on community amenity. However, there is no suitable route between the project site and the Hume Highway that bypasses Bungonia Village.

Nearly all the objections to the proposal stated the proposed transport route was inadequate for heavy vehicles. The proposal is likely to jeopardise the safety of people that currently use the proposed route, including school children, local residents and other travellers and truck movements would adversely affect the amenity of Bungonia village and other residences located on the proposed transport route.

The Council has raised major concerns about the off-site impacts of the expected increase in traffic. The Council is the road authority under the *Roads Act 1993* for the proposed transport route. Council's concerns about the traffic impacts are:

- assessment of the entrance of the quarry is not considered to be adequate as little attention is given to the proximity of the entry to the intersection of Lumley Road and Oallen Ford Road;
- technical assessment of the route is inadequate as it does not contain actual measurements of available sight distance, curve geometry, available pavement or vegetation intrusion;
- assessment of the structural integrity of the existing road pavement is inadequate;
- increase in both the overall traffic (approximately 40% above current traffic volumes) and the heavy vehicle traffic (approximately 400%) on the proposed route is considered to be significant; and
- increase in heavy vehicle traffic movements through Bungonia is significant and the increased impact of vibration and noise on residences along the haul route and within Bungonia is considered to be significant.

The Department's assessment of the suitability of the proposed transport route is contained in the following sections of this report.

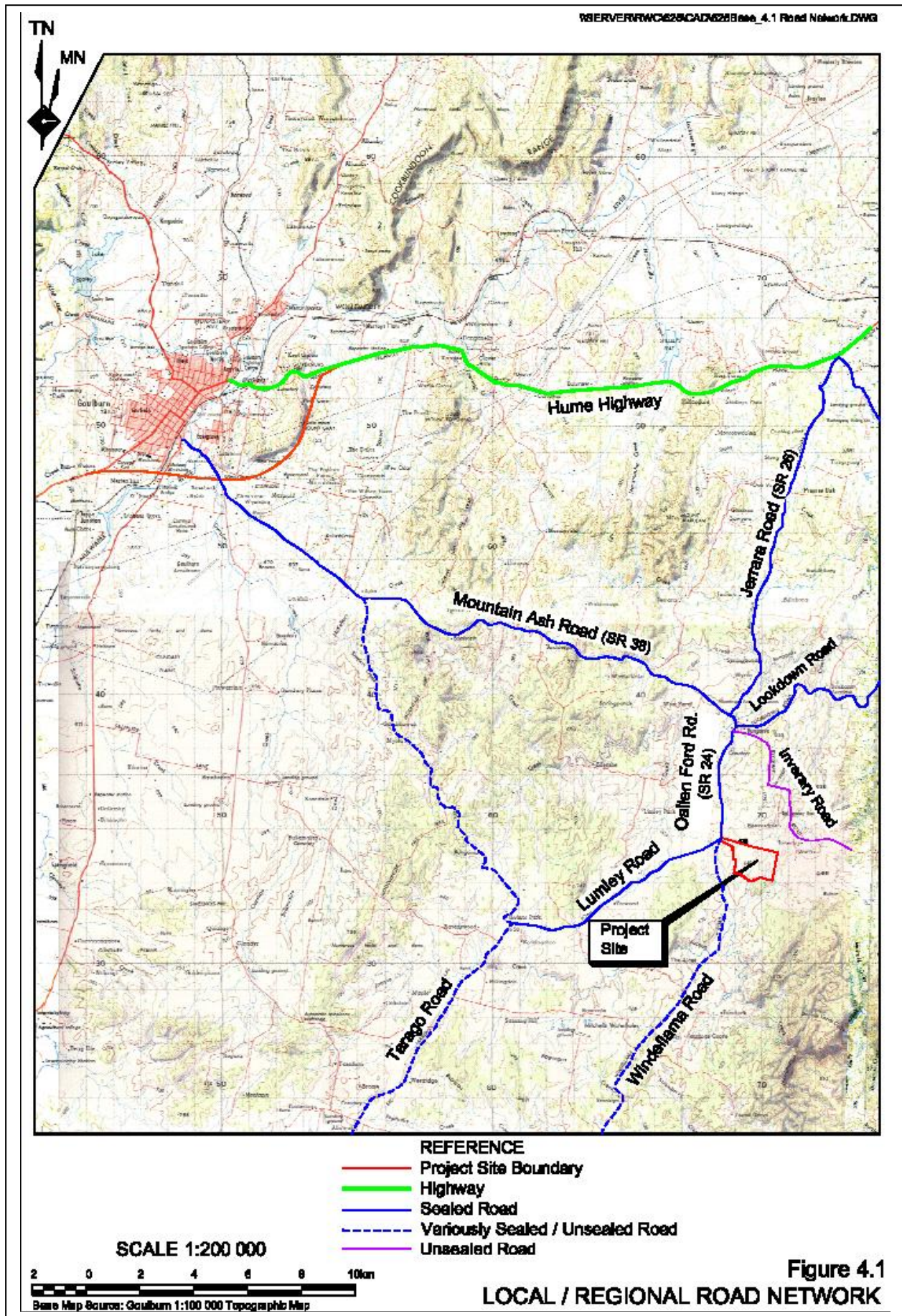
Traffic Generation

The Applicant proposes a phased increase in truck movements, increasing from 28 to 80 per day in 3 phases over a two year period. Truck movements would increase only if the Applicant could demonstrate compliance with environmental criteria, and following community consultation (for the 3rd phase). At the maximum production rate of 400,000 tonnes per year an average of 80 truck movements per day (40 laden trucks out and 40 empty trucks in) or 120 movements during peak periods, is expected to be generated. The total traffic generated by the proposal during average operations (trucks, other commercial vehicles, and cars) is 116 movements, of which 72% are trucks (or 156 movements during peak day, 79% are trucks). The Applicant expects up to a 50% variation in traffic movements between the average and peak generation.

The existing and proposed traffic movements are shown in Table 1 below.

