EIS 1311

AB020068

Corndale Quarry : a development application and statement of environmental effects in respect to a proposal by Corndale Quarries Pty Ltd for continued use of the subject quarry at an average production level of 49,700 m3 per annum

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CORNDALE QUARRY

A Development Application and Statement of Environmental Effects in respect to a proposal by Corndale Quarries Pty Ltd for continued use of the subject quarry at an average production level of 49,700 m^3 per annum.

Prepared by:
The GeoLINK GROUP Pty. Ltd.
Engineers, Planners & Landscape Architects
1/64 Ballina Street
LENNOX HEAD NSW 2478
Ref: 68293243
June, 1994

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Summary

This Summary provides a preamble to the Statement of Environmental Effects, covering the proposal by Corndale Quarries Pty Ltd for the continued use of the Corndale Quarry on land described as Lot 2 DP 716264, James Gibson Road, Corndale, Parish of Bexhill, at an average annual production level of 49,700 m^3.

The Summary describes:

1. The purpose of the document
2. Site Planning Objectives
3. Proposed Development
4. Review of Potential Impacts
5. Project Justification.

Purpose of Document **1.**

This Statement of Environmental Effects assesses the environmental effects of a proposal within the scope of the requirements described in Annexure 2 of Lismore Development Control Plan No. 29 - Extractive Industry (DCP No. 29), to extend the production of Corndale Quarry from its current registered production level of 20,000 m^3 per annum to an average annual production rate of 49,700 m^3.

The report has been prepared to assess the environmental implications of the abovementioned quarrying activities at the existing at James Gibson Road site, and to assist Council and other authorities involved in consideration of the development proposal.

Site Planning Objectives **2.**

The following site planning objectives have been adopted for the purpose of the subject proposal:

- to continue to undertake quarry operations on the site in an efficient and workmanlike manner;
- to implement sound management of the site and the resource therein;
- maintain the operator's market share and meet anticipated demands for the next 11 to 15 years;

- define the long term sequence of extraction for Corndale Quarry and define operational and management procedures which seek to address environmental effects associated with extractive use of the site; and
- define the finalised topography of the quarry site and establish measures to ensure site rehabilitation.

Proposed Development 3.

The Corndale Quarry commenced operations sometime prior to 1960. For many years it has been a valuable source of road construction materials such as crushed gravel, aggregates, natural gravel and metal dust.

The current owner, ARM Property Developments Pty Ltd, took over operation of the quarry early in 1992. Following protracted negotiations regarding production levels, Council in mid 1993, registered the Corndale Quarry under Part 3 of State Environmental Planning Policy No. 37 - Extractive Industries (SEPP 37) at a conservative annual production rate of 20,000 m^3.

The proposal involves the increase in production levels up to an average annual rate of 49,700 m^3 in order for the quarry to keep pace with market demand. 1

The established use of the site can be described as comprising the following activities:

- winning of the material resource by blasting and use of quarry plant;
- crushing of part of the extracted material on site;
- storage of a of extracted and crushed material;
- loading of the material and removal from the site;
- transport of the material to work areas throughout the far north coast; and
- associated quarry management operations.

1 Under Part 4, SEPP 37, the Corndale Quarry is registered at an average annual rate of 20,000 m^3. Pursuant to Clause 20 of SEPP 37 a development is declared to be a Designated Development where Development Approval is sought to increase extraction by more than 50,000 tonnes. Based upon the RTA Road Design Guide (RTA, 1989), the appropriate conversion rate for Basalt material is 1.68 tonnes/m^3 (ie. 50,000 tonnes equals 29,760 m^3). At this rate of production, the quarry is estimated to be exhausted within a period of 11-15 years.

The subject application essentially involves the continuance of the above activities albeit at a higher rate of extraction than that for which the quarry is registered under SEPP 37.

Review of Potential Effects

4. The potential effects of the proposed development can be summarised as follows;

- **Public Benefits**: Continuation of this existing quarry in the locality where its existence is historically accepted, will allow the resource to be utilised within the rapidly growing areas of the far north coast, such as Lismore and Byron Bay. The implications for not continuing to utilise this quarry would result in an increasing demand for the resource and likely pressures on other sources and other sites where quarrying may not be currently established or accepted. The importance of this resource has been illustrated recently when, in early June, local demand for road base products outstripped local supply. It is understood that many construction projects, including some being carried out by Lismore Council, were delayed due to a shortage of supply. This episode highlights the importance of the existing quarries.
- **Traffic**: Traffic movements associated with quarry use vary in accordance with demand. The previous production rates generated in the order of 16-20 trucks per day (8-10 laden; 8-10 returns). Economies of scale dictate that as production rates rise, operational efficiences become more important. For the production rates proposed therefore, there will be a greater use of larger trucks (traditional ten-tonne trucks with trailers). In this way the number of heavy vehicle movements associated with the proposed increased production will not be significantly greater than past numbers. It is anticipated that the production levels proposed, will generate in the vicinity of 22-24 truck movements per day (11-12 laden; 11-12 returns).
- **Operational Noise, Vibrations and Dust**: Blasting has occurred at Corndale Quarry over the last decade or so at an average rate of one blast per twelve (12) to sixteen (16) weeks. Blasting frequency is somewhat dependant upon demand which does not remain constant throughout the year. The production levels proposed will require an increased frequency of blasting, estimated to be one blast per eight (8) to ten (10) weeks. Again, this estimate is an average and is dependant upon resource demand. Blasting is controlled at this quarry by the conditions of the Environment Protection Authority licence under the Pollution Control Act, 1970.

These controls are aimed at minimising and containing the effects of blasting and will be complied with at all times.

- **Visual Aspects**: Continued quarry activity will not create additional adverse visual impacts. The visual catchment of the site is limited to a south westerly direction section only and the site's visual exposure is limited by a combination of existing vegetation and topographical features. The continuing landscaping proposed as part of the progressive site rehabilitation works will result in an improved visual aspect in the long term.
- **Environmental Effects**: Current quarry operations are regulated by licence conditions issued by the Environment Protection Authority pursuant to the Pollution Control Act, 1990. Those conditions of licence provide for, inter alia:
  - management and recording of any site discharge;
  - suppression of dust from roads, stockpiles and plant;
  - noise control to not more than 5 db(A) above background noise;
  - limitations on blasting and notice to nearby residents;
  - blast overpressure being limited to 115 db(Linear peak);
  - a limit of 5 mm/sec for peak particle velocity ; and
  - all blasting to be monitored for both overpressure and peak particle velocity.

  Further, environmental management works proposed by this application will mitigate potential environmental effects associated with the subject development.
- **Adjoining Uses**: Having regard to current EPA licensing controls and other environmental protection embellishment works proposed by this application, the continued use of the quarry at 49,700 m^3 per annum, will not cause conflict with the uses being carried out on adjoining land namely grazing and rural living.

Project Justification 5. The proposed development involves the continuation of a long established existing quarry at an average annual production level of 49,700 m^3. This quarry has historically provided road construction material to Government Instrumentalities (including Lismore Council) and for private works.

Following consideration of the potential impacts both positive and adverse, and the range of measures proposed by this application to mitigate potential adverse impacts, the project is considered to be justified within the meaning of Section 4 of the Act. Reasons for justification include:

- the use and operation of the quarry is established and accepted as a "Regional Important" resource;
- site effects both environmental and visual are able to be contained and minimised by the adoption of contemporary quarry management practices;
- the strategic setting of this quarry provides it with a distinct commercial advantage in terms of haulage distances, and this advantage can be "passed on" to the housing market generally, and quarry clients in particular.
- utilisation of the resource is considered to be important in terms of assisting orderly and economic growth of the far north coast region; and
- site rehabilitation carried out through all phases will progressively return the site to a land form consistent in character with the general rural character of the locality.

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1. PREAMBLE

1.1 Background

The GeoLINK GROUP Pty. Ltd. has been engaged by Corndale Quarries Pty Ltd to act as Planning Consultants with respect to the preparation and lodgement of a development application with Council in regard to land described as Lot 2 DP 716264, 422 James Gibson Road, Corndale, Parish of Bexhill.

Exhibit 1.1 illustrates a site locality plan identifying the subject land.

Corndale Quarry has been in operation for in excess of 34 years. Since that time it has provided an important source of road construction material, crushed gravel and metal dust to Government Instrumentalities (including Lismore City Council) and private works. To meet the demands associated with the high growth of the area, the quarry owner is seeking to increase the average annual production level to 49,700 m^3 per annum.

1.2 Statement of Objectives

The following site planning objectives have been adopted for the purposes of the subject proposal:

1. to continue to undertake quarry operations on the site in an efficient and workmanlike manner;

2. to implement sound management of the site and the resource therein;

3. maintain the operator's market share and meet anticipated demands for the next 11 to 15 years;

4. define the long term sequence of extraction for Corndale Quarry and define operational and management procedures which seek to address effects associated with extractive industry land use of the site; and

5. define the finalised topography of the quarry site and establish measures to ensure site rehabilitation.

1.3 Format and Scope of the Report

Section 2 of this report contains a description of the physical environment of the subject land. Section 3 presents an assessment of the resource supply and demand in respect of the quarry operation. Section 4 describes in detail the development proposal. Section 5 sets out an examination of the environmental effects associated with this proposal. Section 6 describes the statutory and policy planning status of the land, with particular regard to the proposal described in Section 4. The final section of the report undertakes a general review of the project and summation as to the suitability of the project having regard to the planning controls applying to the land and land use needs in the locality.

As a consequence of the scale of operations proposed and Clause 20 of SEPP No. 37, the scope of this report is limited to a Statement of Environmental Effects (SEE). This document does not proport to be an Environmental Impact Statement within the meaning of the Environmental Planning and Assessment Act, 1979. Information set out in this report has been prepared having regard to the provisions of DCP 29, particularly the guidelines set out at Annexure 2 to that document.

1.4 Consultation

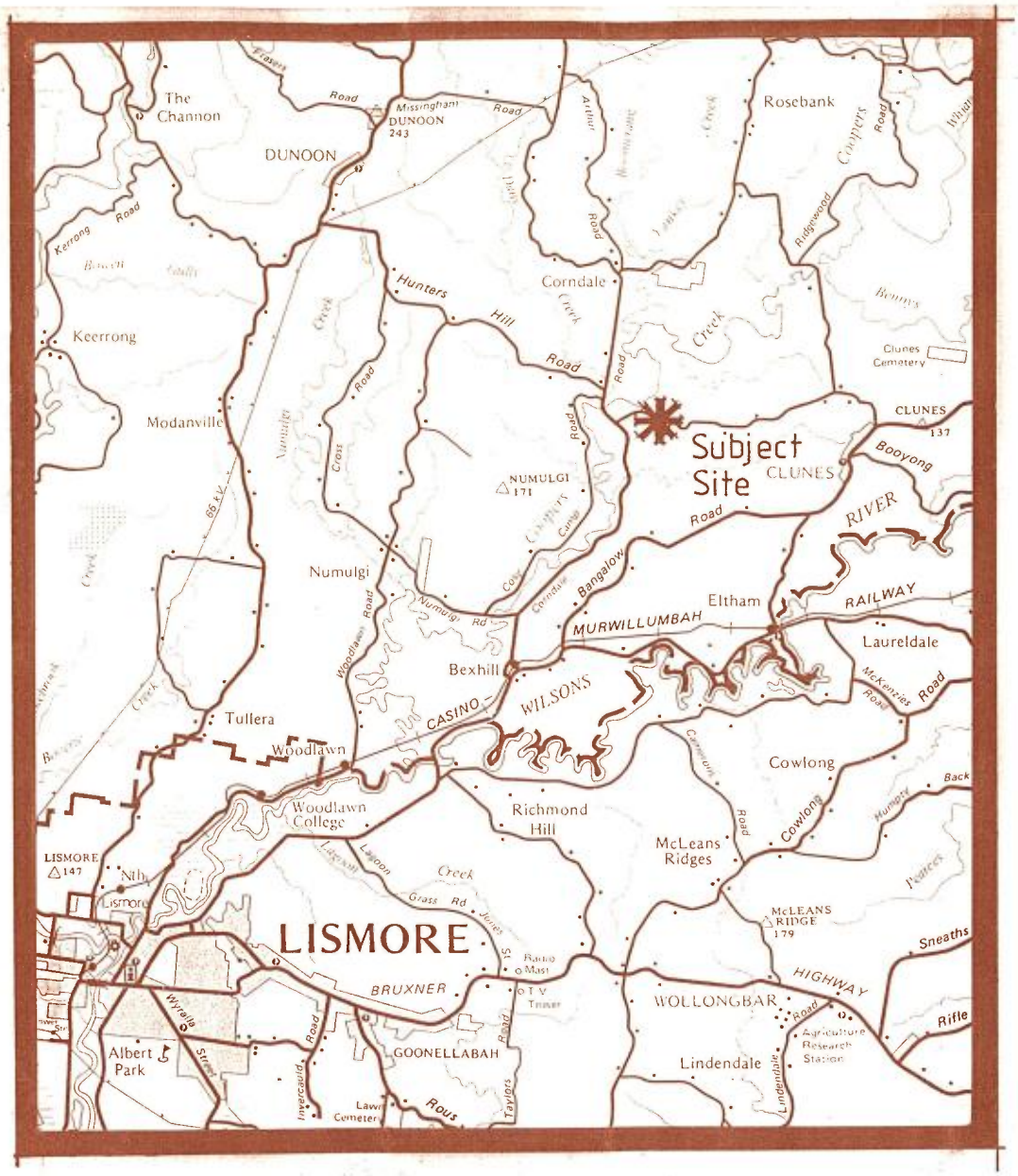
Prior to the gazettal of State Environmental Planning Policy No. 37, advice was sought from various Government departments with respect to the subject proposals. Organisations consulted include:

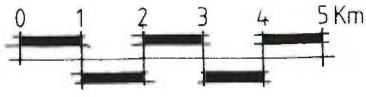
- Roads and Traffic Authority
- National Parks and Wildlife Service
- Department of Conservation and Land Management
- Department of Water Resources
- NSW Department of Agriculture
- Lismore City Council

Details with respect to such consultation are contained in Appendix C to this report. Such consultation was on the basis of the preparation of an EIS pursuant to S.77 of the Environmental Planning Assessment Act, 1979.

1.5 Further Information

Should Council require any additional information, or wish to clarify any matter raised by this proposal, please contact **Stephen Connelly** of **The GeoLINK GROUP Pty. Ltd.**, prior to determination of this application.





Corndale Quarry

SITE LOCALITY PLAN

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Tel: (066) 877 666 Fax: (066) 877782

EXHIBIT 1.1

Source: Casino - State Forests Map

2. THE SITE & ITS ENVIRONS

This section of the report seeks to describe the environment of the subject site and its immediate environs.

2.1 Cadastral Description

The subject site, as illustrated in Exhibit 2.1 is described in real property terms as Lot 2 in DP 716264. The site has an area of 8.293 ha and is irregular in shape.

