



PRELIMINARY ENVIRONMENTAL ASSESSMENT

**Sand Quarry Extension
Lot 10 DP 1090880, Keighley Road, Somersby
(Existing Quarry Location on Lot 33, DP 755246
Reservoir Road, Somersby)**

PREPARED FOR: HANSON CONSTRUCTION MATERIALS PTY LTD

**PRELIMINARY ENVIRONMENTAL ASSESSMENT
HANSON CONSTRUCTION MATERIALS PTY LTD****LOT 10 DP 1090880, KEIGHLEY ROAD, SOMERSBY
(EXISTING QUARRY LOCATION ON LOT 33, DP 755246
RESERVOIR ROAD, SOMERSBY)**

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EXECUTIVE SUMMARY

This proposal involves the extension to an existing Hanson Central Coast Sand quarry situated on Reservoir Road, Somersby. Hanson Construction Materials Pty Ltd (Hanson) are proposing an extension to the existing quarry by adding 8 hectares of extraction area which will extend the life of the operations.

The proposed development constitutes a *major project* under Part 3A of the *Environmental Planning & Assessment Act, 1979*. Under these circumstances the proposal is to be assessed by the Director General of the Department of Planning and determined by the Minister for Planning.

The Department of Planning, as delegate for the Minister for Planning, has confirmed that the project is a Part 3A Major Project under Clause 6(1) of State Environmental Planning Policy (Major Projects) 2005 (See **Attachment 1**). On this basis a Project Application may be lodged with the Director General.

This Preliminary Environmental Assessment seeks to assist the Director General in preparation of the Environmental Assessment requirements (Director General's Requirements) for the proposed development.

Existing Quarry

The existing quarry has the following characteristics:

-  Located wholly on Lot 33 DP 755246, Reservoir Road, Somersby. Lot 33 has an area of approximately 48.6 hectares;
-  Annual production of approximately 310,000 tonnes with a total remaining resource of around 4.8 million tonnes;
-  Maximum working depth of approximately 55-60m below the natural ground level;
-  Employs ten (10) full time staff and one contractor. In addition, there is a sales manager that shares his time between 3 quarries (including this one);

Subject Land & Existing Development

The subject land (subject of the quarry extension proposal) has an area of approximately 8 hectares and is identified as part of **Lot 10 DP 1090880, Keighley Road, Somersby.**

Figure ES1 shows the location of the subject site in relation to the existing quarry.

The subject land is currently used for a range of agricultural purposes, including poultry farming and orchards (primarily avocado). In addition, there are a range of ancillary uses, and evidence exists of timber cutting (firewood) including small milling equipment and timber (as well as un-sawn logs) on the site.

There are a range of structures on the site including an existing weatherboard/fibro clad dwelling fronting Keighley Avenue, four (4) poultry sheds, farm storage sheds and existing orchards (mainly avocado).

Proposed Development

The proposed development involves two primary components:

1. Boundary adjustment between Lot 33 DP 755246 Reservoir Road, Somersby (the existing quarry) and the adjoining Lot 10 DP 1090880, Keighley Road, Somersby for the purposes of adding approximately 8 hectares of additional area to the existing quarry (the subject land); and
2. Expansion of the resource extraction operations of the existing quarry into the subject land.



Figure ES1: Location of subject land in relation to existing quarry

The following details the specific characteristics of the proposed development:

- ☞ An addition of 8 hectares to the quarry footprint through boundary adjustment between the two lots. A proposed plan of subdivision is shown in **Attachment 3**;
- ☞ The proposed boundary adjustment will include the provision of appropriate easements for access from both Reservoir Road and Keighley Road to the balance of Lot 10, DP 1090880. This will provide this residue lot with legal access to both roads. (See **Attachment 3** for the location of these easements);
- ☞ The proposal will not require any additional plant or equipment, and will largely utilise the existing administration buildings, plant, equipment, loading facilities etc which are located on the existing quarry site;
- ☞ The addition of 8 hectares will not increase the annual quarry output, but rather, will extend the life of the quarry operation;
- ☞ The lifespan of the quarry extension is expected to be 35 years;
- ☞ The number of employees will not alter (from 10 full time staff) as a result of the quarry extension;
- ☞ Haulage routes and traffic volumes generated by the site will remain the same as current routes/volumes. All quarry operations will utilise the existing access points on Reservoir Road; and
- ☞ The total resource for the quarry extension is approximately 5 million tonnes. The existing quarry has a remaining resource of approximately 4.8 million tonnes (total resource of approximately 9.8 million tonnes).

Planning Considerations and Primary Issues

This Preliminary Environmental Assessment provides:

- ☞ A description of the subject site and surrounding area;
- ☞ Details of the proposed development;
- ☞ Consideration of permissibility and statutory planning controls; and
- ☞ An overview of the key environmental issues relevant to the proposal.

Major issues associated with the application include:

- ☞ Permissibility of the proposal under Planning Policy; and
- ☞ Dealing with the current identification of the land as 'prime agricultural land'.

The following additional issues are also considered important:

- ☞ Ecological Issues
- ☞ Visual Impacts
- ☞ Acoustic/Noise Impacts
- ☞ Air Quality
- ☞ Traffic;
- ☞ Surface & Groundwater Considerations;
- ☞ Land Contamination;
- ☞ Aboriginal Archaeology;
- ☞ Socio-Economic Impacts; and
- ☞ Waste Management Considerations.



Conclusion

The expansion of the quarry offers significant advantages to the community over establishing a new quarry at an alternative location. The existing quarry has well established processes, traffic movement regimes and facilities. No operational changes will be made to the quarry as a result of the expansion, and the productive output will remain the same. The expansion will simply extend the operational life of the quarry.

The proposal will use a relatively small area of land (8 hectares) which immediately adjoins the existing quarry extraction area. Despite being identified in broad scale mapping as being 'prime agricultural land', a series of past uses has significantly diminished the productive capacity of the land.

Use of the site will provide a mechanism to deal with these issues, including de-contamination and de-commissioning of the existing out-dated poultry sheds.

Whilst only utilising a relatively small area of land, the quarry expansion will provide an extensive, long term resource, extending the quarry lifespan by some 35 years.



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ATTACHMENTS

Attachment 1	Confirmation that the proposal is a Part 3A Proposal. Dept of Planning Correspondence.
Attachment 2	Deposited Plan Lot 10 DP 1090880
Attachment 3	Survey Plans & Plan of Proposed Subdivision
Attachment 4	Preliminary Contamination Assessment
Attachment 5	Preliminary Traffic Assessment
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Attachment 7	Visual Impact Assessment
Attachment 8	Preliminary Noise/Acoustic Assessment
Attachment 9	Preliminary Air Quality Assessment
Attachment 10	Preliminary Surface & Groundwater Assessment
Attachment 11	Preliminary Aboriginal Archaeology Assessment

1.0 INTRODUCTION

Insite Planning Engineering Environmental has been engaged by Hanson Construction Materials Pty Ltd (Hanson) to prepare this Preliminary Environmental Assessment for a proposed extension to the existing Somersby Sand Quarry.

The Department of Planning, as delegate for the Minister for Planning, has confirmed that the project is a Part 3A Major Project under Clause 6(1) of State Environmental Planning Policy (Major Projects) 2005 (See **Attachment 1**). On this basis a Project Application may be lodged with the Director General.

This Preliminary Environmental Assessment seeks to assist the Director General in preparation of the Environmental Assessment requirements (Director General's Requirements) for the proposed development.

The primary issues addressed in this Preliminary Environmental Assessment are:

- ☞ A description of the subject site and surrounding area;
- ☞ Details of the proposed development;
- ☞ Consideration of permissibility and statutory planning controls;

- ☞ An overview of the key environmental issues relevant to the proposal; and

- ☞ Recommendations for further works/studies required as part of the formal Environmental Assessment.

This Preliminary Environmental Assessment is accompanied by:

- ☞ Confirmation that the proposal is a Part 3A Proposal (Dept of Planning Correspondence), See **Attachment 1**;
- ☞ Survey Plans & Plan of Proposed Subdivision;
- ☞ Preliminary Traffic Assessment;
- ☞ Preliminary Ecological Assessment;
- ☞ Visual Impact Assessment;
- ☞ Preliminary Noise/Acoustic Assessment;
- ☞ Preliminary Air Quality Assessment;
- ☞ Preliminary Surface & Groundwater Assessment; and
- ☞ Preliminary Aboriginal Archaeology Assessment.



2.0 SUBJECT SITE

The proposal involves the extension to an existing Hanson Central Coast Sand quarry situated on Reservoir Road, Somersby. The subject land is situated on the Somersby Plateau, approximately 9 kilometres to the north-west of Gosford on the NSW Central Coast.

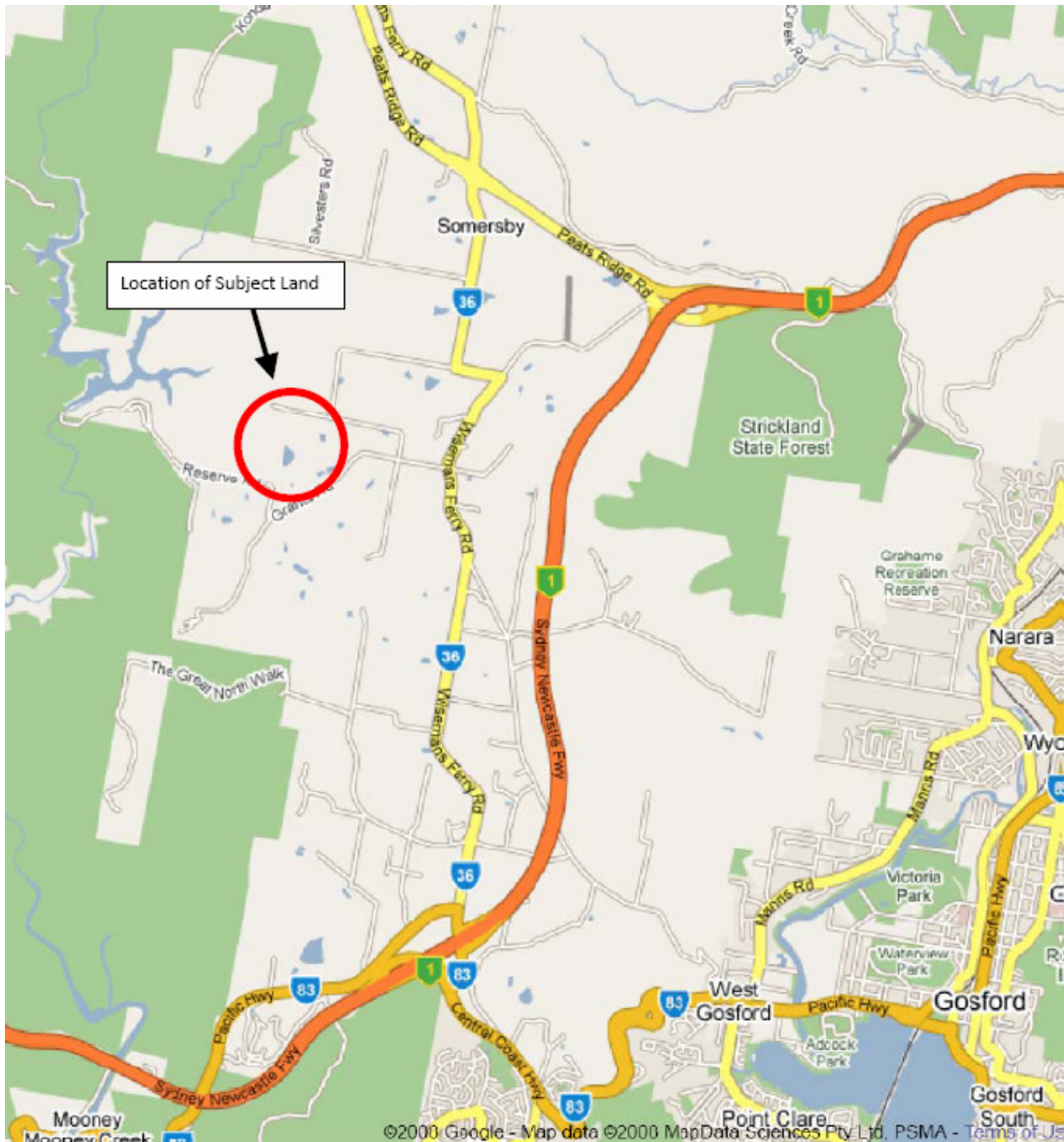


Figure 1: Subject locality

The subject land (subject of the quarry extension proposal) has an area of approximately 8 hectares and is identified as part of **Lot 10 DP 1090880, Keighley Road, Somersby**.

The entirety of Lot 10 has a total area of approximately 22 hectares. The subject site is shown in **Figure 2** whilst a copy of the deposited plan is included in **Attachment 2**.



Figure 2: Location of subject land

The existing Somersby Sand Quarry is located on the adjoining parcel, identified as Lot 33 DP 755246, Reservoir Road. **Figure 3** shows the location of the subject site in relation to the existing quarry. The area of Lot 33 (on which the existing quarry is situated) is approximately 48.6 hectares.



Figure 3: Location of the existing quarry in relation to the subject site.



2.1 Existing Uses

The subject land is currently used for a range of agricultural purposes, including poultry farming and orchards (primarily avocado). In addition, there are a range of ancillary uses, and evidence exists of timber cutting (firewood) including small milling equipment and timber (as well as un-sawn logs) on the site.

There are a range of structures on the site including:

- ☞ An existing weatherboard/fibro clad and iron roofed dwelling fronting Keighley Avenue with associated residential curtilage, landscaping and the like;
- ☞ Four (4) poultry sheds located in the north-western corner of the property, ranging from 90 metres to 180 metres in length;
- ☞ A number of farm sheds established in conjunction with the agricultural use of the land – currently used for storage of farm equipment, chemicals and other goods;
- ☞ Two large water tanks located near the farm storage sheds;

☞ A small timber milling area, including saw; and

☞ Existing orchard occupying much of the southern and eastern portions of the subject area.

The location of structures on the land is shown in the survey plan included as **Attachment 3**.

The remainder of Lot 10 DP 1090880 is situated to the south, containing an existing dwelling, swimming pool and ancillary structures primarily located near the dwelling. There is also an existing dam with the majority of the site utilised for the purposes of agriculture (primarily orchards).

Topography

The subject land is gently undulating, falling from a high point located in the north-eastern corner to towards a dam located in the south-western portion of the existing lot 10 DP 1090880.

The topography of the subject land and surrounding land is shown in **Figure 4** (on the following page) and in more detail in the survey plan included as **Attachment 3**.

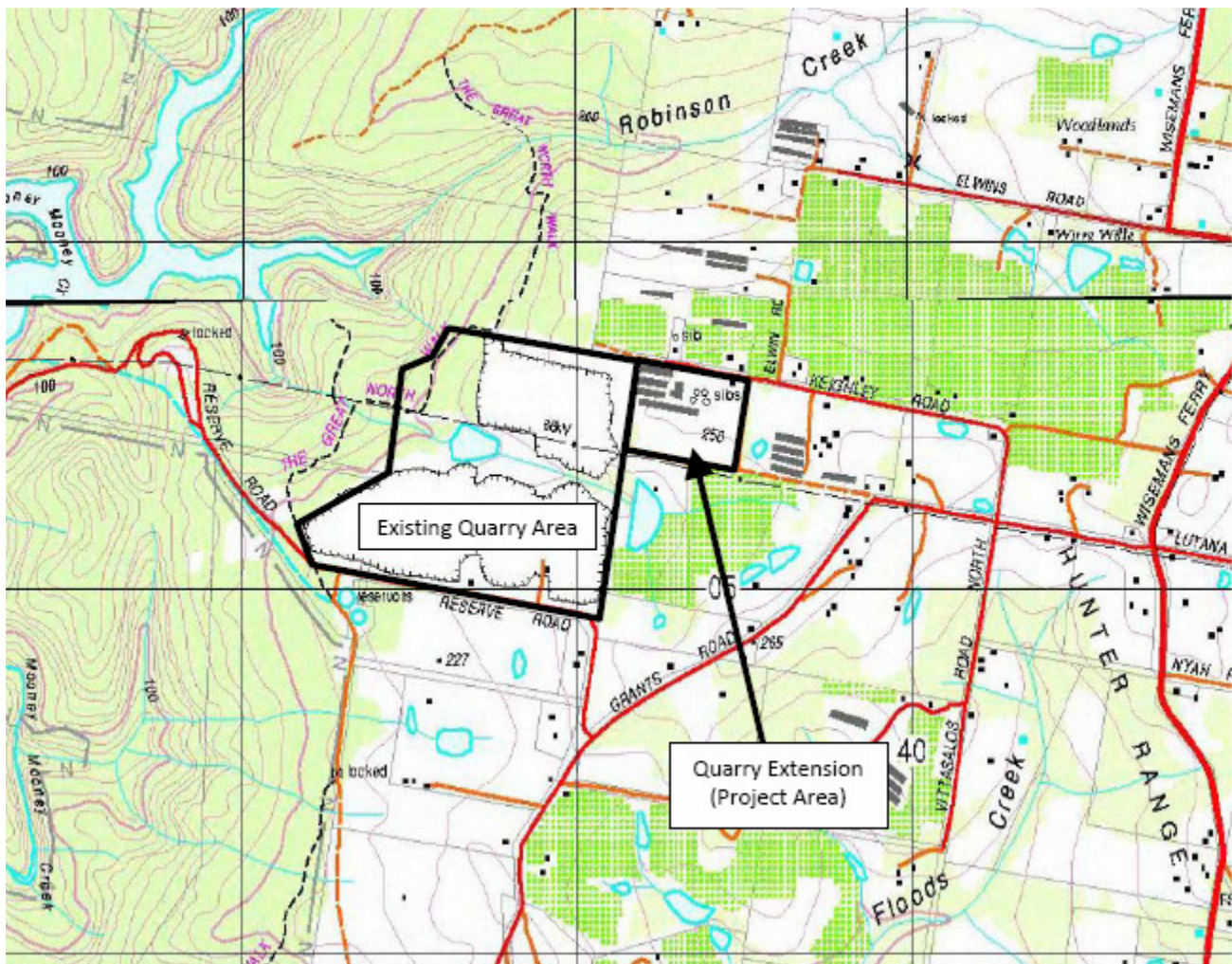


Figure 4: topographical plan of the subject land.

