

*Part One***INTRODUCTION****1.1 Introduction**

Hodgson Quarries and Plant operates an extractive industry at Roberts Road, Maroota pursuant to Development Consent 267-11-99 (**the Consent**) issued by the then Minister for Urban Affairs and Planning.

It is proposed to modify the Consent to both regularise the existing extraction operation and to extend the life of the approved extraction.

1.2 The Site

The land to which the Consent relates (**the Site**) is:

Lots 1 & 2, DP 228308 and Lot 2, DP 312327

Roberts Road

MAROOTA

The Site is located on the northern side of Old Northern Road, at the intersection of Old Northern Road with Roberts Road. A small part of Lot 2, DP 228308, however, is located on the southern side of Old Northern Road, however, that part of Lot 2, DP 228308 was never part of the proposed extraction and, for the purposes of preparation of information below, that section of Lot 2, DP 228308 has been discounted.

Access to the Site is via Roberts Road.

The land is within The Hills Shire Council local government area and is zoned RU1 Primary Production pursuant to The Hills Local Environmental Plan 2012.

The land has been extensively disturbed by the extraction of sand, clay and pebble materials.

The Site is owned by:

- Dr Leonard Stanley Martin.

Figure 1.1 shows the Site location. **Figure 1.2** shows the Site in more detail. **Figure 1.3** is a plan showing the cadastral details of the Site and surrounding land and **Figure 1.4** is an aerial photograph of the Site.

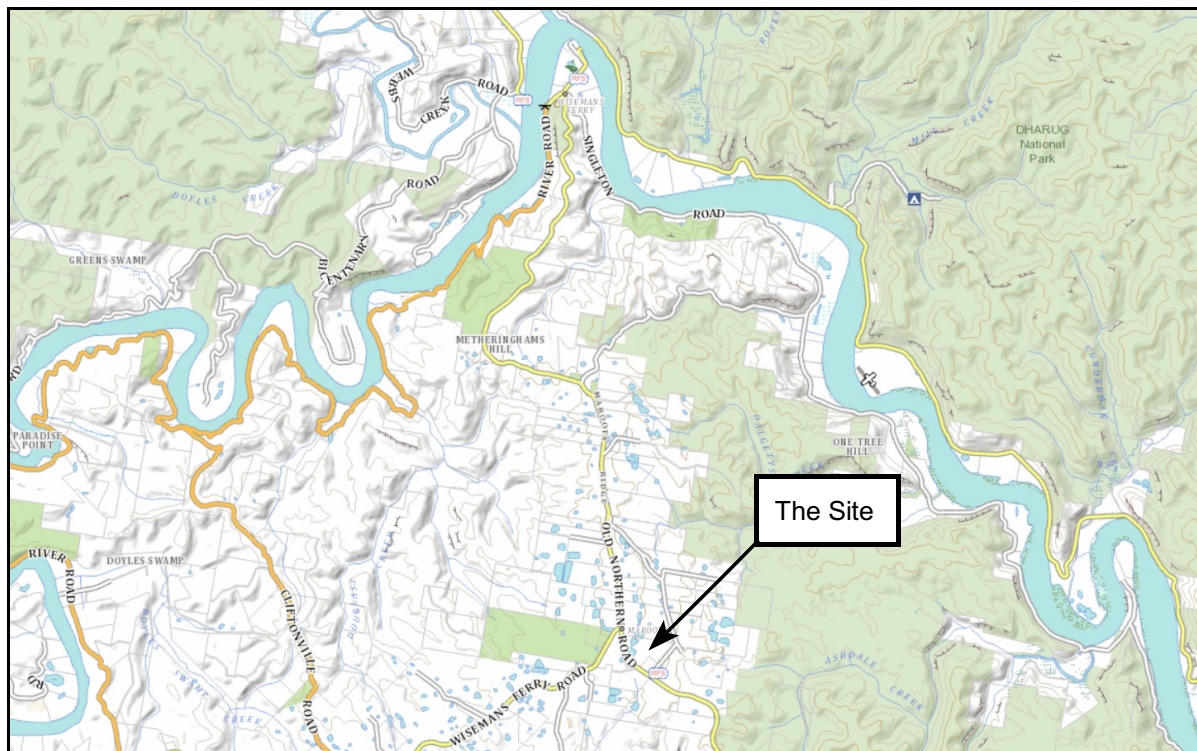


Figure 1.1: Regional Location of the Site. (© NSW Department of Lands 2014)



Figure 1.2: Site location highlighted in yellow. (© NSW Department of Lands 2014)

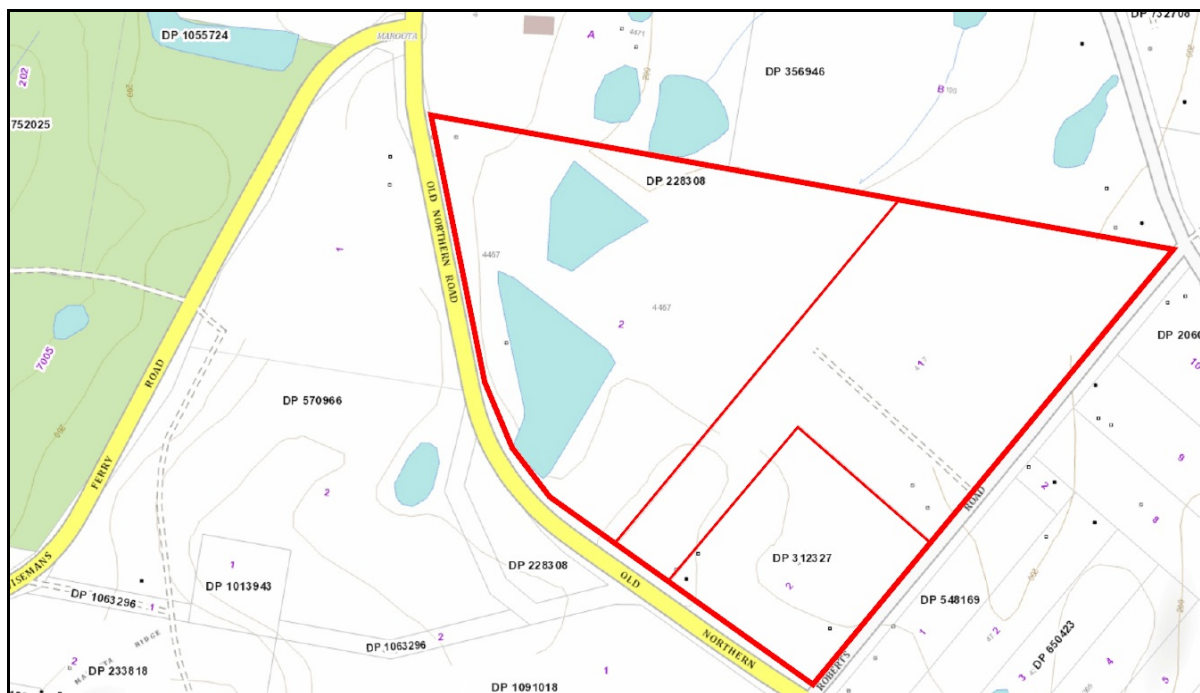


Figure 1.3: Cadastral details of the Site and surrounding land. (© NSW Department of Lands 2014)



Figure 1.4: Aerial photograph showing the boundary of the Site.