Average Daily Vehicle Movements			Peak Movements	Daily Vehicle	Proportion Heavy Vehicles Jerrara Rd/ Oallen Ford Rd	
	Jerrara Road	Oallen Ford Road	Jerrara Road	Oallen Ford Road	Average %	Peak %
Existing	261	390	-	-	5	10
Additional traffic	116	116	156	156	84	124
Total	377	506	417	546	22/30	17/23

Table 1 – Traffic Generation on Local Roads



The proposal would increase traffic on Jerrara Road by approximately 44% under average daily movements or 60% during peak daily traffic movements. Trucks would comprise 72% and 79%, respectively, of the increased traffic. As a proportion of the total traffic movements on Jerrara Road, trucks would comprise 22% and 30%, respectively. On Oallen Ford Road, traffic movements are predicted to increase by 30% and 37%, with trucks comprising 17% and 23% of the total traffic, respectively.

The Department considers the proposal would result in a significant increase in the traffic movements on the local roads. The number of trucks travelling along the roads would increase by 400%, with current movements estimated to be between 5 and 10 daily. The proportion of trucks would increase from less than 2% to between 22% and 30% of the total traffic.

The Applicant estimates at full production, the proposal would generate 6 truck movements per hour per day (7 on Saturdays), or 9 movements per hour during peak generation. Table 2 below shows average hourly truck movements during the proposed full production working day.

Time Period	Monday-Friday	Saturday
5.00am to 6.00am*	2	2
6.00am to 7.00am*	4	6
7.00am to 8.00am	8	8
8.00am to 9.00am	4	8
9.00am to 10.00am	6	8
10.00am to 11.00am	4	5
11.00am to 12.00 noon	6	6
12 noon to 1.00pm	4	5
1.00pm to 2.00pm	8	8
2.00pm to 3.00pm	4	8
3.00pm to 4.00pm	8	8
4.00pm to 5.00pm	4	8
5.00pm to 6.00pm	6	-
6.00pm to 7.00pm#	6	-
7.00pm to 8.00pm#	4	-
8.00pm to 9.00pm#	2	-
9.00pm to 10.00pm#	2	-
Total	80	80
* - night time period		
# - evening period		

Table 2 – Average Daily Truck Movements Per Hour

These figures could increase by 50% during the peak generation period. During the night time period (5.00am to 7.00am Monday to Friday and 5.00am to 8.00am Saturdays) 3 movements per hour (5 per hour on Saturdays) would be generated. Night time traffic movements would average 3-4 per hour.

The Department considers that the truck movements along the proposed route and through Bungonia to be unacceptable. The environmental impacts on residents along the route would be significant, particularly during periods of peak traffic generation.

Road Infrastructure

The Applicant states the proposed transport route provides the most direct route between the project site and the Hume Highway and the roads provide the necessary carriageway widths. The Traffic Assessment considers that local traffic intersections perform at a high level of service (minimal delay to vehicles) and the roads operate well under capacity.

The Applicant states that the Jerrara Road/Oallen Ford Road route is suitable for the proposal as the Roads and Traffic Authority in 2003 recommended its approval for 25 m B-double Restricted Access

vehicles. The recommendation was subject to the provision of “truck entering” signs on approaches to the Ardmore Park entrance, and no travel during operation of school buses.

It should be noted that the RTA assessment was for a poultry farm development, with a maximum 6 B-double trucks (12 truck movements) per day for the haulage of live poultry and feed associated. The current proposal does not propose the use of B-double vehicles, but truck and trailer combinations with a maximum weight of 50 tonnes Gross Combined Mass, for product movement. Notwithstanding, it is understood that Council (the road authority for the Jerrara Road/Oallen Ford Road route) neither approved B-double access for the poultry farm development, or currently supports B-double access for the proposed quarry.

The Applicant’s traffic assessment noted the RTA’s recommendation was for a different proposal and B-double vehicles are not proposed to be used, however, the assessment is appropriate in its assessment of the proposed route for truck traffic, albeit for a different but larger vehicle. The RTA assessment concluded:

- King Street through Bungonia has sufficient carriageway width on a straight alignment with wide adjacent verge areas that enhance vehicular sight distance of pedestrians;
- The carriageway widths comply with the minimum desirable width of 7.0 m (travel lanes and shoulders) for a low volume road with 100-500 Average Annual Daily Traffic (AADT) movements;
- Owing to the low traffic volumes and extensive sections of reasonably good horizontal and vertical alignment, overtaking lanes are not warranted;
- All road junctions, except the southbound approach to Ardmore Park, comply with the Safe Intersection Sight Distance standards for horizontal and vertical sight distances; and
- Bridges on the proposed routes are suitable for B-double vehicles with a GCM of 62.5 tonnes.

The RTA’s comments on the existing condition of the B-double route are shown in Table 3, below.

Distance from Hume Highway	Remarks
Jerrara Road	
3.0 km	6.4 m pavement, 1.0 m shoulders
9.7 km	Concrete bridge 6.1 m wide
12.5 km	6.0 m pavement, 1.0-0.8 m shoulders
14.5 km	Mountain Ash Road intersection, east bound 300 m sight distance
14.8 km	Bungonia Creek Bridge 6.8 m wide
King Street, Bungonia	
16.1 km	5.6 m pavement, 1 m shoulders
Oallen Ford Road	
17.5 km	5.6 m pavement, 0.8 m shoulders
19.4 km	6.0 m pavement, 1 m shoulders
21.0 km	Ardmore Park entrance – sight distance south bound 200 m, north bound 250 m

Table 3 – Route Assessment

The majority of the 112 objections to the proposal raised concerns at the adequacy of Jerrara Road in terms of its width and condition to cater for the proposed number of truck movements. Two submissions provided a detailed analysis of the route and claim the curves and horizontal alignments of the route do not provide safe sight distances and do not meet current Auspec standards for sight safety, giving examples of where the road does not comply with sight safety distances, and have poor horizontal and vertical alignment. The Applicant’s traffic assessment does not address horizontal and vertical sight distances, and road geometry.

The transport assessment states the proposed transport route comprises a paved road of between 5.6 to 6.4 m in width with unpaved shoulders of between 0.8 to 1.5 m wide. The submissions objecting to the proposal stated the paved road varied in width, ranging from 5.3 m to 6.5 m, with an average width of between 5.6-5.7 m to 6.0 m, which is generally consistent with the Applicant’s assessment.