2.2 Surrounding Land

Generally, land to the east of the subject site (between the subject site and the freeway) has been extensively cleared and developed for a range of agricultural purposes. This includes orchards and market garden activities, as well as poultry farming and grazing. Although extensive clearing has occurred throughout the location, there are prominent hedge-row plantings along property boundaries as well as stands of remnant vegetation contained in other selected localities (along creek-lines for example).

The presence of orchards provides a very ordered appearance to the locality, with trees of similar ages planted in defined rows. There are a range of dwellings and associated out-buildings which have been established as part of the agricultural use of the land.

To the west of the subject site, land is primarily uncleared and undeveloped, including the vegetated buffer around the Mooney Mooney Creek Dam (part of the Central Coast water supply system) and parts of the Brisbane Water National Park.

2.3 Existing Quarry Operations

The existing quarry has operated on the adjoining site for the past 4 decades. Specific characteristics of the existing quarry are as follows:

-  The quarry is situated wholly on Lot 33 DP 755246, Reservoir Road, Somersby which has an area of approximately 48.6 hectares;
-  The quarry has an annual production of approximately 310,000 tonnes with a total remaining resource of around 4.8 million tonnes;

- ☞ The quarry has a current maximum working depth of approximately 55-60m below the natural ground level;
- ☞ The quarry currently employs ten (10) full time staff and one contractor. In addition, there is a sales manager that shares his time between 3 quarries (including this one);
- ☞ The current hours of operation for the quarry are as follows:

Sales Area

6am – 4pm Monday to Friday
6am – 11am Saturdays

Plant Operations

(Summer) 6am – 8pm Monday to Friday
6am – 4pm Saturday

(Winter) 6am – 6pm Monday to Friday
6am - 4pm Saturday

Quarry/Pit Operations

7am – 5pm Monday to Friday
7am – 4pm Saturday

- ☞ Vehicular access to the quarry is along the existing public roads, being Wisemans Ferry Road, Grants Road and Reservoir Road, as indicated on **Figure 5**.

It is important to note that the site quarry operations are being undertaken under an existing and on-going development approval. Therefore when considering the 'existing conditions' – which form the baseline for the assessment of this approval – the ultimate form of the approved quarry is to be considered. As the approval indicates no maximum depth of extraction a preliminary analysis of quarry form and access options indicates a practicable extraction depth of approximately 120m below surface level (or a further 80m below the current quarry floor) is a likely ultimate quarry form on the site.

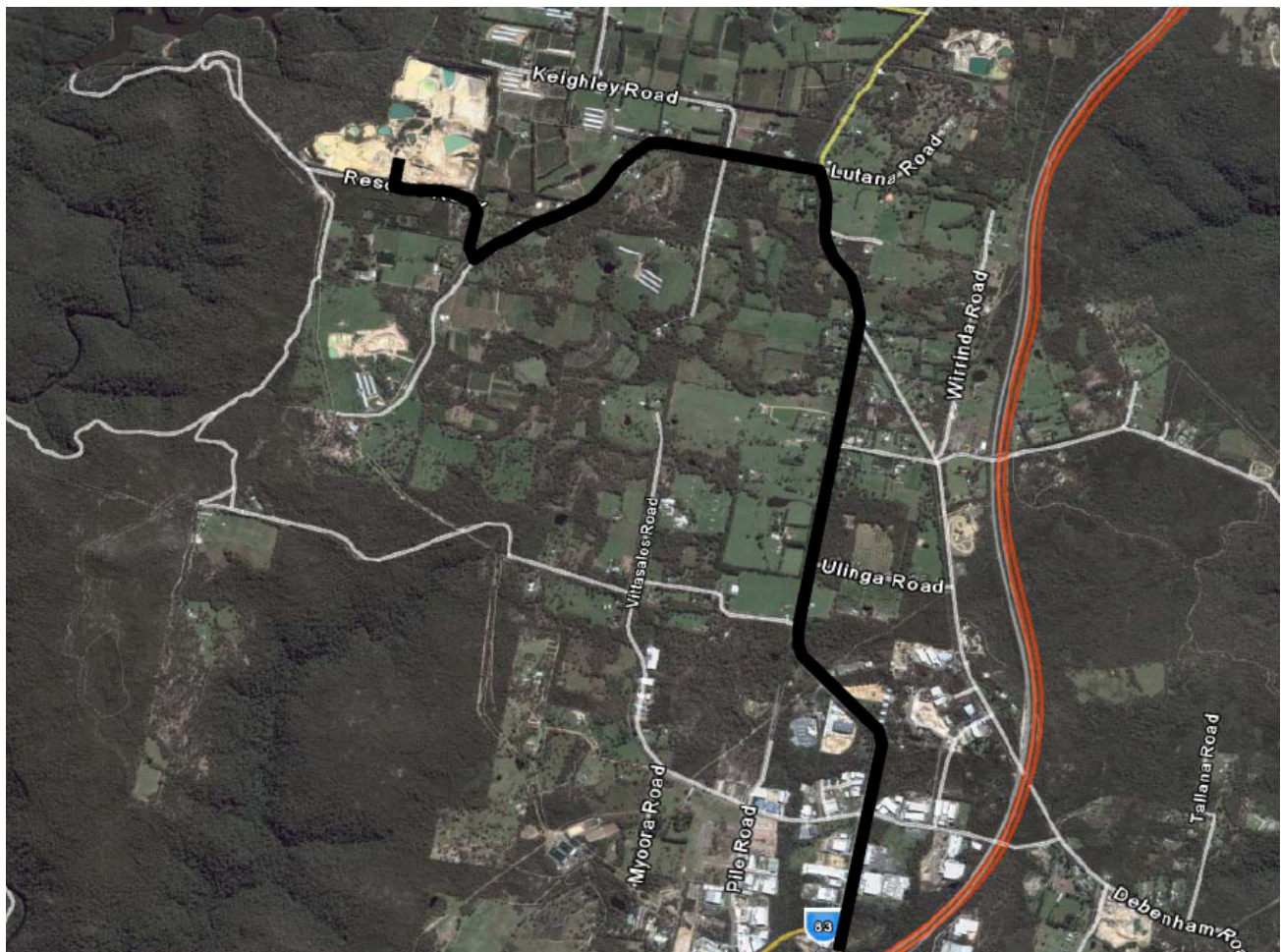


Figure 5: Vehicular access to the site and existing haulage route.



3.0 PROPOSED DEVELOPMENT

The proposed development involves two primary components:

- 1 Boundary adjustment between Lot 33 DP 755246 Reservoir Road, Somersby (the existing quarry) and the adjoining Lot 10 DP 1090880, Keighley Road, Somersby for the purposes of adding approximately 8 hectares of additional area to the quarry (the subject land); and
- 2 Expansion of the resource extraction operations of the existing quarry into the subject land.

The following details the specific characteristics of the proposed development:

- ☞ An addition of 8 hectares to the quarry footprint through boundary adjustment between the two lots. A proposed plan of subdivision is shown in **Figure 6** and **Attachment 3**. This will increase the area of Lot 33 DP 755246 (the existing quarry) from approximately 48.6 hectares to approximately 56.6 hectares. The residue of Lot 10 DP 1090880 will be approximately 14 hectares;
- ☞ The proposed boundary adjustment will include the provision of appropriate easements for access from both Reservoir Road and Keighley Road to the balance of Lot 10, DP 1090880. This will provide the residue lot with legal access to both roads (See **Attachment 3** for the location of these easements). It is proposed to construct access roads within the easements to ensure physical access to the residue lot and that the physical access lies within the legal access;
- ☞ This additional area will add around 5 million tonnes of total resource to the quarry. The existing quarry has a remaining resource of approximately 4.8 million tonnes (total combined resource of approximately 9.8 million tonnes);
- ☞ The proposal will not involve any additional plant or equipment, and will utilise the existing administration buildings, plant, equipment, loading facilities etc which are located on the existing quarry site;
- ☞ Production output is limited to the current output of 310,000 tonnes per year because of the existing process plant. At this stage there is no need or plans to improve or add to the existing process plant therefore no change in production output will result from this development. As such, the addition of 8 hectares will not increase the annual quarry output, but rather, will extend the life of the quarry operation to guarantee supply for the company for additional years;
- ☞ The lifespan of the quarry extension is expected to be 35 years;
- ☞ The number of employees will not alter as a result of the quarry extension (there are currently 10 full time employees and one contractor);
- ☞ The proposal does not include using Keighley Road for access for quarry operations. All quarry operations will utilise the existing access points on Reservoir Road. Haulage routes and traffic volumes generated by the site will remain the same as current routes/volumes; and
- ☞ Given that the project involves the use of all of the existing infrastructure from the current quarry and that the number of employees will remain the same, the capital cost of the project is negligible and is limited to the cost of acquisition of the new quarry area.

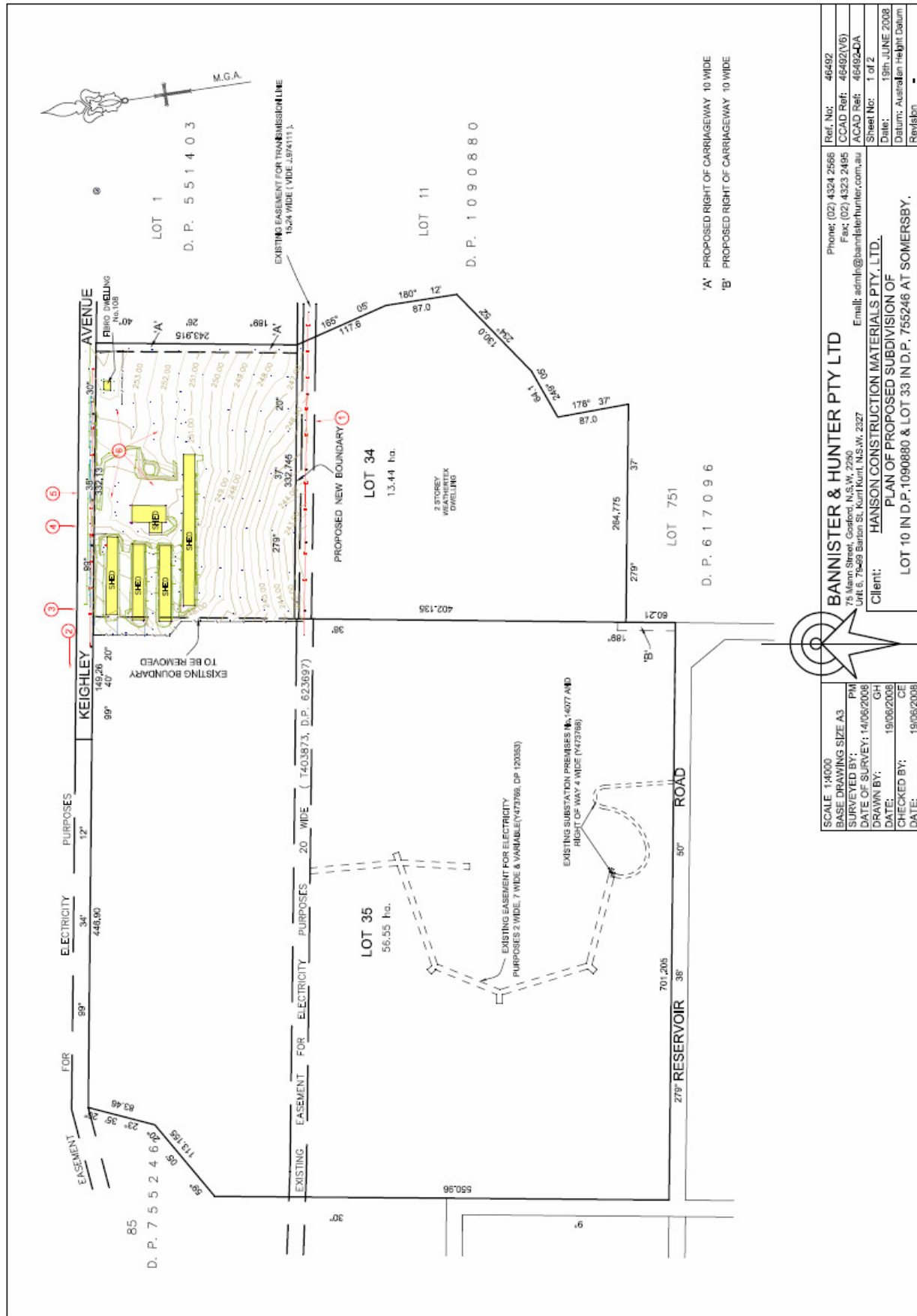


Figure 6: Proposed Boundary Adjustment and addition of 8 hectares to the area of the existing quarry

4.0 STRATEGIC CONSIDERATIONS

4.1 Central Coast Regional Strategy

The Central Coast Regional Strategy was released by the NSW Government on June 26, 2008, providing the long term land use plan for the region. The plan covers land within the Local Government Areas of Gosford City and Wyong Shire and contains actions designed to cater for the region's projected housing and employment growth over the period to 2031.

The population of the region is expected to grow by 100,000 over the next 2 decades (to approximately 405,000) and the plan aims to provide for the construction of an extra 56,000 new dwellings and the creation of 45,000 new jobs.

Whilst the plan primarily focuses residential development on land to east of F3 freeway, and recognises employment the possibility for opportunities in areas near to F3 freeway interchanges (including land of the west of the current freeway corridor). Employment provision is to be focused on providing local jobs to reduce the proportion of people commuting outside the area for work.

4.1.1 Somersby as an Employment Location

The area west of the F3 freeway has been identified as a significant employment location. Although the subject land does not fall within the current zoned 'Somersby Industrial Estate', the Regional Plan indicates that land to the west of the F3 freeway, in this location, is acceptable as being a location for further employment growth.

Expansion of the quarry, near to the Somersby Industrial Estate and close to the F3 freeway interchange is in keeping with the intent of the Central Coast Regional Strategy.

4.1.2 Extractive Industry versus Agricultural Use

Although recognizing the importance of agriculture to the local economy, the Regional Strategy also recognises the key role extractive industries play.

The Regional Strategy states that past employment growth on the Central Coast has, in part, been driven by:

'The Region's resource base - attracting investment in agriculture, fisheries, forestry, minerals/mining and energy sectors.'

It is clear that the Regional strategy places an emphasis on both agriculture and resource extraction, stating that future planning must focus on:

'Identifying agricultural land that requires protection from inappropriate development - balancing the economic benefits that could result from the extraction of sand, coal and clay resources...'

4.1.3 Central Coast Plateau Areas

Specifically focusing on the Central Coast plateau areas, it is noted that agriculture and resource extraction are both listed high on the Strategy agenda and that potential conflict between these uses needs to be appropriately managed.

The Regional Strategy states that:

"The Department of Primary Industries, Department of Water and Energy and Department of Planning, in conjunction with Department of Environment and Climate Change, is to review planning for the Central Coast plateaus and Wyong valleys to consider agriculture, extractive resources, water supply values and tourism uses and address any conflict between these uses."

**Comment:**

It is clear that the Regional Strategy has a focus on both the agricultural productive capacity of the Central Coast plateau areas as well as capacity of extractive industries – recognising them both as important for the local and regional economy.

The sustainability criteria within the Regional Strategy recognises a need to *'avoid identified significant agricultural land'* but also to avoid *'impacts on productive resource lands, extractive industries, coal, gas and other mining...'*

The key to achieving the balance between the two is to ensure that any use demonstrates the most efficient and suitable use of land.

As discussed later in this Preliminary Environmental Assessment, the subject land is of questionable agricultural capability. The land has been impacted by previous contaminating uses and is currently occupied by an out-dated and run down poultry operation. Areas of the site which have been planted for agricultural production have been unsuccessful in such ventures. For this reason, it is clear that the long term use of the land for agriculture is likely to be un-economic and subject to failure.

The proposed development aims to utilise a relatively small portion of land (approximately 8 hectares) which has poor agricultural performance, for the purposes of extracting a long term, sustainable, valuable resource which has obvious benefits to the local economy. The extension of the existing quarry (rather than opening a new quarry in a nearby location) provides an efficient use of existing resources (site plant/equipment, access routes and so on) whilst providing little additional impact on adjoining lands.

The proposed development is consistent with the intent and direction of the Central Coast Regional Strategy in promoting the most orderly and efficient use of land.



5.0 LEGISLATIVE CONTROLS

The proposed development requires planning approval in accordance with NSW planning legislation and supporting policy framework. The *Environmental Planning and Assessment Act, 1979* is the primary piece of legislation governing the assessment and determination of the subject application. The assessment and approvals process requires consideration of any applicable Environmental Planning Instrument and assessment in accordance with the requirements of other relevant Commonwealth and State legislation.

5.1 Environmental Planning & Assessment Act, 1979

The Environmental Planning & Assessment Act (*EP & A Act*), 1979, and associated *Regulation, 2000* provide the legislative framework for the assessment and approval of development in NSW.

5.1.1 Major Projects Under the EP & A Act, 1979

The proposed development constitutes a *major project* under Part 3A of the *EP & A Act, 1979*. Under these circumstances that proposal is to be assessed by the Director General of the Department of Planning and determined by the Minister for Planning.

Part 3A of the *EP & A Act, 1979* was included, in 2005, as a new mechanism for the assessment and approval of major projects in NSW. The intent of Part 3A is to provide a streamlined assessment and approvals regime for major infrastructure projects and other development considered to be of State or regional significance. Approval under Part 3A will integrate the approvals required under eight separate acts and allow for consideration of threatened species obligations.

Part 3A is supported by *State Environmental Planning Policy (Major Projects) 2005* (Major Projects SEPP) which provides a policy mechanism for defining certain types of development as being *major projects* and thus requiring the assessment and approval of the Minister for Planning.

The proposed development is considered to fall within the following classification of a major project contained within Schedule 1 of SEPP Major Projects:

‘(1) Development for the purpose of extractive industry that:

- (a) extracts more than 200,000 tonnes of extractive materials per year, or*
- (b) extracts from a total resource (the subject of the development application) of more than 5 million tonnes, or*
- (c) extracts from an environmentally sensitive area of State significance.’*

In accordance with Part 6 and Schedule 1 of State Environmental Planning Policy (Major Projects) 2005, the project is an ‘extractive industry’ which results in the extraction of more than 200,000 tonnes of resource per year. As such, the proposal triggers point (a) above and is defined as a ‘major project’ in accordance with Part 3A of the Environmental Planning & Assessment Act, 1979.