1.3 History of the Site

Prior to extraction, the Site had been used for agriculture and, in particular, as an orchard and plant nursery. The north western corner of the Site remains in use as a plant nursery.

The initial "*extraction activity*" on the Site related to the construction of a dam which was located on the northern boundary of the Site. The construction of the dam commenced in or around 1970.

The construction of the dam was dependent on the winning of clay material from the Site to provide for a comprehensive seal of that dam. The material available on the Site is a mix of clay materials suitable for the dam construction and sand which is important in the Sydney construction market.

The clay material on the Site was separated from the sand by washing the raw product which resulted in a significant amount of sand as a by-product of the winning of the clay material for the dam construction. The by-product sand material was exported from the Site to the Sydney construction market.

Notwithstanding the construction of the dam on the Site, the then Baulkham Hills Shire Council (**the Council**) commenced Class 4 proceedings in the Land and Environment Court which was based on the opinion of the Council that the construction of the dam was unlawful in that it was an unapproved extractive industry.

The Land and Environment Court, by Orders dated 29 May 1991, permitted the continuation of the construction of the dam. Order No.3(g) of the Court Orders stated:

- (g) *The construction of the dam and rehabilitation of the surrounding area is to be completed within ten (10) years. The respondent may apply to the Council for an extension of the period of time specified setting out reasons and the applicant Council shall give such application due and proper consideration.*

Having regard to the above Order No.3(g), the construction of the dam and the rehabilitation of the surrounding area was required to be completed by 29 May 2001, unless an extension of that period was granted.

It was always intended that the construction of the dam would cease on the granting of consent for the extraction of the remaining sections of the Site not covered by the Court Orders. In this regard, a Development Application (No.90/108) and an accompanying Environmental Impact Statement (EIS) were lodged with the Council for an extractive industry covering that part of the Site where sand and clay materials were to be extracted for the construction of the dam.

The Executive Summary to the EIS which accompanied Development Application No.90/108 states:

The landholders, Dr Martin and the Warrah School Society now require to extract the Maroota Sand deposit within an approximately rectangular area of about 16 ha. This area comprises the easternmost two thirds of the subject lands. Although there is in excess of 2 million cubic metres of commercial sand on the total site this application, which is partly aimed at regularising past operations addresses only the first stage of extraction. In this stage a total volume of about 300,000 m³ of Maroota sand will be removed, processed into construction sand and aggregate and transported from the site over a 5 year period.

By Notice of Determination dated 7 November 1990, the Council consented to Development Application No.90/108 for the operation of an extractive industry on the Site, subject to a number of conditions.

It had been the intention to extract sand in accordance with the abovementioned approval such that sufficient funds could be generated to prepare a second EIS and Development Application which would seek the approval of the Council for the extraction of the remaining sand resource on the Site. The commencement of the approved extraction operation was, however, dependant upon the completion of the water supply dam the subject of the Court Orders. The water supply was required in order to sustain sufficient water supply on the Site to wash the clay from the material won from the approved extractive operation.

In the years which followed, a number of events occurred which led the Council to conclude, rightly or wrongly, that Consent No.90/108 had not been commenced and, as such, the consent had lapsed. This was essentially due to the fact that the dam construction had not been fully completed to allow extraction to occur.

Following protracted discussions with the Council as to whether the consent had or had not lapsed, Dr Martin, the landowner, indicated to the Council that he would not, at that point in time, pursue that Consent further pending approval of a further Development Application for extraction of sand from the entire Site.

On 22 November 1999, an application for extraction of sand from the Site was submitted to the then NSW Department of Urban Affairs and Planning pursuant to the then State Significant Development provisions of the Environmental Planning and Assessment Act 1979. The application was DA 267-11-99. The EIS which accompanied that application stated:

Future extraction operations will involve the excavation, washing and screening of the Maroota Sand using the same process plant as per the existing operation. The proposed excavation will cover the majority of the site, some 23 ha, allowing for boundary buffer zones

Production objectives are demand related, however, a maximum sand production rate of 1000 t/day has been used for the extraction plan.

Future extraction operations are to involve the following:

- *Materials are to be excavated using a self-loading scraper and transported to the process plant. In areas where the underlying material cannot be effectively excavated using the scraper, the surface would be initially ripped using an excavator and in exceptional circumstances using a dozer.*
- *Process water for washing/screening will be primarily sourced from a water dam constructed at the location of the existing excavation pit (adjacent to the northern boundary). The existing pump-out facility will be utilised.*
- *Processed material is to be stockpiled adjacent to the plant area prior to transportation off-site generally using articulated trucks. A front-end loader is to be used to load the trucks.*
- *The residue clay/silt slurry is to be delivered by pipeline to designated drying areas in the previously extracted cell where it is spread in thin layers to dry. Liberated water will be drained into the water dam for re-use in the process plant. The clay materials will be used for the rehabilitation of the extracted areas.*
- *The materials are to be sequentially extracted in "cells" commencing along the northern boundary (adjacent to the process water dam) and working towards the southern boundary (to Old Northern Road). Each cell will be approximately 200 m x 50 m wide (1 ha in area) which provides sufficient area for the machinery to load and manoeuvre within each cell. The extraction process will minimise the disturbed area (i.e. the area exposed to erosive processes) and enable rehabilitation procedures to commence during operations.*
- *Each cell will be progressively rehabilitated (following extraction of the sand materials) involving surface contouring and replacement of a suitable growth medium/topsoil layer to enhance revegetation.*

Extraction within the site will be undertaken in two stages as follows:

Stage 1 Area *located to the east of the catchment divide (i.e. the process water dam catchment), occupying a total area of approximately 16.5 ha, and*

Stage 2 Area *located to the west of the catchment divide (i.e. the catchment of the two existing water dams for the nursery), occupying a total area of approximately 6.5 ha.*

Extracts from "Figure 12: Proposed Water Dam Layout, Figure 15: Cell 1A Extraction" and "Figure 21: Final landform Contours" of the EIS which accompanied DA 267-11-99 are **Figure 1.5, 1.6 & 1.7** below. **Figure 1.5** shows the location of Stage 1 and Stage 2 of the then proposed extraction.