The RTA's *Road Design Guide* (June 1999) provide guidance in design standards for roads. These are summarised in Table 4 below.

Road Design Guide		
AADT	Lane Width	Shoulder Width
150-500	3.0 m	1.0 - 1.5 m
500-2000	3.0 – 3.5 m	1.0 - 2.0 m

Table 4 – Guidelines for Road Design

The *Road Design Guide* for a two lane rural road with an AADT of 150-500, recommends the sealing of the shoulder from the edge of the sealed lane for a width of 0.5 m. Where the shoulder is 1.0 m wide, then a layby should be provided.

The current roads does not meet the *Road Design Guide* as many sections of the road are less than 6.0 m wide and have varying shoulder widths, from no shoulder to 1.5 m wide unpaved shoulders. No laybys areas are provided where the road shoulder is less than 1.0 m wide.

King Street in Bungonia currently has traffic volumes of more than 500 vehicles per day. The existing lane width of 5.6 m and shoulder of 1.0 m does not meet the design standards of a road carrying more than 500 AADT.

The RTA has recommended that the alignment of the proposed route should be upgraded to meet the 500-2000 AADT criteria to ensure a safe and efficient local road network, and bridges and culverts should be upgraded as necessary. The relevant design guides for a rural road with an AADT of 500-2000 are shown in Table 4. The *Road Design Guide* recommends a lane width of 3.0 – 3.5 m and a shoulder width of 1.0 – 2.0 m. Where the road is carrying a predominantly high percentage of heavy vehicles (20% for 500 AADT) a lane width of 3.5 m is desirable.

The traffic assessment of the proposal predicted traffic volumes on Jerrara Road to increase to 417 vehicles per day (during the peak generation operation). Although this is still within the Low Volume criteria (100-500 AADT) of the RTA's Guidelines, the Department is of the opinion that the current road formation is inadequate for the proposed level and composition of traffic movements. Furthermore, additional development in the area is likely to increase traffic volumes on Jerrara Road above 500 AADT. With traffic volumes on Oallen Ford Road and King Street currently between 400-500 vehicles per day, the proposal would increase traffic volumes on these roads over 500 AADT. It is therefore appropriate that the proposed transport route should be upgraded to a design standard for a 500-2000 AADT capacity to cater for the proposed increase in traffic movements. The appropriate standard is a 3.5 m wide lane with 2.0 m shoulder (1.0 m wide with the provision of a layby), sealed for a distance of 0.5 m from the edge of the pavement seal.

The traffic assessment states that the primary access intersection to the Hume Highway at Marulan has been designed to accommodate all vehicle types and operates without significant delays. This is primarily because traffic flows on the local/regional approach roads to the Hume Highway are low.

The RTA's submission on the proposal recommended that the Applicant undertake an assessment of the impact of the proposal on the intersection of Jerrara Road/South Marulan Road with the Hume Highway. The traffic assessment for the proposal is silent on the impact of the increased traffic volumes on this intersection. The RTA noted that the cumulative impact of development in the area will have a significant impact on this intersection and recommends that the Applicant contribute towards the upgrade of the intersection.

The Department is of the opinion that the Applicant's traffic assessment has not adequately considered the Hume Highway intersection and that a proper analysis of the impacts of the proposal on this intersection must be undertaken. The assessment must consider the cumulative impacts of the Readymix hard rock proposal (Lynwood Quarry), and existing and proposed operations at the Blue Circle South Marulan site. Preliminary investigations undertaken for the Readymix proposal indicate that an upgrade (grade separated) of the intersection will be required. Given that the Ardmore Park proposal will

significantly increase heavy vehicle movements at this intersection it is appropriate that an assessment of the intersection should be carried out, including any works required for the intersection's upgrade.

The Applicant has not proposed to undertake any road improvement or road upgrading works to accommodate the increase in traffic movements. In the absence of any road and intersection improvement works, the Department considers the existing roads are inadequate for the proposed increase in traffic, particularly heavy vehicles. Although the Applicant's structural assessment of the condition of the roads considered the existing pavement was in good condition, the Department considers the existing road alignment and condition does not facilitate the safe travel of heavy vehicles and minimisation of conflict with other road users.

Road Safety

The majority of the submissions objecting to the proposal raised concerns about the safety of residents and others using Jerrara Road. The key road safety concerns raised by the community are:

- Narrow width of the road would force trucks to travel in the centre of the road.
- The road shoulders are too narrow or non existence.
- Certain sections of the road have deep gullies or steep embankments with little or no road shoulder.
- Hazards such as overhanging roadside vegetation.
- Safety of the school bus route – the bus stops on the road to pick/set down as there are no bus stops and the road shoulder is too narrow for the bust to pull off the road.
- Concealed and hidden driveways/entrances and poor sight distance visibility.
- The speed limit of 100 km/hour is too high for the existing road.
- Narrow bridges and culverts which do not have guardrails.
- Frequency of fog and black ice conditions.

Many submissions provided graphic examples of these deficiencies and stated the road should be upgraded by the Applicant to permit the proposed number of truck movements.

The Applicant states that conflict with the school buses can be resolved with communication with truck drivers. No specific measures are provided as to how the communication is undertaken. Under the proposal an average of 6 truck movements per hour would occur when the school bus service was operating (9 per hour during peak production). This is a frequency of one truck movement every 10 minutes or 7 minutes under peak production periods. The RTA assessment for use of the route for B-double vehicles recommended no travel during the morning (7.00am to 9.30am) and afternoon (3.00pm to 5.30pm) school bus services.

The Department considers that Jerrara Road in its existing form has significant constraints for the proposed heavy vehicle use. Without an upgrade to the road's alignment and geometry, sight lines, bridge and culvert widths, and the occurrence of concealed driveways and the school bus operation, there are major road safety implications associated with the proposed level of heavy vehicle movements. Furthermore, no consideration has been made of the impacts of weather conditions on the road, such as the frequency and duration of fog and black ice conditions. The Applicant has not proposed any road works to upgrade/improve the road network to accommodate the proposed increase in traffic volumes generated by the proposal. The Department does not support the proposed use of Jerrara Road as a heavy vehicle transport route in its existing condition.