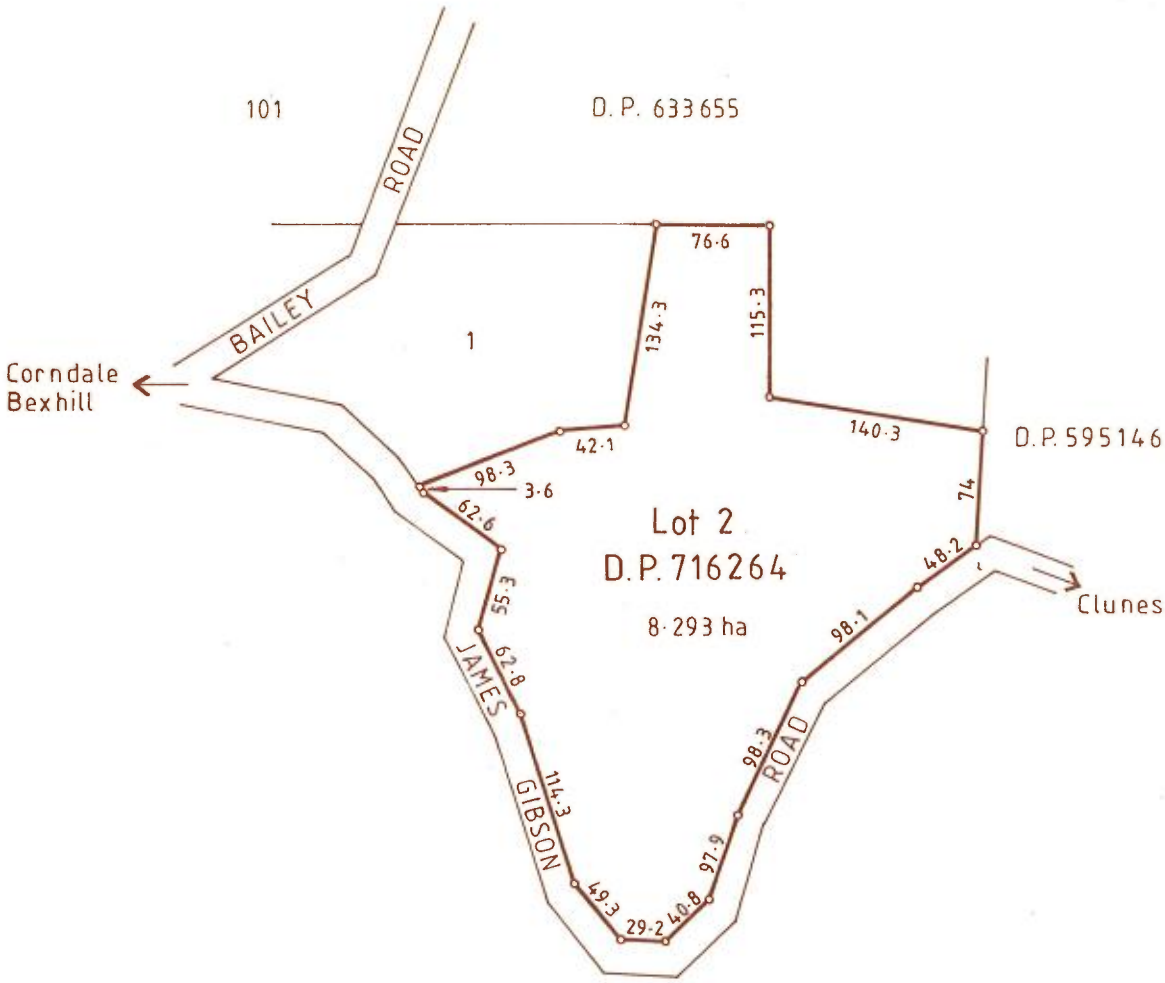
2.2 Site Planning History

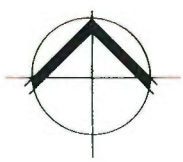
The use of the subject site as a quarry commenced sometime prior to 1960. Prior to the gazettal of Interim Development Order No. 1, Shire of Tarania on the 3rd November, 1967, Consent was not required for "extractive industry" operations. Development Consent 85/2056 of the 29th August, 1985 provided for the "special purpose" subdivision of Lot 102 in DP 633655 and part Portion 46 so as to create the subject land as a special purpose, "extractive industry" lot. This consent recognised the "existing use" of the site.

On the 28th April, 1993 consent was granted for the erection of a building for use for staff amenities and the provision of a weigh bridge on the subject site.

On the 16th June, 1993 Statement Environmental Planning Policy No. 37 - Continued Mines and Extractive Industries (SEPP 37) was gazetted. This policy provided for the continued operation of Mines and Extractive Industries which had lawfully commenced without development consent prior to planning controls coming into force.

The Corndale Quarry was "registered" for the purposes of State Environmental Policy No. 37 in July, 1993. This registration provides for the continued use of the Quarry at the conservative rate of 20,000 m^3 per annum.





Corndale Quarry

THE SITE

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EXHIBIT 2.1

Source: Deposited Plan 716264

2.3 Physical Description

The subject site is irregular in shape. The lot has approximately 756 metre frontage to James Gibson Road, a maximum north south dimension of approximately 485 metres and a maximum east west dimension of approximately 368 metres. In relative relief terms, the site rises approximately 68 metres from its most western boundary to its most eastern boundary.

Exhibit 2.2 illustrates the area of the site physically used for quarrying operations and the location of crushing plant, stock piles, amenities and the like.

A single point of vehicular access to the land is as denoted in Exhibit 2.2.

The quarry is situated approximately 4 kilometres west of the village of Clunes, on the James Gibson Road. It is situated approximately 16 kilometre by road north east of Lismore, via Corndale Road and Bangalow Road.

As illustrated in Exhibit 2.3, the site enjoys significant strategic advantage with respect to its location in relation to major urban areas such as Lismore and Byron Bay. This exhibit illustrates the location of Corndale Quarry in relation to major urban centres and regional road networks.

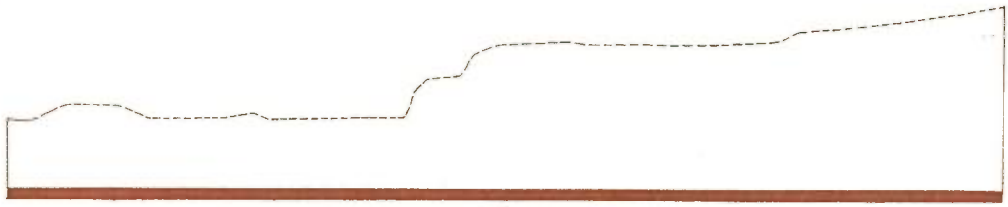
2.4 Natural Environment

The subject site is physically quite disturbed as a consequence of historical land use practices. Adjacent to James Gibson Road on the west, a significant vegetation buffer has developed. On the eastern side, site vegetation is quite thin. The majority of the land is actively used for quarry operations, varying from active extraction to ancillary operations (eg. crushing plant, stock piles, internal access). Parts of the site not physically used for quarrying have generally been cleared of native vegetation.

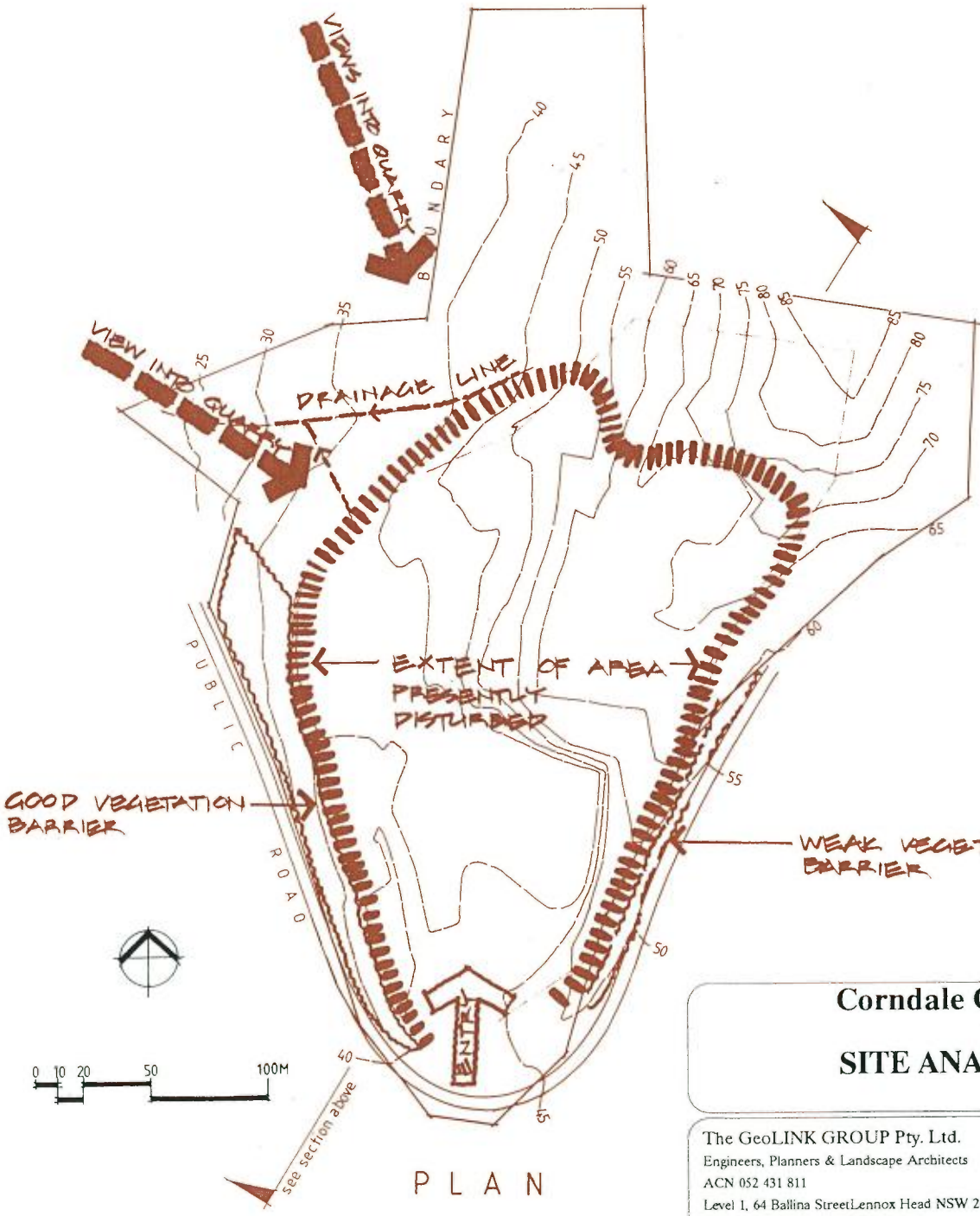
No rare or endangered species as defined by Schedule 12 of the National Parks and Wildlife Service Act have been observed on site. Furthermore, having regard to site vegetation and the results of on site inspection, it is not anticipated that the subject site provides a habitat for rare or endangered fauna within the meaning of the Fauna Protection Act.

Having regard to advice received from the National Parks and Wildlife Service, it is envisaged that the subject site is unlikely to be "sensitive" with respect to matters of aboriginal archeological significance. Further, advice received from the New South Wales Department of Agriculture indicates that the "land is of low agricultural quality".

The subject land has a low hazard potential with respect to bushfire.



SECTION



PLAN

Corndale Quarry

SITE ANALYSIS

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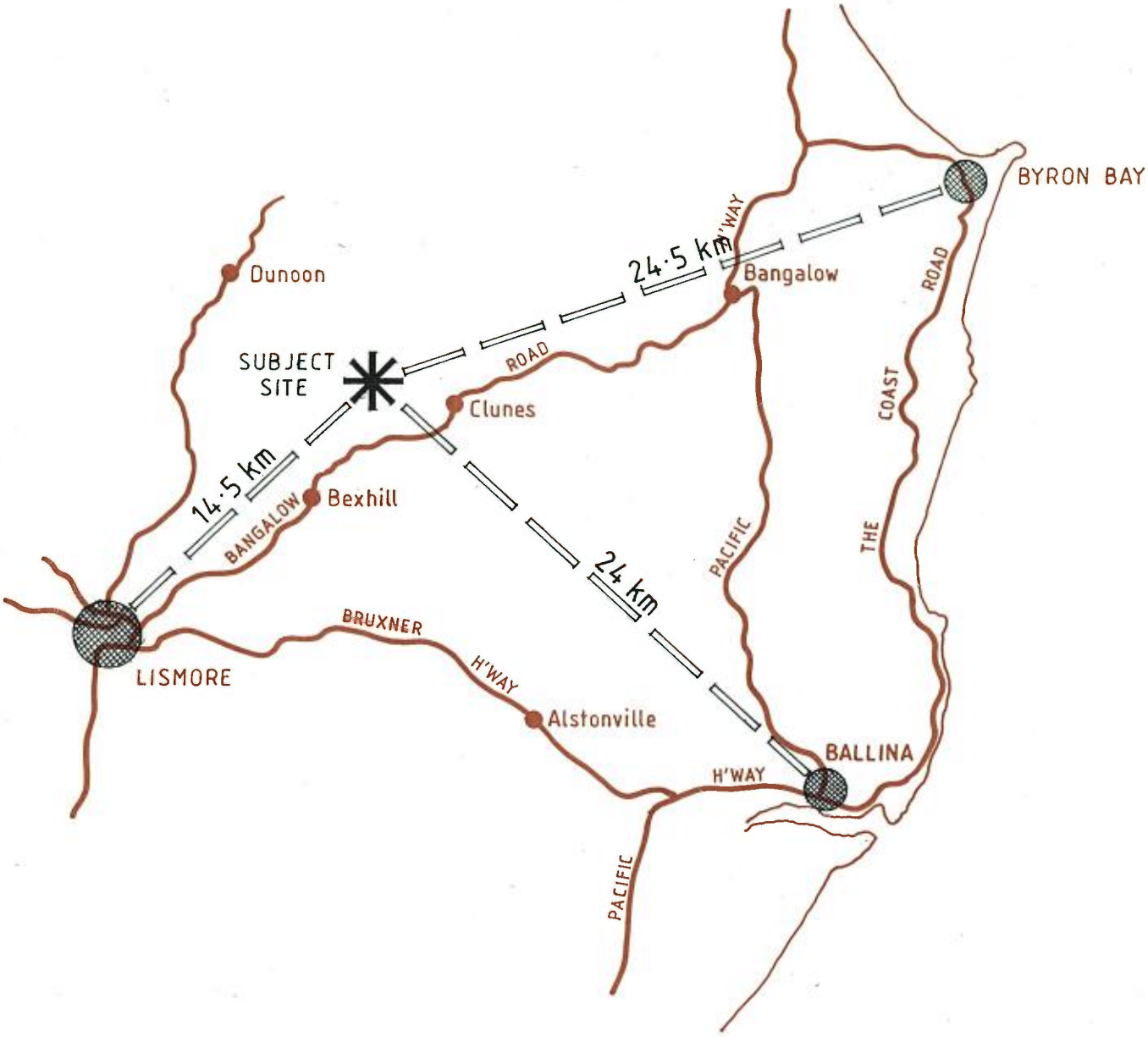
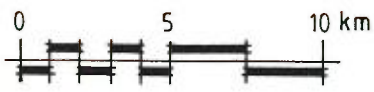
EXHIBIT 2.2

Source: The GeoLINK GROUP Pty Ltd, May, 1994





Corndale Quarry

STRATEGIC SETTING

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EXHIBIT 2.3

Source: R.A. Broadbent Tourist Map

2.5 Visual Environment

Exhibit 2.2 - Site Analysis, identifies key "view in" corridors applicable to this subject site. The surrounding landform is such that the quarry is generally visible only from the lower lands, situated south-west of the quarry. The elevated lands to the north and east effectively screen the quarry from other adjoining lands. Further, the combination of site perimeter vegetation and topographic features act to minimise the visual exposure of the site in the south-west direction.

2.6 Locality Land Use

The Corndale area is characterised by low intensity farming practices predominantly cattle grazing. A generalised landuse survey of the locality of the quarry is illustrated in Exhibit 2.4. This exhibit also notes the location of dwellings within a kilometre radius of the quarry site.

2.7 Acoustic Environment

The quarry has existed in this area for in excess of 34 years. In this time, the noise generators have consisted of vehicles hauling the resource, vehicles loading the material within the quarry, the periodic blasting and ripping of the base material, and periodic screening and crushing as demand required. Since acquisition of the site by ARM Property Development Pty Ltd in early 1992, blasting has occurred periodically, on average one blast per twelve (12) to sixteen (16) weeks, depending upon demand.

Conditions of Pollution Control Act licencing for the subject site in relation to noise management require:

L5. *Any activities conducted in or on the premises that, if carried out incompetently, may adversely affect the environment, in a manner that could be prevented, shall be carried out in a proper manner by competent person in accordance with the conditions of this licence.*

L8. *Any record required to be kept by a condition of this licence shall be kept in a legible form at the premises and retained for a period of not less than two years following measurement or recording and produced on demand to a member or officer of the EPA.*

L9. *The tests for any monitoring required by a condition of this licence shall be carried out in accordance with the methods prescribed in the Clean*

Air Regulations 1964, Clean Waters Regulations 1972, Noise Control Regulations 1975 or as otherwise specified or approved by the EPA in writing.