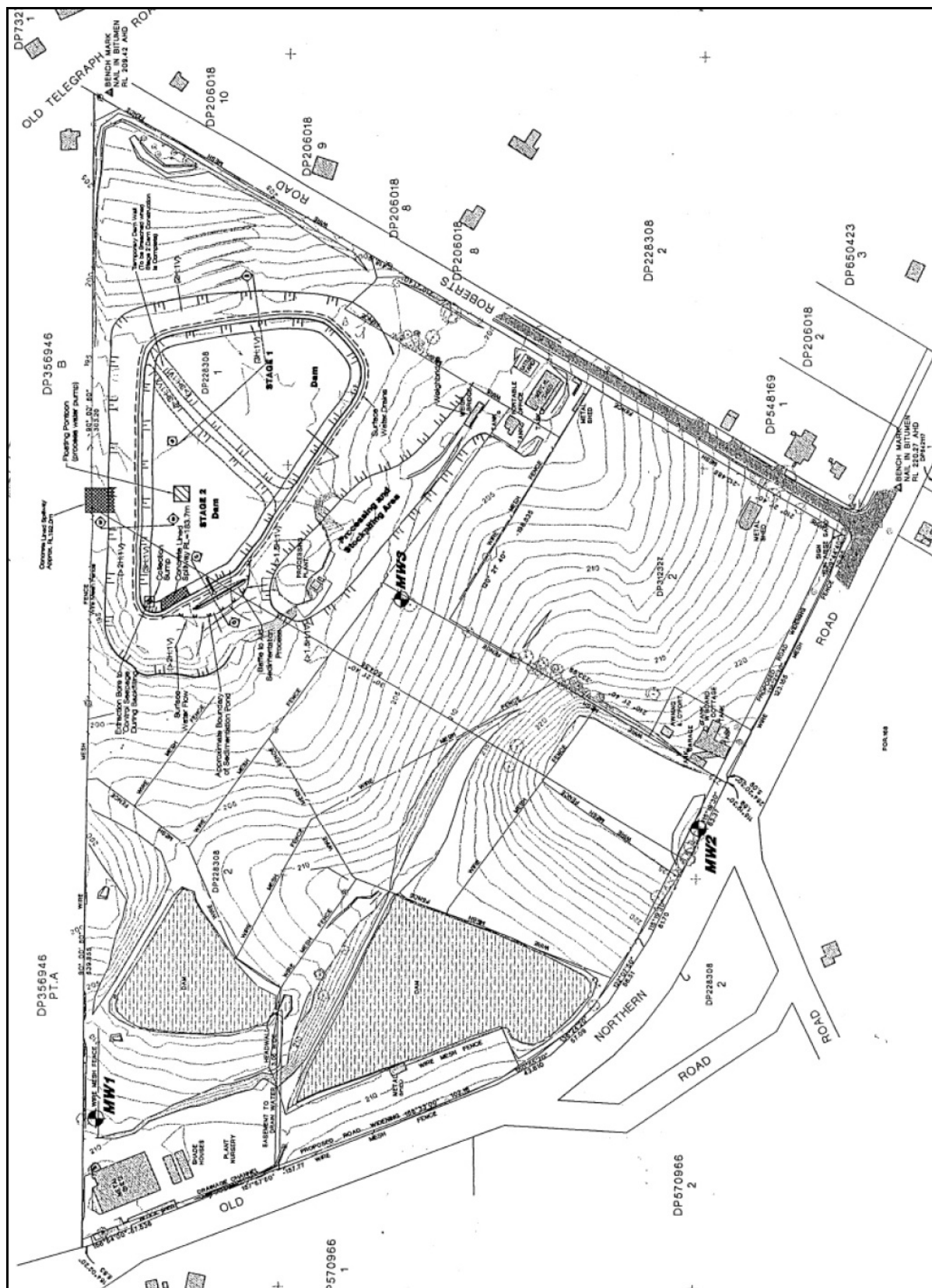


Figure 1.5: Extract from Figure 12 of the EIS which accompanied DA 267-11-99 showing the then proposed dam layout.