Residential Amenity

The majority of the submissions raised concerns at noise impacts from road noise, engine noise and compression braking on residents living along the transport route. Concern was also raised at the impacts of vibration on historic buildings and homes in Bungonia Village.

The EIS identified approximately 71 dwellings with frontage to the proposed transport route between the site and the Hume Highway. Dwellings located along Jerrara Road were located between 36 m and 360 m from the road, and along Oallen Ford Road, between 50 m and 360 m. Within Bungonia, 5 dwellings front King Street, and these are located between 17 m and 35 m from the road.

The Applicant's noise assessment concluded that noise generated by trucks travelling at 100 km/hour complied with the DEC's *Environmental Criteria for Road Traffic Noise*. The noise generated by a truck travelling at 100 km/hour was at least 3 dB(A) lower than a truck travelling at 50 km/hour. However, in Bungonia Village the houses fronting King Street were subjected to high noise levels during the Phase 3 traffic movements. At a distance of 17 m from the road the noise levels exceeded the noise criteria by 1 dB(A) during daytime peak movements, and by 3 dB(A) during night time peak movements (5.00am to 7.00am).

The DEC has advised that the assessment of road traffic noise is inadequate and that further noise assessment was required. No mitigation measures are proposed to offset the noise exceedances. Accordingly the DEC advised that it would grant general terms of approval that restricted operation of the proposal between the hours of 7.00am to 7.00pm Monday to Friday and from 7.00am to 5.00pm on Saturdays.

The Department considers the transport noise assessment to be inadequate as it has not being undertaken in accordance with the DEC's *Environmental Criteria for Road Traffic Noise*. No noise mitigation measures are proposed where the noise criteria are exceeded. Given that the DEC has recommended the restriction of the operational hours and the proposed prohibition on truck movements during the operation of the school bus services, the frequency of truck movements through Bungonia Village would increase, to one truck every 6 minutes under average operations or one every 4 minutes during peak operations. The prohibition on night time (5.00am to 7.00am) movements would improve the amenity for residents, however, the increase in frequency during the day time period would result in significant adverse impacts on residents that are close to the road.

The Applicant undertook vibration measurements of truck movements through Bungonia Village to assess vibration impacts. The measurements were undertaken at a dwelling located 35 m from the road. A Peak Particle Velocity (PPV) of 0.5 mm/sec was recorded. Based on this measurement, predictions were made of vibration impacts at a distance of 17 m from the road (1.5 mm/sec) and at a location 35 m from a truck travelling at 100 km/hour (2 mm/sec). The relevant criterion for structural damage to a dwelling is a PPV of 5 mm/sec. The Applicant states the proposal complies with the relevant structural damage criteria.

The criterion for damage to heritage structures is 2.5 mm/sec. Although the buildings and dwellings in Bungonia Village are not heritage items under the Mulwaree Local Environmental Plan 1995, the predicted vibration levels are well below the most stringent damage criteria. The vibration assessment concluded that impacts from trucks passing through the village would have negligible impact on buildings and structures.

However, the vibration assessment did not consider impacts on human comfort levels.

The Department considers that the proposed traffic movements generate noise impacts during the night time period at peak operation and would result in unacceptable adverse impact on residents along the transport route and Bungonia Village. No measures are proposed to mitigate the noise impact from trucks travelling through Bungonia Village.

5.2 Social Impact

The EIS has concluded the Bungonia area is valued more for its amenity and aesthetic values than for the economic value of the land uses carried out on the land. The values of the local community were identified as:

- Aesthetic value of the rural/bushland landscape – the quarry may impact on the scenic quality of the existing environment.
- Peace and quiet of the rural setting – Bungonia Village offers a peaceful and quiet setting. There is concern the introduction of heavy vehicles through the area would disturb the peace and quiet of the area.
- Community amenity and lifestyle – many people have chosen to live in the area to maintain a quiet lifestyle away from urban areas and enjoy a small community lifestyle. This would be negatively affected by truck movements and new workforce in the area.
- Economic activities – concern over the impact of the quarry and ongoing viability of other uses.

The Applicant states the introduction of an average of 80 heavy truck movements per day has the potential to negatively impact on the existing peace and quiet and lifestyle of the community. However, these impacts can be reduced by the staged increase in truck movements and adherence to operational safeguards and management measures.

The majority of submissions objected to the proposal because of the impact of truck movements on the lifestyle and amenity of Bungonia Village and the surrounding area.

The proposal increases traffic movements through Bungonia by 40 to 60% or a 400% increase in the number of truck movements. Truck movements would comprise between 20 to 30% of the total traffic. The EIS has predicted there are likely to be noise impacts on residents in King Street, Bungonia during the night time period (5.00am to 7.00am). However, the Applicant has not proposed mitigation measures to reduce noise impacts. The EIS has considered vibration impacts on buildings and structures and concluded that vibration impacts from truck movements are within relevant building damage standards. However, the EIS has not considered vibration impacts on human comfort levels.

The increase in truck movements through Bungonia Village would have a significant impact on the amenity and lifestyle of residents and commercial and community uses. Bungonia is likely to change from a quiet rural village to a thoroughfare for heavy vehicles, at a frequency of an average of 6 to 9 trucks per hour during the day time period, or with the restricted operational hours recommended by the DEC and taking account of restrictions on truck movements during the operation of the school bus routes, of 10 movements per hour (or 15 per hour during peak production). The Department considers the proposal has a significant social impact on the Bungonia Village and the proposed transport through the Village is not supported.

The Department considers that the Applicant has failed to demonstrate that an appropriate level of infrastructure service will be in place to accommodate the proposed 30 year transport task, and that the transport task itself, will not have an unacceptable impact on both public safety, residential amenity.