The Director General, as delegate of the Minister for Planning, has confirmed that the project is a Part 3A Major Project under Clause 6(1) of the State Environmental Planning Policy (Major Projects) 2005 (this confirmation is included as **Attachment 1**).

5.2 Commonwealth Legislation

5.2.1 Environmental Protection & Biodiversity Conservation Act, 1999

The Commonwealth Environment Protection & Biodiversity Conservation Act, 1999 (*EPBC Act*), 1999 commenced on July 16, 2000. This Act introduces an assessment and approval system for: -

- Actions that have a significant impact on matters of national environmental significance;
- Actions that have a significant impact on Commonwealth land; and
- Actions carried out by the Commonwealth.

Approval from the Commonwealth Environment Minister is required under the EPBC Act if the action (project/development/activity) will, or is likely to, have a significant impact on matters considered to be of national environmental significance (NES matters).

In accordance with the *EPBC Act, 1999* matters of National Environmental Significance include:

- World Heritage Properties
- Wetlands of international importance (RAMSAR sites)
- Threatened Ecological Communities (listed in the *EPBC Act, 1999*)
- Threatened Species (listed in the *EPBC Act, 1999*)
- Migratory Species (listed in the *EPBC Act, 1999*)
- Nuclear Actions
- The Commonwealth Marine Environment
- Critical Habitat (as listed in the Register of Critical Habitat)



The *EPBC Act* does not define significant impact but identifies matters that are necessary to take into consideration. Specific '**Significant Impact Criteria**' are provided for each matter of national environmental significance except for threatened species and ecological communities in which case separate criteria are provided for species listed as endangered and vulnerable under the *EPBC Act*.

A Preliminary Ecological Assessment has been completed as part of this Preliminary Environmental Assessment and is included as **Attachment 6**. The subject land has undergone significant clearing and is heavily disturbed as a result of previous clearing and agricultural activities. The site can be described as heavily disturbed in ecological terms. The Preliminary Ecological Assessment confirms that there is expected to be minimal ecological effects as a result of the proposed quarry expansion.

Refer to **Section 7.1** of this report for further details in respect to ecological considerations.

5.3 NSW State Legislation

5.3.1 Threatened Species Conservation Act, 1995

The *Threatened Species Conservation Act, 1995* contains lists of endangered populations, endangered ecological communities and critical habitats and aims to protect and encourage the recovery of threatened species, populations and communities listed under the Act. The Act is integrated with the NSW Environmental Planning and Assessment Act and requires consideration of whether a development or an activity will affect threatened species, populations and ecological communities or their habitat.

The provisions of the *Threatened Species Conservation Act* are dealt with in the Preliminary Ecological Assessment (included **Attachment 6**). See **Section 7.1** of this report for further detail.

As noted above, the land is significantly disturbed as a result of previous clearing and agricultural activities and the proposed development is likely to have minimal (if any) ecological impact.

5.3.2 Roads Act, 1993

The *Roads Act, 1993* is administered by the RTA, the Local Council or the Department of Lands. The RTA has jurisdiction over major (state and regional) roads, the local council over local roads, and the Department of Lands over road reserves.

Section 75V requires the consistent application of the *Roads Act, 1993*.

A Preliminary Traffic Assessment has been carried out to accompany this Preliminary Environmental Assessment and is included as **Attachment 5**. There is expected to be minimal implications in terms of traffic for the proposed development as it will lead to no change from the current arrangements (ie there will be no alteration in current vehicle numbers, operation times or vehicle types).

For further details in relation to traffic matters refer to **Section 7.5** of this report and the Preliminary Traffic Assessment (**Attachment 5**).

5.3.3 Protection of the Environment Operations Act, 1997

The *POEO Act, 1997* relates to pollution management and waste disposal in NSW. The *POEO Act, 1997* also establishes the licensing of certain activities, which are listed in Schedule 1 of the Act.

Section 75V requires the consistent application of the *POEO Act, 1997*.

Under the proposed operations a licence is required under the *POEO Act, 1997* as the operations as an extractive industry is listed under Schedule 1.

Formal application, as required under the *POEO Act, 1997* will be made by the operator prior to commencement of any site works.



6.0 ENVIRONMENTAL PLANNING INSTRUMENTS & PERMISSIBILITY

An evaluation of the permissibility of the proposed quarry expansion and compliance with Planning Instruments is provided below. The proposal will require consideration against all relevant Environmental Planning Instruments, including SEPP's, SREP's and the Gosford Interim Development Order No. 122.

6.1 State Environmental Planning Policies

The following State Environmental Planning Policies are applicable to the proposal:

-  State Environmental Planning Policy (Major Projects) 2005;
-  State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007
-  State Environmental Planning Policy No. 44 (Koala Habitat Protection)

6.1.1 State Environmental Planning Policy (Major Projects) 2005

State Environmental Planning Policy (SEPP) (Major Projects) 2005 identifies certain developments that are major projects under Part 3A of the Environmental Planning and Assessment Act 1979.

Under Clause 6(1) of SEPP (Major Projects) 2005, the Department of Planning has confirmed that the proposal forms a Part 3A Major Project (**Attachment 1**).

This Preliminary Environmental Assessment has been completed in accordance with the procedures set out in the Major Projects SEPP. Following a review of this Preliminary Assessment by the Department of Planning officers and representatives of appropriate Government Agencies (as well as a Planning Focus Meeting, if required) the Director-General's Requirements for the Planning Assessment will be made available.

The formal Environmental Assessment will then be prepared to address all relevant considerations and will be presented to the Department in order progress the proposed development toward determination.

6.1.2 State Environmental Planning Policy (Mining, Petroleum Production & Extractive Industries) 2007

The aims of the SEPP (Mining, Petroleum Production and Extractive Industries) 2007 are:

- “(a) *to provide for the proper management and development of mineral, petroleum and extractive material resources for the purpose of promoting the social and economic welfare of the State, and*
- (b) *to facilitate the orderly and economic use and development of land containing mineral, petroleum and extractive material resources, and*
- (c) *to establish appropriate planning controls to encourage ecologically sustainable development through the environmental assessment, and sustainable management, of development of mineral, petroleum and extractive material resources.”*

Clause 7 of SEPP (Mining, Petroleum Production and Extractive Industries) provides that a range of uses that may be carried out with development consent. Clause 7, in part, states:

‘Development for any of the following purposes may be carried out with development consent:

- (a) extractive industry on land on which development for the purposes of agriculture or industry may be carried out (with or without development consent),*
- (b) extractive industry in any part of a waterway, an estuary in the coastal zone or coastal waters of the State that is not in an environmental conservation zone.’*

It is noted that development for the purposes of ‘agriculture’ is permitted on the land under the provisions of the Gosford Interim Development Order No 122 (See **Section 6.3** of this Preliminary Environmental Assessment). As such, an ‘extractive industry’ may be carried out on the subject land with development consent.

In accordance with the SEPP, extractive industry is defined as:

‘extractive industry means the winning or removal of extractive materials (otherwise than from a mine) by methods such as excavating, dredging, or quarrying, including the storing, stockpiling or processing of extractive materials by methods such as recycling, washing, crushing, sawing or separating, but does not include:

- (a) turf farming, or*
- (b) tunnelling for the purpose of an approved infrastructure development, or*
- (c) cut and fill operations, or the digging of foundations, ancillary to approved development, or*
- (d) the creation of a farm dam if the material extracted in the creation of the dam is used on site and not removed from the site.’*

Clause 5 (sub-clause 3 and 4) of the SEPP indicates that this Policy should prevail over other Environmental Planning Instruments and policies where any inconsistency arises.

Clause 5, in part, states:

‘(3) Subject to subclause (4), if this Policy is inconsistent with any other environmental planning instrument, whether made before or after this Policy, this Policy prevails to the extent of the inconsistency.

(4) Subclause (3) does not apply to any inconsistency between this Policy and any of the following State environmental planning policies:

- (a) State Environmental Planning Policy (Major Projects) 2005,*
- (b) State Environmental Planning Policy No 14—Coastal Wetlands,*
- (c) State Environmental Planning Policy No 26—Littoral Rainforests, regardless of when the inconsistency arises.’*

Clause 7 of SEPP (Mining, Petroleum Production and Extractive Industries) provides that development for the purposes of an ‘extractive industry’ is permitted with development consent on the land subject to development consent being obtained.

Clause 5 provides that, despite other Environmental Planning Instruments which may prohibit or restrict the carrying out of extractive industries on the land, the provisions of the Mining, Petroleum Production and Extractive Industries SEPP takes precedence over any such policy in permitting the development with development consent.

In summary, the Mining, Petroleum Production and Extractive Industries SEPP, which takes precedence over other Environmental Planning Instruments, provides that the use of the land for the purposes of an extractive industry is permitted with Development Consent.

6.1.3 Planning Criteria under SEPP (Mining, Petroleum Production and Extractive Industries) 2007

Table 1 (following page) presents an evaluation of the proposed development against relevant criteria under the provisions of SEPP (Mining, Petroleum Production and Extractive Industries) based on preliminary assessments to date.

Table 1: Compliance with State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries)

Requirements from the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries)	Comments
Clause 12 Compatibility of proposed mine, petroleum production or extractive industry with other land uses	
Before determining an application for consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must: (a) consider: (i) the existing uses and approved uses of land in the vicinity of the development, and (ii) whether or not the development is likely to have a significant impact on the uses that, in the opinion of the consent authority having regard to land use trends, are likely to be the preferred uses of land in the vicinity of the development, and (iii) any ways in which the development may be incompatible with any of those existing, approved or likely preferred uses, and (b) evaluate and compare the respective public benefits of the development and the land uses referred to in paragraph (a) (i) and (ii), and (c) evaluate any measures proposed by the applicant to avoid or minimise any incompatibility, as referred to in paragraph (a) (iii).	(a) (i) The existing uses and approved uses of land in the vicinity of the development include, agriculture (including orchards and poultry farming activities), residential development and associated outbuildings. There are also a range of other extractive industries in the locality and the site is close to the Somersby Industrial Park. Land to the west of the subject site is mainly undeveloped. (ii) The development is unlikely to have any significant impact on other land uses in the locality. Appropriate assessment of impacts will be undertaken as part of the Environmental Assessment and amelioration measures proposed where appropriate. (iii) The proposed development will not be incompatible with surrounding land uses, as evidenced by the operation of the existing quarry which, over the last 4 decades, has not created any conflict nor generated any complaints from neighbours. The applicant shows a long term commitment to ensuring that the development is operated to be consistent with, and in consideration of, surrounding developments. (b) The respective public benefits of the development include employment, strengthening the local economy and providing a long term, quality, resource to local business. (c) Ongoing assessment of potential impacts will identify any potential measures required to minimise all impacts (including buffers, vegetated screens, the nature of the operations etc).
Clause 13 Compatibility of proposed development with mining, petroleum production or extractive industry	
1) This clause applies to an application for consent for development on land that is, immediately before the application is determined: (a) in the vicinity of an existing mine, petroleum production facility or extractive industry, or (b) identified on a map (being a map that is approved and signed by the Minister and copies of which are deposited in the head office of the Department and publicly available on the Department's website) as being the location of State or regionally significant resources of minerals, petroleum or extractive materials, or Note. At the commencement of this Policy, no land was identified as referred to in paragraph (b). (c) identified by an environmental planning instrument as being the location of significant resources of minerals, petroleum or extractive materials. Note. <i>Sydney Regional Environmental Plan No 9—Extractive Industry (No 2—1995)</i> is an example of an environmental planning instrument that identifies land as containing significant deposits of extractive materials.	(1) This clause applies to the proposed development as the site is within the vicinity (immediately adjoining) of an existing extractive industry. The proposal is for an extension of that adjoining quarry.

(2) Before determining an application to which this clause applies, the consent authority must: (a) consider: (i) the existing uses and approved uses of land in the vicinity of the development, and (ii) whether or not the development is likely to have a significant impact on current or future extraction or recovery of minerals, petroleum or extractive materials (including by limiting access to, or impeding assessment of, those resources), and (iii) any ways in which the development may be incompatible with any of those existing or approved uses or that current or future extraction or recovery, and (b) evaluate and compare the respective public benefits of the development and the uses, extraction and recovery referred to in paragraph (a) (i) and (ii), and (c) evaluate any measures proposed by the applicant to avoid or minimise any incompatibility, as referred to in paragraph (a) (iii).	(2)(a) (i) The existing and approved uses of land in the vicinity of the development include a number of existing extraction operations as well as agricultural uses. (ii) The development is unlikely to have an impact on current or future extraction or recovery of minerals, petroleum or extractive materials. (iii) The development will not be incompatible with any of those existing or approved uses or current or future extraction or recovery as the development is unlikely to have a significant impact on any land uses. (b) Public benefits will include employment, strengthening local economy and providing quality product to local companies. These benefits outweigh the negatives as the development is unlikely to have an impact on current or future extraction or recovery of minerals, petroleum or extractive materials. (c) Measures to minimise or avoid any incompatibility include vegetated screens, acoustic barriers and other noise attenuation measures. Although it is unlikely that the proposal will be incompatible with other uses, these measures will still be carried out.
Clause 14 Natural resource management and environmental management	
(1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring that the development is undertaken in an environmentally responsible manner, including conditions to ensure the following: (a) that impacts on significant water resources, including surface and groundwater resources, are avoided, or are minimised to the greatest extent practicable, (b) that impacts on threatened species and biodiversity, are avoided, or are minimised to the greatest extent practicable, (c) that greenhouse gas emissions are minimised to the greatest extent practicable. (2) Without limiting subclause (1), in determining a development application for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider an assessment of the greenhouse gas emissions (including downstream emissions) of the development, and must do so having regard to any applicable State or national policies, programs or guidelines concerning greenhouse gas emissions.	(1) (a) Impacts on significant water resources, including surface and groundwater resources will be minimised to the greatest extent possible. A full assessment of impacts will be undertaken as part of the Environmental Assessment. (b) Impacts on threatened species and biodiversity are expected to be minimal. The preliminary ecological investigations have identified minimal issues relating to ecology. These will be investigated further as part of the Environmental Assessment and appropriate mitigation measures established. (c) Greenhouse gas emissions will be minimised to the greatest extent practicable by using appropriate equipment and through appropriate site management. A full Greenhouse gas Emissions Report will be prepared as part of the Environmental Assessment. (2) Greenhouse gas emissions from vehicles related to the development is expected to be minimal.

Clause 15 Resource Recovery	
(1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider the efficiency or otherwise of the development in terms of resource recovery. (2) Before granting consent for the development, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at optimising the efficiency of resource recovery and the reuse or recycling of material.	(1) The development will be highly efficient as it relates to an extension of an existing quarry where appropriate infrastructure has been established and management is in place. The extension of an existing quarry is likely to have significantly less impact than the establishment of a new quarry. The quarry extension will create minimal additional impact as it proposed no change to staffing, operation times, vehicle movements and the like. The development will aim to optimise the efficiency of resource extraction by utilising the facilities of the existing quarry (including plant, offices and equipment) as well as well established practices and procedures which provides obvious benefits over establishing a new quarry and associated facilities.
(3) The consent authority may refuse to grant consent to development if it is not satisfied that the development will be carried out in such a way as to optimise the efficiency of recovery of minerals, petroleum or extractive materials and to minimise the creation of waste in association with the extraction, recovery or processing of minerals, petroleum or extractive materials.	(2) There will be no waste generated by the extraction, recovery or processing or extractive materials from the development. Any topsoil/vegetative matter will be used in rehabilitation/regeneration of other parts of the site.
Clause 16 Transport	
(1) Before granting consent for development for the purposes of mining or extractive industry that involves the transport of materials, the consent authority must consider whether or not the consent should be issued subject to conditions that do any one or more of the following: (a) require that some or all of the transport of materials in connection with the development is not to be by public road, (b) limit or preclude truck movements, in connection with the development, that occur on roads in residential areas or on roads near to schools, (c) require the preparation and implementation, in relation to the development, of a code of conduct relating to the transport of materials on public roads. (2) If the consent authority considers that the development involves the transport of materials on a public road, the consent authority must, within 7 days after receiving the development application, provide a copy of the application to: (a) each roads authority for the road, and (b) the Roads and Traffic Authority (if it is not a roads authority for the road). Note. Section 7 of the <u>Roads Act 1993</u> specifies who the roads authority is for different types of roads. Some roads have more than one roads authority. (3) The consent authority: (a) must not determine the application until it has taken into consideration any submissions that it receives in response from any roads authority or the Roads and Traffic Authority within 21 days after they were provided with a copy of the application, and	(1) (a)Transportation of material will be along the same transport routes and to the same schedule as the existing quarry. The existing quarry has been in operation for more than 4 decades and the long established transport network will not be altered as part of this proposal. (b) Truck movements, in connection with the development, will not occur on roads in residential areas or on roads near to schools. There will be no alteration of the existing transport route or schedule. (c) A code of conduct in relation to the transport of materials on public roads will be prepared and implemented by the proponent. (2-4) These sub-clauses will be addressed by the consent authority.

(b) must provide them with a copy of the determination. (4) In circumstances where the consent authority is a roads authority for a public road to which subclause (2) applies, the references in subclauses (2) and (3) to a roads authority for that road do not include the consent authority.	
Clause 17 Rehabilitation	
(1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring the rehabilitation of land that will be affected by the development. (2) In particular, the consent authority must consider whether conditions of the consent should: (a) require the preparation of a plan that identifies the proposed end use and landform of the land once rehabilitated, or (b) require waste generated by the development or the rehabilitation to be dealt with appropriately, or (c) require any soil contaminated as a result of the development to be remediated in accordance with relevant guidelines (including guidelines under section 145C of the Act and the <u>Contaminated Land Management Act 1997</u>), or (d) require steps to be taken to ensure that the state of the land, while being rehabilitated and at the completion of the rehabilitation does not jeopardize public safety.	(1) An appropriate management plan will be established at the appropriate time for rehabilitation of the extraction area. The land will be made safe, maintained and appropriate erosion/sediment control devices installed. At the current time, Hanson has no plans to cease operations on the site. (2) (a) No end use has been determined at this stage; (b) No significant waste will be generated through the extractive process itself. Any waste produced by the operation of the quarry will be dealt with via the existing waste management processes on the existing quarry site. A waste management plan for the demolition of the poultry sheds, buildings and structures on the subject land will be prepared and submitted as part of the Environmental Assessment. (c) Further soil contamination assessments will be carried out as part of the Environmental Assessment. This will include recommendations for de-contamination activities where appropriate. (d) Once land is rehabilitated there will be no jeopardy to public safety.