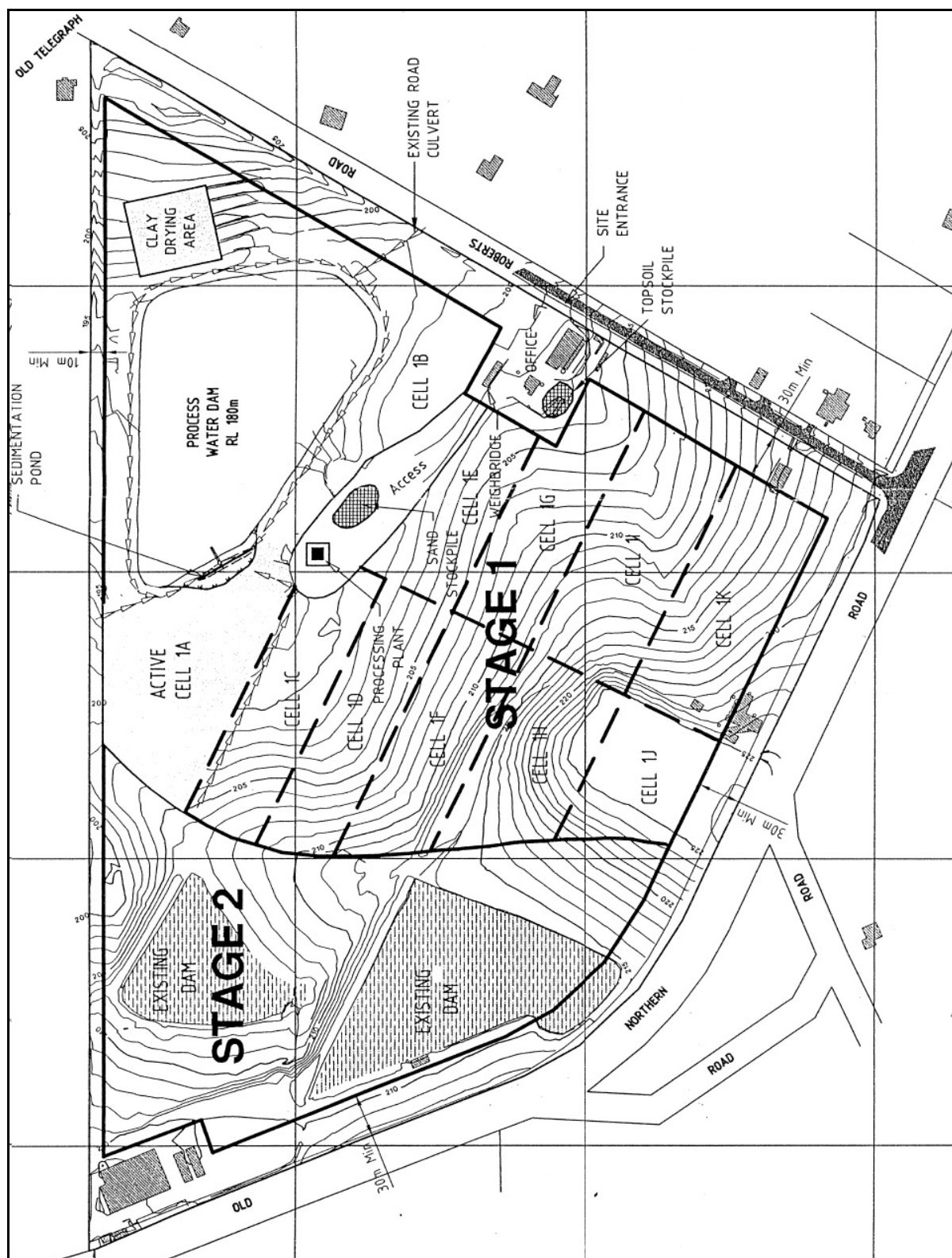


Figure 1.6: Extract from Figure 15 of the EIS which accompanied DA 267-11-99 showing Stage 1 and Stage 2 of the approved extraction and the location of the Cells of extraction for Stage 1.

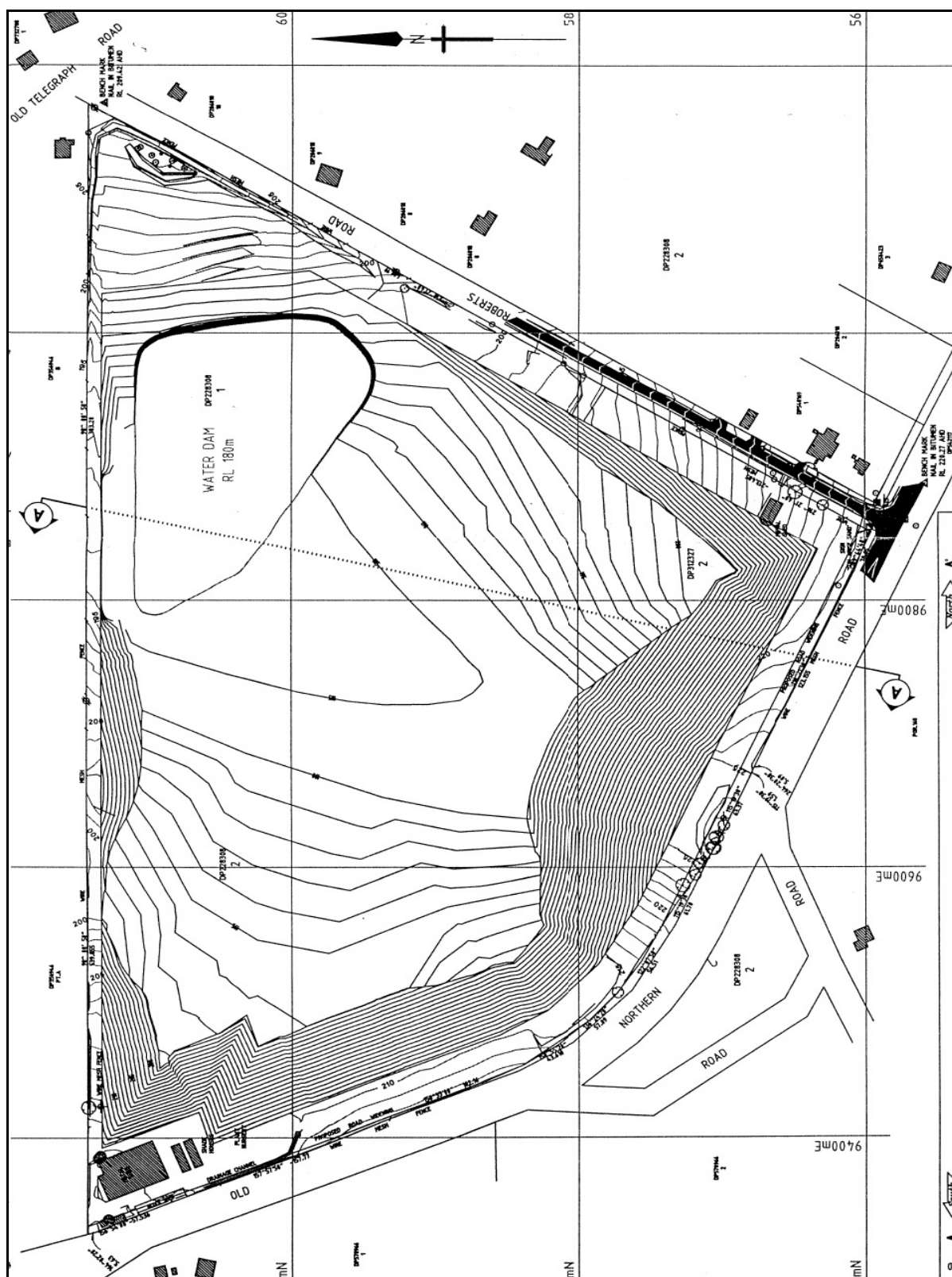


Figure 1.7: Extract from Figure 21 of the EIS which accompanied DA 267-11-99 showing the approved final landform.

Of particular note is the fact that the development proposed in DA 267-11-99 included the continuation of the construction of the dam on the Site.

The Minister for Urban Affairs and Planning, by Notice of Determination dated 31 May 2000, granted consent to DA 267-11-99 subject to conditions. A copy of the consent is at **Appendix 1**. As such, the construction of the dam on the Site was now included in this consent.

Of particular importance was Condition No.9 which stated:

9. *The duration of extraction under this Consent is for a maximum period of 15 years. The Applicant shall ensure that rehabilitation of all disturbed areas is completed within six months of completion of extraction.*

As such, Consent 267-11-99 required extraction on the Site to cease on 31 May 2015. This timeframe has now been modified to 31 May 2016 as discussed in **Part 1.3.2** of this Environmental Assessment.