The Department strongly believes that the predicted increase in heavy vehicle movements through Bungonia will result in a net overall detriment to the village. Bungonia currently experiences limited heavy vehicle movements. The predicted increase of up to 120 heavy vehicle movements coupled with a settlement pattern that focuses on the main thorough fare and proposed transport route, is likely to result in long term and adverse social implications as flow on affects such as pedestrian safety and the physical and visual separation of town functions affect both the economic and social integration of the community.

5.3 Noise

A noise assessment of the proposed sand and basalt extraction was undertaken by the Applicant in accordance with the *NSW Industrial Noise Policy*. The modelling found that under various operational scenarios there were minor to moderate exceedances at some residences (see Table 5 below).

Monitoring Location	Project Specific Noise Levels L_{Aeq} (15 min)	Predicted L_{Aeq} (15 min) Day	Evening
Scenario 2 – Southern Sand Extraction Area – Stage 2			
Residence 1	35	30	31
Residence 2	35	30	29
Residence 3	35	31	32
Residence 4	35	34	34
Residence 5	35	36	37
Residence 6	35	24	24
Residence 7	35	39	39
Residence 8	35	19	20
Scenario 3 – Basalt and Central Sand Extraction Area – Stages 1 and 11			
Residence 1	35	35	36
Residence 2	35	32	33
Residence 3	35	36	36

Residence 4	35	34	34
Residence 5	35	35	36
Residence 6	35	21	21
Residence 7	35	39	39
Residence 8	35	22	23

Table 5 – Predicted Operational Noise Levels

Exceedances of up to 4 dBA were predicted to occur at residence 7, the closest residence to the fixed plant and mobile equipment activities, during sand extraction from the Southern Extraction Area and basalt and sand extraction from the Central Extraction Area in the daytime and evening periods. Minor exceedances of 1-2 dBA above the project specific noise levels were predicted to occur at residence 5 during sand extraction from the Southern Extraction Area. Similar minor exceedances were predicted to occur at Residences 1, 3 and 5 during the evening period from extraction activities in the Central Extraction Area.

The Applicant proposes to implement a number of mitigation measures to reduce noise impacts from the operation of the proposal. These are:

- The sand and hard rock processing plants would be cut to a depth of 6 m and 7 m, respectively below the ground level to provide a barrier for noise emissions from these areas;
- Enclosure of the crushers and screens in the hard rock processing area to reduce noise emissions from crushing and screening activities; and
- Construction of a 4 m high bund along the south western boundary close to the two processing areas to shield the activities from the 2 closest residences (5 and 7).

However the noise assessment did not consider the dispatch of product between the night time hours of 5.00AM to 7.00AM (Monday to Saturday). The Department of Environment and Conservation has advised that with the agreement of the Applicant to limit quarry operation between the hours of 7.00AM to 7.00PM Monday to Friday and 7.00AM to 6.00PM on Saturdays, DEC is able to issue general terms of approval for the proposal. These include noise levels based on the levels predicted by the Applicant's noise modelling.

The Department is satisfied that sand and basalt extraction and processing is unlikely to have a significant impact on the amenity of surrounding residences, subject to the implementation of mitigation measures outlined in the noise study, and restricted operational hours.

5.4 Water Quality

Surface Water

The Applicant proposes to construct or modify dams on the property for water storage used in sand washing and dust suppression. There is not expected to be an increase in the volume of surface water harvested on the site or surface water exiting the site. The Applicant proposes to implement erosion and sediment control measures to prevent discharge of surface water from the site.

The Sydney Catchment Authority considered the proposal could be designed, constructed and operated to contain surface water quality impacts on the site. The quarry would need to be stringently regulated over the life of the development to ensure that water quality management practices are adhered to. The Sydney Catchment Authority considered there was insufficient information to determine whether the proposal had a neutral or beneficial effect on the quality of surface waters off-site.

The site is within the catchments of the Shoalhaven River, which is within Sydney's drinking water catchment. Submissions from a number of local land care groups expressed concern that the proposal would have an adverse impact on the water quality of Jacqua Creek and Inverary Creek, and riparian vegetation and wetlands rehabilitation works undertaken by landowners..

The Department has reviewed the soil and water management assessment and is generally satisfied that the water quality impacts can be managed and mitigated through the implementation of the proposed control measures and regular maintenance and monitoring of these measures.

Groundwater

The Applicant proposes to extract up to 100 ML/year of groundwater for use in the sand and hard rock processing areas and dust suppression. The majority of the water usage of the quarry would be sourced from the groundwater as limited surface water runoff is expected to be harvested. The potential impacts on groundwater are extraction of water from the underlying aquifer and removal of groundwater from the Southern Sand Extraction Area. The Applicant proposes mitigation and compensatory measures should the proposal impact on flow rates and water quality of local springs and bores. The measures include reduction in pumping rate or processing rate at the quarry, provision of a replacement bore or supply of groundwater to the affected water user. The hydrogeological assessment of the groundwater concluded the proposed pumping rate would have minimal impact on the surrounding aquifer systems and water users.

The Department is satisfied the methodology used to assess the impacts of the proposal is sound and the conclusions reasonable. The proposed water supply bore was drilled to a depth of 124 m and test pumping results confirm the bore could provide the water supply needs for the proposal. Given the depth of the aquifer, impacts on registered bores (typically 30 to 50 m in depth), shallow springs or groundwater dependent ecosystems in the area is likely to be very low. The Applicant has given a commitment to monitor groundwater levels and would undertake mitigation and compensatory measures should the monitoring indicate a negative impact. The Department has concluded that a water licence under the *Water Act 1912* could be granted to the Applicant for the extraction of groundwater from an existing bore on the property for the proposal.

5.5 Air Quality

The air quality modelling of the proposal concluded that the sand and basalt extraction, processing and stockpiling of material would comply with the DEC's air quality goals at all surrounding residences. The results of the air quality modelling are shown in Table 6 below.