L10. *The occurrence of any event which causes or is likely to cause substantial pollution of the environment shall be notified to the EPA's regional office, head office or after hours Pollution Line as soon as practicable after it becomes known to the licensee or by one of its agents or servants.*

L11. *Where required by the EPA, a written report shall be supplied to the EPA within 21 days of any event described in Condition L10. Such a report shall include full details known to the licensee (or those details that may be discovered after reasonable enquiry undertaken by the licensee) of the cause, time and duration of the event, the type, the volume and concentration of any pollutants, any remedial action taken and any measures taken or to be undertaken by or on behalf of the licensee to prevent or mitigate against a recurrence of such an event.*

A3. *The level of continuous noise emanating from operation of the plant or processes (LA10) measured for at least 15 minutes in or on the above premises shall not exceed the background noise level (LA90) by more than 5 dB(A), when measured at any point within one metre of any residential boundary or other noise sensitive area.*

A4. *Blasting operations shall only be carried out between 9 am and 3 pm Monday to Saturday.*

A5. *All residents within 500 metres of the quarry shall be given at least one hours notice of the blasting.*

A6. *The blast overpressure shall not exceed 115 dB (Linear Peak) and the Peak Particle Velocity shall not exceed 5 mm/sec at any point in or on the residential premises.*

A7. *All blasting operations shall be monitored for overpressure and Peak Particle Velocity. The Authority shall be notified if any monitoring results exceed the requirement of Condition A6.*

Outside of the quarry, the other noise generators in this locality relate to the rural/agricultural uses of adjoining lands. Of note is a harvesting machine which is used periodically at a nearby tea plantation. This harvester, when in use, operates from very early in the morning and can be heard from the quarry site (T. Collins, pers. com.)

2.8 Air & Water Quality

Existing site drainage patterns are illustrated in Exhibit 2.2 - Site Analysis. As shown in that exhibit, drainage patterns are such that surface waters are generally intercepted at the north western extremity of the site.

Conditions of Pollution Control Act licence for the subject site in relation to air and water quality are set out below:

L2. *Except as may be provided in any other condition of this licence, the licensee shall comply with Section 16 (1), (2), (3) and (4) of the Clean Waters Act 1970.*

L3. *Where wastes are discharged to waters in accordance with the conditions of this licence, a record shall be kept of the volume of the wastes discharged which may be either ascertained daily or determined by measurement, certified plant production or authorised discharges to a sewerage system.*

L4. *Pollution control equipment, fuel burning equipment or industrial plant installed in or on the premises shall be maintained in an efficient condition and operated in a proper and efficient manner.*

L5. *Any activities conducted in or on the premises that, if carried out incompetently, may adversely affect the environment, in a manner that could be prevented, shall be carried out in a proper manner by a competent person in accordance with the conditions of this licence.*

L6. *Matter and substances on the premises shall be processed, handled, moved and stored in a proper and efficient manner.*

L7. *No alteration or modification to the place or method of disposal of wastes or pollutants, or to the method of operation of plant, works, fuel burning equipment or pollution control equipment, which is likely to cause or increase air or water pollution or noise being emitted from the premises shall be made without approval in writing from the EPA.*

L8. *Any record required to be kept by a condition of this licence shall be kept in a legible form at the premises and retained for a period of not less than two years following measurement or recording and produced on demand to a member or officer of the EPA.*

L9. *The tests for any monitoring required by a condition of this Licence shall be carried out in accordance with the methods prescribed in the Clean Air Regulations 1964, Clean Waters Regulations 1972, Noise Control Regulations 1975 or as otherwise specified or approved by the EPA in writing.*

L10. *The occurrence of any event which causes or is likely to cause substantial pollution of the environment shall be notified to the EPA's regional office, head office or after hours Pollution Line as soon as practicable after it becomes known to the licensee or one of its agents or servants.*

L11. *Where required by the EPA,a written report shall be supplied to the EPA within 21 days of any event described in Condition L10. Such a report shall include full details known to the licensee (or those details that may be discovered after reasonable enquiry undertaken by the licensee) of the cause, time and duration of the event, the type, the volume and concentration of any pollutants, any remedial action taken and any measures taken or to be undertaken by or on behalf of the licensee to prevent or mitigate against a recurrence of such an event.*

L12. *The licensee shall not discharge substances which may pollute waters, at a point not authorised by this licence.*

A1. *Unsealed access roads and material stockpiles shall be sprayed with water, when required, to control dust emissions.*

A2. *All feeders, conveyors, transfer or discharge points shall be effectively enclosed, where required, to prevent wind access. All these points shall incorporate effective water spray systems.*

2.9 Road and Traffic Conditions

Lismore Development Control Plan No. 29 - Extractive Industries , Clause 4 specifies "Haulage Routes" applicable to the Local Government area. The subject site is located on a "primary route". The subject DCP provides:

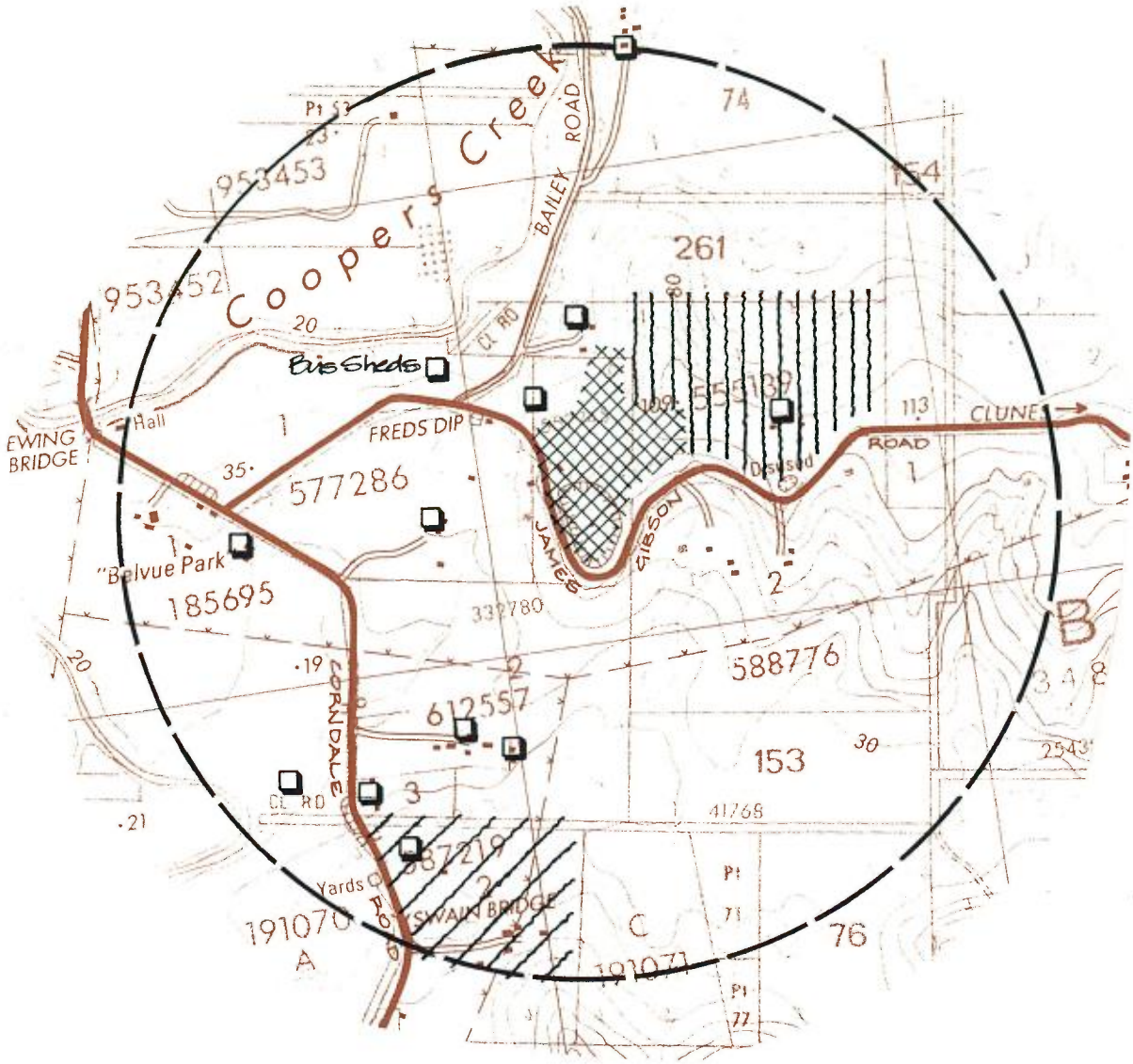
"Development applications must specify the haulage routes to be utilised and the expected number of laden and unladen truck movements on each route. Where haulage routes do not meet Council's road standard requirements, a development application may be refused, or a levy applied, either in a lump sum or by quarterly payment per tonne of production, to fund upgrading of the haulage road. The amount of the levy will be assessed in relation to the amount of quarry production and the extent of road upgrading works required.

All quarries will be levied a road maintenance levy to fund additional road maintenance costs associated with extra wear and tear created by quarry trucks on local roads. Road maintenance levies are payable quarterly and are calculated as a rate per tonne per kilometre of material extracted. The larger the tonnage and the longer the distance hauled on local roads, the greater is the amount that is payable to Council for road maintenance.

Calculation of the levy is based on a percentage of the RTA Standard Truck Hire Rates multiplied by the tonnage and distance. As a guide, the current maintenance levy charge is around 3.5 cents per tonne per kilometre. A quarry producing 10,000 tonnes of material and hauling this material over a distance of 10 kilometres, would pay an annual road maintenance levy of $3,500 in four quarterly instalments, each of $875."

Exhibit 2.5 illustrates existing haulage routes utilised by the Corndale Quarry . Further, Exhibit 2.6 tabulates traffic counts taken in February, 1993. This traffic count accords with a production rate of about 20,000m^3 per annum.

With respect to "developer contributions", referred to in Clause 4 of DCP 29, the quarry operator has already contributed to the upgrading of the Bexhill railway bridge.



SUBJECT QUARRY SITE

1 Km RADIUS FROM QUARRY

DWELLING

CATTLE GRAZING

ORCHARD

TEA PLANTATION

0 500 m

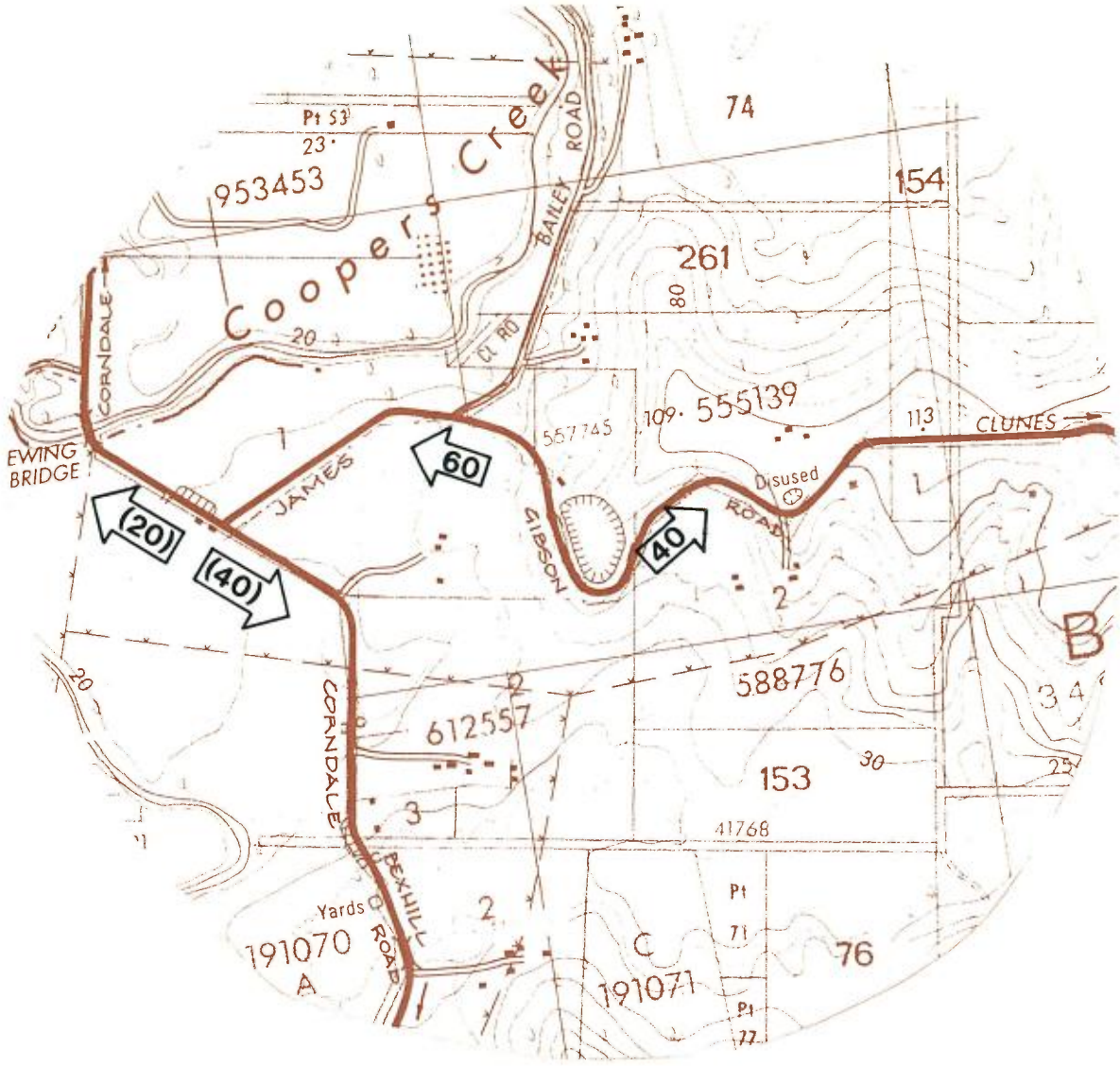
Corndale Quarry

LOCALITY LAND USE

The GeoLINK GROUP Pty. Ltd.
Engineers, Planners & Landscape Architects
ACN 052 431 811
Level 1, 64 Ballina StreetLennox Head NSW 2478
Tel: (066) 877 666 Fax: (066) 877782

EXHIBIT 2.4

Source: The GeoLINK GROUP - Field Investigation, May, 1994



NO. DIRECTION OF HAULAGE TRUCKS (SHOWN AS A PERCENTAGE)

0 500 m

Corndale Quarry

EXISTING HAULAGE ROUTES

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Engineers, Planners & Landscape Architects
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EXHIBIT 2.5

Source: Corndale Quarries Pty Ltd

EXHIBIT 2.6 TRAFFIC PATTERNS

	DIP YARD END [1]			CLUNES ROAD END [2]		
	TOTAL	% H.V. [3]	% Q. [4]	TOTAL	% H.V. [3]	% Q. [4]
Mon.	331	9.67	1.81	327	11.01	5.50
Tue.	334	8.98	1.20	330	8.48	2.42
Wed.	348	8.62	4.02	333	8.41	4.20
Thur.	324	4.32	1.23	325	7.38	2.46
Fri.	359	8.36	1.67	346	8.67	1.16
Sat.	306	8.17	5.88	304	1.64	1.32
Total	2002	161	52	1965	161	56
Average		26.8	8.67		25.12	9.33
Wk.Av.	333.67	8.03	2.60	327.5	7.67	2.85
Heavy Vehicle Movement Generated by Quarry	$\frac{Q}{H.V.}$. x 100 = 32.35%			$\frac{Q}{H.V.}$. x 100 = 37.14%		

Source: Traffic Survey, February, 1993

1. Survey Location: On James Gibson Road, adjacent to Baileys Road
2. Survey Location: On James Gibson Road, Clunes Road end.
3. H.V. = Heavy Vehicles
4. Q. = Vehicles associated with Corndale Quarry

3. DEMAND & SUPPLY ASSESSMENT

The material obtained from the quarry is a basalt with a generally high degree of weathering and includes road base, crushed gravel, metal dust, aggregates and natural gravel.