1.3.1 Modification No.1 of Development Consent DA 267-11-09

On 21 July 2000, an application to modify consent DA 267-11-99 was made to the then Department of Urban Affairs and Planning pursuant to section 96(2) of the Environmental Planning and Assessment Act 1979. The planning report which accompanied the s.96(2) application stated:

The proximity of housing to the site of the approved extractive industry has resulted in the need for a variety of acoustic mitigation measures to be incorporated into the design of the extraction plan, not least of which is the requirement for perimeter bunding to assist in the reduction of the potential impact of noise from the extraction operation.

..... the main generators of noise from the approved extraction will be:

- the dredging excavator*
- pump adjacent to the dam*
- scraper*
- dozer.*

In order to alleviate the noise impact from the approved extraction, Condition No.8 of the development consent states, inter alia:

- "8. No extraction shall commence in areas that are not currently subject to extraction, until the Applicant has:*

- (a) constructed the perimeter bund wall;"*

.... In order to mitigate the potential impact from noise generated by the above machinery, Dr Martin has investigated an alternative means of winning the extractive material. Dr Martin, in conjunction with Sand Classifiers Pty Limited, has developed two (2) options:

1. The Genflo Injector, and
2. The Pumping Unit.

.... It is the Pumping Unit option which is now proposed by Dr Martin.

.... Sand is extracted using an excavator. The excavator would start at the natural ground surface level but would immediately dig a hole so that the excavator and processing equipment would be working against an extraction face. The extraction face provides significant noise shielding.

The excavator which will be used will be fitted with acoustic mufflers to achieve a noise level of approximately 76 dBA when measured at 7 metres. This noise level has been achieved at several similar sites with noise issues. Discussions with the potential excavator suppliers have found that this specification can be met.

The excavator loads the sand into an acoustically lined hopper. The hopper is located above a belt feeder which introduces the sand into a mixing tank. The belt drive is variable rate controlled and is powered by an electric motor.

A centrifugal electrically driven water pump will be located at the approved clean water storage dam. This pump will pump water to the mixing tank through a rubber and polyethylene pipeline. The flow rate of the clean water will be controlled so that the water level in the mixing tank remains constant.

The sand slurry is then drawn out of the mixing tank by an electrically driven slurry pump and pumped via a rubber and polyethylene pipeline to the sand processing plant.

Electricity will be supplied to the belt feeder and slurry pump from a diesel generator. The generator will be fitted with an acoustic enclosure. A design for the enclosure has been provided by Enco Noise Control Pty Ltd. The design states that a noise level below 44 dBA at 30 metres will be achieved.

The belt feeder, mixing tank, slurry pump and enclosed generator will be located on a rubber tyred trailer. This will allow the unit to be moved as the sand extraction face progresses.

.... The major benefit of the proposed pumping unit system is that sand is won from the extraction cell by means of an excavator rather than a bull dozer and/or scraper. The excavator will be fitted with a power shovel which will allow the excavator to be located on the floor of the extraction cell, thus allowing for

acoustic attenuation.

The material won will be mixed with water from the approved water supply dam in a portable mixing tank located in the extraction cell. It is then transported by gravity to the processing plant by means of a pipe system. The only noise generating machinery attached to the mixing apparatus will be a diesel powered motor which will be contained in an acoustic enclosure for noise attenuation purposes.

.... The pumping unit method of extraction will provide a significant number of environmental benefits which will accrue when compared to the approved method of extraction. These benefits include:

- elimination of the need for both the bull dozer and scraper to win the sand from the extraction cell and transport the material to the processing plant. This will provide for a significant reduction in noise generated from the site during extraction.*
- the removal of the bull dozer and the scraper from the extraction process will mean that many of the noise mitigation measures which are now required will no longer be required to meet the requirements of the EPA. In particular, there will no longer be a need for the perimeter bunding to extend around the site The removal of that bunding will mean a significant improvement in the visual impact of the site when viewed from Old Northern Road, Old Telegraph Road and Roberts Road. We are of the opinion that this will be a major environmental benefit.*
- the use of the excavator and the portable mixing apparatus will mean that a smaller section of the active extraction cell will be worked at any one time compared to the total cell being worked with the use of the scraper, thus reducing the area of the site disturbed at any one time.*
- the removal of the need to transport the extractive material from the extraction cell to the processing plant by scraper will mean that there will be little, if any, traffic on the site other than delivery trucks entering and leaving the site. This will have a significant and positive impact on the potential of the development to generate dust.*

Of particular note is that the s.96(2) application stated that:

- the approved amount of sand to be extracted will not alter.*
- the approved time frame for the extraction (15 years) will not alter.*
- the approved number of truck movements (100 per day) from the site will not alter.*
- the approved dam design and capacity will not alter.*

- *the existing processing plant configuration will not alter.*
- *the approved extraction cells proposed as part of the EIS will not alter either in their location or area. The only change will be the method of winning the material from the cells and the reduction in area of the cell disturbed at any one time.*
- *the removal of the bund walls from the perimeter of the site will mean that the visual impact will be altered but only in a positive way.*
- *the proposed landscaping of the perimeter will not alter, however, it will now not have to incorporate the perimeter bunding.*
- *the removal of the perimeter bunding will allow the better protection of both the endangered Acacia species and Blue Mountains Mahogany species located on the site.*
- *the removal of the perimeter bunding will alleviate the potential noise impact to adjoining residences during the construction of the bund wall.*

Notwithstanding the above proposal to remove the approved perimeter bunds, the s.96(2) application also included an assessment by Scott Murray & Associates of the proposed modification of the approval from a visual impact perspective. The Scott Murray & Associates report was prepared:

... to describe the proposed landscape changes for the Dr Martin property following the approval for the sand extraction and processing development at the site by the Minister for Urban Affairs and Planning on the 31st May, 2000.

In this regard the following statements were made by Scott Murray & Associates:

The removal of the bunds as recommended ... has the potential to impact on the visual and landscaping impact of the development as amended.

The revised extraction process would result in the elimination of the need for the use of dozers and scrapers on the site, thus significantly reducing noise emissions from the site during the extraction and processing process. As a direct result, the noise modelling report, states that: -

- *The permanent earth bunds around the perimeter of the site as recommended in the EIS will no longer be required – from a noise perspective*
- *The temporary earth bunds around each extraction cell as recommended in the EIS will no longer be required – from a noise perspective*
- *The wall in the processing area as recommended in the EIS will*

still be required – from a noise perspective

As a result of this study it is clear that earth bunding – from a noise reduction standpoint – is not required.