Dust – Annual Average (g/m² /month)			
Monitoring Location	Background	Predicted Levels	Air Quality Goal
Scenario 1			
Residence 1	2.0	2.3	4.0
Residence 2	2.0	2.3	4.0
Residence 3	2.0	2.5	4.0
Residence 4	2.0	2.3	4.0
Residence 5	2.0	2.3	4.0
Residence 6	2.0	2.5	4.0
Residence 7	2.0	2.5	4.0
Scenario 2			
Residence 1	2.0	2.5	4.0
Residence 2	2.0	2.4	4.0
Residence 3	2.0	2.7	4.0
Residence 4	2.0	2.3	4.0
Residence 5	2.0	2.3	4.0
Residence 6	2.0	2.5	4.0
Residence 7	2.0	2.6	4.0

PM₁₀ – 24-hour Average (µg/m²)				PM₁₀ – Annual Average (µg/m²)		
Monitoring Location	Background	Predicted Levels	Air Quality Goal	Background	Predicted Levels	Air Quality Goal
Scenario 1						
Residence 1	44.7	45.3	50.0	18.0	18.3	30.0

Residence 2	44.2	45.8	50.0	18.0	18.2	30.0
Residence 3	44.3	46.1	50.0	18.0	18.4	30.0
Residence 4	44.7	44.7	50.0	18.0	18.3	30.0
Residence 5	44.7	44.7	50.0	18.0	18.4	30.0
Residence 6	44.7	44.7	50.0	18.0	18.6	30.0
Residence 7	44.7	44.7	50.0	18.0	18.7	30.0
Scenario 2						
Residence 1	44.7	45.5	50.0	18.0	18.6	30.0
Residence 2	44.2	47.7	50.0	18.0	18.4	30.0
Residence 3	44.3	48.1	50.0	18.0	18.7	30.0
Residence 4	44.7	44.7	50.0	18.0	18.4	30.0
Residence 5	44.7	44.7	50.0	18.0	18.5	30.0
Residence 6	44.7	44.7	50.0	18.0	18.7	30.0
Residence 7	38.6	47.2	50.0	18.0	18.9	30.0

Table 6 – Predicted Dust Emission Levels

The two scenarios modelled were:

- Scenario 1 – sand extraction in Stage 2 of the Southern Sand Extraction Area and both sand and basalt extraction in Stage 1 of the basalt and Central Sand Extraction Area.
- Scenario 2 - sand extraction in Stage 6 of the Southern Sand Extraction Area and both sand and basalt extraction in Stages 1 and 2 of the basalt and Central Sand Extraction Area.

The modelling predicted that dust deposition levels and Particulate Matter (PM₁₀) generation by the proposal would be well within the DEC's air quality goals, at the nearest residential locations. Similarly PM_{2.5} and silica dust particles are well within the air quality goals for the site. Dust control measures such as using water sprays in the crushing plant and watering of haul roads would be implemented to minimise dust generation. The Applicant proposes to implement a deposited dust monitoring program, with dust gauges located at the three nearest residences to demonstrate compliance with the air quality goals.

The application of *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development* (SEPP33) to the proposal has been raised in submissions. It is suggested that the proposal can be characterised as "potentially hazardous development" or "potentially offensive development" as the PM_{2.5} dust emissions have the potential to affect human health, and dust emissions are exacerbated by the lack of a buffer between the proposed development and adjoining properties.

The Applicant has considered SEPP 33 in relation to storage of diesel on the site and concluded that the proposal does not constitute potentially hazardous or potentially offensive development as the amount of diesel fuel stored is below 50,000 litres and the storage area is more than 20 m from other infrastructure or activities.

Under SEPP 33 potentially hazardous development requires the submission of a preliminary hazard analysis (PHA) which has been prepared in accordance with the Department's Hazardous Industry Advisory Guidelines. In this case the proposal does not constitute potentially hazardous development as the quantity of dangerous goods or materials stored on the site is below the threshold requiring a PHA. The key consideration for assessment of a potentially offensive development under SEPP 33 is that there are adequate safeguards to ensure emissions can be controlled to a level at which they are not significant. The quantity and nature of discharges and the significance of the offence likely to be caused by the development, having regard to the nature of the surrounding land use and the proposed controls, are matters to be considered by the consent authority. The Department does not consider the proposal is "potentially offensive development" under SEPP 33 as dust emission levels comply with DEC's air quality criteria. The worst case 24-hour average PM_{2.5} level is estimated to be of the order of 14 µg/m³. The annual average PM_{2.5} level is estimated to be of the order of 6 µg/m³. The DEC air quality goals are 25 µg/m³ and 8µg/m³, respectively. The proposal therefore complies with the relevant goal. Furthermore, the DEC has advised it is able to grant general terms of approval for the proposal, which include a condition requiring the Applicant to undertake air quality monitoring of the operation of the quarry.

The Department is satisfied that the operation of the proposal has no significant adverse air quality impact on adjoining residences.

5.6 Flora and Fauna

The majority of the property has been cleared for grazing with isolated pockets of remnant native vegetation, individual native trees and stands of introduced trees within a grassland community. The proposed areas to be disturbed are mainly within the exotic grassland pastures. The proposal does not affect the remnant bushland vegetation. The Flora and Fauna Assessment of the proposal concluded there would be no significant impact on threatened species or their habitats.

The Applicant proposes to undertake landscaping and revegetation of the site to provide screening and stabilisation of soils and drainage lines, and as part of the rehabilitation of the site. The proposed works include revegetation to provide linkages between the remnant bushland areas in the north western part of the site with adjoining remnant vegetation to the south, and planting of native species along the ridgelines and drainage lines of the final landform.

The Department is satisfied that the proposal has no significant impact on threatened species or their habitats and the proposed revegetation of the site would provide potential habitats for native fauna in the area and the nearby Morton National Park.

5.7 Visual

The proposal is likely to have varying degrees of visibility to the local community. Residences to the west would have views to part of the internal roads, processing areas and extraction areas. The residences to the east would have distant views to the extraction areas. Residences to the south would have distant views of the quarry operations for up to a distance of 3 km, although the topography would act to provide varying degrees of visual screening.

The Applicant states that the location of the processing areas up to 5-6 m below ground level would reduce the visibility of the plant. Furthermore, the planting of native grasses, shrub and tree species on the 4 m high noise bund would provide visual screening of the bund and the quarry operations from the west. The Applicant states that revegetation of the site and vegetation of the bund walls would reduce the visual impact of the proposal.