With respect to regional supply and demand analysis, the Department of Mineral Resources has prepared a position paper with respect to the status of hard rock gravel and aggregate supplies in the North Coast Region (Chestnut, 1989). This paper identifies a major shortfall in the availability of materials to meet projected demands in the region. The Department has further reported that access to important deposits, particularly in coastal districts, is being increasingly restricted due to strong environmental pressures and urban expansion.

An internal report prepared by the Roads and Traffic Authority, North Eastern Division (Kearns, 1993), provides an overview of the available pavement materials within the division. This report provides a map of all known gravel pits, quarries and river gravel sources in the region which have been used over the last 20 years or so to supply pavement materials. The report notes that many of the previously available resources have been exhausted and are no longer in use and that there are relatively few sources of suitable material for road construction purposes. It also notes the importance of haulage distance in the cost of material supply.

Correspondence from the RTA in regard to this particular proposal confirms the Authorities support for the identification and preservation of areas containing essential resource deposits for community use (refer to Appendix C).

4. THE DEVELOPMENT PROPOSAL

This section of the report seeks to describe the character, nature and style of the proposal submitted for Council's approval by way of text, map and statistical description. This section particularly addresses matters pertinent to Council consideration of the subject project pursuant to Section 90 of the Environmental Planning and Assessment Act.

4.1 Background

Quarry records indicate that the Corndale Quarry has provided a supply of road construction materials since prior to 1960.

The current owner, ARM Property Developments Pty Ltd, took over the operation of the quarry early in 1992. Soon after this time, a conflict arose between the owner and Lismore City Council regarding the appropriate production levels.

At around the same time a number of similar conflicts occurred state-wide, leading to the State Government developing State Environmental Planning Policy No. 37 - Continued Mines and Extractive Industries. The basic aim of this SEPP is to establish the operational parameters within which such activities can continue.

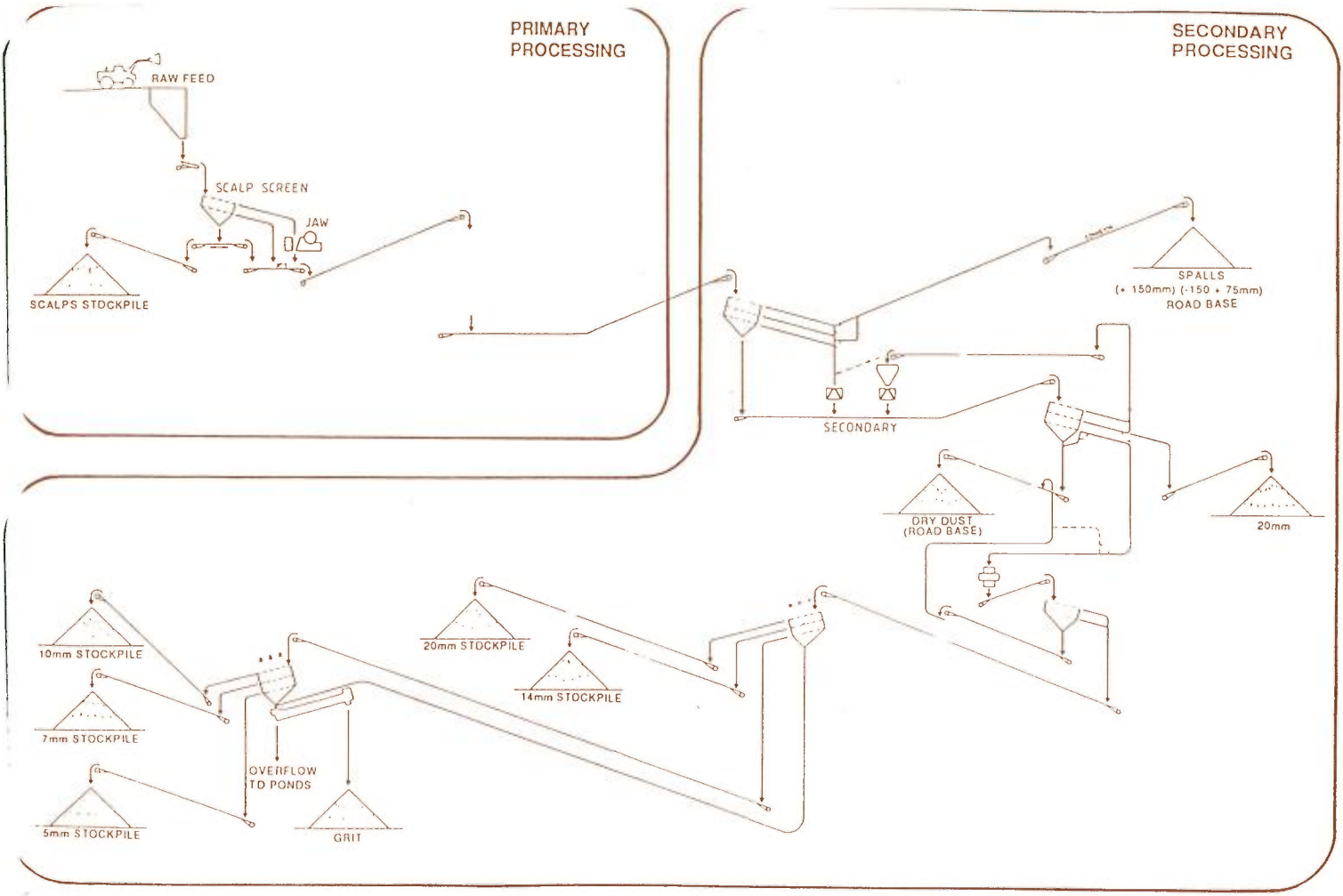
The Corndale Quarry was "registered" in accordance with this SEPP in July, 1993. This registration provides for production of up to 20,000 m^3 per annum.

4.2 Quarry Operations

4.2.1 Operational Management

A diagram illustrating a typical materials processing flowsheet is shown in Exhibit 4.1. The basic activities include clearing, stripping, drilling, blasting, winning, screening, crushing, loading and hauling of the material.

Specific measures including certain EPA licence conditions are in place or have been adopted for dust control runoff and drainage management, energy efficiency and vehicle movements. These will be further developed and continued to be implemented as described below.



Corndale Quarry

MATERIALS PROCESSING FLOWSHEET

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EXHIBIT 4.1

Source: "Proposed Extension of North Boambee Quarry, Coffs Harbour" Mitchell McCotter

4.2.2 Hours of Operation

The proposed hours of operation of the quarry are daily during daylight hours. Generally, this will limit the operation to between the hours of 6.00 am and 6.00 pm daily for the loading of trucks and general plant maintenance. Crushing activities will be further limited to between the hours of 7.00 am and 6.00 pm daily. Blasting will only be undertaken between the hours of 9.00 am and 3.00 pm in recognition of the occasional occurrence and distinctive nature of this component of the operation.

4.2.3 Extraction, Processing & Storage

Extraction of the resource involves drilling and blasting as well as ripping by a bulldozer and/or excavator. It is estimated that the past production levels have involved blasting at a rate of one blast every twelve (12) to sixteen (16) weeks, on average. The increased production levels will require a blasting rate of approximately one explosion per eight (8) to twelve (12) weeks - depending on demand.

For the use as select material, the won material is retrieved by loader from the base of the working face and loaded directly onto trucks for transport. Materials to be used as crushed rock are screened and crushed prior to loading onto trucks for haulage. Storage of crushed material at the site will depend upon demand.

4.2.4 Quarry Plant

The following plant and equipment is used at the quarry:

a) Stayright Mobil Primary Jaw Crusher complete with auto transformer, starter, cabin, 60 H.P. x 3 phase electric motor and 200 K.V.A. Volvo powered alternator set and switchboards.

b) Stayright Mobil Secondary Crusher complete with auto transformer, starter, and 60 H.P. x 33 phase electric motor.

c) No. 1 Kumbee Hammer Mill (mobile) complete with electric motor starter, and discharge conveyor, to be upgraded.

d) Jacques three deck vibrating screen complete with feeder and discharge conveyors, to be upgraded.

e) 2 x Furakawa Wheel Loaders FL 320 - 3.2 cubic metre capacity.

f) Excavator

4.3 Transportation of Materials

As production at the quarry increases, efficiency restraints will require that somewhat larger trucks are used. Therefore some of the trucks used will involve a truck and trailer combination. It is estimated that the overall average truck capacity will increase to in the order of eighteen (18) cubic metres.

For an annual output capacity of 49,700 m^3, the total number of truck movements, assuming 250 working days per annum and an average truck capacity eighteen (18) tonnes, would be approximately 22 per day (ie. 11 laden and 11 returns). At the production levels measured for the traffic survey (Exhibit 2.6), there were an average of 15 to 18 truck movements per day.

Until recently, the railway overpass at Bexhill has been a major constraint to the upgrading of the Corndale Quarry. In early 1991 a heavy vehicle load limit was placed on this bridge effectively restricting its use by quarry haulage trucks.

Following protracted negotiations between the State Rail Authority, Lismore Council and ARM Property Developments Pty Ltd, an agreement was reached whereby the bridge was upgraded, strengthened and redecked with the costs shared by all three parties.

The Bexhill Bridge is, therefore, now of a standard which can adequately accept the anticipated heavy vehicle loads.

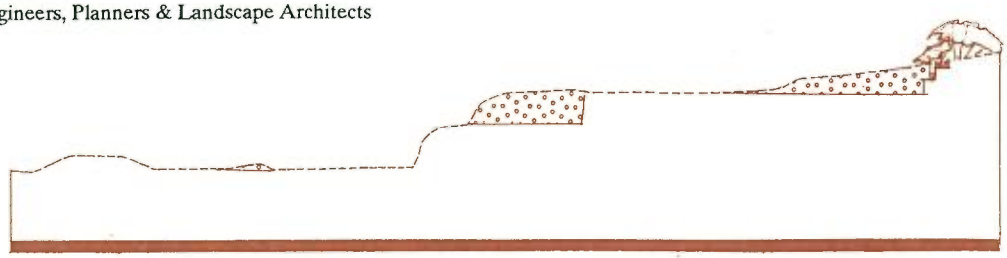
4.4 Quarry Management

4.4.1 Sequence of Extraction

The continued use of Corndale Quarry, at an average annual production rate of 49,700 m^3, will require the implementation of both immediate and long term environmental control and rehabilitation measures.

The immediate site planning proposals are illustrated in Exhibit 4.2. These proposals include:

- installation of a sedimentation pond with a water level at RL 29.0 m.
- removal of selected material at three (3) locations;
- reforestation of the north-eastern section of the site;
- development of "stepped" quarry face ledges and revegetation of same.



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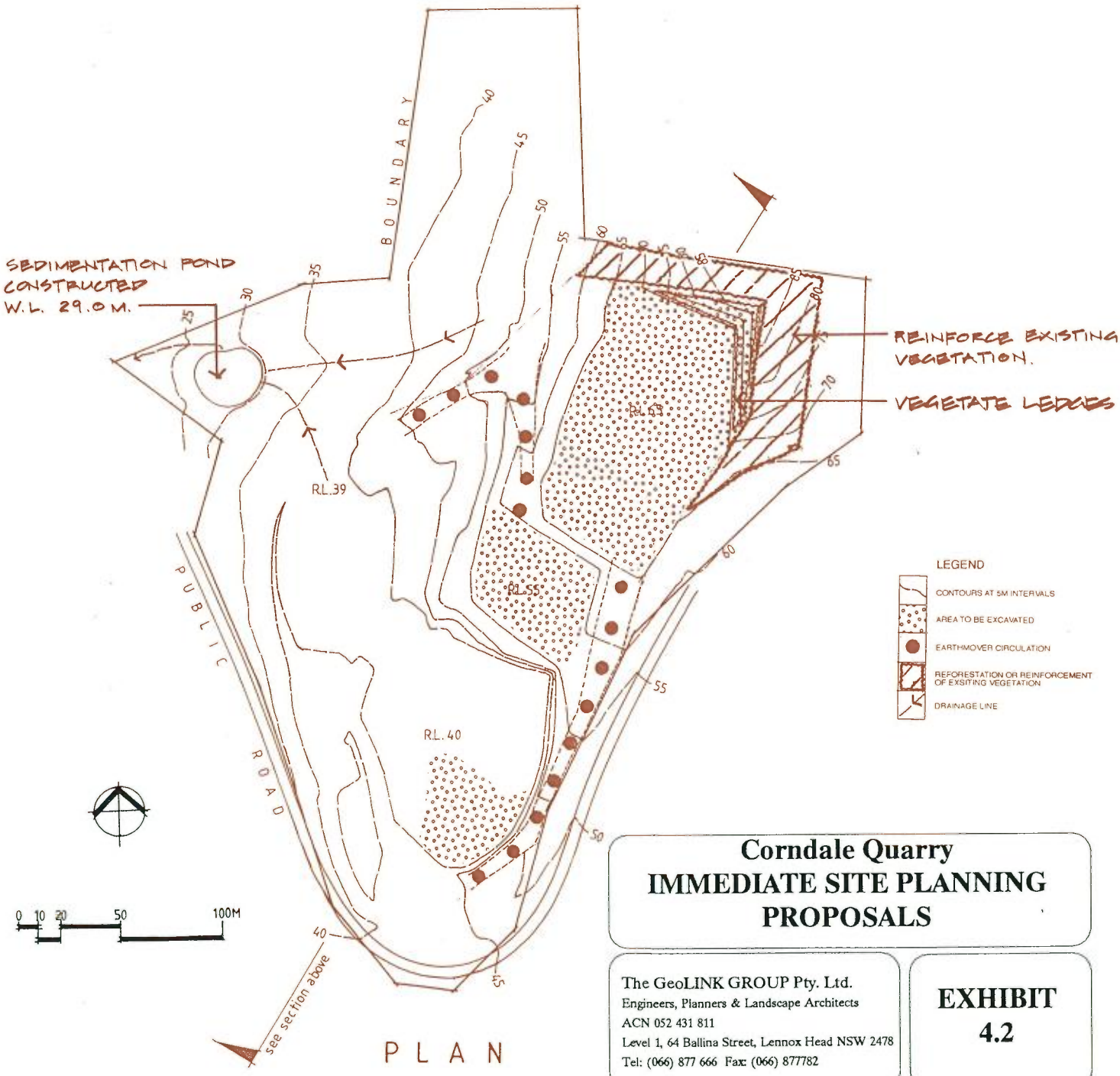

PLAN

Corndale Quarry
IMMEDIATE SITE PLANNING PROPOSALS

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EXHIBIT 4.2

Source: The GeoLINK GROUP, May 1994

The long term extraction of the resource will proceed in distinct phases as shown in Exhibit 4.3A - E.

4.4.2 Life of Operation

Volumetric calculations based upon Exhibit 4.3 indicate an insitu resource quantum of about 347,000 m^3.

Allowing for conventional Bulking Factors (RTA, 1989), it is anticipated that the quarry will yield about 568,000 m^2 as loaded for transport. Assuming a consistent yield of 49,700 m^2 per annum, a calculated quarry life expectancy is 11.4 years. Thus, it has been assumed for the purpose of this application that the operational life of the quarry is between about 11 and 15 years.

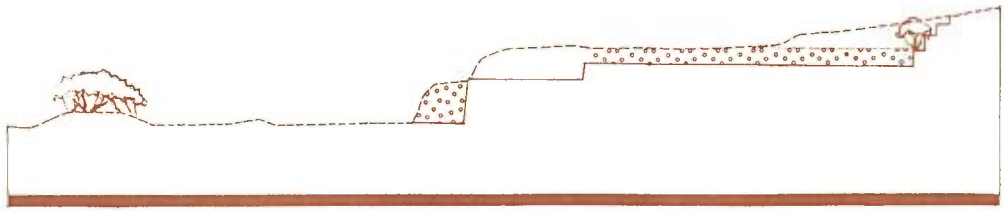
4.4.3 Site Rehabilitation

The nature of quarry operation is such that areas previously worked become part of the quarry floor. It is proposed that a strip of approximately 100 metres in width will be kept as a minimum working area for the quarry operation. As the working face progresses laterally, the topsoil and stripped overburden material will be stockpiled and reused in the progressive rehabilitation of the excavated areas. This progressive rehabilitation and restoration is illustrated in Exhibit 4.4.