6.1.4 State Environmental Planning Policy No 44 (Koala Habitat Protection)

State Environmental Planning Policy No. 44 (SEPP No. 44) Koala Habitat Protection was introduced to protect potential and core koala habitat in NSW. Under SEPP 44, developers of land with koala habitat (as defined in the SEPP) have to consider the impact of their proposals on koalas, and in certain circumstances, prepare individual koala plans of management for their land.

The Scribbly Gum (*Eucalyptus haemastoma*), known as a 'browse species' listed under Schedule 2 of SEPP44 occurs within the study area the extent of this species is limited to a localised area of less than one hectare. As such, the subject land does not qualify as Potential Koala Habitat as defined under the SEPP44 definition.

Further details are provided in **Section 7.1** of this report with a Preliminary Ecological Assessment being included as **Attachment 6**.

6.2 Sydney Regional Environmental Plans

6.2.1 Sydney Regional Environmental Plan No 8 (Central Coast Plateau Areas)

The subject land lies within the 'Central Coast Plateau Areas' as identified under the provisions of Sydney Regional Environmental Plan No. 8 (Central Coast Plateau Areas). **Figure 7** shows the approximate location of the land within the identified central coast plateau area defined on the deposited map.

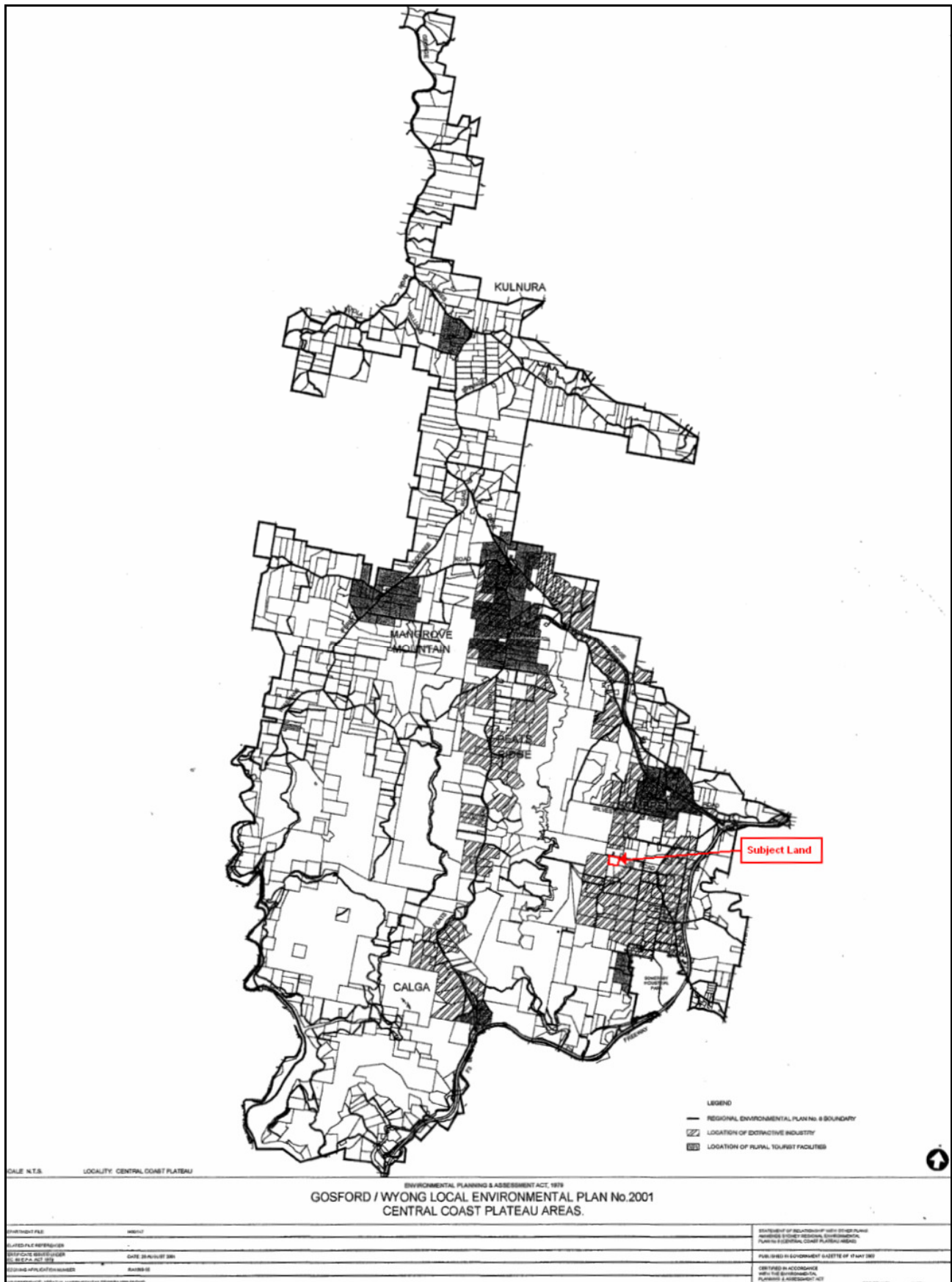


Figure 7: Central Coast Plateau Area showing the approximate location of the subject land.

Clause 2 of SREP 8 provides the general aims of the Plan as set out below:

'The general aims of this plan are:

- (a) to provide for the environmental protection of the Central Coast plateau areas and to provide a basis for evaluating competing land uses,
- (b) to encourage the use of land having a high agricultural capability for that purpose and, as much as possible, to direct development for non-agricultural purposes to land of lesser agricultural capability,
- (c) (Repealed)
- (d) to protect regionally significant mining resources and extractive materials from sterilization,
- (e) to enable development for the purposes of extractive industries in specified locations,
- (f) (Repealed)
- (g) to protect the natural ecosystems of the region, and
- (h) to maintain opportunities for wildlife movement across the region, and
- (i) to discourage the preparation of draft local environmental plans designed to permit rural residential development, and
- (j) to encourage the preparation of draft local environmental plans based on merits.'

Comment:

Objective (a) relates to the overall intention of the Policy to provide a mechanism evaluating land uses that may conflict with each other. It is important to note here that, the existing quarry is one which has been well integrated into the local setting. Through operations over the past 4 decades and appropriate quarry management techniques there have been no conflicts with neighbouring land uses – a testament to the operation of the quarry and the relationships that have been established with neighbours.

Although identified as being land of high agricultural value on relevant broad scale mapping (see **Figure 8**), a site inspection reveals that the agricultural capacity of the land is questionable. There are a range of existing uses which do not rely on the agricultural capacity of the soils and, in either case, previous uses (poultry farming, agricultural uses, timber cutting) are likely to have resulted in potential contamination issues which would void agricultural capacity of a large proportion of the subject land. The issue of potential site contamination is dealt with more specifically in **Section 7.7** of this report.

It is further observed that where orchards have been planted on the subject land, they have been unsuccessful. It can be noted from the aerial photograph in **Figure 9** that large areas of the orchard have failed to become established, resulting in orchards which are unproductive. This is in contrast to other orchards in the locality which would appear to be healthy and well established;

The poor agricultural performance of the land, potential contamination issues and costs associated with maintaining the out-of-date and run-down poultry sheds has prompted the current owner to seek alternative use for the site – thus the current proposal.



The agricultural viability of the land will need to be determined by a formal agricultural assessment.

For this reason, it is unclear at this stage whether the use of the land for extractive purposes would result in the loss of valuable agricultural land. As a result, compliance with objective (b) is unknown.

The proposal makes use of known extractive resources in accordance with objective (d) and makes proposal to extend a quarry listed as a known location for extractive resources in accordance with objective (e).

The proposed development will have minimal impact in terms of ecology and wildlife and therefore complies with objectives (g) and (h).

Objectives (i) and (j) are not relevant to the proposed development.

The proposed development achieves the underlying objectives of SREP No. 8 with further investigations required to determine compliance with objective (b).

Prime Agricultural Land

Clause 6 of SREP 8 applies to prime agricultural land. Prime Agricultural land is identified within the SREP and shown on accompanying maps. The subject land contains areas having agricultural land classes of 1A, 2 and 4 (prime agricultural land) as shown in **Figure 8** below.

Clause 6(5) of SREP states that:

'A council shall not consent to the carrying out of development on prime agricultural land for a purpose other than a purpose of agriculture unless it is satisfied that no other land to which this plan applies, not being prime agricultural land, could provide a viable or workable alternative site for the carrying out of the development.'

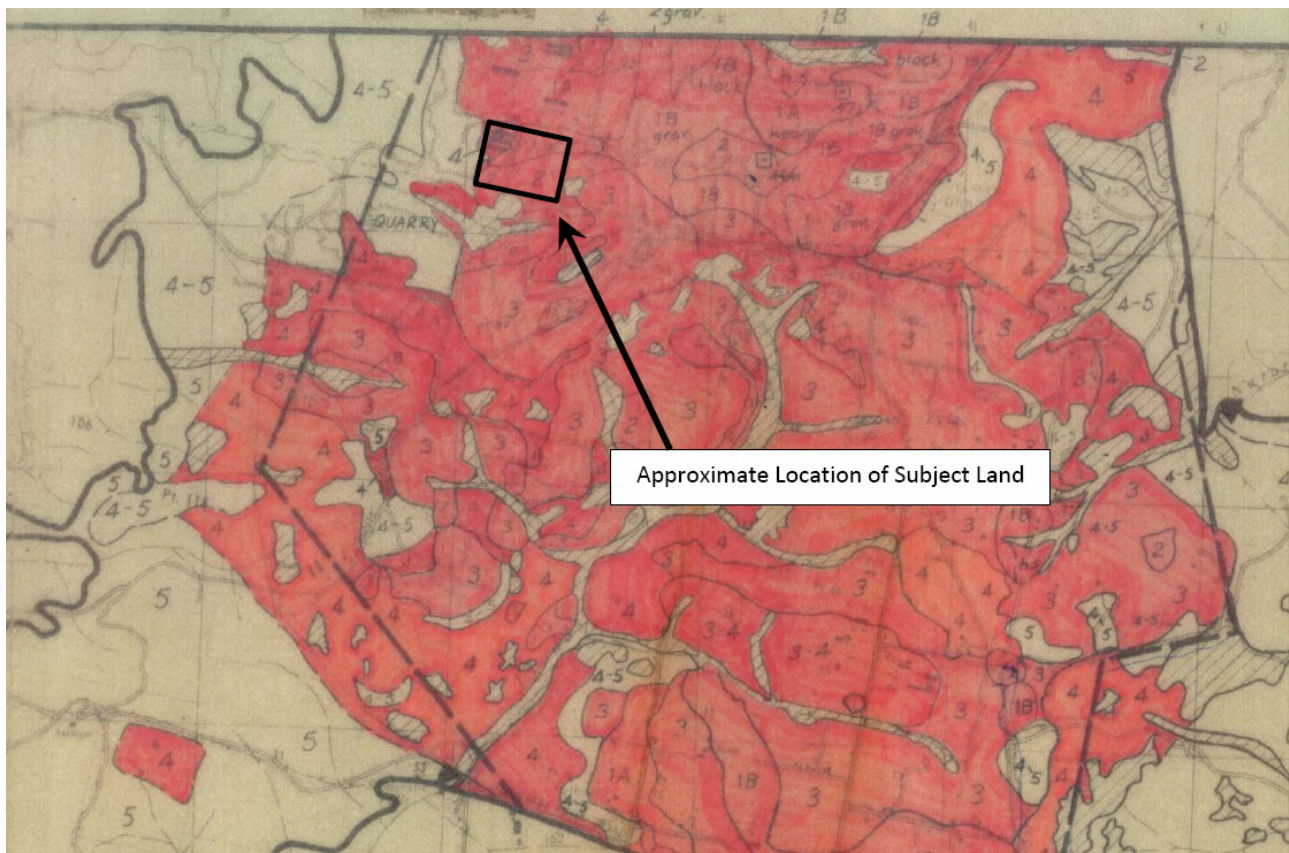


Figure 8: Extract from the 'Classes of Agricultural Land on the Plateau of the New South Wales Central Coast' Map 3 prepared by the NSW Department of Agriculture and dated 1981. Land shown in pink is defined as prime agricultural land in accordance with SREP 8.

Comment:

In order to provide initial justification the following points are noted:

- Despite the identification of the land within SREP as 'prime agricultural land', it is clear that the land has a number of significance barriers in achieving a high level of agricultural productivity;
- The site currently contains a range of uses, many of which do not make any

use of 'prime agricultural soils'. These uses include poultry farming, timber cutting (firewood) and associated uses (residential dwelling, storage sheds and the like). These uses could be carried out on any parcel of land, regardless of agricultural suitability of soils.

- Where agricultural uses have been established on the site to make use of the 'prime agricultural soils' they have been unsuccessful.



Figure 9: Aerial view of the subject land. Note the existing development that occupies much of the northern portion of the subject land. In addition, note the failure of many portions of the orchard to become successfully established.

It would appear that the previous uses of the land have created potential contamination. Use of the land for poultry farming purposes (including disposal of manure and carcasses) as well as potential contamination from agricultural chemicals and oil/fuel based products would significantly reduce the agricultural potential of the land. Potential contamination would appear to have diminished the value of the land as an agricultural resource. See **Section 7.7** of this report provides further details in respect to contamination issues;

An alternative use of the land provides a mechanism to 'clean up' the contamination. It is highly unlikely that any future agricultural use of the land will result in such de-contamination.

The existing chicken sheds are aged and in a state of disrepair. It is noted that new 'tunnel' systems would be required to provide ongoing economic viability to the operator. Sale of the land is, in part, aimed at securing funding to establish more modern poultry facilities on an adjoining land; and

The process of extending the existing quarry will utilise approximately 8 hectares of agricultural land, much of which has questionable agricultural ability in either case and is likely to require extensive decontamination. As such, the proposal results in the loss of a small parcel of agricultural land in order to obtain a valuable and viable long term supply of extractive material.

Simply put, despite the agricultural classification of the land, it would appear that current uses are (albeit agriculture) outdated and unsuccessful. There is a need to remove (at great cost) the outdated poultry sheds to allow funding for poultry facilities that satisfy current industry standards. In addition, potential contamination issues may further constrain any viable agricultural use.

The agricultural capacity of the site will need to be established through the completion of a formal Agricultural Capability Assessment. This capability assessment will be carried out as part of the formal Environmental Assessment. In addition, a cost-benefit analysis will be required to determine the best use of the land given its current state (ie continued agricultural production, or use for extraction of underlying sand resources).





Permissibility under SREP No. 8

Clause 6(6) states that:

‘Development may be carried out, but only with the consent of a council, on prime agricultural land for the purposes of extractive industries and rural tourist facilities within the locations respectively specified for them on the map. Subclause (5) does not apply to the grant of such a consent.’

Comment:

Although the site of the existing quarry is identified as an area for extractive industries, the subject land is not (see **Figure 10**). As such, the proposal represents an extension of an existing identified quarry and land suitable for extractive industries onto adjoining land.

Regardless, there is nothing within the SREP that prevents the carrying out of development for the purposes of extractive industries on land not identified within the SREP itself.

In either case, State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 (which overrides the SREP) provides that development for the purposes of extractive industries is permitted development.

The expansion of an identified quarry which has a long history of providing valuable resources to local markets would appear to be a sensible and worthwhile project. The proposal would use all of the existing facilities and transport infrastructure adopted for the existing quarry with minimal environmental impact.

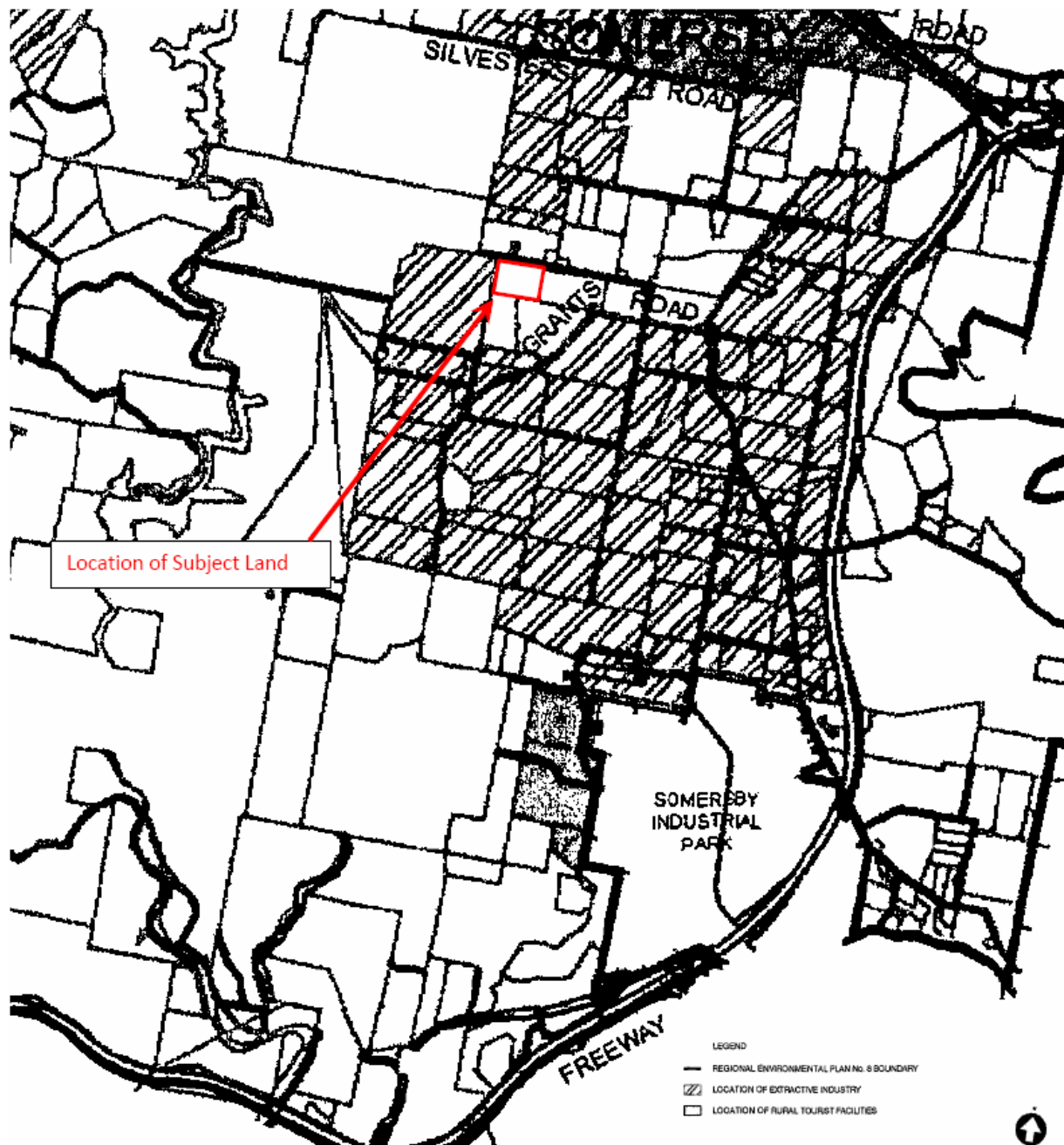


Figure 10: Extract from the Gosford/Wyong Local Environmental Plan No. 2001 which highlights locations for extractive industries (dated August 21, 2001).