The proposal would result in alterations to the views of the property from surrounding residences, however, with the construction of a visual/noise bund and revegetation of the site, over time the visual impacts would be minimised. The creation of a final landform that replicates the topography of the site and the revegetation of the ridge lines and drainage lines and connection of the remnant pockets of native bushland with adjoining bushland would improve the current cleared pastures of the property.

5.8 Heritage

An Aboriginal heritage assessment of the surface of the property in July 2004 found two Aboriginal archaeological sites, consisting of two artefact scatters near drainage lines in the northern part. No sites were discovered in the proposed extraction areas. The assessment recommended the carrying out of subsurface test pitting in the proposed extraction areas to determine if archaeological material is present and to determine the significance of any such material.

The Applicant stated that no European heritage items were identified on or surrounding the project site.

The NSW Heritage Office noted that no assessment of European heritage was undertaken for the proposal. The NSW Heritage Office recommended the preparation of a heritage assessment and the impact of the proposal on heritage values prior to the project commencing.

The Department supports the Aboriginal heritage assessment's conclusions and recommendation for further sub surface archaeological assessment. Similarly the NSW Heritage Office's recommendations for further assessment of European heritage values, is supported.

6. SECTION 79C CONSIDERATION

Section 79C of the Act sets out the matters that a consent authority must take into consideration when it determines a development application. The Department has assessed the DA against these matters (see Appendix A) and concludes that the proposal should be refused on the following grounds:

- The traffic impacts of the proposed development has significant adverse amenity and social impacts on Bungonia from the proposed transport route;
- The inadequate transport route; and
- The proposal as submitted is not in the public interest.

7. CONCLUSION

The Department has assessed the DA and the EIS, the submissions received on the proposal from public authorities and the general public, in accordance with the provisions of section 79C of the Act.

This assessment has found that the Multiquip proposal would generate some economic benefits to the construction industry, by producing up to 400,000 tonnes of sand and hard rock products for the Sydney, Goulburn and Canberra markets, and generating employment for up to 24 people. It is recognised that there is a significant resource of sand and basalt on the site that would provide a long term supply to the various markets.

The Department's assessment has concluded that site specific issues associated with the construction and operation of the sand and hard rock quarry on the Ardmore Park site could be managed and mitigated through appropriate conditions of consent. The Department of Environment and Conservation has indicated it is able to grant general terms of approval for the proposal.

Notwithstanding, the Department has concluded that the proposal would generate significant and unacceptable environmental impacts on the community along the proposed transport route:

- road safety impact on the Jerrara Road/Oallen Ford Road users and residents;
- noise and amenity impacts on the Bungonia Village residents; and
- inadequate condition of the road for the proposed number of heavy vehicle movements.

The Department is of the opinion that the existing condition of Oallen Ford Road, King Street and Jerrara Road is inappropriate for a 400% increase in heavy traffic movements that comprise some 22-30% of vehicles. The proposed transport route has major constraints for the operation of heavy commercial vehicles in the absence of major road upgrade works. No commitment to these upgrade works has been submitted by the Applicant.

On the basis of the above, the Department concludes that approving the proposed Ardmore Quarry as proposed, would result in implications contrary to the public interest as it has not been demonstrated with any certainty that significant environmental and social impacts can be reasonably mitigated and managed.

8. RECOMMENDATION

It is recommended that the Minister:

- (1) Consider the contents of this report prior to making his determination on the Development Application in accordance with Section 80 of the *Environmental Planning and Assessment Act 1979*; and
- (2) Not approve the development application (DA-10-1-2005) submitted by CEAL Limited.

Endorsed

David Kitto
**Manager, Mining & Extractive Industries
Major Development Assessment**

Sam Haddad
Deputy Director-General

CONSIDERATION UNDER SECTION 79C

Section 79C of the *Environmental Planning and Assessment Act 1979* requires the consent authority, when determining a development application, to take into consideration the following matters:

(a) The provisions of:

(i) any environmental planning instrument;

The following environmental planning instruments apply to the proposed development.

- *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development;*
- *State Environmental Planning Policy No. 44 – Koala Habitat Protection;*
- *State Environmental Planning Policy No. 55 – Land Remediation;*
- *State Environmental Planning Policy No. 58 – Protecting Sydney's Water Supply; and*
- *Mulwaree Local Environmental Plan 1995.*

State Environmental Planning Policy No. 33

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33) applies to any proposed development that has the potential to create an off-site risk or offence to people, property or the environment.

The Applicant has considered SEPP 33 in relation to storage of diesel on the site and concluded that the proposal does not constitute potentially hazardous or potentially offensive development as the amount of diesel fuel stored is below 50,000 litres and the storage area is more than 20 m from other infrastructure or activities.

The Department does not consider the proposal to be “potentially offensive development” under SEPP 33 as noise and air quality levels comply with the relevant DEC standards. The Applicant has proposed to implement mitigation and management measures to minimise the environmental impacts of the proposal. The DEC has issued its general terms of approval under the *Protection of the Environment Operations Act 1997*.

The Department has concluded SEPP 33 does not apply to the proposal.

State Environmental Planning Policy No. 44

State Environmental Planning Policy No. 44 – Koala Habitat Protection (SEPP 44) applies to development applications that are located on land that is potential koala habitat. Potential koala habitat is defined as areas of vegetation where trees providing food for koalas comprise at least 15% of the total number of trees. The flora and fauna assessment found 2 koala feed tree species of the 4 native trees within the area to be disturbed by the proposal. Although this exceeds 15% of the trees present on the site, the Applicant concludes these do not represent potential koala habitat. The Department concurs with this and agrees no further assessment under SEPP 44 is required.

State Environmental Planning Policy No. 55 – Remediation of Land

State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55) introduces state-wide planning controls for the remediation of contaminated land. The Policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The subject land does not require any site remediation, therefore SEPP 55 does not apply to the proposed development.