In the long term, the quarry site will be fully rehabilitated and returned to a land - form consistent with the rural nature of the surrounding area. The quarry faces will be benched and planted as illustrated in the abovementioned exhibit.

4.4.4 Site Drainage & Erosion Control

The quarry site is a closed catchment within itself and the nature of the basalt material within the site is such that it has minimal erosion potential. Site runoff will be directed to a sedimentation basin excavated within the existing working area. This will drain by way of surface flow to the low lying area immediately to the north-west of the site. It is proposed to construct this retention/sedimentation pond at about RL 29 m. This pond will be sized to a 5 year ARI (Average Rainfall Intensity). Catch drains will be provided around the top of the quarry faces on the natural surface to minimise surface runoff into the quarry area.



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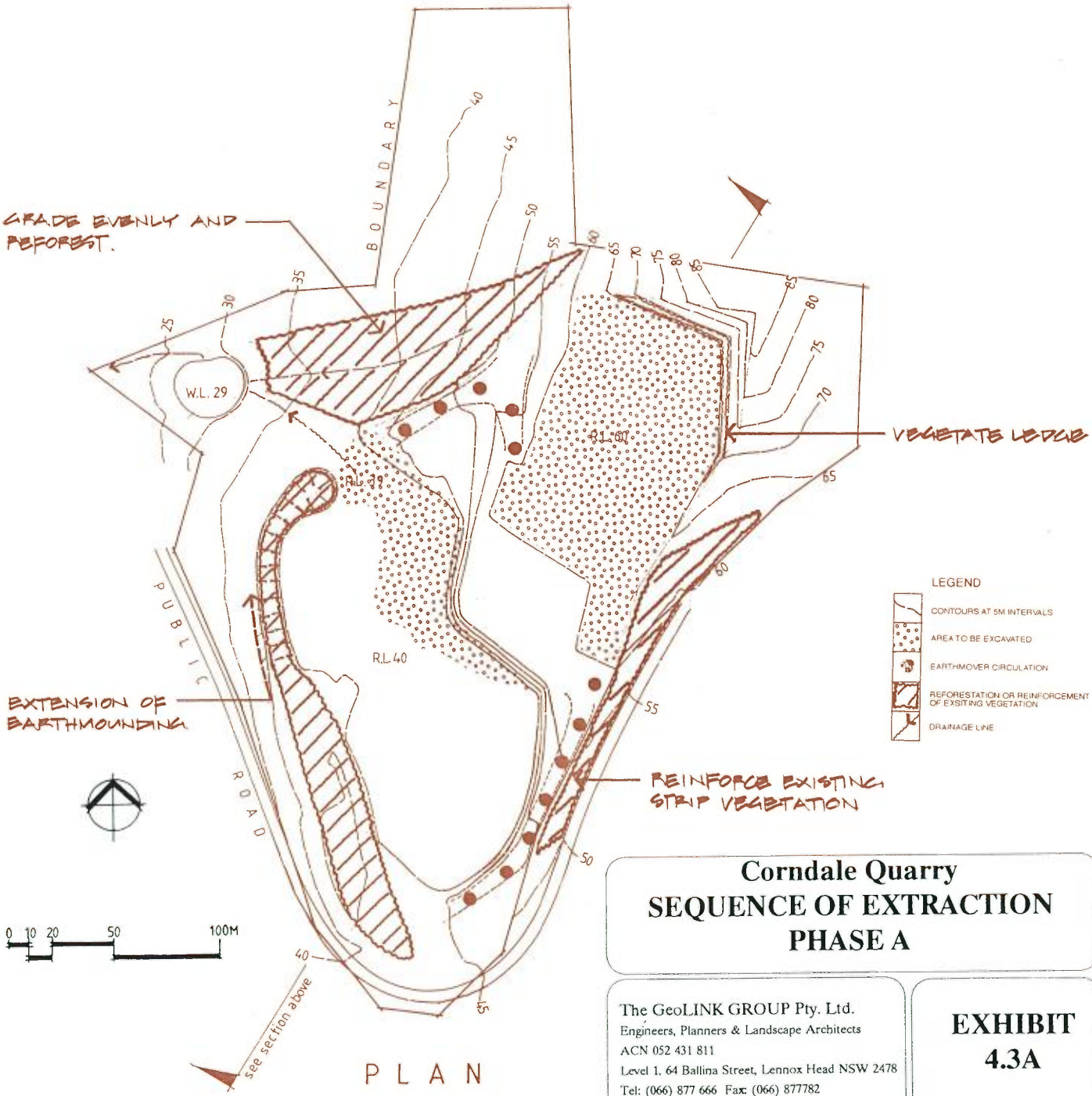

PLAN

Corndale Quarry
SEQUENCE OF EXTRACTION
PHASE A

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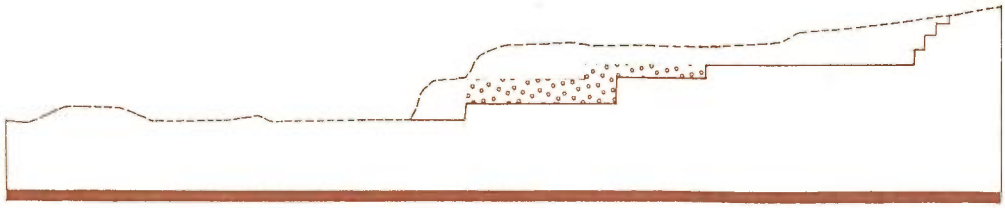
EXHIBIT 4.3A

Source: The GeoLINK GROUP, May 1994



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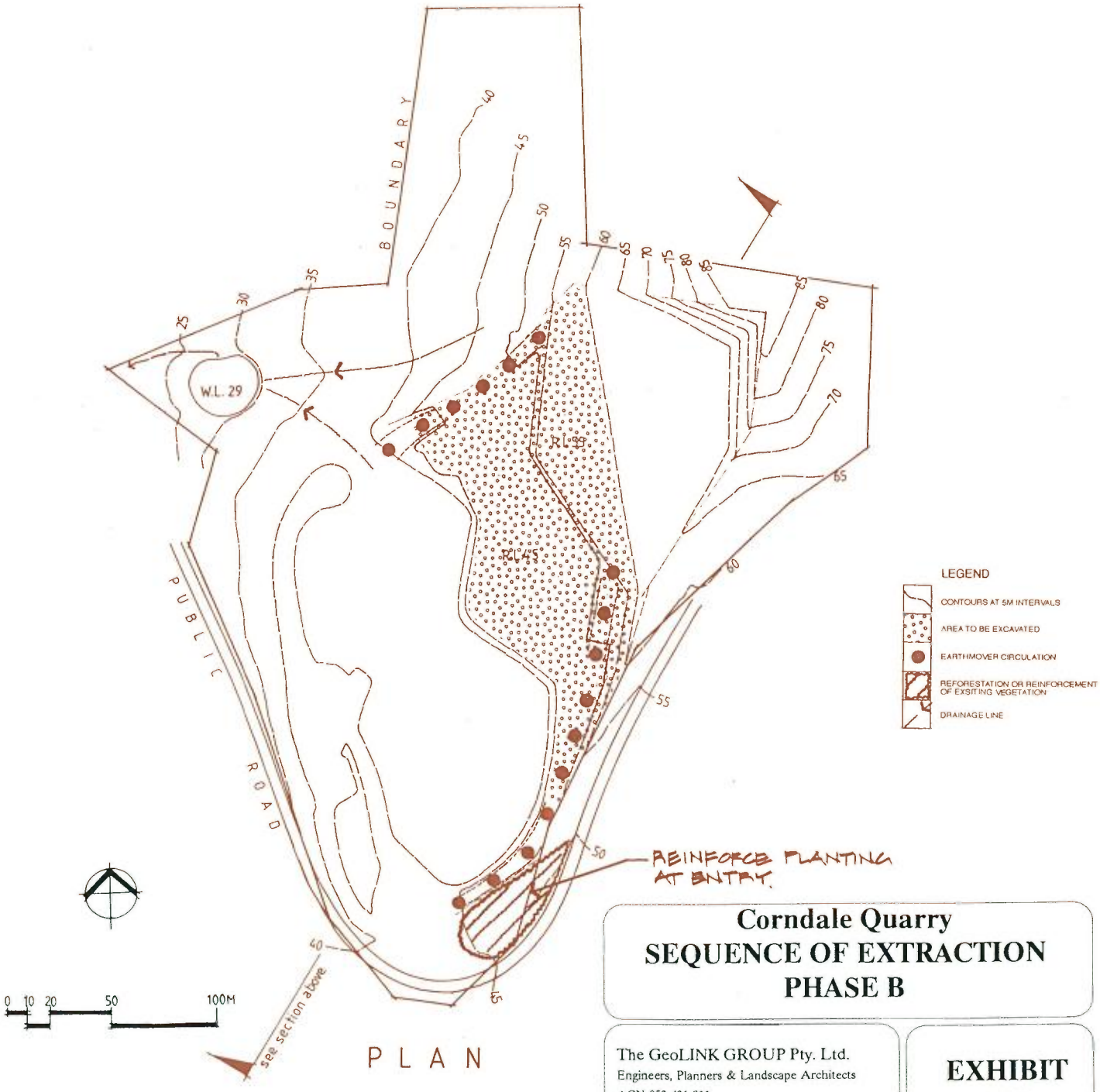

PLAN

Corndale Quarry
SEQUENCE OF EXTRACTION
PHASE B

The GeoLINK GROUP Pty. Ltd.
Engineers, Planners & Landscape Architects
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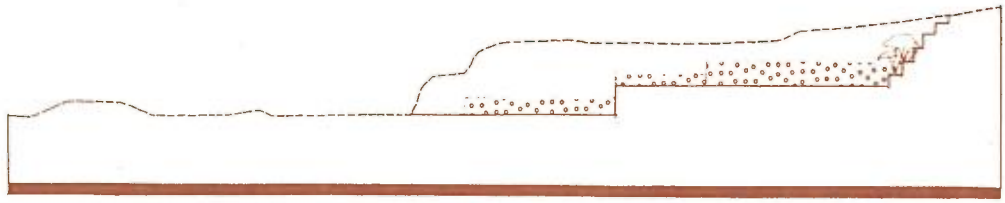
EXHIBIT 4.3B

Source: The GeoLINK GROUP, May 1994



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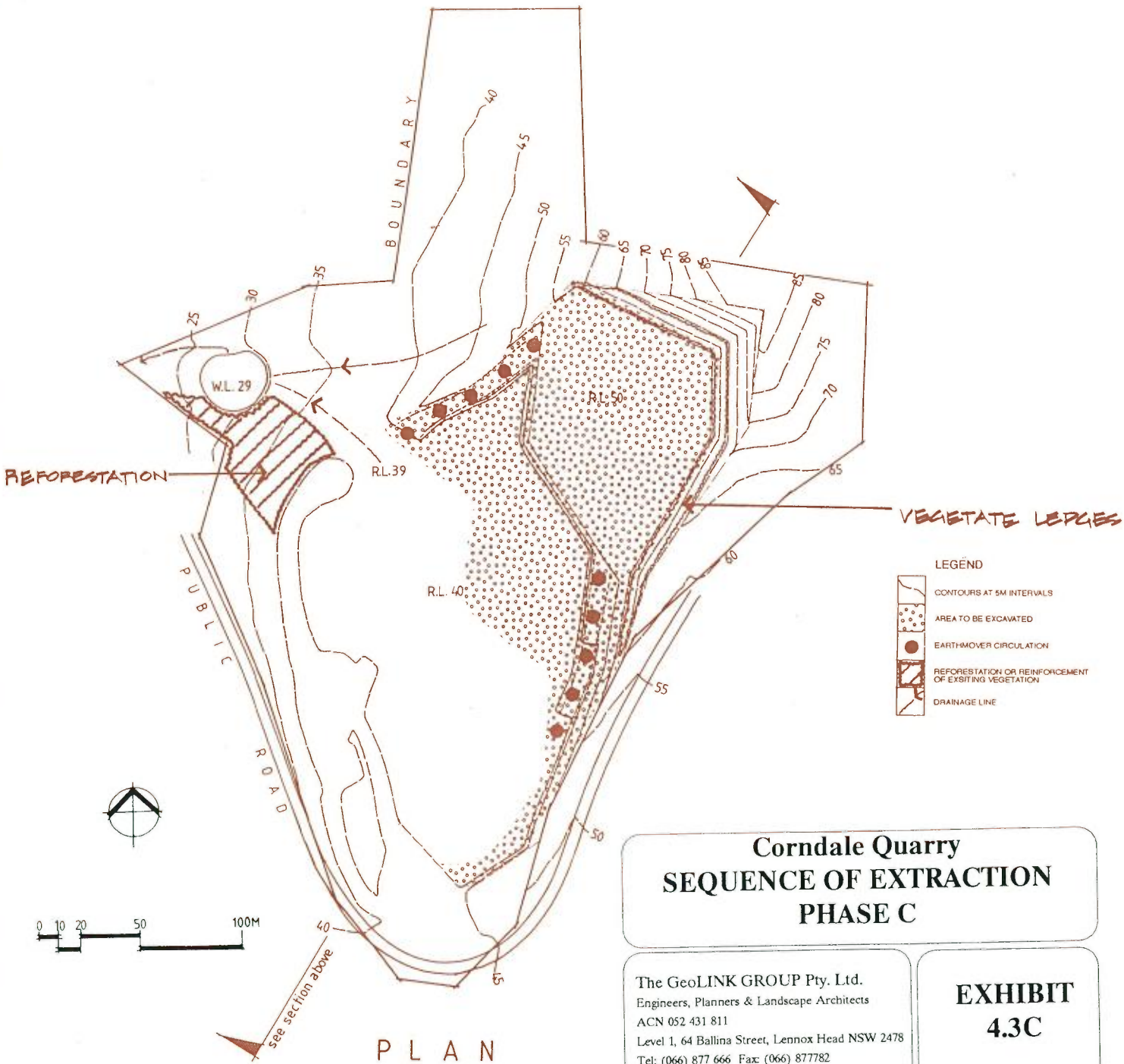

PLAN

Corndale Quarry
SEQUENCE OF EXTRACTION
PHASE C

The GeoLINK GROUP Pty. Ltd.
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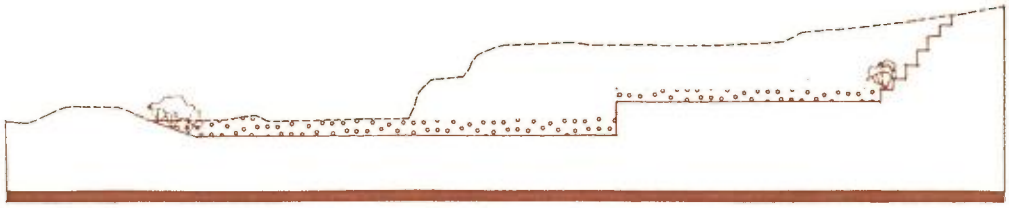
EXHIBIT 4.3C