Clause 7 (1) and (2) of SREP 8 state that:

- (1) Development for the purposes of an extractive industry may be carried out, with the consent of a council, on land within an area identified as a preferred location for extractive industries as shown on the map.
- (2) A council shall not consent to the carrying out of development on land to which this plan applies for the purposes of an extractive industry unless it is satisfied:

- (a) that appropriate arrangements have been made for buffer zones to surround the place at which the material is to be extracted or is proposed to be extracted, except where the council is satisfied they are not necessary, and
- (b) that the land will be satisfactorily restored or rehabilitated on cessation of the use of the land for an extractive industry so as to enable its subsequent development for agricultural purposes or for another purpose that the council considers suitable for that land.'

Comment:

Despite the land not being included in an area identified as suitable for extractive industries under the provisions of SREP 8, there is nothing within the SREP that prevents the carrying out of development for the purposes expanding existing extractive industries on land not identified for extractive industries within the SREP itself.

In either case, State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 (which overrides the SREP) provides that development for the purposes of extractive industries is permitted development.

6.2.2 Sydney Regional Environmental Plan 9 –Extractive Industry (No. 2 – 1995)

Sydney Regional Environmental Plan No 9 (SREP 9) applies to all local government areas listed in Schedule 4 of the SREP, including Gosford.

The aims and objectives of the plan are set out in Clause 2:

‘This plan aims:

- (a) to facilitate the development of extractive resources in proximity to the population of the Sydney Metropolitan Area by identifying land which contains extractive material of regional significance, and*
- (b) to permit, with the consent of the council, development for the purpose of extractive industries on land described in Schedule 1 or 2, and*
- (c) to ensure consideration is given to the impact of encroaching development on the ability of extractive industries to realise their full potential, and*
- (d) to promote the carrying out of development for the purpose of extractive industries in an environmentally acceptable manner, and*
- (e) to prohibit development for the purpose of extractive industry on the land described in Schedule 3 in the Macdonald, Colo, Hawkesbury and Nepean Rivers, being land which is environmentally sensitive.’*

Comment:

SREP No 9 provides that extractive industries are permitted with development consent on land identified within Schedules 1 and 2 of the Plan. Although the location of the existing quarry is listed within schedule 2 (Division 4), the location of the proposed quarry expansion is not listed in either of the Schedules.

Despite not being listed as a location for extractive industries under SREP 9, there is nothing within the SREP which prohibits the expansion of an extractive industry into areas not identified within the SREP itself.

In either case, State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 (which overrides the SREP) provides that development for the purposes of extractive industries is permitted development.

Clause 20 of the SREP provides locations where extractive industries are prohibited. This generally applies to areas around the McDonald, Hawkesbury and Colo Rivers and does not impact on the subject land.

6.2.3 Sydney Regional Environmental Plan No 20 - Hawkesbury Nepean River (No 2 – 1997)

The subject land lies as affected by Sydney Regional Environmental Plan No 20 (SREP No 20) – Hawkesbury Nepean River. The aim of this plan is to *‘protect the environment of the Hawkesbury-Nepean River system by ensuring that the impacts of future land uses are considered in a regional context’.*



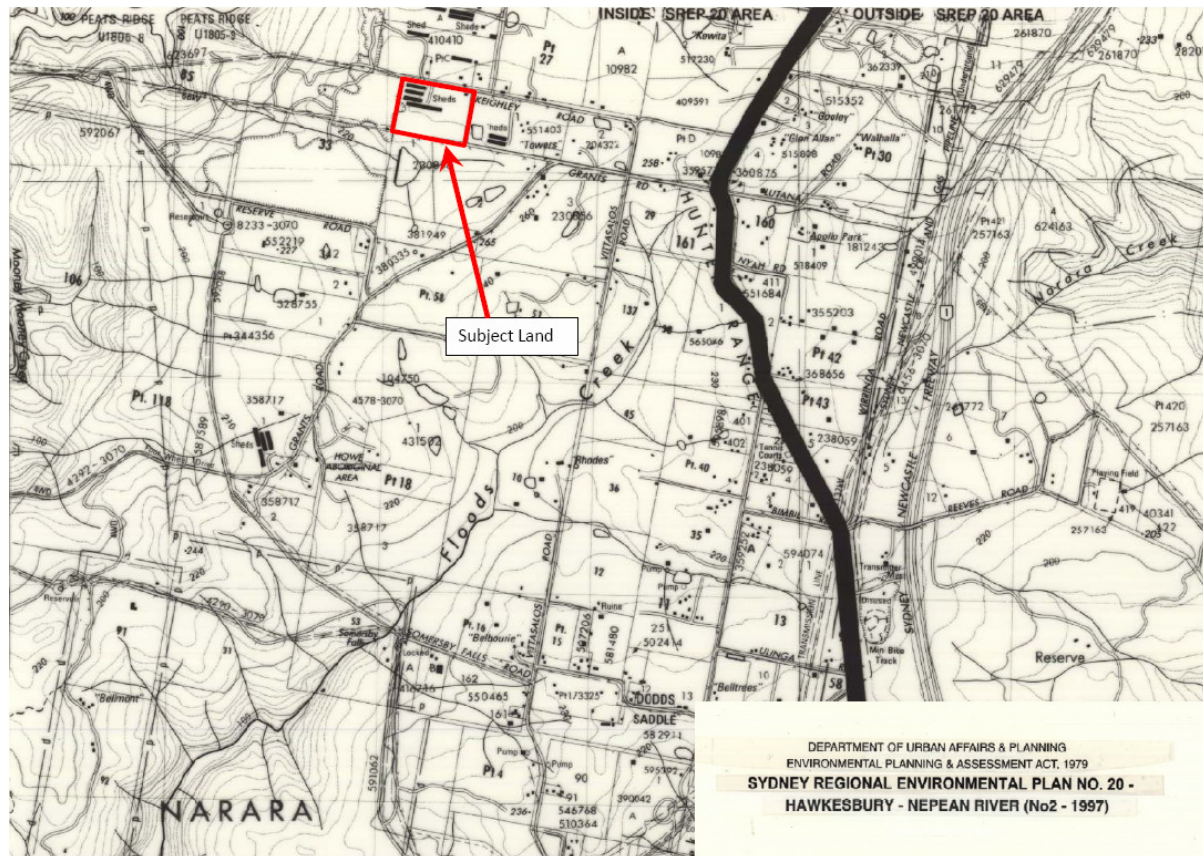


Figure 11: Extract from Map 17 of SREP No. 20.

Part 2 of SREP No. 20 provides for consideration of relevant policies and strategies setting out a range of considerations that need to be made in determining any development proposal. This includes matters relating to:

General Planning Considerations, including the aims of the Plan, strategies listed in the plan and whether there are any viable alternatives for the proposed development;

Specific Planning Policies and strategies, including matters relating to:

- ◆ Total Catchment Management;
- ◆ Environmentally Sensitive Areas;
- ◆ Water Quality Water quantity;
- ◆ Cultural Heritage;
- ◆ Flora and Fauna;
- ◆ Riverine Scenic quality
- ◆ Agriculture/aquaculture and fisheries;
- ◆ Rural Residential Development
- ◆ Urban Development;
- ◆ Recreation & Tourism; and
- ◆ The metropolitan strategy.

Clause 11 of the Plan provides for development controls, and, in conjunction with Schedule 2 of the Plan, provides locations at which extractive industries are prohibited. Schedule 2 does not list the subject land as being within a location where extractive industries are prohibited.

6.3 Gosford Council Planning Policies

6.3.1 Gosford Interim Development Order No 122

Current Zoning & Zone Objectives

The subject land has a current zoning of 1(a) Rural (Agriculture) under the provisions of the **Gosford Interim Development Order No. 122** (last updated in February, 2008).

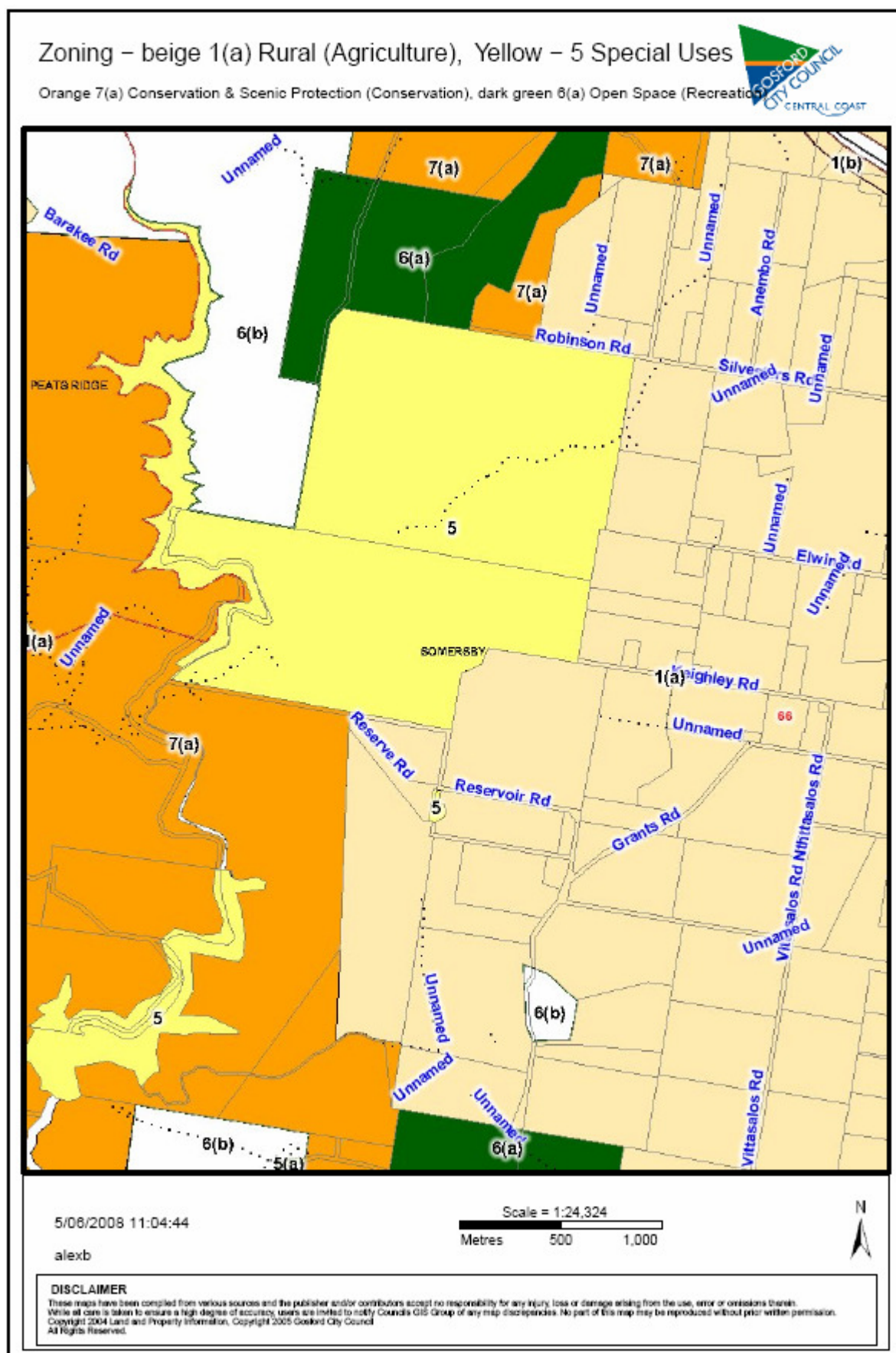


Figure 12: Zoning of the subject land and surrounding lands under the provisions of Gosford Interim Development Order No. 122.

The objectives of the zone are:

- (a) to identify and provide suitable land for agricultural use; and*
- (b) to protect the agricultural potential of land identified as suitable for agricultural use; and*
- (c) to prevent the fragmentation of prime agricultural land; and*
- (d) to enable uses which are complementary to, and compatible with, the use of land for agriculture; and*
- (e) to protect the rural landscape quality of the area; and*
- (f) to protect water catchments, water quality, soil conditions, and important eco-systems such as streams, estuaries, and wetlands, from inappropriate development and land management practices.'*

Comment:

The proposed development is complementary to the current zoning of the land under the provisions of the Gosford Interim Development Order No. 122. In this respect, objectives (a), (b) and (c) relate to the protection of prime agricultural land. As already stated, the subject land is of questionable quality and suffers from impacts relating to contamination which further reduce its agricultural potential. The use of the land for extractive purposes will allow for addressing these issues, decommissioning the existing outdated poultry sheds and will provide funding for ongoing agricultural activities on the remainder of the holding. It is not envisioned that the expansion of the existing quarry by a relatively small margin (8 hectares) will have an adverse impact on any nearby agricultural uses which has co-existed with the existing quarry for more than 4 decades.

Objective (d) promotes a range of uses which are complimentary to the agricultural nature of the area. The existing quarry operation has demonstrated, over more than 40 years, an ability to operate without adverse impacts on the location.

The proposed development complies with objective (e) and the Preliminary Visual Impact Assessment included as **Attachment 7** provides details with respect to landscape quality and visual impact implications.

The proposed development complies with objective (f) in ensuring the protection of nearby natural areas.

Permissibility under Gosford Interim Development Order No. 122

Under the provisions of the current zoning, 'extractive industry' is listed as a form of development that can be carried out with development consent.

This Interim Development Order No. 122, defines 'extractive industry' as follows

'Extractive industry' means:

- (a) the winning of extractive material; or*
- (b) an undertaking, not being a mine, which depends for its operations on the winning of extractive materials from the land on which it is carried on, and includes any washing, crushing, grinding, milling or separating into different sizes of that extractive material on that land.'*

However, despite extractive industries being listed as a development type permissible with consent under the zoning table, Clause 101C of the Gosford Interim Development Order No. 122 deals specifically with land identified under SREP No 8 (Central Coast Plateau).



Clause 101C states:

101C. Despite any other provision of this Order, a person may, on land to which Sydney Regional Environmental Plan No 8 (Central Coast Plateau Areas) applies that is within Zone No 1 (a) or 7(b), carry out development for the purpose of an extractive industry but only:

- (a) with development consent, and*
- (b) in locations specified for extractive industry on the map marked “Gosford/Wyong Local Environmental Plan 2001 - Central Coast Plateau Areas” deposited in the Newcastle office of the Department, copies of which are held in the offices of the Councils of Gosford City and of Wyong.*

Comment:

Given that the subject land is not identified as a location for extractive industries under the provisions of SREP 8, the establishment of an extractive industry is not permissible development by virtue of Clause 101C of the Gosford Interim Development Order No. 122.

However, the permissibility of the proposal is secured by State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 which overrides the Interim Development Order and provides that development for the purposes of extractive industries is permitted with development consent.





7.0 KEY ISSUES

7.1 Ecology

A Preliminary Ecological Assessment has been carried out by EcoLogical Australia to determine the nature and extent of any ecological issues associated with the project.

The Preliminary Ecological Assessment is included in full as **Attachment 6**.

7.1.1 Methodology

The methodology in the specialist report included:

- ☞ a desk-top survey to identify key flora and fauna issues;
- ☞ a one day site inspection, including investigation of the existing quarry and inspection of the subject land by vehicle and on foot to identify any ecological constraints (*ie.* evidence of suitable habitat for threatened fauna, threatened flora and endangered ecological communities);
- ☞ A habitat assessment (pro-forma based) at suitable locations within the study area that entailed identifying habitat characteristics, including floristic composition and structure, forage resources, log and hollow resources, disturbance history and habitat interconnectivity; and

- ☞ An assessment of the likelihood of occurrence of threatened and migratory species, and endangered ecological communities (EEC's) that have been recorded (or are considered likely to occur) within 10km of the site. This was based on database interrogation (*ie.* DECC Atlas for NSW Wildlife, Bionet and DEW Protected Matters Search).

7.1.2 Results

Vegetation Communities

The following presents a summary of vegetation communities within the study area:

- ☞ One native vegetation community was identified within the study area, being the *Somersby Plateau Forest* which occurs within the southern two thirds of the narrow strip of vegetation between the existing sand quarry and the study area, having an approximate area of 1.7ha (more detailed characteristics of the Somersby Plateau Forest are included in the Preliminary Ecological Assessment); and
- ☞ The remainder of the site has been extensively cleared for previous agricultural use. There are existing wind rows along the perimeter which are dominated by *Pinus radiata* and lantana.