However, from a visual impact viewpoint, we believe that certain earth bunding works are still required.

*.... As a consequence, it is therefore recommended – from a purely visual impact standpoint - that initial earth bunding still be implemented at the intersection of Old Northern and Roberts Road to prevent views into the site of the early stage 1 works. Plan **MP-01B** shows this revised bunding strategy. As in the previous scheme, this bunding would achieve heights of up to approximately 3 metres within the 30 metre setback, using a maximum 1:4 road-facing slope.*

*All other earth bunding previously proposed within boundary perimeter setbacks is now to be deleted as it is no longer required from either a visual impact or noise perspective. Again, plan **MP-01B** shows the current proposal.*

It should be noted that there is no alteration to the vegetation proposed within the boundary setbacks – only the deletion of the now unnecessary earth bunding.

*Plans **MP-02B** – **MP-05B** have been revised to reflect this current proposal.*

Copies of plans **MP-02B** to **MP-05B** are included as **Appendix 2**.

A Notice of Modification dated 29 November 2000 was issued by the then Minister for Urban Affairs and Planning, a copy of which is at **Appendix 3**.

Modification to Condition 2(c) of consent 267-11-99 inserts reference to the report of Dick Benbow and Associates (Report No.10065 Issue 1) dated 26 June 2000 into the Consent. The Dick Benbow and Associates report details the modified extraction process as described above.

Figure 1.8 shows the location of the processing plant and loading area.

Figure 1.9 shows the existing entrance to the Site including the location of the weighbridge.

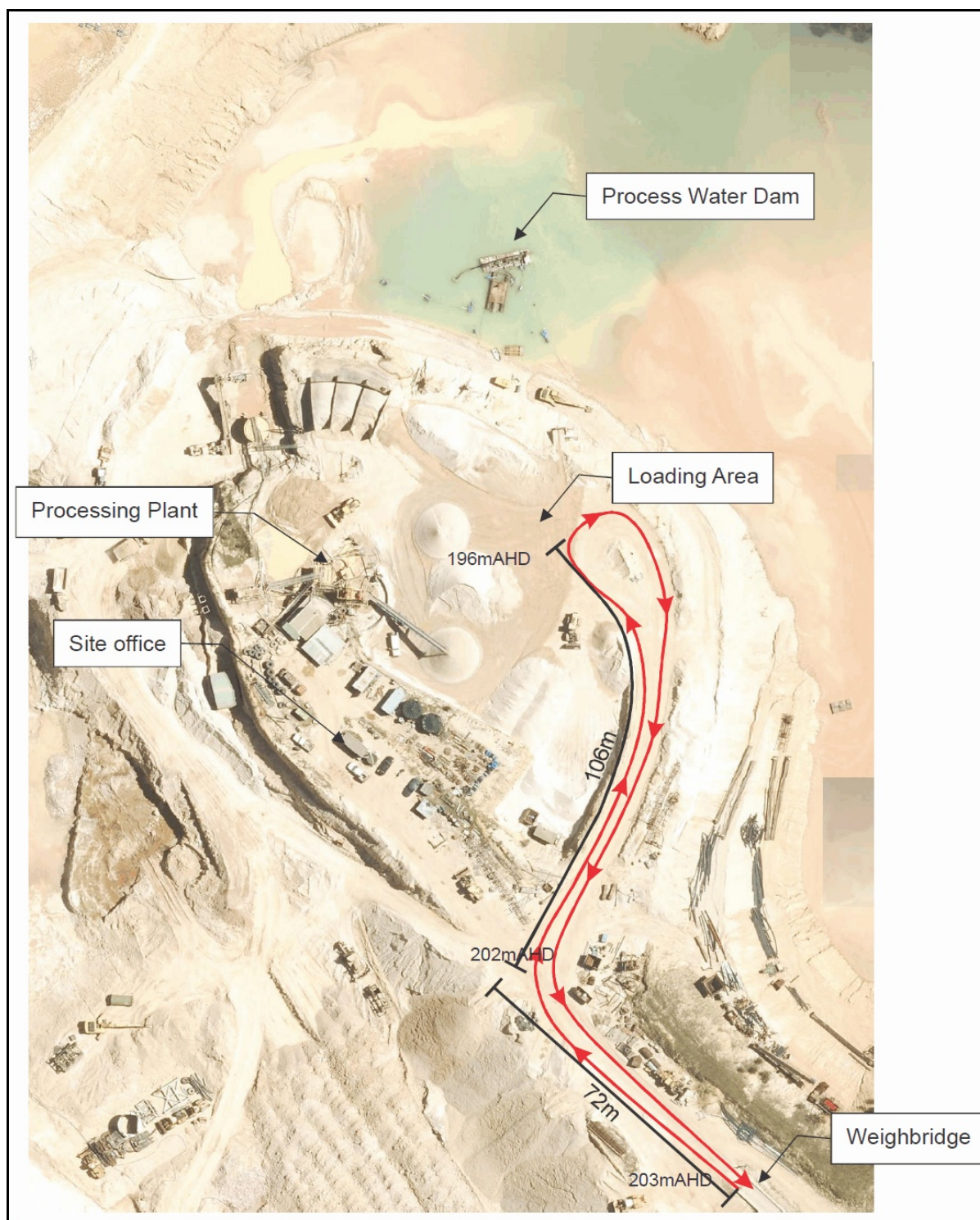


Figure 1.8: Aerial photograph showing the location of the existing processing plant and loading area together with the location of the weighbridge and process water supply source.