Source: The GeoLINK GROUP, May 1994



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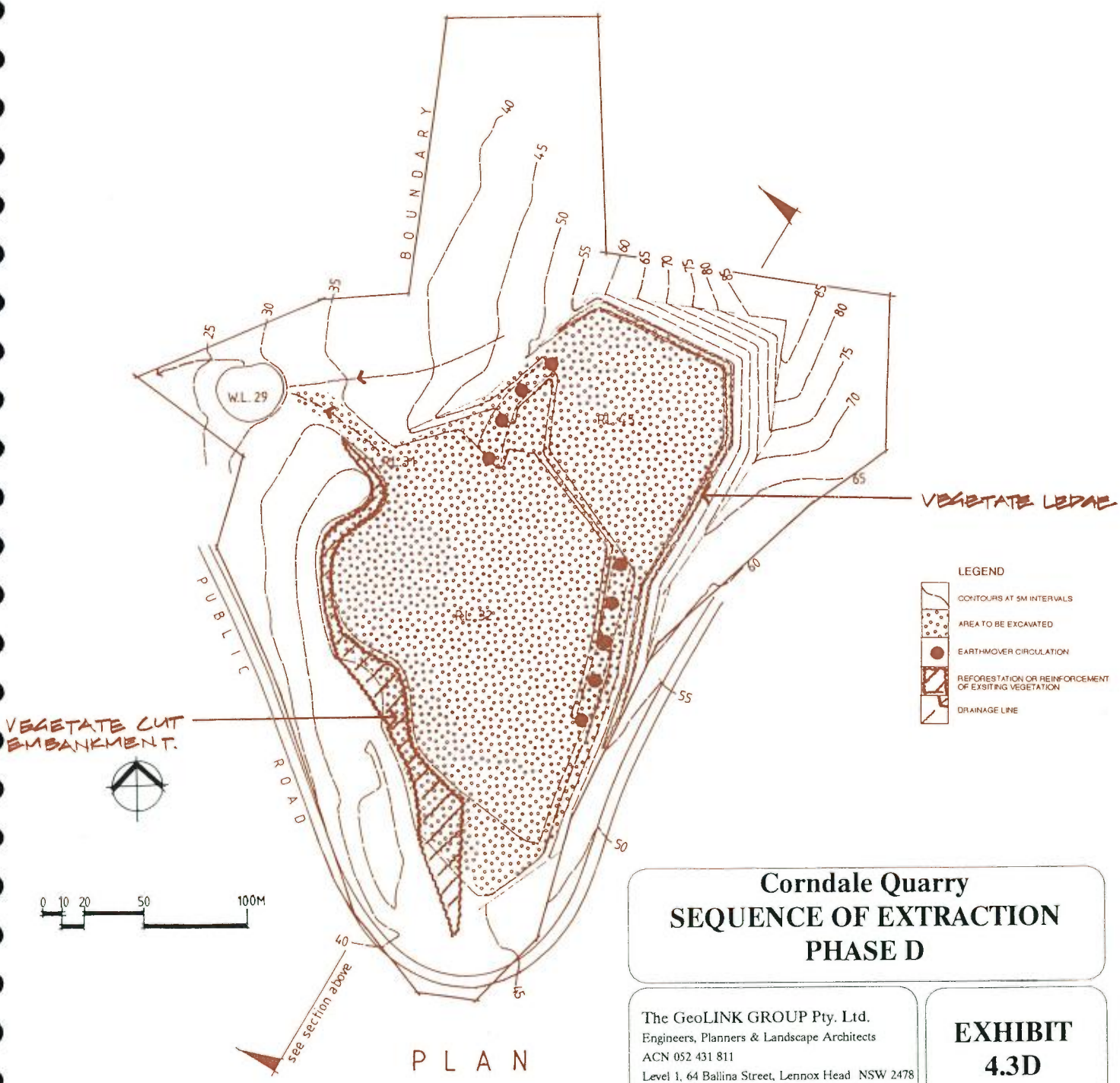

PLAN

Corndale Quarry
SEQUENCE OF EXTRACTION
PHASE D

The GeoLINK GROUP Pty. Ltd.
Engineers, Planners & Landscape Architects
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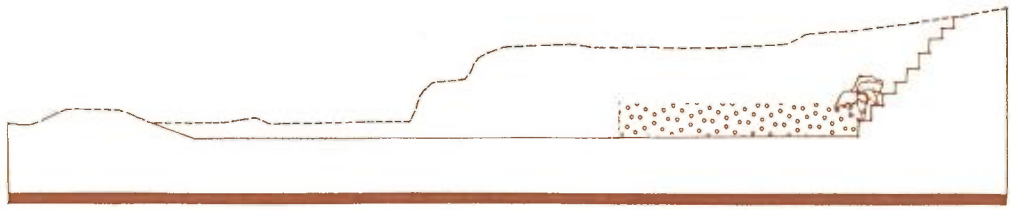
Level 1, 64 Ballina Street, Lennox Head NSW 2478
Tel: (066) 877 666 Fax: (066) 877782

EXHIBIT 4.3D

Source: The GeoLINK GROUP, May 1994



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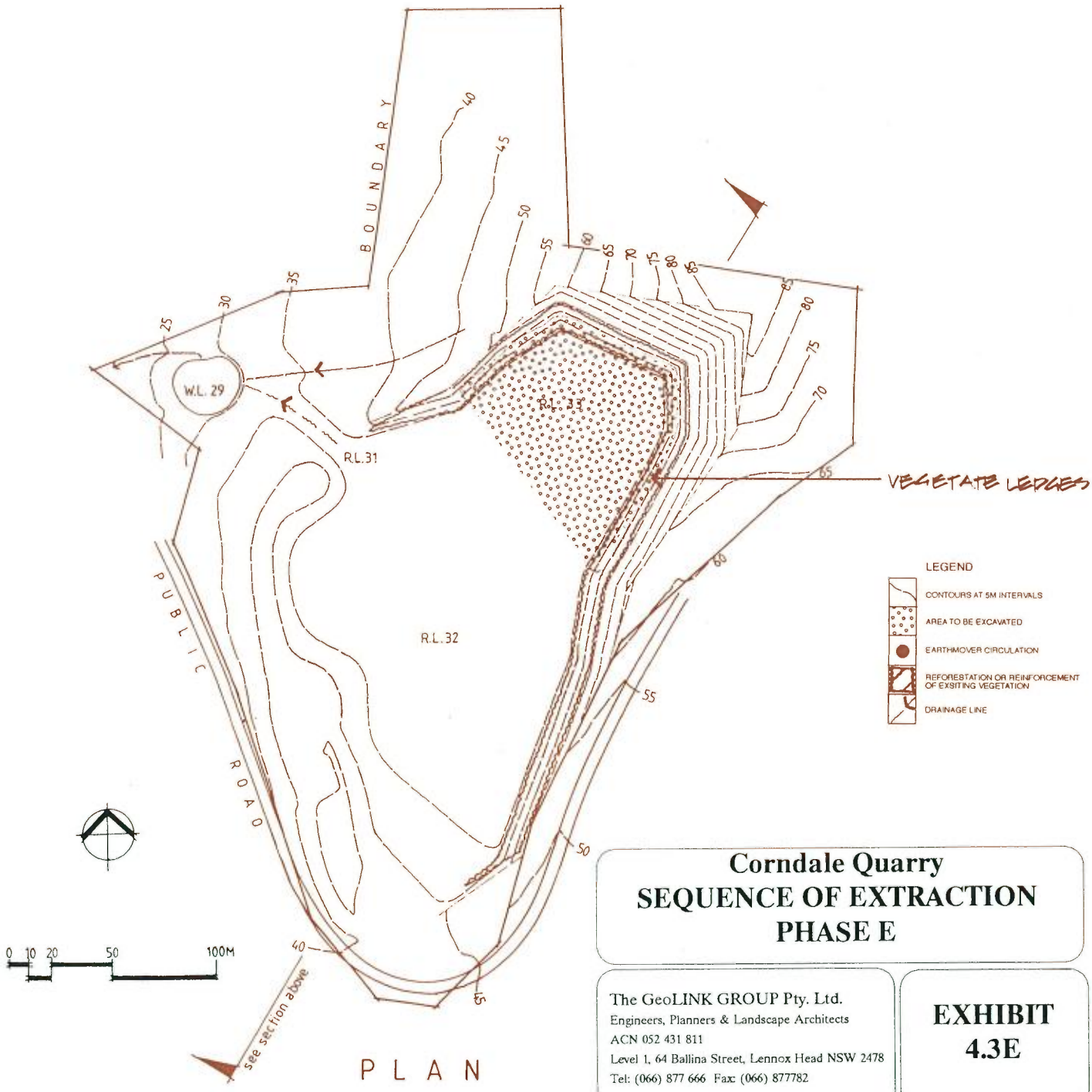

PLAN

Corndale Quarry
SEQUENCE OF EXTRACTION
PHASE E

The GeoLINK GROUP Pty. Ltd.
Engineers, Planners & Landscape Architects
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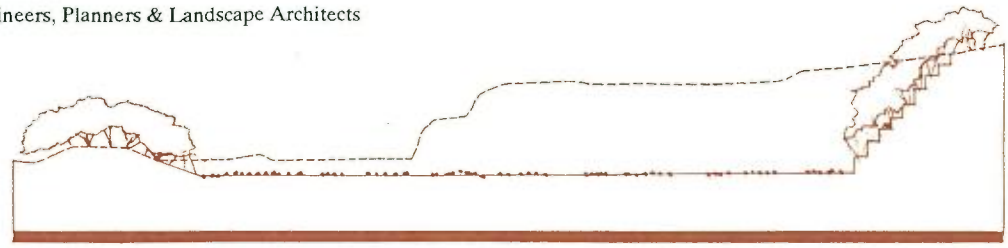
EXHIBIT 4.3E

Source: The GeoLINK GROUP, May 1994



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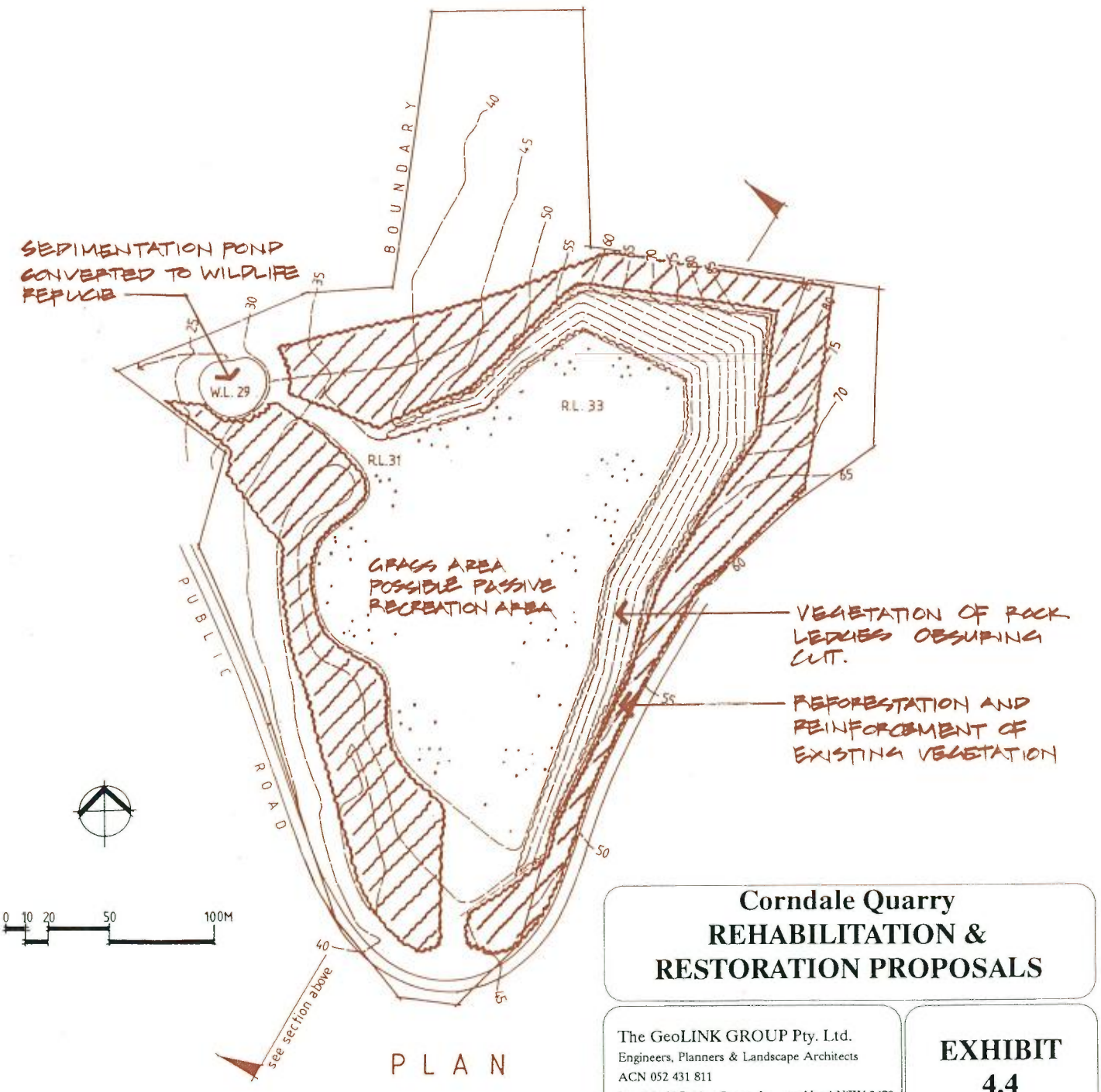

PLAN

Corndale Quarry
REHABILITATION & RESTORATION PROPOSALS

The GeoLINK GROUP Pty. Ltd.
Engineers, Planners & Landscape Architects
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EXHIBIT 4.4

Source: The GeoLINK GROUP, May 1994

Topsoil and overburden stockpiles will be located clear of any potential runoff and will be stabilised by seeding with a grass mix. If necessary, siltation fences will be erected around the perimeter of any stockpiles.

Sedimentation controls are proposed to be designed in accordance with CaLM Guidelines (CaLM, 1992).

4.4.5 Visual Aspects

The visual sensitivity of the subject site is generally limited to the quarry's exposure to the north west. Immediate site planning proposals (Exhibit 4.2) and Phase A Extraction (Exhibit 4.3A) provide for planting and mounding to limit the extent of north-western visual exposure. Further, Phase A extraction planning proposes to "reinforce" the visual buffer of the site adjacent to James Gibson Road, at the site's eastern boundary.

5. ENVIRONMENTAL EFFECT ASSESSMENT

5.1 Introduction

As a generalisation, virtually all development involves some potential environmental effects which can be either positive or negative. Most potential negative effects have solutions or offsetting measures which can avoid risk, or keep it to within acceptable limits. In most instances, environmental effect assessment involves balancing positives and negatives in the context of scientific data, community attitudes and expectations, potential externalities (such as flow-on costs and benefits), and variations which ultimately rest on the standard of operational management.

As a type of development, extractive industry has been the subject of environmental assessment in a variety of locations and circumstances. One result of this has been the evolution of detailed design and operational criteria which, when adopted, have the effect of reducing potential environmental harm. Such measures have been incorporated in the design of the proposed development and it is expected that more detailed requirements would be incorporated in conditions of development consent.

The effects identified in association with a production level of 49,700m m^3 per annum for the Corndale Quarry are canvassed below within the following framework.

- **Positive effects - that is, where there is clear potential for benefit;**
- **Potential negative effects for which compensatory measures are available** - that is where a potential adverse effect can be wholly or partly eliminated by the application of safeguards;
- **Potential negative effects for which no apparent compensatory measures are available** - that is where there is no apparent measure which can offset the effect; and
- **Qualified effects** - that is where a change in the environment will result, but evaluation of the change is subjective.

5.2 Potential Positive Effects

A number of positive effects are considered to result from the continuation of the quarrying activities at the Corndale Quarry at the average annual levels proposed.

- **Public Benefit**: As the high growth rates continue in the region, the demand for construction materials remains high. There is a definite community benefit in utilising existing locations for these materials, within acceptable operational criteria, as opposed to imposing new quarries on other locations. The strategic location of Corndale Quarry also allows it to provide material for a wide area with minimal transport distance. This allows the costs of the resource to be minimised and this saving can be passed on to the market (eg. housing sector).
- **Environmental Effects**: The quarry enjoys physical cirumstances where minimal additional environmental effects are likely. No drainage, erosion, flora, fauna, archaeological or agricultural issues of significance are involved. Potential conflicts with adjoining uses are anticipated to be significantly reduced as a consequence of the application of new site planning proposals described herein.
- **Social**: If the extended quarry operation was not to continue on this site, where the quarry has been in existence for in excess of 34 years, a new site may have to be found in a locality where quarrying is not "historically accepted". Alternatively, the quarry's customers, including Lismore Council, would need to purchase materials from other sources thus increasing activities in other localities. In either case, the resource at the Corndale site would remain unutilised. This is not considered to be in the best interest of the community.