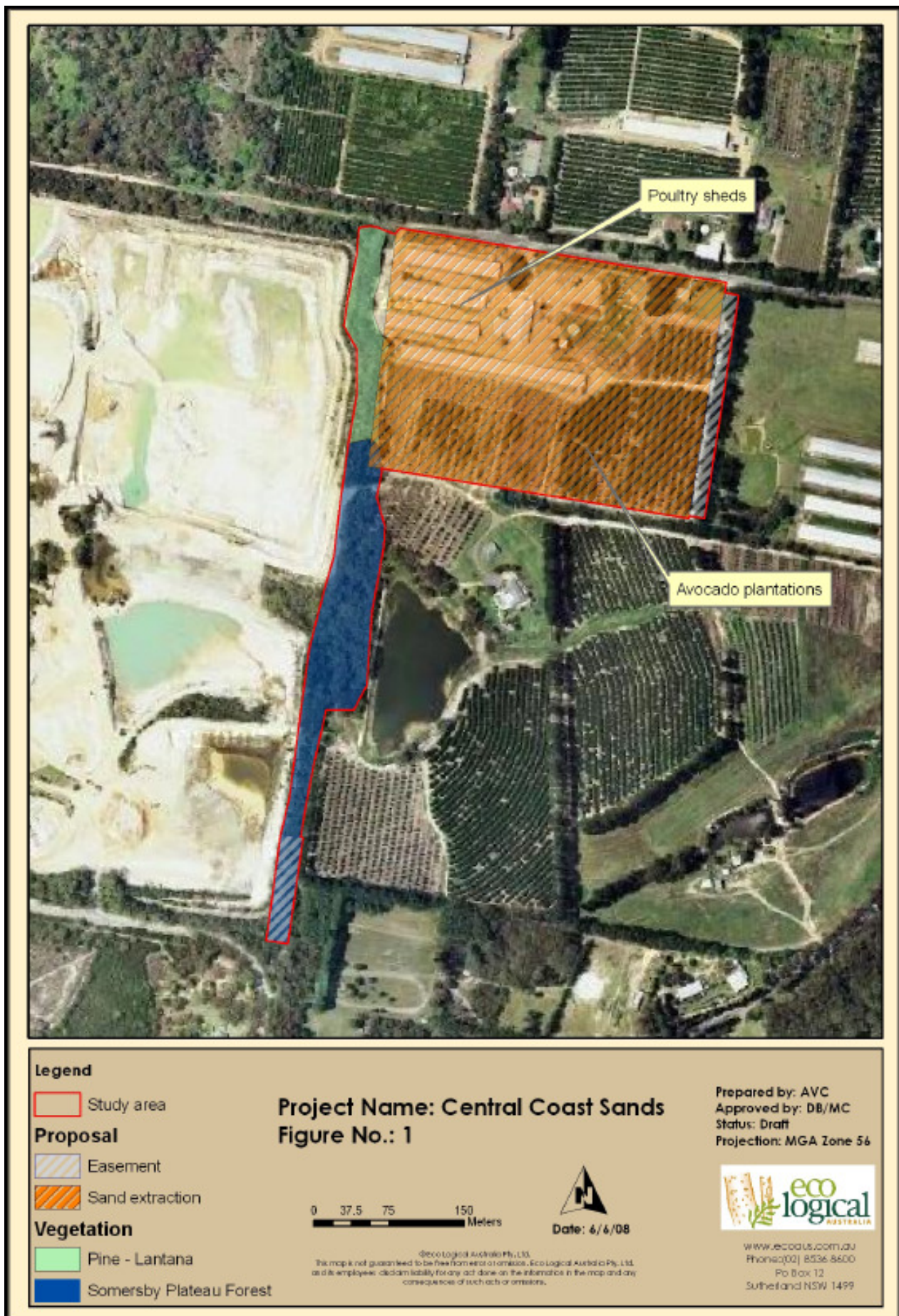


Figure 13: Vegetation types within the study area.

7.1.3 Threatened and Migratory Species, Populations and Endangered Ecological Communities

Threatened Species Conservation Act

The following species listed under the TSC Act may occur within the study area. Additional fieldwork would be required to confirm their occurrence:

- yellow-bellied sheath-tail-bat (*Saccolaimus flaviventris*)
- east coast freetail bat (*Mormopterus norfolkensis*)
- eastern false pipistrelle (*Falsistrellus tasmaniensis*)
- squirrel glider (*Petaurus norfolcensis*)
- grey-headed flying-fox (*Pteropus poliocephalus*)
- black-eyed susan (*Tetratheca juncea*)
- Tetratheca glandulosa*
- Somersby mintbush (*Prostanthera junonis*)
- Bynoe's wattle (*Acacia bynoeana*)

Environmental Protection and Biodiversity Conservation Act

The grey-headed flying-fox is listed as vulnerable under the EPBC Act and considered to have at least a possibility of occurring within the study area.

7.1.4 Koala Habitat Protection (SEPP 44)

The Scribbly Gum (*Eucalyptus haemastoma*) is the only primary browse species listed under Schedule 2 of SEPP44 that occurs within the study area. However, this species is limited to localised areas of less than one hectare. As such, the study area does not qualify as Potential Koala Habitat as defined under the SEPP44 definition.

Furthermore, there is scope to align any works within the proposed easement in the south of the study area (where the scribbly gum occurs) so that the majority of emergent trees are retained.

7.1.5 Recommendations for Further Study/Methodology for Environmental Assessment

To verify the occurrence of threatened flora and fauna within the study area, the Preliminary Ecological Assessment recommends that the following additional work should be undertaken:

- Targeted threatened flora survey within the proposed area for the southern easement.
- Nocturnal den watches, spotlighting and Anabat microchiropteran bat recording focussed on hollow bearing trees proposed to be removed.

This work will be undertaken as part of the Ecological Assessment report. The Ecological Assessment Report will consider the Part 3A Guidelines for Threatened Flora and Fauna (DECC & DPI 2005), the Director Generals Requirements, once received, and the EPBC Act Matters of National Environmental Significance. The additional work will allow for more informed decision making with regard to impacts on threatened species and provide more specific recommendations for avoiding impacts.

7.1.6 Conclusion

No significant ecological constraints have been identified within the study area, primarily due to the disturbance history (ie. previous land clearing and agricultural activities).

Four threatened plant species and five threatened fauna species listed under the TSC Act are considered to be at least possible occurrences and one vulnerable species listed under the EPBC Act is considered likely to occur at some stage and may require an assessment accordance with:

- the Part 3A guidelines for threatened flora and fauna (DPI & DECC 2005); and
- DEWHA guidelines for assessment of significance on Matters of NES under the EPBC Act.

The site is not considered to qualify as Potential Koala Habitat according to SEPP44 Koala Habitat Protection.



7.2 Visual Impacts

A Visual Impact Assessment has been undertaken by Insite Planning and is included as **Attachment 7**. The purpose of this report is to identify visually sensitive parts of the site and locality in order to determine the potential impact of the proposed development on the visual qualities of the surrounding area – in particular the nearby dwellings and public places (ie. roads, reserves, and the like).

7.2.1 Methodology

The visual impact assessment involved:

1. A visual inspection of the site, adjoining properties and surrounding lands; and
2. Review of appropriate literature.

During the above processes the following tasks were carried out:

- Study of aerial photography;
- Review of key literature, including the Gosford Interim Development Order No. 122 and the Gosford Scenic Quality Development Control Plan;
- Identification of key viewing points;
- Analysis of views;
- Analysis of the topography; and
- Identification of potential visual impacts.

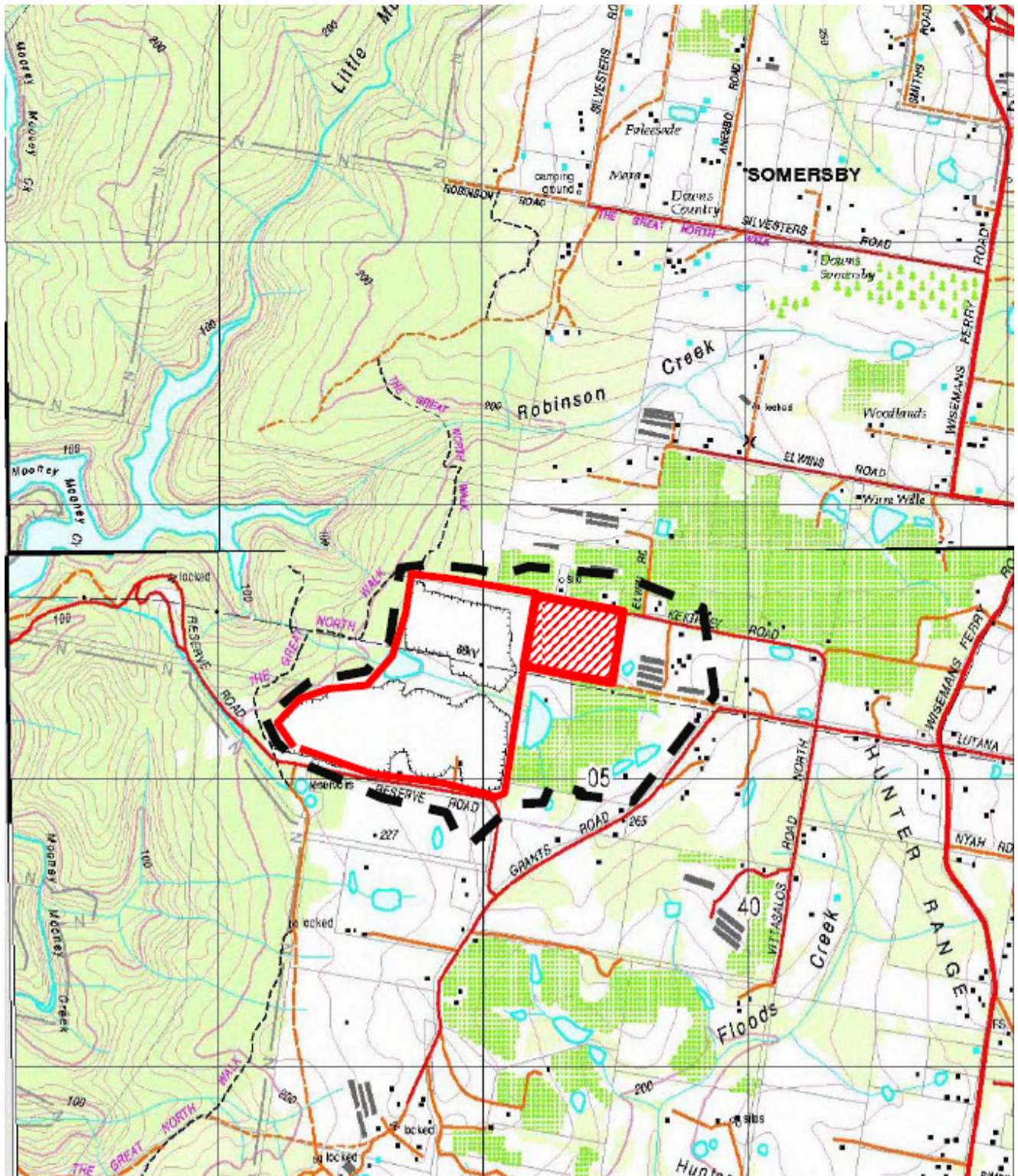
7.2.2 Visual Character

In visual terms the locality is one of a primarily rural/agricultural character, with a range of dwellings and other ancillary structures throughout. The rural amenity of the locality is emphasised in planning policy for the area, including the current zoning under the Gosford Interim Development Order and the Scenic Quality Development Control Plan, both of which promote the protection of the rural amenity of the locality.

The locality is characterised by undulating agricultural holdings with tree-lined roads offering filtered views of the surrounding farmland. Agricultural holdings are relatively small and characterised by being broken up into 'parcels' by heavy hedgerow plantings along boundaries and other important corridors. Orchards are extensively planted throughout and there are extensive poultry operations in selected locations. The location of orchards further reduces sweeping views although they do add a sense of 'order' with their precise plantings and uniform structure.

7.2.3 Visual Catchment

The land which is the subject of the quarry extension proposal is visually enclosed, having a very small visual catchment and views are interrupted by existing mature hedge-row plantings, orchards and remnant vegetation stands. The visual catchment of the subject site is shown in **Figure 14**.



- Existing Quarry 
- Proposed Quarry Extension 
- Area of Potential Visual Impact 

Figure 14: Visual Catchment

7.2.4 Visual Impacts

The location of the proposed quarry extension is visually enclosed as a result of topography and existing vegetation in the locality (including mature hedge rows, orchards and remnant vegetation stands). There are limited properties and public places that have direct view of the land and these are limited to very small section of Keighley Road (where these views are currently dominated by the existing poultry sheds situated less than 10 metres from the northern boundary of the subject land).

Figure 15 shows the location of existing dwellings in the locality as well as existing hedgerow plantings.

7.2.5 Recommendations from the Visual Impact Assessment

This report recommends that existing vegetation along property boundaries (including increasing the density of plantings in selected locations) should form a key part

of any scheme to mitigate visual impact. In addition, the incorporation of other visual buffers (such as appropriate fencing) will be required until plantings mature.

Quarries and extractive industries are generally surrounded by long, narrow vegetation buffers/screens which, in some instances, detract from the visual amenity of the locality. In the case of the subject land, the use of such vegetated buffers along boundaries (and in other suitable locations) will be entirely in keeping with the existing hedgerow plantings in the area.

The enclosed nature of the locality and extensive use of hedgerows creates a circumstance where the use of relatively narrow vegetated buffers around the site will be entirely consistent with local visual characteristics.

The Visual Impact Assessment concludes that no additional work is recommended as part of Environmental Assessment.



Figure 15: Nearby dwellings and existing hedge row plantings.

7.2.6 Conclusion

The existing nature of the locality, topography and hedgerow planting creates a circumstance where the subject land is visually enclosed and contained within a very small visual catchment. As such, the proposed development will have minimal impact in terms of views and vistas.

7.3 Acoustics/Noise

A Preliminary Noise Assessment has been prepared by Heggies Pty Ltd and is included as **Attachment 8**. The aim of the noise assessment was to identify potential noise receptors that may be affected by any activity associated with the proposed development.

Noise emissions from the proposed quarry are expected to be generated by machinery associated with extraction and on-site operations as well as from trucks associated with haulage.

The construction, operational and traffic noise associated with the proposed development have been assessed in accordance with the NSW Industrial Noise Policy (INP) published by the NSW Environmental Protection Agency (EPA).

7.3.1 Methodology

The following tasks were undertaken as part of the Preliminary Noise Assessment:

- ☞ Identification and mapping of the nearest sensitive receptors; and
- ☞ A review of Impact Assessment Procedures and establishment of a methodology for further noise assessment works to be carried out as part of the Environmental Assessment.



7.3.2 Nearest Sensitive Receptors

The Assessment identified that numerous residential receivers are potentially susceptible to noise impacts. The sensitivity of these receptors is a reflection of their distance from the quarry and the attenuating effects of topography and local meteorology

(wind direction and strength). **Figure 16** shows the location of identified sensitive receptors.

Receptors B, C and D which are in close proximity (less than 60m) from the proposed extraction area are particularly sensitive.

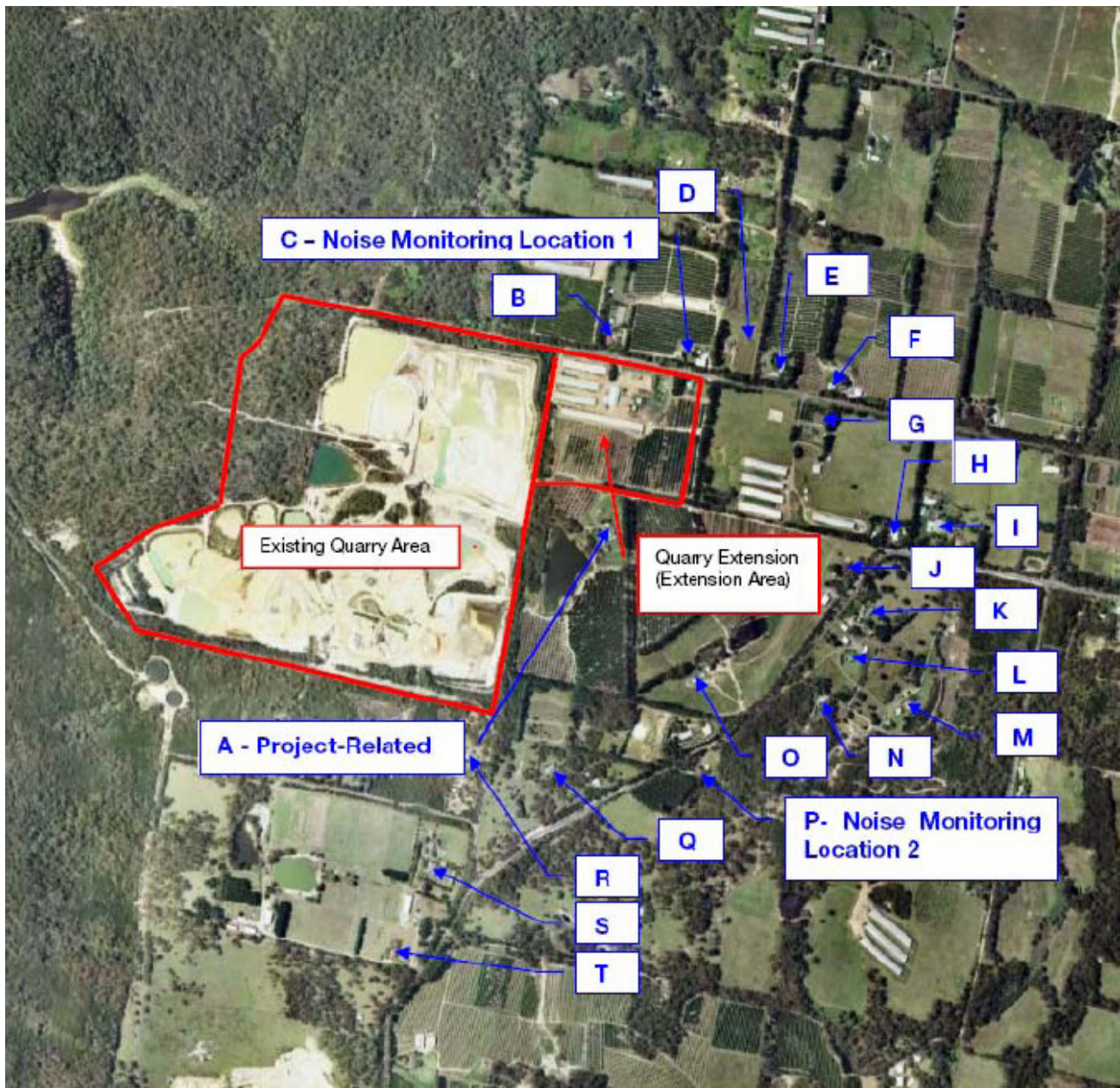


Figure 16: Location of identified Sensitive Receptors

7.3.3 Impact Assessment Procedures

Responsibility for the control of noise emissions in New South Wales is vested in Local Government and the Department of Environment and Climate Change (DECC). The DECC released the Industrial Noise Policy in December 1999 that provides a framework and process for deriving noise criteria for consents and licences that will enable the DECC to regulate premises scheduled under the Protection of the Environment Operations Act, 1997.