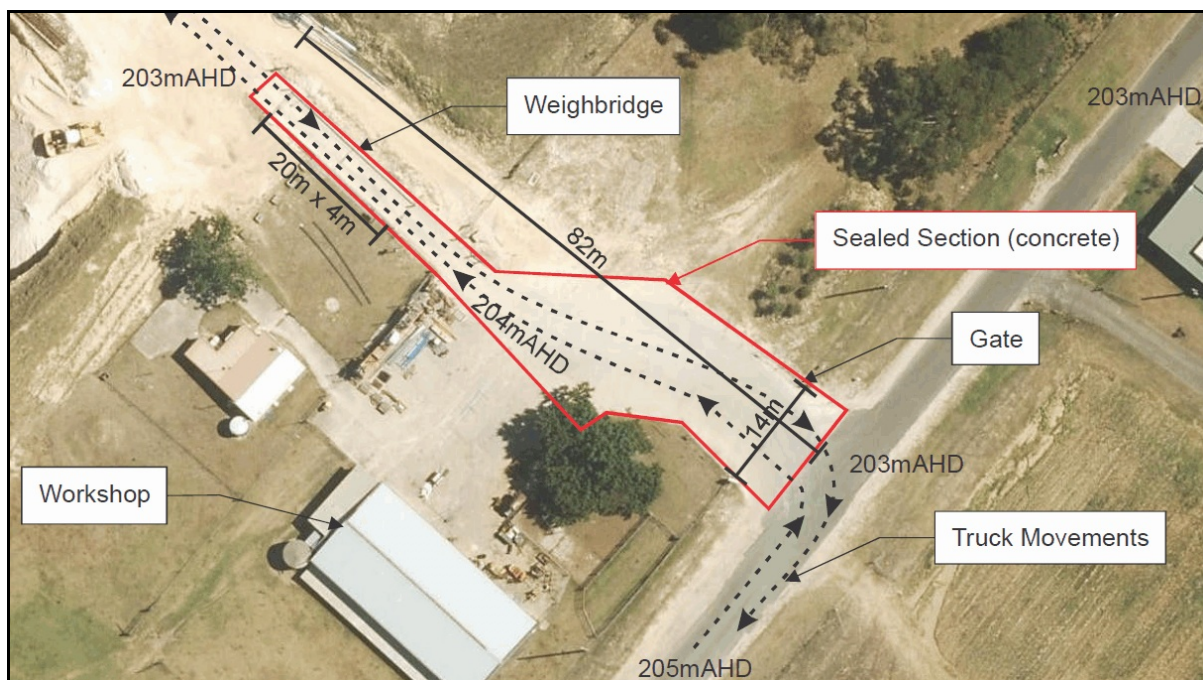


Figure 1.9: This figure shows, at the top view, an aerial photograph of the existing entrance to the Site and the existing weighbridge. At the bottom is a photograph of the existing sealed entrance to the Site with the weighbridge shown in the background of the photograph.

1.3.2 Modification No.3 of Development Consent DA 267-11-09

Condition No.9 of the Consent stated:

9. *The duration of extraction under this Consent is for a maximum period of 15 years. The Applicant shall ensure that rehabilitation of all disturbed areas is completed within six months of completion of extraction.*

The assessment process for Modification (2) has been such that the complex level of empirical detail which has been required with regard to groundwater, acoustic and air quality impacts has been such that the timeframe originally expected for the completion of the Environmental Assessment has been significantly exceeded. As such, the assessment of Modification (2) by the Department of Planning and Environment and other agencies involved in that assessment was not be completed by 31 May 2015.

As detailed in **Part 1.4.4** below, one of the modifications to the Consent proposed in Modification (2) is that the life of extraction on the Site be extended from 31 May 2015 to 31 May 2025.

If extraction activity ceased on 31 May 2015, pending the resolution of Modification (2), there would be an hiatus in the provision of Maroota Sand to the Sydney construction industry. In addition, less than half of the Site has been extracted, and, as such, it would be impossible to rehabilitate the Site in accordance with the Consent until such time as the Site is fully extracted as per the Consent. In order to cause the least disruption to the operation of the existing extraction, the continued employment of workers at the Site, and to maintain the supply of Maroota Sand to the local market, Modification (3) was submitted to extend the existing extraction of the Site for a period of up to 12 months while Modification (2) is comprehensively assessed and determined.

The extended period of extraction proposed as Modification (3) would allow the continued extraction of the Site in accordance with the current Consent as modified.

By Notice of Determination dated 18 August 2015, consent was granted to Modification (3) to, among other things, modify condition 9 to read:

9. *The duration of extraction under this Consent is until 31 May 2016. The Applicant shall ensure that rehabilitation of all disturbed areas is completed within six months of completion of extraction.*

Condition 17 of the original consent stated:

17. *Baulkham Hills Shire Council Development Control Plan for Extractive Industries (DCP 500) requires that the depth of extraction incorporate a 2m freeboard above the wet weather high groundwater level. To meet the objectives of this policy, the Applicant shall ensure that the depth of extraction is consistent with the depth as shown in the extraction plan in*

the EIS and follow the procedures in Condition 40 if groundwater is encountered during extraction.

As part of the Environmental Assessment process for Modification (2), it has been determined that the wet weather groundwater level of the Site is higher than that predicted in the original EIS. As such, it was proposed that the continued extraction of the Site as proposed in Modification (3) would not involve extraction within 2 metres of the newly assessed groundwater level of 183.1m AHD.

Notwithstanding, as part of the assessment process of Modification (3), the NSW Office of Water made comment as follows:

The Office of Water has reviewed the information provided and it requests that the Department of Planning and Environment notes the following:

- *That the highest water level measured beneath the site is at least 1 m above that which has been reported in the current documentation (i.e. at 184.08 m AHD, not 183.10 m AHD).*
- *That any excavation approved for the one year period requested must maintain additional freeboard accordingly (i.e. no excavation deeper than 186.08 m AHD).*

As a consequence of the above comments from the NSW Office of Water, the Consent was modified such that Condition 17 now reads:

The Applicant shall ensure that the depth of extraction is no deeper than 186.08 metres AHD, unless otherwise agreed by the Secretary.

A copy of the Notice of Determination for Modification (3) and a copy of the consolidated consent following Modification No.(3), are at **Appendix 20**.

1.4 The Proposed Modification

The Consent, as modified, permits:

- (a) development for the purposes of an extractive industry on the Site, in accordance with details contained in the Environmental Impact Statement (**EIS**) prepared by Nexus Environmental Planning Pty Ltd, dated 1999 as submitted with the development application;
- (b) extraction in accordance with an extraction plan prepared by Woodward Clyde which details both the sequence and depth of extraction, and
- (c) extraction in accordance with the modified method of extraction as detailed in the documents prepared by Dick Benbow & Associates which were submitted with

the s.96(2) modification application.

- (d) continuation of extraction on the Site until 31 May 2016 to a depth of RL 186.08m AHD.

The proposed modification would amend the Consent as follows, full details of which are provided in **Part 2** of this Environmental Assessment.

1.4.1 Dam Construction

Part of the Consent was for the continued construction of a water supply dam on the Site, that dam being required to provide sufficient water to maintain the life of the approved extraction.

The approved dam was to be constructed in two (2) stages, details of which were described in the EIS which accompanied the application for extraction.

During the construction of the approved dam, the applicant has determined that the construction process would be better served if the dam were to be constructed in three (3) stages rather than the approved two (2) stages. It is proposed to amend the Consent to modify the dam construction process accordingly.