5.3 Potential Negative Effects with Compensatory Measures

- **Visual Aspects** - Extractive industries have the potential to create adverse visual effects. However, the position of the existing quarry is such that the quarry and the associated activities are enclosed within the north and east working faces, and hence the visual catchment of the quarry is restricted to a south-west corridor. The proposed management of the quarry provides for lateral expansion in a north-easterly direction and a maintenance of the same approximate working area with progressive rehabilitation of previously worked areas. Therefore, the visual effect of the extended quarry area will be limited.

  The long term rehabilitation of the quarry site will return the land to a rural form, and associated tree plantings will provide an enhanced landscape to that currently existing.

5.4 Potential Negative Effects Without Compensatory Measures

Continuation of the quarry activity will result in the previous level of noise and dust pollution being maintained generally at the levels currently permitted by EPA licence conditions. As envisaged by those standards, even though the quarry activities are relatively enclosed, some noise and dust will be experienced beyond the site. The only fully effective compensatory measure to avoid these effects would be to cease extractive operations.

5.5 Qualified Effects

Progressive rehabilitation of the previously worked quarry areas will maintain the approximate scale of the existing quarry operation. However, there are those who will argue against any quarry as it permanently alters the landform and results in a "scar" on the rural landscape, notwithstanding the site remediation proposals described herein.

5.6 Conclusions

Having regard to the assessment outlined above, it is concluded that:-

- the use of this site for quarrying activities is historically "established";
- utilisation of the quarry resource will benefit the community by way of commercial advantage due to the availability of a resource in high demand close to the region's growth areas;
- the provision of an alternative supply, whether it be by way of establishment of a new quarry site or by way of increased utilisation of another existing source, would simply transfer pressures and potential effects to another locality;
- alternative supplies may increase the costs of the resource to the community in terms of transport costs, whereas the strategic location of the Corndale Quarry allows it to service a wide area with relatively small transport distances;
- the proposal is consistent with forward planning and Government Policies as recommended by the Department of Mineral Resources and supported by the Roads and Traffic Authority in respect to the utilisation of established resource sites;

- adoption of environmental control standards of the type setout in E.P.A. licence controls should maintain, at a reasonable standard, the rural environmental amenity of the locality;
- site planning proposals for site stormwater retention/sedimentation controls, increased site landscaping, visual impact mitigation and implementation of long term (11-15 year) site remediation will further improve the rural environmental amenity of the locality;
- current shortfalls in supply of road construction materials have highlighted the importance of this resource to the region.

6. STATUTORY AND POLICY PLANNING

This section of the report addresses statutory and policy planning considerations applicable to Council's consideration of the subject application. Section 6.1 documents the range of planning instruments applicable in the subject case and tabulates the effect of these instruments in the circumstances of the development proposal. Section 6.2 examines policy adopted by Council or other authority applicable in the subject matter.

6.1 Statutory Considerations

Pursuant to the Environmental Planning & Assessment Act, 1979, a number of statutes are potentially applicable to any development proposal. This section reviews the range of instruments and notes controls established by such statutes, pursuant to advice received from Lismore City Council.

6.1.1 Deemed Environmental Planning Instruments

No deemed environmental planning instruments apply to the subject land.

6.1.2 Local Environmental Plans

NAME: Lismore LEP, 1992

Application In Subject Case:

ZONE: (See Exhibit 6.1) 1(a) General Rural Zone

PERMISSIBILITY: "Extractive industry" falls into the category of "Advertised Development - only with development consent".

CONCURRENCE: None required

SPECIAL PROVISIONS APPLICABLE:

Clause 9 - Zone Objectives - Consistent, particularly in terms of objective (f) "*to ensure sound management of land which has an extractive or mining industry*

potential and to ensure that development does not adversely affect the potential of any existing or future extractive industry."

Clause 9(3) - In accordance with this Clause, the requirements of the Act relating to advertising of designated developments (Clauses 84, 85, 86, 87(l) and 90) apply to the category of developments described in this Clause as "Advertised Development - only with development consent".

Clause 9(4) - A development application for consent to carry out a development in the "Advertised Development" category must be accompanied by an Environmental Impact Report (E.I.R.) which addresses the matters contained in Schedule 3 to the LEP. These Schedule 3 matters are summarised below.

Clause 27 - Preservation of trees - The continued expansion of the quarry will necessitate the removal of a number of trees. This loss will be compensated by the extensive plantings proposed as part of the site rehabilitation measures as outlined in Section 4 of this E.I.R.

Schedule 3 - The matters contained in Schedule 3 are addressed throughout the body of this E.I.R. In summary, these matters are:

1. *A full description of the development proposed by the application including legal land description, land area, number, location and size of the lots (if any) proposed to be created, access and road layout.*
   Information relating to the subject site is contained in Section 2. A full description of the proposal is described in Section 4.

2. *A statement of the objectives of the proposed development and how it relates to the objectives of the plan and zone.*
   See Section 1.2.

3. *A full description of the existing environment, including existing land use, slope, aspect, geology, soils, flood liability, vegetation, fauna and hydrology likely to be affected by the proposed development, if carried out .*
   See Section 2

4. *Identification and analysis of the interaction between the proposed development and the natural and human made environment through the use of systems maps (for example, habitat, vegetation, open space, recreation system, drainage system, road bicycle and pedestrian movement system.*
   See Sections 4 & 5.

5 *The likely impact of the proposed development on the surrounding natural and human made environment, such as loss of agricultural land, impact on water resources and any land use conflicts and the means proposed to reduce any adverse impact (for example visual controls,*

stormwater controls, erosion controls, traffic controls and provision of community facilities) .
See Sections 4 & 5.

6. *Justification of the proposed development on environmental, economic and social considerations* .
See Sections 5 & 7.

7. *Measures to be taken in conjunction with the proposed development to protect the environment and the assessment of the likely effectiveness of those measures.*
See Section 4.

8. *Any feasible alternatives to the carrying out of the proposed development and reasons for choosing the latter* .
See Sections 5 & 7.

9. *The consequences of not carrying out the proposed development.*
See Sections 5 & 7.

10. *Any likely increase in demand for facilities or services as a result of the development* .
See Section 4.

11. *Any other matter notified in writing to the applicant by the Council.*
See Appendix C for Council's notification. Those matters are addressed throughout this Statement of Environmental Effects.

"MODEL PROVISIONS" CONSIDERATIONS: Consistent.

6.1.3 Development Control Plans

Development Control Plan No 29 "Extractive Industries", applies to the subject development.

This plan relates to the whole of the Lismore Council Area and aims to "*identify and protect significant mineral and construction resources and associated extractive industries and ensure continued efficient and responsible extraction of necessary resources, for the future well-being and development of the community.*"

The specific requirements of this Plan which are of relevance to the subject proposal are:

3.0 Mineral and Construction Resources in Lismore - Map No. 3 of the DCP indicates that the Corndale Quarry is of "regional economic importance".

4.0 Extractive Industries - Haulage Routes - The DCP identifies primary and secondary haulage routes which are used in conjunction with quarrying within the Lismore Council Local Government Area. As identified in Exhibit 2.5, Corndale Quarry utilises, in the main, primary haulage routes, although some secondary haulage routes are utilised from time to time. The developer contributions outlined in Clause 4 of DCP 29, from this and other quarries, will be used by Council to ensure that the standards outlined in the DCP for haulage routes are achieved.

In calculating our clients' contributions, Council should consider the contribution already made toward the upgrading of Bexhill Bridge.

5.0 Buffer Areas Around Extractive Industry Sites. According to the standards outlined in the DCP, Council will regulate further development in the locality to seek to achieve a primary buffer of 1000 metres and a secondary buffer of 800 metres.

6.0 Rehabilitation of Quarries - The proposals put forward for site rehabilitation are described in Section 4.4.3 and summarised graphically in Exhibit 4.4.

7.0 Obtaining Development Consent for Extractive Industries. This application is consistent with the guidelines outlined in the DCP.

8.0 Extractive Industry Management Plans. As required by the DCP, a detailed management plan, based on the proposals outlined in this report, will be prepared for Corndale Quarry following Development Approval.

6.1.4 Regional Environmental Plans

NAME: North Coast Regional Environmental Plan, 1988

Application in Subject Case:

12. Impact of development on agricultural activities. The subject site is not classified as being prime agricultural land. The relationship of this proposal to the adjoining land is discussed in detail in preceeding sections of this report.

18. Extractive industry. Site rehabilitation measures are outlined in Section 4.4.3 and described graphically in Exhibit 4.4.

Corndale Quarry

TOWN PLANNING CONTROLS

The GeoLINK GROUP Pty. Ltd.
Engineers, Planners & Landscape Architects
ACN 052 431 811
Level 1, 64 Ballina StreetLennox Head NSW 2478
Tel: (066) 877 666 Fax: (066) 877782

EXHIBIT 6.1

Source: Lismore LEP, 1992

6.1.5 State Environmental Planning Policies

SEPP 37 is applicable to the continued use of the subject quarry.

The Corndale Quarry was "registered" for the purposes of this SEPP in July 1993. This registration provides for the continuation of quarry activities subject to a production limit of 20,000 m^3 per annum.

Clause 20 of SEPP 37 sets out the requirements which determine whether a development application for intensification of use is "designated" or not. This limit is a 50,000 tonne increase in the amount of material produced in the 1990-1991 period.

Intensification of the quarry up to 49,700 m^3 per annum production is therefore permissible by way of a "non-designated" development approval.

6.1.6 Certified Draft Local Environmental Plans

No draft environmental planning instrument is known to apply to the subject land in a manner which would restrict the subject project.

6.2 Local Policy Controls

On advice from Council, it is understood that no specific policy of Council, other than that embodied in the above sub-sections is applicable to the subject project.

6.3 Ancillary Legislation

The applicant is aware that in addition to the consent authority's approval of the subject application, the provisions of the following statutes may regulate development in the manner proposed.

NSW LAWS

Clean Air Act 1961
Clean Waters Act 1970
Construction Safety Act 1912
Environmental Offences and Penalties Act 1989
Factories, Shops and Industries Act 1962

Mining Act 1992
Occupational Health and Safety Act 1983
Pollution Control Act 1970
Protection of the Environment Administration Act 1991
Soil Conservation Act 1938

7. CONCLUSION

7.1 Project Justification

The proposal by Corndale Quarries Pty Ltd to intensify the use of the existing Corndale Quarry is a product of many factors. Those factors include:

- policies of all levels of government to protect significant mineral and construction resources:
- the continued demonstrated demand for the resource;
- the opportunities presented by the site.

The proposed development is permissible under Lismore LEP, 1992 and consistent with the North Coast Regional Environmental Plan 1988, Council's DCP No 29 and State Environmental Planning Policy No 37 - Continued Mines and Extractive Industries.

Section 5 of this report examines the environmental, economic and social issues associated with the intensification of quarrying activities as proposed. This analysis demonstrates that this intensification can occur in a manner which not only minimises environmental impacts but also maximises social and economic benefits to the community.

7.2 Feasible Alternatives

The alternatives to the proposal would appear to be:

1. cessation of quarrying activities;

2. continuation of quarrying activities at an output level of 20,000 m^3 per annum; and

3. continuation of quarrying activities at an output level of greater than 49,700 m^3.

Alternative 1 was not considered as it would sterilise a resource which has been classified by Council as being regionally important.

The second alternative would utilise the resource but not to its full potential and would therefore be economically wasteful and inconsistent with the objectives of the Act (Section 4). Further, under current market conditions, the continuation of quarrying at an output level of only 20,000 m^3 appears to be economically unsustainable in the medium to long term. Such a level would require the

operator to raise the price of the resource which would be damaging competetively and would also add to the overall cost of growth in the region.

The final alternative would maximise utilisation of the resource, however it would do so at a level which may, subject to detailed analysis, cause both environmental harm and land use conflicts in the local area.

The proposal outlined in this report represents, in our opinion, a responsible balance between environmental protection and resource utilisation.

7.3 Consequences of Not Carrying Out Development

Corndale Quarry has operated in this location for in excess of 34 years. Consequently, its existence and operation in the locality is historically accepted. The increase in production levels will result in little change in the quarry activities as perceived from the surrounding locality.

The enclosed nature of quarry sites, typically with working faces and an enclosed quarry floor, is such that drainage, visual, noise and dust problems are well contained and hence their impact is minimised. The efficient nature of the quarry extraction process results in little or no waste. The surplus overburden material is kept for subsequent reuse in the rehabilitation of the site.

The consequences of not proceeding as proposed would be for quarrying to continue at an output level of 20,000 m^3. Such an output is unlikely to keep pace with the demand for this regionally important resource in the medium to long term, and would result in an inflation of resource costs which would be passed on to the construction industry generally.

In our opinion the development can be seen to satisfy a legitimate need and is capable of construction, operation and management in a manner which will mitigate potential adverse effects. Further, the proposal provides a range of positive benefits, specifically:

- the adoption of appropriate environmental controls and safeguards;
- the economic provision of a regionally important resource; and
- the timely rehabilitation and restoration of the quarry site.

24/6/94

Stephen J. Connelly
Director
The GeoLINK GROUP Pty Ltd.

REFERENCES

LCC, 1992 — *Lismore Local Environmental Plan, 1992*

DOP, 1988 — *North Coast Regional Environmental Plan* Department of Planning, North Coast Region, 1988

DOP, 1993 — *Extractive Resources, Guidelines on Implementation & Use of SEPP 37 - Continued Uses & Extractive Industries* DOP, June 1993

RTA, 1989 — *Road Design Guide*, Roads & Traffic Authority, NSW, February, 1989

Chestnut, W.S., 1989 — *Preliminary Report on Construction Material Resources of the North Coast Region - Factors for Regional and Local Environmental Planning.* Unpublished Report. Geological Survey of NSW, GS1989 -006.

Kearns, G., 1993 — *Pavement Materials Analysis Overview Report for North Coast Zone*. Internal RTA Report, December, 1993.

CaLM, 1992 — *Erosion & Sediment Control Manual*, CaLM, 1992

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APPENDIX A
DEVELOPMENT APPLICATION FORM

OFFICE USE ONLY
D.A. Registered No. _____
Date received _____
Assessed fee _____
Fee Receipt No. _____

CITY/MUNICIPALITY/SHIRE OF LISMORE

Applicant's name: THE GEOLINK GROUP

Full postal address: P. O. BOX 9
LENNOX HEAD 2478

Telephone (business hours): 066 877666

I. STEPHEN CONNELLY

of THE GEOLINK GROUP

hereby apply for development consent to carry out the development described below

A. Description of the land to which the development application relates

No. or name _____ Street JAMES GIBSON RD

Locality/Suburb CORNDALE

Real Property Description LOT 2 D.P. 716264
(eg. Lot, D.P./M.P.S., Vol/Fol Parish, Portion)

Note: A plan (in triplicate) of the subject land must accompany the application — refer to Note 2 of Instructions for Completing Development Application

B. Description of development or other activity (eg. advertisement, demolition etc.) for which development consent is sought:

CONTINUED USE OF EXISTING QUARRY

Where development involves the erection of a building, the proposed use of that building when erected:

Note: Plans/drawings and other information (in triplicate) describing the development must accompany the application — refer to Notes 3 and 4 of Instructions for Completing Development Application

C. Estimated cost of the proposed development (where it involves the erection of a building or the carrying out of a work):

$ N.A.