The specific policy objectives are:

- ☞ To establish noise criteria that would protect the community from excessive intrusive noise and preserve amenity for specific land uses.
- ☞ To use the criteria as the basis for deriving project specific noise levels.
- ☞ To promote uniform methods to estimate and measure noise impacts, including a procedure for evaluating meteorological effects.
- ☞ To outline a range of mitigation measures that could be used to minimise noise impacts.
- ☞ To provide a formal process to guide the determination of feasible and reasonable noise limits for consents or licences that reconcile noise impacts with the economic, social and environmental considerations of industrial development.
- ☞ To carry out functions relating to the prevention, minimisation and control of noise from premises scheduled under the Act.

7.3.4 Recommendations

It is recommended that noise monitoring for a period of seven (7) days at two (2) survey points, is required to ascertain the background and existing noise levels at the receptors neighbouring the site.

These acquired ambient noise levels will then be used in unison with meteorological data to determine the Project-Specific noise levels (or, criteria). Additional noise monitoring for a period of seven (7) days at one (1) survey point, is required to ascertain the background noise levels at one location along the transport route.

Noise emissions from the Project can then be calculated and predicted at the nearest sensitive receivers for calm and prevailing weather conditions using the software program 'Environmental Noise Model' (ENM).

7.3.5 Conclusion

Upon completion of the modelling it will be ascertained whether or not the quarry has the potential to cause a significant noise impact and what measures are required to alleviate any potential impacts.

7.4 Air Quality

A Preliminary Air Quality Assessment has been prepared by Heggies Pty Ltd and it included as **Attachment 9**. The aim of the assessment was to identify potential receptors that may be affected by any activity associated with the proposed development.

Air emissions from the proposed quarry are expected to constitute: dust: total particulate solids, PM10, PM2.5: Nitrogen Dioxide; and Sulphur Dioxide associated with extraction operations and haulage operations

The potential air impact of the construction, operation and traffic requirements of the proposed development have been assessed in accordance with:

- ☞ Approved Methods for the Modelling and Assessment of Air Pollutants NSW (DECC 2005), and
- ☞ National Environment Protection Measure for Ambient Air Quality (Air NEPM).

7.4.1 Sensitive Receptors

It was identified that numerous residential receivers are potentially susceptible to air quality impacts. The sensitivity of these receptors is a product of their distance from the quarry and the attenuating effects of topography and local meteorology (wind direction and strength). Receptors B, C and D which are in close proximity (less than 60m) from the proposed extraction area are particularly sensitive.



Figure 17: Nearest Sensitive Receptors

7.4.2 Impact Assessment Methodology

The Preliminary Air Quality Assessment sets out the methodology for assessment of impacts on Air Quality, including:

- an evaluation of the existing air quality environment; and
- atmospheric dispersion modelling utilises the Ausplume Gaussian Plume Dispersion Model software (Version 6.0) developed by the EPA (Victoria).

(Ausplume is the dispersion model that DECC has approved for use in the majority of applications in New South

Wales, and is seen as the “workhorse” model for assessments of extractive industries in particular.)

7.4.3 Recommendations

A level 2 impact assessment based on site specific data is required to determine the extent of impact and will be performed using the modelling software program AUSPLUME v6.0.

Upon completion of the modelling it will be ascertained whether or not the quarry has the potential to cause significant air impact and what measures are required to alleviate any potential impacts.

7.5 Traffic

A Preliminary Traffic Impact Assessment has been prepared by Insite Engineering and is included as **Attachment 5**. The purpose of this report is to describe the existing road infrastructure and traffic conditions in the vicinity of the site, as well as describing the proposed development in terms of likely traffic generation. Comment is then provided on the likely impacts this development will have on the local road network and issues requiring more detailed investigation within a detailed Traffic Impact Assessment are identified.

The preliminary traffic assessment of the proposed extension to the Hanson Sand Quarry at Reservoir Road has determined the following:

-  The proposed extension to the quarry does not include an increase in production from the quarry. The proposal is about extending the life of the quarry and not about increasing its production capacity;
-  As production from the sand quarry will not increase, the proposal will not involve an increase in traffic generation from the site. This is a significant consideration;
-  Similarly the haulage route used for transporting the sand from the site will not change with the all quarry traffic heading south once Wiseman's Ferry Road is reached. The haulage route is therefore Reservoir Road to Grant's Road to Wiseman's Ferry Road and then south to Gosford and the F3 Freeway;
-  Current peak period traffic volumes from the site are as follows and determined from data retrieved over the last 2 years from the site weighbridge;
 - Morning peak 6am to 7am – 22 vehicles per hour (45 % heavy), 77%:23% directional split.
 - Evening peak 3pm to 4pm – 15 vehicles per hour (20% heavy), 20%:80% directional split;
-  Heavy vehicle traffic to and from the site is made up of approximately 50 % of 3 axle rigid truck and trailer combinations (truck and dog), 25 % of 3 axle single rigid trucks and 25 % of 3 axle semi-trailers (AV's);
-  The local road network servicing the site is in good condition and considered suitable in terms of road geometry, speed zoning and pavement construction;
-  The local road network currently operates with high levels of efficiency/ levels of service for motorists with little or no delays being experienced. This could be confirmed through SIDRA modelling of the critical intersections along the haulage route within a detailed traffic impact assessment of the proposal;
-  Whilst the generation of heavy vehicle traffic from the site does cause amenity issues in regard to noise and dust, as the proposal will not generate additional traffic it will not adversely impact on the amenity of adjoining residents. The amenity impacts from the mining of the additional land area will be covered in separate noise, air and water impact reports to accompany the Environmental Assessment; and
-  Alternative transport modes available to the site are limited and unlikely to be of benefit to the proposal. Therefore it is expected that there will be no additional infrastructure requirements in terms of alternative transport modes as a result of this proposal.

7.5.1 Conclusions

Overall, as the proposed extension to the existing sand quarry will not generate additional traffic nor change the existing haulage route from the site, the proposal will not adversely impact on the local road network. The local road network is considered suitable to carry the volume and type of traffic generated from the site. As such it is considered the proposal can be supported from a traffic impact perspective.

7.6 Surface & Groundwater

A preliminary surface and groundwater assessment has been prepared by Marten's & Associates Consulting Engineers. The Assessment is included as **Attachment 10**.

7.6.1 Groundwater

The existing groundwater environment has been inferred from 10 bores with publicly available information from the NSW Government Natural Resource Atlas, as well as from site inspection and relevant literature sources.

Groundwater Levels

Groundwater levels around the site are highly variable, but generally occur between 16 metres and 30 metres below ground level. Groundwater levels at bores nearest to the site indicate a level of approximately 230m AHD (the existing quarry has a maximum depth of approximately 50m below natural ground level which equates to approximately 203m AHD).

Site inspection revealed no evidence of widespread groundwater seepage on quarry walls, indicating that groundwater levels are at or below the existing pit floor level. This suggests that the existing quarry operations have caused a depression of the water table on the site. It is likely that this depression of the water table will also occur on adjacent sites.



Groundwater Quality

There is limited available data relating to existing groundwater quality in the location. According to the NSW Government Natural Resource Atlas, the site has salinity concentrations which are consistent with freshwater salt concentrations. No other data is available.

Impacts of the Approved Site Use

As noted in **Section 2.3** of this Preliminary Environmental Assessment, the existing operations are being undertaken under an existing and on-going development approval. As such, the already approved quarry form should be considered in determining the 'existing conditions'. Preliminary analysis of quarry form and access options by Hanson indicate ultimate practicable depth of extraction of approximately 120m below surface level or a further 80m below the current quarry floor, is a likely ultimate quarry form on the site.

The following groundwater impacts are considered likely as a result of the full implementation of the previously approved quarrying operation on the site (i.e. quarrying to approximately 120m below existing surface level):

1. **Dewatering Impact:** Increased depth of excavation will result in a lowering of the groundwater table and will require the removal of inflowing groundwater. To allow for already approved works dewatering is required and has the potential to cause the following impacts:

The 'drawdown' of the local groundwater table with possible impacts on groundwater yields from nearby bores.

Discharge of extracted groundwater to the local surface water system may, if required, impact on by the volume of flow in receiving streams. Any change in stream flow may impact storm morphology, sedimentology and water quality.

These "impacts" form a component of the existing site condition which will be further clarified and detailed through the EA process.

Impacts of Proposed Quarry Expansion

Depending on final design and operation, the proposed lateral expansion of the quarry has the potential to further impact on the local groundwater supplies. Matters to be considered include:

1. Potential for further groundwater table lowering on the site and beneath the proposed quarry extension.
2. Possible additional impacts associated with further increased rates of discharge to local surface water systems.

Recommendations for Further Study/Methodology for Environmental Assessment

To assess the impacts of the proposed lateral extension of the quarry, the following methodology is proposed for the Environmental Assessment:

1. Piezometers will be constructed in the existing quarry pit and/or the extension site to assess existing groundwater levels and to allow for aquifer testing. The number and location of these are to be confirmed at the Environmental Assessment stage.
2. Groundwater quality will be tested to determine the chemical properties of the groundwater. Sampling will occur at specified regular intervals to monitor any potential seasonality of quality. This information is crucial in assessing the impacts of dewatering water discharge to surface water systems.
3. A pre-development (based on approved quarry form with quarry floor at 120 mAHD) three dimensional finite difference groundwater flow model (Visual ModFlow" Version 4.2) will be developed for the study area using measured groundwater levels and aquifer properties. This model will be used to assess the impact of already approved quarrying on the site hydrogeological setting; the extent of drawdown that will result on adjacent lands; and the volume of groundwater inflow to the excavation that will need to be dewatered and discharged to local surface drainage systems.

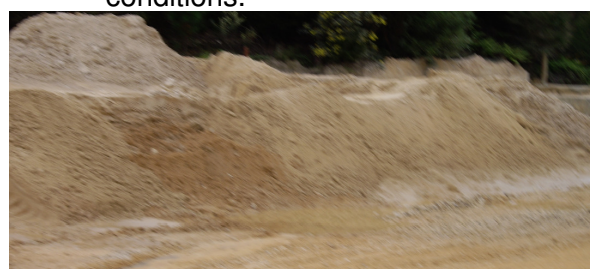
4. A post-development groundwater model will be prepared to assess additional impacts of the proposed site lateral expansion on water table levels, local aquifer drawdown and dewatering volumes.
5. Comparison of the results of the pre- and post-development groundwater models shall be used to assess the impact of various extensions options considered (primarily the depth of excavation in the lateral extension).

Potential Mitigating Measures for Consideration in Environmental Assessment

The following mitigation measures shall be considered at the Environmental Assessment stage to minimise any identified impacts associated with the proposed lateral extension of the quarry:

Design: The proposed quarry may be designed such that excavation will not intercept the already approved depressed groundwater table. This would result in no further depression of groundwater tables; will not necessitate any increase in dewatering and would not increase the depth nor width of the cone of depression.

Backfill: Excavation works at the existing site may be undertaken in stages with incremental back filling and rehabilitation to manage drawdown extent and groundwater/stormwater inflow volumes. Reduction in dewatering demand for the existing approved quarry may be used to balance any increase due to the lateral expansion. This may be used to manage potential impacts on receiving waters caused by possible changes in discharged volumes. Backfill material would be selected on the basis of a careful analysis of its impact on local hydro-geological conditions.



Deepen private bores: If the proposed quarry lateral expansion is found to further depress the local groundwater resource, the deepening of any impacted bores on adjacent lands may be used as a means to ensure local residents' access to groundwater is not adversely impacted.

Groundwater Supplementation: The dewatering process may be set up such that water is removed from the extraction pit and discharged back into the aquifer through bores. Dewatering production waste may be used to supplement other local water supplies. Issues of contamination and potential impacts on groundwater flow parameters would be considered if the option of groundwater recharge was under consideration.

7.6.2 Surface Water

Existing Environment

A review of available information sources and an inspection of the site has been undertaken to detail the surface water environment at the existing approved quarry site. Findings of this review are:

1. According to the 1:25 000 topographic map, there is an existing drainage line running east to west through the site (**Figure 18**). This is shown as flowing into neighbouring Brisbane Waters National Park as a small tributary of Mooney Mooney Creek. Review of current site aerial photographs and site inspection confirm this drainage line no longer exists due to approved quarrying operations;

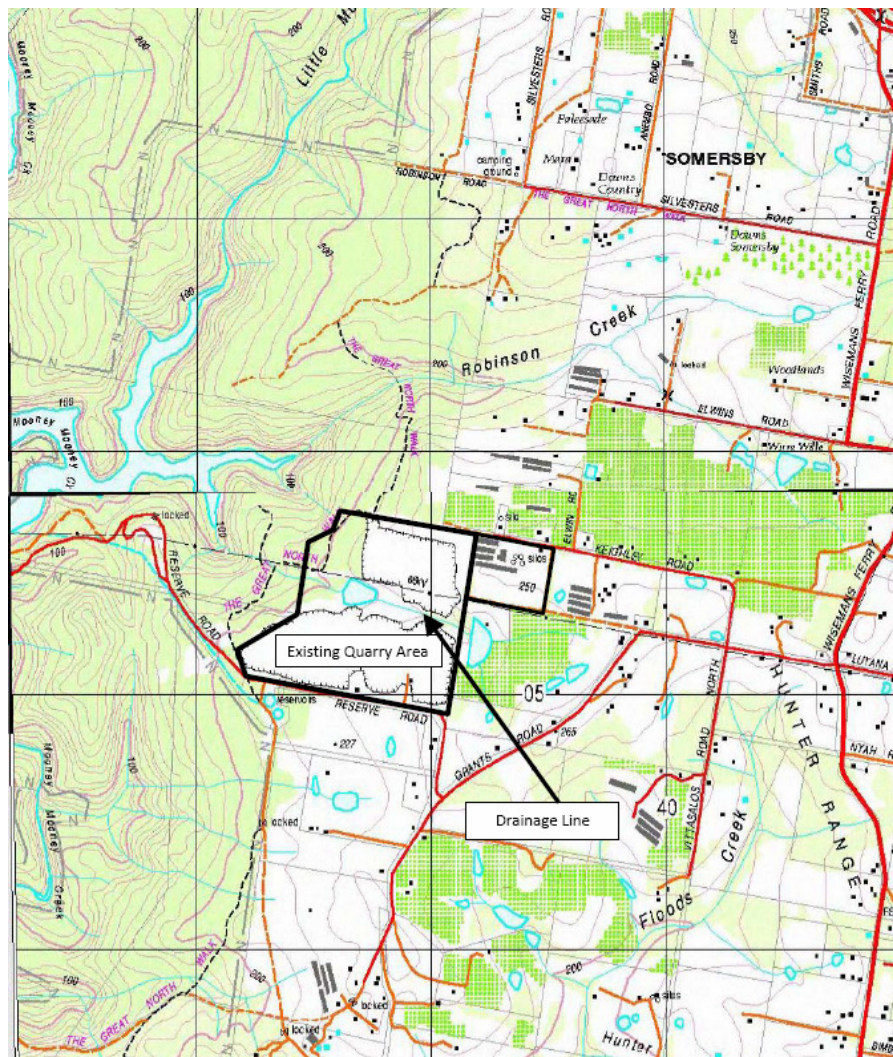


Figure 18: Topographical Map Showing Drainage Lines

2. Existing approved site quarrying operations result in the capture of all surface runoff from all lands hydrogeologically upslope of the quarry (including lands east of the site which previously fed the creek identified on the topographic map);
3. According to information provided by Hanson Pty Ltd, the on-site surface catchment area is 46 ha. The existing site has a capacity to store approximately 600 ML within existing dams;
4. Approximately 80% of the site's stormwater is directed to the quarry pit and therefore collected on-site. Areas of remnant vegetation along the eastern and northern site boundary make up the balance of the site and drain directly to Brisbane Waters National Park. Captured stormwater is used to satisfy the on-site water demands (an average of 75ML annually) for dust suppression, product washing, processing and other general purposes;
5. Discharge from the site to the adjacent National Park is licensed by NSW EPA. Water quality of discharge is reasonably good as a result of the operation of the site stormwater quality system circulation settling ponds; tailings dams; and re-use systems;
6. Stormwater collected within the pit is circulated by pumps/gravity around the site, through a series of settling and storage ponds; and to locations of demand;
7. The on-site stormwater management plan is summarized within the Preliminary Hydrology Assessment (**Attachment 10**) and includes movement of water through a series of on-site dams, settling ponds and the like;
8. The proposed extension site has no existing drainage lines or dams. Much of the site is heavily disturbed and has been cleared for orchards (oranges and avocados) and intensive poultry farming. The area of proposed extension presently drains in to the existing quarry pit;
9. To the south of the proposed quarry extension site, but still within the same property, there is a large dam which discharges to the west. These flows enter the existing quarry and are then managed by the quarry's surface water management system;
10. Evidence from recent site inspection indicates that site discharge from this dam, and onto the quarry site, is eutrophied and heavily affected by algal blooms most likely due to excess nutrients from on-site agricultural activities;
11. The continued extraction within the Eastern Pit to 120m below ground level will have little to no impact on the current surface water regime; and
12. Surface water not used for on-site purposes will continue to be treated to a suitable standard prior to discharging. Increased potential for groundwater interception as the pit deepens will mean an increase in 'surface' water in the pits and necessitate more frequent discharges to receiving waters.



Water Quantity

The proposed extension of the existing quarry is into lands which currently drain into the existing pit. Therefore, the overall catchment area draining to the pit will remain unchanged. The process of water circulation is not proposed to change, nor is the plant or equipment on site or the quarry output. Our initial assessment is that the water consumption through reuse increase marginally due to larger areas for dust suppression and in time water for irrigation of rehabilitation areas. The volume of water captured by the pit will remain generally unchanged.

Water Quality

The removal of agriculture from the proposed extension site is likely to decrease the level of nutrients in surface water draining to the pit. The increase in pit area however, is likely to increase the sediment mobilisation which must be addressed as part of the Environmental Assessment.