State Environmental Planning Policy No. 58 – Protecting Sydney's Water Supply

State Environmental Planning Policy No. 58 – Protecting Sydney's Water Supply (SEPP 58) aims to ensure that any development in Sydney's drinking water catchments has a neutral or beneficial effect on water quality. The site is within the Shoalhaven River catchment and SEPP 58 applies to the proposal. The Applicant states that surface water discharged from the site would not be significantly different to that of other properties and dams, and that the diversion and settlement of surface water may result in improvements in the quality of water entering the catchment. Soil and water management measures are proposed to control and monitor water quality. The Department is satisfied that water quality mitigation and management measures can be implemented to ensure that water discharged off the site has no significant adverse impact on the water supply catchments. The proposal is considered to be consistent with the aims of SEPP 58 to protect the water quality of Sydney's drinking water catchment.

Mulwaree Local Environmental Plan 1995

The Mulwaree Local Environmental Plan 1995 (LEP) applies to the proposed quarry site and the transport route. The Department considers the proposal is consistent with the objective of the General Rural zone of the Ardmore Park property, to promote, enhance and protect valuable deposits of extractive materials to ensure their efficient extraction.

The proposed transport route is through the Bungonia Village. Bungonia is zoned 2V under the LEP. One of the objectives of the Village zone is to improve the amenity of residential, commercial, civic and community uses within the towns and villages. The Department is of the view the transport route through Bungonia is inconsistent with this objective. The impacts generated by trucks travelling through Bungonia are significant and are likely to result in adverse impacts on the amenity of residents, and commercial and community uses in the village.

- (ii) any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority;**

Draft Drinking Water Catchments Regional Environmental Plan No. 1 – Sustaining the Catchments

The Draft Drinking Water Catchments Regional Environmental Plan No. 1 – Sustaining the Catchments applies to the proposal and requires development within the drinking water catchment to demonstrate a neutral or beneficial effect on water quality. The proposal incorporates soil and water management and mitigation measures to ensure that the quality of water discharged from the site has minimal adverse impact on the Shoalhaven River catchment. The Department is satisfied that measures can be put in place to manage the off-site water impacts of the proposal.

- (iii) any development control plan;**

Mulwaree Section 94 Development Contributions Plan

The Mulwaree Section 94 Development Contributions Plan requires extractive industries to contribute towards the maintenance of roads to cover the increased level of road deterioration.

- (iv) any matters prescribed by the regulations that apply to the land to which the development application relates;**

Clause 92 of the *Environmental Planning and Assessment Regulation 2000* requires the following matters to be taken into consideration by a consent authority in determining an application:

- **The Government Coastal Policy (where relevant);**
N/A
- **In the case of a DA for the demolition of a building, the provisions of Australian Standard AS 2601-1991: The demolition of structures, as in force 1 July 1993;**
N/A

- (b) the likely impacts of that development, including environmental impacts on the natural and built environments, and social and economic impacts in the locality;**

Section 5 of the Assessment Report considers the environmental impacts of the proposed development in detail. The Department is satisfied that the environmental impacts of the quarry operation (extraction and processing) on the Ardmore Park property can be appropriately managed and mitigated. The DEC has issued its general terms of approval for the proposal under the *Protection of the Environment Operations Act 1997*

However, the Department is of the opinion that significant adverse environmental impacts on the Bungonia Village and residents are likely to be generated by heavy vehicle usage of the proposed transport route. The number and frequency of heavy vehicles (400% on present heavy vehicles and comprising up to 30% of all vehicles) using King Street through Bungonia Village is considered to have significant amenity impacts on residents, commercial and community uses. The social impacts of the proposed truck route through Bungonia are significant, increasing noise and vibration impacts, traffic safety and significantly impacting on a rural village. The number of truck movements along King Street generated by the proposal during the day time period would average 6 trucks per hour (or 9 during peak operations). This frequency of movement is considered to have a significant impact on the existing situation of 2-3 per day and changes the scale of traffic to an industrial use rather than village.

The Department concludes the proposed transport route has significant adverse environmental impacts on the amenity and social impact of Bungonia Village. The Applicant has not adequately considered upgrading the proposed transport route, including bypassing Bungonia, to accommodate the number and frequency of truck movements.

(c) *the suitability of the site for the development;*

The Department is satisfied that there is a regionally significant sand and hard rock resource on the Ardmore Park property and that its extraction and processing can be managed and mitigated to ensure that there are no significant adverse impacts on the surrounding community and environment.

However the Department is not satisfied that the proposed transport route is appropriate for the number and frequency of truck movements. In particular there are concerns about the adequacy of the road network in terms of traffic safety for road users and residents, poor condition of the road, and the amenity impacts of noise and vibration on Bungonia Village.

(d) *any submissions made in accordance with this Act or the regulations;*

The majority of the 112 submissions which raised objection, from the 120 submissions received on the proposal, stated that the proposed transport route was inadequate to cater for the number of truck movements. The main reasons were the poor condition of the roads, road safety, conflict with a school bus route and residents, and the impacts on Bungonia Village. The Department has concluded that the proposed transport route has significant adverse amenity and social impacts on Bungonia Village.

Other issues raised in submissions mainly related to noise, dust, groundwater, surface runoff, vibration and visual impacts of the Ardmore Park property extraction operations. The Department's assessment has concluded that the proposed quarry operations can be managed and or mitigated.

(e) *the public interest.*

The Department notes that the site contains a significant resource of sand and hard rock, which would provide some local and regional economic benefits. The extraction of the material can be managed and mitigated through appropriate controls and measures.

However, the proposed transport route through Bungonia Village and along roads which are in poor condition has significant constraints. The movement of heavy trucks through Bungonia Village has noise and vibration impacts, which result in adverse amenity and social impacts on its residents, and commercial and community uses. The Applicant has not stated how these impacts would be managed or mitigated.

The existing conditions of Jerrara Road, Oallen Ford Road and King Street are in a poor state and considered not to be of a suitable standard to accommodate the proposed increase in traffic movements, particularly of heavy vehicles. The Applicant has not proposed upgrade works to the transport route to improve its suitability and safety for the proposed truck movements.

The Department concludes that the proposal, in particular the proposed transport route, has significant physical and social constraints, and it is not in the public interest to approve the development in its current form.