Note: Refer to Note 1 of the Instructions for Completing Development Application

D. Environmental impact of proposed development: SEE REPORT

The application is accompanied by:

~~*(a) an environmental impact statement (in the case of designated development)~~

*(b) a statement of environmental effects

*delete whichever is inapplicable

Note: Refer to Notes 5 and 6 of the Instructions for Completing Development Application

Signature of applicant or person signing on behalf of applicant. Where not signed by applicant, state capacity in which application is signed

Date 24.06.94

CONSENT OF OWNER*

I _____

of _____

being the owner of the land to which this application relates hereby consent to the making of this application

Signature of owner or person acting for or on behalf of owner.
Where not signed by owner, state capacity in which consent is signed

Date _____

*To be completed:

(a) where the land to which the development application relates, does not comprise Crown Lands and the applicant is not the owner of the land, or

(b) where the land comprises Crown Lands, and the applicant is not the lawful occupier or owner of that land

APPENDIX B
AUTHORITY OF LANDOWNER

TO WHOM IT MAY CONCERN

This to advise that The GeoLINK GROUP Pty Limited, ACN 052 431 811, of Level 1, 64 Ballina Street, Lennox Head, NSW 2478 has been engaged by:

Client Name: AKM PROPERTIES P/L

Client Address: TEVEN ROAD, ALSTONVILLE

Dated: 29/3/93

In respect to land described as:

No: CORUNDALE QUARRY Street: 422 JAMES GIBSON RD

Locality/Suburb: PARISH OF BEXHILL

Real Property Description: LOT 2 DP 716264

The owner of the abovementioned land hereby authorises the Company or its agents to:

1. Inspect Records
2. Carry out searches and site inspections
3. Lodge applications, objections or appeals

Signed: T J Collins

APPENDIX C
CONSULTATION WITH AUTHORITIES

Our reference: 257.5314 GC:JS
Mr Charleston (066) 42 0174
Your reference: 489-92/249

Roads and Traffic Authority
North Coast Zone

R T A

31 Victoria Street
Grafton
New South Wales 2460
Telephone (066) 42 3733
Facsimile (066) 42 0160
PO Box 576
Grafton NSW 2460
DX 7610

The Director
The GeoLINK GROUP Pty Ltd
Level 1, 64 Ballina Street
LENNOX HEAD NSW 2478

CITY OF LISMORE. PROPOSED INTENSIFICATION OF AN EXISTING HARDROCK QUARRY LOT 2, DP 716264, PARISH OF BEXHILL KNOWN AS 422 JAMES GIBSON ROAD, CORNDALE.

Dear Sir

I refer to your letter dated 17 December 1992 concerning the above and advise that the Environmental Impact Statement should include a traffic study to determine the impact of the additional volume of traffic generated by this proposal on the surrounding road network.

It appears that this quarry could be a good source of crushed rock road base and sub-base and possibly sealing aggregate. However testing will be required to confirm this.

The Authority supports the identification and preservation of areas containing these essential deposits for future community use.

A copy of this letter has also been forwarded to Lismore City Council.

Yours faithfully

P J Collins
Zone Manager

29.12.92.

RECEIVED
2/1/93

NSW
NATIONAL
PARKS AND
WILDLIFE
SERVICE

Director,
The Geolink Group P/L,
64 Ballina St,
LENNOX HEAD. 2478.

F/0070

Our reference:
Your reference:

Dear Sir,

RE: PROPOSED INTENSIFICATION OF EXISTING HARDROCK QUARRY, LOT 2, DP716264, PARISH OF BEXHILL, KNOWN AS 422 JAMES GIBSON ROAD, CORNDALE

Reference is made to your letter of 17.12.92 regarding information relating to the above proposal.

The Service has reviewed its data base records and a map indicating general vegetation types is attached.

Remnant vegetation appears to occur in the proposal area and it is recommended that the E.I.S. include a survey of native flora and fauna.

With regard to archaeological sites there are no records of known sites. Jali Local Aboriginal Land Council have been contacted regarding the significance of the proposal area. Details of their reply will be forwarded as soon as available.

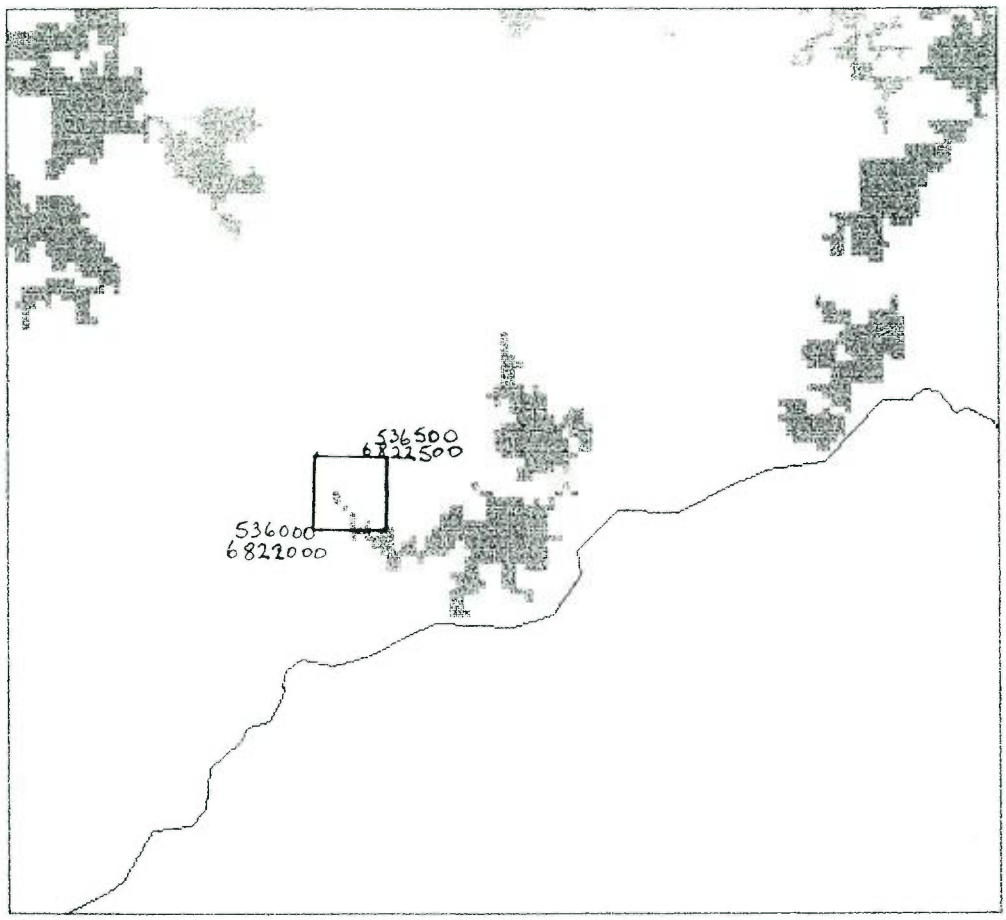
Yours sincerely,

Colin Browne

Colin Browne
for
DIRECTOR.

Lismore District
Suite 9
Colonial Arcade
75 Main Street
Alstonville
PO Box 91
Alstonville 2477
Fax: (066) 28 3937
Tel: (066) 28 1177

Head Office
43 Bridge Street
Hurstville NSW
Australia
PO Box 1967
Hurstville 2220
Fax: (02) 585 6555
Tel: (02) 585 6444



MAP : VEGETATION - CLUNES AREA

SCALE = 1: 100000

— Lismore District Boundary
.. Service Estate Boundaries
— Major Roads

☐ Rainforest
▒ Moist Open Forest
▓ Dry Open Forest
▓ Woodland
▓ Coastal Sclerophyll Complex
▒ Plateau Sclerophyll Complex
☐ Disturbed Remnant Vegetation
▒ Plantation
▓ Rock

DEPARTMENT OF
CONSERVATION AND
LAND MANAGEMENT
Richmond Arcade
Cnr Walker &
Canterbury Sts
PO Box 376
Casino NSW 2470
Phone (066) 62 4477
(066) 62 4286
Fax (066) 62 1954

RECEIVED 6/1/93

Our Ref: 788
Your Ref: 489-92/249

29 December, 1992

The Director
The Geolink Group Pty. Ltd
Level 1
64 Ballina Street
LENNOX HEAD NSW 2478

Dear Sir,

Re: Proposed Expansion of Existing Quarry, Lot 2
DP 716264, Parish of Bexhill

The following matters should be addressed in your proposed Environmental Impact Statement of the above quarry.

- The variation of soils and their characteristics across the proposed site so operations can be planned to avoid problem areas.

- The proposed erosion and run-off control measures prior to significant site disturbance, during the quarrying phase and post rehabilitation phase.

- The stripping, stockpiling and preservation of all topsoil for later respreading on disturbed areas during rehabilitation.

- The provision and maintenance of buffer zones.

- The working sequence and progressive rehabilitation program. (Disturbance be restricted to a minimum area consistent with efficient operations of the site).

- Reshaping of disturbed areas including methods and grades of completed areas.

- The proposed revegetation of the site, including a description of -

  (i) Grass species and fertiliser mix proposed for all rehabilitated areas.

  (ii) Varieties of tree species proposed for erosion control, rehabilitation and

aesthetic purposes.

- Proposed fencing to exclude stock from the rehabilitated site.

- A maintenance program including the control of noxious pest to minimise and preserve the sown grasses and planted trees.

No Crown Land matters are affected by this quarry operation.

If you require further information in relation to the above matter, please contact me at our Casino office.

Yours faithfully

Mark Stanton-Cook
for J.A. Butcher
REGIONAL DIRECTOR

Director
Geolink Group Pty Ltd.
Level 1
64 Ballina Street
LENNOX HEAD NSW 2478.

RECEIVED 07/01/93

Telex: 66966
Facsimile: (066) 43 1161
Telephone: (066) 42 0568
Ext:
Contact Name:
Our Reference:

Your Ref: 489-92/249

J. Schmidt
6009178
[JS2-64]

Dear Sir

Re: Proposed Intensification of an Existing Quarry. Lot 2, DP716264 Parish of Bexhill, 422 James Gibson Road, Corndale.

The Department has responsibility to ensure that any development does not detrimentally affect surface and groundwater quality, nor diminish the ecology of our waterways.

The following comments and matters to be addressed are provided to assist you in the preparation of an E.I.S.

1.0 Surface and Groundwater Quality

1.1 Provide a details water management plan detailing:

(a) Water requirements, for each phase of a proposed operation and the preferred sources of supply, storage arrangement, re-use and drainage facilities.

(b) Sediment resulting from the construction of access roads and the operation of the quarry should not be allowed to enter any watercourses. Diversion banks and settling ponds should discharge over a vegetated zone before entering any drainage line.

(c) The location of groundwater bores and wells within 500 metres of the development be identified and provision made to protect the quality of this resource.

1.2 Detail the provisions made to prevent contamination from any on site stored fuels, lubricants, chemicals and servicing of vehicles.

2.0 Buffer Zones

2.1 Ensure a fully vegetated buffer zone be maintained/established between the development and any water course or wetland system to act as an effective filter preventing sediments and pollutants from entering water courses and affecting water quality.

3.0 Site Management Plan

3.1 Provide details of:

- resultant pit design
- method of operation
- rehabilitation methods
- revegetation plan

I hope this is of assistance.

Yours faithfully

J. Schmidt
Regional Environmental Officer
North Coast Region

5/1/93

Our reference: RJS:je
Your reference: 489-92/249

North Coast
Region

NSW Agriculture

Wollongbar
Agricultural Institute
Bruxner Highway
WOLLONGBAR NSW 2477

Telephone (066) 24 0200
Facsimile (066) 28 1744
Telex AA 66344 NCAI

The Geolink Group Pty. Ltd.
Level 1
64 Ballina Street
LENNOX HEAD NSW 2478

8 January 1993

Dear Sir,

Re: Proposed Intensification of an Existing Hardrock Quarry
Lot 2, DP716264, Parish of Bexhill
known as 422 James Gibson Road, Corndale

This is in reply to your letter of 17 December seeking advice on any issues which may need to be addressed in the preparation of the above Environmental Impact Statement.

A brief inspection of the site indicates that the land is of low agricultural quality, but is bordered to the east and west by agricultural pursuits which may be disrupted by the quarrying operation.

I would suggest that your EIS include a survey of neighbouring farmers to ascertain how their individual farming activities may be affected. In particular, such matters as dust, traffic generation and competition for water should be addressed.

I thank you for the opportunity to comment.

Yours faithfully,

R. J. Smith
Agricultural Environment Officer

EPA

Environment
Protection
Authority
New South Wales

NSW Government Offices
49 Victoria Street
PO Box 498
Grafton
NSW 2460

Telephone .066. 42 0535
Facsimile .066. 42 0606

The Geolink Group Pty Ltd
Level 1
64 Ballina Street
LENNOX HEAD NSW 2478

256622B
Our Reference: GLS:SG

Your Reference:
Contact: Geoff Shuttlewood

Dear Sir

PROPOSED PIRLOS QUARRY EXTENSION LLEWELLYNS ROAD, VIA CASINO & INTERSECTION OF CORNDALE QUARRY LOT 2, DP716264, CORNDALE

Thank you for your letters of 30 November and 17 December 1992 concerning the preparation of an Environmental Impact Statement (EIS) for the above premises.

Environment Protection Authority (EPA) would recommend the EIS address the matters of air, noise and water pollution that may result from the quarry, as follows:

Noise Pollution

If the workable area of the site is greater than 20,000 square metres the premises will be scheduled under the Noise Control Act, 1975. The proponent will be required to obtain formal approval for the development from the EPA prior to the commencement of any work.

If a noise impact is likely, the EIS should include a Noise Impact Statement prepared by a qualified noise consultant. The EPA would generally permit a maximum noise level (L_{10}) from the premises of no more than 5dB(a) above the background noise level (L_{90}), when measured at the nearest affected residence.

Other matters related to noise which should be addressed include: proposed working hours, details of any proposed blasting, vehicle movements to and from the site and details of on-site plant and equipment.

Air Pollution Control

If any rock is to be crushed on site the premises will also be scheduled under the Clean Air Act, 1961. The EIS should discuss the measures proposed to control dust from the various sources (e.g crushing, quarrying, blasting and unsealed access roads).

Water Pollution

The EIS should discuss the measures proposed to control erosion of material from the quarry and the deposition of this material into nearby watercourses. A siltation dam is normally required to accept the first flush of runoff from the quarry working area. In addition, a drainage system may be required on the uphill side of the site to divert uncontaminated runoff around the working area.

We trust these comments are of assistance in the preparation of the EIS. Should you have any further enquiries please contact Geoff Shuttlewood.

Yours faithfully

7/11/93

GRAEME BUDD
Regional Manager
North Coast
for Director-General

The Council of the City of Lismore
Council Chambers
Oliver Avenue, Goonellabah, N.S.W.

TELEPHONE (066) 25 0500
FAXSIMILE (066) 25 0400

P.O. BOX 23A
LISMORE. 2480
DX 7761

ALL COMMUNICATIONS TO
GENERAL MANAGER/TOWN CLERK

IN REPLY PLEASE QUOTE

CONTACT

Mr Johnson 250500

HAJ:LH/P/13350

Environment & Development Division

16th February, 1993

19/2/93

The Manager
GeoLINK Group Pty Limited
Level 1, 64 Ballina Street
LENNOX HEAD NSW 2478

Dear Sir,

ENVIRONMENTAL IMPACT STATEMENT - CORNDALE QUARRY, CORNDALE

I refer to your letter dated February 4, 1993, in which you requested Council to forward specifications with regard to matters specifically required to be examined within the proposed Environmental Impact Statement.

Council requires the following matters to be addressed within the Environmental Impact Statement:-

* Proposed methods to alleviate dust nuisance emanating from the Quarry.
* Methods to alleviate noise impact generated from the Quarry with regard to transport, crushing, separating, drilling, and blasting.
* A Fauna and Flora Impact Assessment.
* A Geo-Tech Assessment with regard to overall stability of the site and effects of blasting upon surrounding areas.
* Identified market areas with specific regard to proposed transport routes.
* Overall drainage issues with specific regard to periods of heavy innudation.
* Erosion control methods with regard to loss of material onto adjoining lands.
* Re-vegetation of unused portions of the site.
* Overall site rehabilitation of the Quarry to be dealt with in stages as an area becomes redundant, thus representing a continual process.

The above points should be incorporated into the overall requirements as stipulated by the Department of Planning and prepared within an Environmental Impact Statement that is to comprehensively address the relevant environmental issues with regard to the extensions to the Corndale Quarry.

Should you require any further information pertaining to this matter please do not hesitate to contact Mr Hugh Johnson at Council's Administration Centre, Oliver Avenue, Goonellabah, on telephone 250 500, between the hours of 8.30am and 10.00am, Monday to Friday.

Yours faithfully,

P T Muldoon
GENERAL MANAGER/TOWN CLERK

per:-