Issues for Consideration

The following surface water issues are identified as requiring consideration:

- There will be a net increase in the amount of disturbed land on the site. Any increase in sediment mobilisation due to the within the increased quarry footprint, and therefore increased exposed 'soil', will need to be addressed by careful assessment and design of the site stormwater management system; and
- Off site surface water system impacts may result from any increased need to dewater the site. If increased dewatering demands are identified then the impact of these is to be considered in terms of water quantity; channel morphology and hydrology; and water quality.

Methodology for Environmental Assessment

The following methodology is proposed to assess potential impacts associated with surface water for the lateral expansion of the quarry;

- The surface water quality conditions discharging from the existing site will be assessed and documented to determine the efficacy of the existing site surface water controls;
- Assessment of post development water re-use demands on the site shall be completed;
- Analysis of changes in flows (surface and groundwater) to the quarry shall be undertaken;
- Assessment of the efficacy of existing surface water quality control options;
- Where water quality control systems require upgrade, analysis of requirements will be determined;
- A hydrological assessment will be carried out to determine the impact of the proposed development on flows leaving the site to the west; and
- Analysis of the likely water quality (based on existing ground and surface water quality and water balance analysis) will be determined.



Potential Mitigating Measures for Consideration in Environmental Assessment

The following mitigation measures regarding surface water impacts will be considered:

- Water treatment systems/structures may be redesigned to ensure they are effective in achieving required site surface water quality for discharging from the site. Treatment structures may include upgraded or additional sediment basins and tailings ponds, artificial wetlands, re-use systems or other measures such as chemical flocculation;
- Energy dissipation or other channel works; and
- Development of management plans to control the release of water to receiving environments may be appropriate.

7.7 Land Contamination

A Preliminary Contamination Assessment has been undertaken by Martens & Associates and is included in **Attachment 4**.

The Preliminary Contamination Assessment reveals that the site has been the subject past activities which provide a potential for site contamination:

- The site's chicken sheds appear to be constructed in part of asbestos sheeting presenting a possible contamination source;
- A fuel pump (with an assumed UST nearby) is used for refuelling of farming machinery. The possible spillage of fuel and leakage are potential contamination sources.
- Numerous empty containers of wash-down detergents, fungicides, herbicides and pesticides are stored on site. Poor management of these and any residual chemical are a potential contamination source.

Chemical filling area: assuming chemicals found are handled in the area, any spills may have resulted in local contamination.

Chemical use – use of herbicides, pesticides and fungicides may have resulted in soil contamination beneath and surrounding sheds where chemicals are used as well as throughout the area of orchards.

Conclusion

The results of the Preliminary Stage 1 assessment reveal that the site is currently used for intensive agricultural purposes, namely poultry farming and orchard farming. It is our view that the site is likely to be contaminated as a result of existing on-site activities. Given this, a Stage 2 Assessment (on-site sampling and testing) is recommended.

Requirements for Further Work

As the potential for contamination beneath the site structures exists, it is recommended that the Stage 2 assessment be completed as a condition of consent following the removal of site structures. This is considered an appropriate strategy for the site as the removal of site soil material is required to allow the site quarrying and the assessment is required only to determine how the material is managed either on-site in landscaping/rehabilitation works or off-site as waste.

Alternatively, if the Department of Planning, in conjunction with relevant Government agencies, determine that a Stage 2 Assessment is justified at the Environmental Assessment stage, it is anticipated that such a request can be addressed through the Director General's Requirements.



7.8 Aboriginal Archaeology

A Preliminary Aboriginal Archaeology Assessment has been prepared by AHMS and is included as **Attachment 11**.

The aims of the archaeological investigation were to identify potential Aboriginal archaeological issues and any requirements for detailed Aboriginal heritage impact assessment (AHIA) or physical investigations during the Environmental Assessment (EA) stage.

Specific aims of the study were:

- a) Identify any visible Aboriginal sites and/or objects within the subject land;
- b) Assess the potential for Aboriginal sites and/or objects buried below ground surfaces;
- c) Identify Aboriginal heritage constraints and opportunities with regard to proposed development;
- d) Assess the level of assessment / investigation required during the EA stage; and
- e) Make appropriate recommendations for management of Aboriginal heritage (including any requirements for further detailed archaeological investigations).

7.8.1 Methodology

The methodology for the Preliminary Archaeological Assessment included:

➤ **Archaeology Literature Review** - to identify regional patterns of Aboriginal use and occupation. The Dept of Environment & Climate Change (DECC) Aboriginal Heritage Information Management System (AHIMS) database was consulted regarding known archaeological sites in the surrounding area, and to identify whether any Aboriginal sites or objects have been recorded within the study area.

➤ **Site Inspection** - involved examining ground surfaces on foot for the presence of Aboriginal artefacts. The investigation also made an evaluation of the degree of land disturbance and erosion in the study areas to determine the likelihood of undisturbed Aboriginal sites and/or objects buried below ground surfaces.

➤ **Report** - preparation of a Preliminary Archaeological Assessment Reports to present findings. Report included as **Attachment 11**.



7.8.2 Results – Literature Review

A search of the DECC Aboriginal Heritage Information Management System (AHIMS) database was undertaken for a 2.5km radius around the subject land to identify previously recorded Aboriginal sites/ artefacts. A total of 51 sites have been recorded.

Recorded site types and quantities are as follows:

- Art (Pigment or Engraved) - 4
- Artefact - 3
- Axe Grinding Groove - 27
- Rock Engraving - 11
- Shelter with Art/Midden/Artefact - 4
- Stone Arrangement - 2

Previous investigations indicate a high density of sites on slightly elevated landforms adjacent to fresh water sources. The nearest permanent water source is located approximately 1km from the subject land. This indicates there is a generally low potential for sites within the study area. Isolated finds may occur anywhere across the landscape, a pattern that holds true throughout NSW.

There is no potential for rock shelter sites, axe grinding grooves or rock engravings because the study area does not contain outcropping bedrock.

7.8.3 Results – Site Inspection

A preliminary site inspection was carried out by archaeologist Jim Wheeler of AHMS Pty Ltd.

The objectives of the survey were to identify any Aboriginal sites, objects or potential archaeological deposits (PADs) and generally to gauge the level of prior land-use disturbance. This then allows for making predictions about archaeological potential across the subject land. **No Aboriginal sites or objects were identified during the site inspection.**

The current quarry, proposed extension area and proposed easements were traversed by vehicle and on foot. Areas of erosion and ground exposure were examined for archaeological evidence such as middens and stone artefacts. Ground surfaces were also examined to determine the degree of soil disturbance, cut, fill and erosion.

Archaeological potential

On the plateau, there is potential for axe grinding grooves and rock engravings on exposed sandstone bedrock surfaces and a low potential for scarred trees if old growth trees remain.

If there are any old growth trees present within the area of undisturbed remnant bushland, there may be some potential for scarred or carved trees.

The site is located approximately 1km from the nearest permanent water source, which is located to the west. This distance from a reliable water source means that there is generally a low potential for intact artefact scatter sites on undisturbed parts of the site. If archaeological deposits are present within undisturbed parts of the study area they are likely to comprise fairly low density stone artefact deposits consistent with transitory use and casual discard.

The site does not contain outcropping sandstone surfaces therefore there is no potential for axe grinding grooves and engravings on undisturbed sandstone surfaces.

Disturbance

Topsoil profiles across the proposed quarry extension area have been heavily disturbed by establishment of an orchard and poultry sheds. Following the initial disturbance caused by vegetation clearance, soils have been excavated and redeposited to create mounds for orchard rows, drainage ditches, tracks and large levelled benches for poultry sheds. These activities would have disturbed or destroyed any intact Aboriginal sites within this area. There is little to no archaeological potential in the proposed extension area and northern easement.

The southern easement off Reservoir Road is substantially undisturbed and has some archaeological potential for low density intact deposits. The lack of permanent water sources and low diversity of plant and animal resources, indicates that the study area was probably unsuitable for sustained occupation and use. Any intact evidence within the area is more likely to be consistent with transitory occupation and use. **As a result, this study area generally is assessed as having low archaeological potential.**



7.8.3 Recommendations

The following recommendations are based on the results of the preliminary archaeological investigation documented in this report:

- ☞ No further archaeological assessment is warranted for the proposed quarry extension and northern easement. Given past disturbances of original soils in these areas, it is considered highly unlikely that the quarry extension would destroy or disturb intact Aboriginal sites or objects;
- ☞ An archaeological survey of the proposed southern easement should be undertaken during the Part 3A Environmental Assessment (EA) stage. The purpose of the survey would be to identify any scarred trees or surface stone artefact scatter sites and to provide detailed management measures if any sites are identified and cannot be avoided by the proposed easement;
- ☞ Aboriginal community consultation should be undertaken as part of the Environmental Assessment. The purpose of the consultation should be to identify whether or not the proposed development areas have any Aboriginal cultural heritage values. Consultation should be undertaken in accordance with the *DECC Interim Community Consultation Requirements for Applicants 2005*;

- ☞ If any Aboriginal sites or objects are found at any time during development works, excavation in that area must cease immediately. The DECC should be notified and a suitably qualified archaeologist should be engaged to make an assessment of the significance of the finds and likelihood of additional artefacts being disturbed by development work; and
- ☞ If any Aboriginal burials are found at any time during the development process, excavation work must cease immediately. DECC and the Office of the NSW State Coroner should be notified and advice sought before work can recommence.

7.9 Bushfire

The subject land is subject to bushfire risk. Please see **Figure 19** which shows the areas affected by bushfire as mapped by Gosford City Council. Almost the entirety of the subject land is either subject of direct bushfire risk or included within the bushfire buffer. The nature of the proposed development will not increase or adversely impact on bushfires in the locality. The proposed development does not provide any structure or material that would increase the risk of bushfire and will not lead to an increase in fuel loads. Given the nature of the proposed development, no further assessment of bushfire risk is warranted.



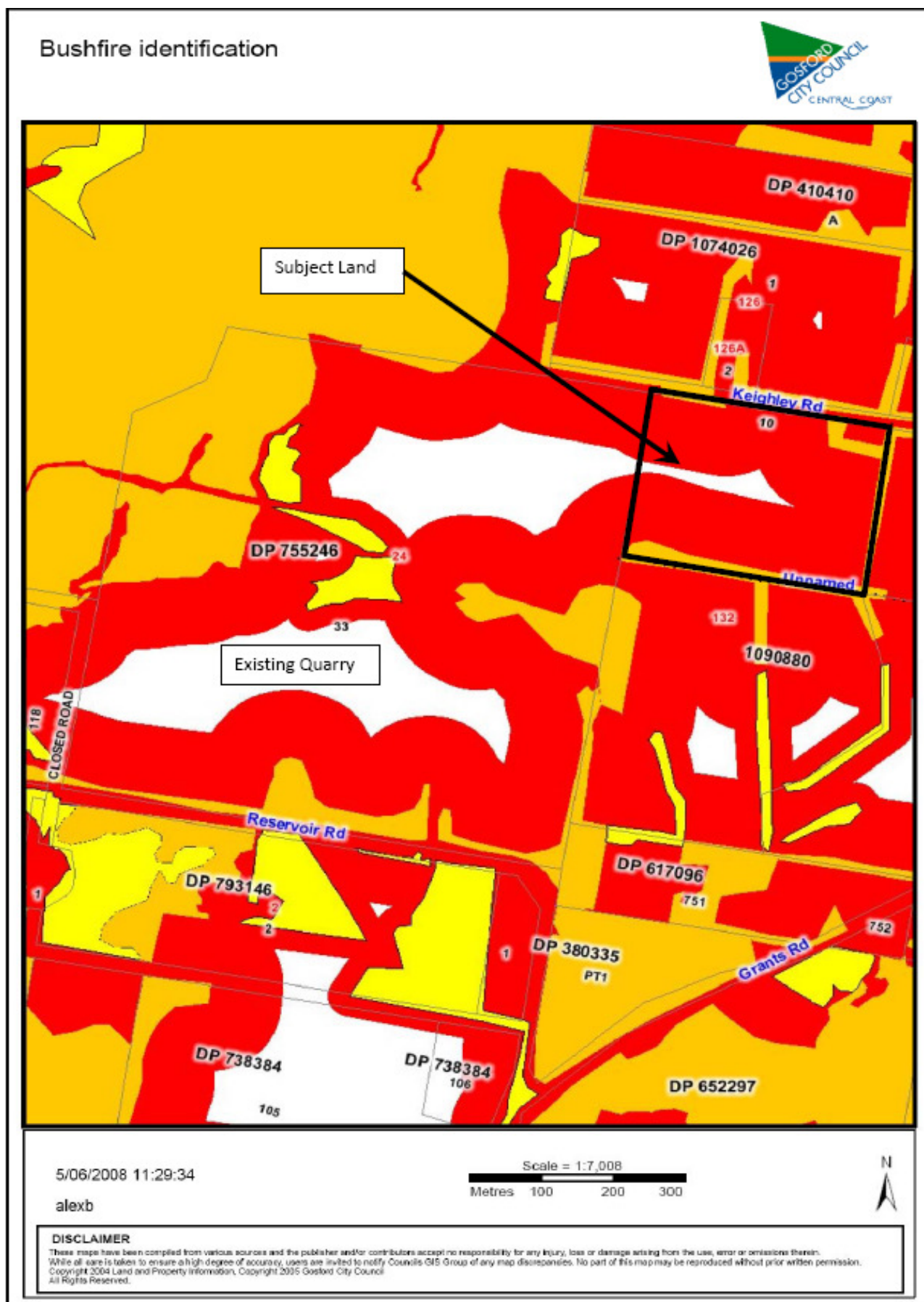


Figure 19: Bushfire Risk (Source: Gosford City Council). The red indicates that areas at risk of bushfire with the yellow representing a bushfire buffer.

7.10 Socio-Economic Impacts

The proposed development will result in a number of social economic benefits to the locality. The extension to the quarry will make available a viable and valuable resource.

The quarry extension will have a positive impact over the next three decades, including:

- Direct employment of staff involved in the initial phases of establishing the sand extraction operation, including decommissioning and removal of dilapidated poultry sheds, machinery storage sheds, dwelling house and other site facilities;
- Direct employment of four (10) full time staff involved in the on-going operation of the extractive operation; and
- Indirect employment of staff associated with tasks aligned to the operations.

In addition, the operation will lead to the provision of a quality resource for local markets, satisfying demand throughout the Lower Hunter, Central Coast and parts of Sydney. This has obvious flow on benefits throughout the region.

There are minimal adverse socio-economic impacts associated with the proposal. These will be limited to relatively minor amenity implications as a result of the visual impacts, impacts from vehicle movements and potential impacts on the value of nearby housing/lands. These impacts are somewhat absorbed by the fact that the proposal is a quarry extension rather than a new build (as the quarry extension will rely on existing infrastructure and site facilities).



7.11 Greenhouse Gas Emissions

An Energy Consumption and Greenhouse Gas Assessment will be completed for the project.

The assessment will undertake an assessment of the estimated annual diesel and electricity consumption based on production schedules and other project details. The assessment will be carried out in accordance with appropriate standards, such as:

- ☞ The World Business Council for Sustainable Development (WBCSD) and World Resource Institute (WRI) Greenhouse Gas Protocol; and
- ☞ The Australian Greenhouse Office (AGO) Factors and Methods Workbook December 2006.

7.12 Waste Management

As part of the Environmental Assessment, a Waste Management Plan will be developed for the demolition and removal of the existing buildings and facilities on the subject land (including poultry sheds, machinery storage sheds, the existing dwelling and associated site facilities).

The Waste Management Plan will focus on re-use and recycling of materials where possible. All topsoil and vegetative debris removed from areas of extraction will be stock-piled and used for rehabilitation purposes in other parts of the existing quarry.

Any other waste material is expected to be minimal and will be managed at the location of the site amenities through existing waste management processes. Separate receptacles are currently provided for general domestic waste as well as recyclables (paper, aluminium, glass and plastic). These wastes/recyclables are collected by a licensed disposal contractor.

Sewage treatment and disposal is provided by an *envirocycle* type system which has been previously approved by Gosford City Council and is subject to regular maintenance/inspections.

Waste oil and grease is collected and stored in a bunded tank and periodically removed by a licensed oil recycling contractor.





8.0 CONCLUSIONS

Key matters identified during this Preliminary Assessment, include:

- ☞ An evaluation of the compliance of the project with relevant Environmental Planning Instruments and statutory controls. Particularly, many of the Environmental Planning Instruments rely on the mapping of the land as being 'prime agricultural land'. The physical characteristics of the site and the impacts of previous land uses would indicate that the site has a significantly lower productive potential which will need to be demonstrated to support the project;
- ☞ Ecological Issues are unlikely to be significant, with potential minor issues near to the proposed southern easement;
- ☞ Visual Impacts are expected to be minimal as a result of the enclosed nature of the subject land;
- ☞ Acoustic/Noise Impacts will require further assessment
- ☞ Air Quality impacts will require further assessment;
- ☞ Traffic considerations are not likely to cause significant impact given that the intensity of vehicles/road haulage will not alter;
- ☞ Surface & Groundwater Considerations will need further assessment;
- ☞ Land Contamination will require further assessment;
- ☞ Aboriginal Archaeology;
- ☞ Socio-Economic Impacts; and
- ☞ Waste Management Considerations.

The existing Hanson Somersby quarry has been in operation for more than 4 decades, and has established excellent operational characteristics to minimise, to the maximum extent possible, any impacts on the locality. The fact that there have been no significant complaints generated by the quarry for the past 4 decades is testament to the success of the current operation in remaining consistent with the locality.

The extension of an existing, successful quarry operation makes sense. The quarry has well established processes, traffic movement regimes and facilities. The expansion of such a quarry offers significant advantages to the community over establishing a new quarry at an alternate location. No operational changes will be made to the quarry as a result of the expansion, and the productive output will remain the same. The quarry expansion will simply substantially extend the operational life of the existing quarry operations.

The proposal will use a relatively small area of land (8 hectares) which immediately adjoins the existing quarry extraction area. Despite being identified in broad scale mapping as being 'prime agricultural land', a series of past uses has significantly diminished the productive capacity of the adjoining land. Use of the site will provide a mechanism to deal with these issues, including de-contamination and decommissioning of the existing out-dated poultry sheds.

Whilst only utilising a relatively small area of land, the quarry expansion will provide an extensive, long term resource, extending the quarry lifespan by some 35 years.

On behalf of our client we seek the Director General's Environmental Assessment Requirements for preparation of a formal Environmental Assessment to accompany the Project Application.