1.4.2 Sequence of Extraction

There is an approved sequence of extraction of the Site as shown in **Figure 1.6**.

During the extraction process, it has been determined that the approved method of extraction using the cells shown in **Figure 1.6** is neither an economic nor practical way to achieve that extraction.

The existing extraction process on the Site involves a similar cell by cell extraction process to that which is approved but one which is not as rigidly defined as that portrayed in **Figure 1.6**.

It is proposed to modify the approved sequence of extraction to reflect that which is now being undertaken on the Site such that the most efficient means of extracting the material on the Site is achieved.

1.4.3 Extraction Process

The approved extraction was to be undertaken in accordance with the method of extraction described in the abovementioned s.96(2) modification to the Consent where

a "Pumping Unit" method of extraction was to be employed.

Since commencement of the extraction, it has been determined that the approved "Pumping Unit" method of extraction is not a practical means by which the resource can be extracted.

While the general concept of the "Pumping Unit" method of extraction remains, there have been modifications made to that method as follows:

1. The approved method of extraction is as follows:

Sand is extracted using an excavator. The excavator would start at the natural ground surface level but would immediately dig a hole so that the excavator and processing equipment would be working against an extraction face. The extraction face provides significant noise shielding.

While the above is generally the case, there are instances where sandstone is encountered which is not able to be extracted using an excavator alone. In such circumstances, the sandstone material is ripped using a dozer and then removed using the excavator.

2. The approved method of extraction states:

The excavator loads the sand into an acoustically lined hopper. The hopper is located above a belt feeder which introduces the sand into a mixing tank. The belt drive is variable rate controlled and is powered by an electric motor.

The introduction of extracted sand into the mixing tank is being undertaken, however, the approved process assumes that the mixing tank is mobile and can easily move around the active extraction cell with the excavator. This is physically not easily achieved. What actually occurs is that the mixing tank is located close to the processing plant and is located there on a semi-permanent basis. The material won from the individual extraction cell is then loaded by the excavator to a dump truck which transports that material to a stockpile adjacent to the mixing tank. From there, a front end loader transfers the sand to the mixing tank.

It is proposed to modify the Consent to regularise the existing method of extraction.

1.4.4 Approved Volume of Material to be Extracted and Life of the Consent

Table 4.3 of the EIS relating to the Consent provided details of the sequence of extraction, the volume of material to be extracted from each cell, and the time for that extraction to be completed, those data having been provided by Woodward Clyde as part of the mine plan prepared for the approved extraction.

It has become apparent that the volume calculations undertaken by Woodward Clyde, as detailed in Table 4.3 of the EIS, are flawed in that they do not provide accurate volumes

of the material present on the Site.

To establish a more accurate figure of the volume of material contained on the Site, VGT Environmental Compliance Solutions (VGT) has undertaken detailed volume calculations utilising survey data obtained in December 2013. Using a computer generated model of the Site, VGT has determined that there is 4,607,822m³ of material on the Site compared to the 2,144,000m³ calculated by Woodward Clyde.

Advice from the applicant is that a conservative estimate of 2 tonnes per m³ should be applied to determine the tonnage of material on the Site. Applying that conversion rate, there is 9,215,644 tonnes of material on the Site. The applicant has advised that a figure of 60% sand to 40% clay/gravel is generally obtained. As such, 5,529,386 tonnes of the volume calculated by VGT would be sand product.

The applicant has advised that approximately 1,000,000 tonnes of sand has been exported from the Site during the life of the extraction to date which means that approximately 4.5 million tonnes of sand product remains to be extracted.

Having regard to the errors in the original calculations undertaken by Woodward Clyde, it is now proposed to modify the Consent based on the volume figures calculated by VGT. The EIS for the original development provided a formula to determine the rate of extraction. Using that formula, the following applies:

- maximum 50 trucks per day (approved).
- average load per truck 33.5 tonnes.
- 1,675 tonnes per day.
- 5.5 days per week extraction = 286 days per annum.
- maximum 479,050 tonnes per annum extracted.
- 9.4 years of extraction remaining.

In light of the above, the applicant seeks a modification to the life of the extraction from 31 May 2016 to 31 May 2025.

1.5 Need for an Environmental Assessment

Pursuant to **Schedule 3** of the Environmental Planning and Assessment Regulation 2000, the proposed development is Designated Development being "*Extractive industry*".

Before being repealed, Section 75A of Part 3A of the Environmental Planning and Assessment Act 1979 (the **Act**) defined a "*project*" as:

***project** means development that is declared under section 75B to be a project to which this Part applies.*

The then sub-section 75B (1) (a) of the Act stated:

Projects to which Part applies

(1) General

This Part applies to the carrying out of development that is declared under this section to be a project to which this Part applies:

(a) by a State environmental planning policy, or

Sub-clause 6 (1) of the then State Environmental Planning Policy (Major Development) 2005 stated:

Identification of Part 3A projects

(1) Development that, in the opinion of the Minister, is development of a kind:

(a) that is described in Schedule 1 or 2, or

(b) that is described in Schedule 3 as a project to which Part 3A of the Act applies, or

(c) to the extent that it is not otherwise described in Schedules 1–3, that is described in Schedule 5,

is declared to be a project to which Part 3A of the Act applies.

Schedule 1 of the then State Environmental Planning Policy (Major Development) 2005 contained the following definition:

Extractive Industries

(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 (or other relevant application under the Act)) of more than 5 million tonnes, or

(c) extracts from an environmentally sensitive area of State significance.

(1A) Subclause (1) (c) does not apply to extraction:

(a) by a public authority in maintenance dredging of a tidal waterway, or

(b) in maintenance dredging of oyster lease areas, or adjacent areas, in Wallis Lake.

(2) Development for the purpose of extractive industry related works (including processing plants, water management systems, or facilities for storage, loading or transporting any construction material or waste material) that:

(a) is ancillary to or an extension of another Part 3A project, or

(b) has a capital investment value of more than \$30 million.

The approved and proposed modified development would extract more than 200,000 tonnes per annum of sandstone material and, as such, is a *"Part 3A project"* for the purposes of the then State Environmental Planning Policy (Major Development) 2005.

NSW Planning and Environment has advised that the then Section 75W of the Act can be utilised to give effect to the proposed modification.

1.6 Local Government, Government and Statutory Authority Consultation

In the preparation of this Environmental Assessment, consultation was undertaken with:

- The Hills Shire Council.
- NSW EPA.
- The NSW Office of Environment and Heritage.
- NSW Office of Water.
- NSW Department of Industry and Investment.
- NSW Department of Resources and Energy.
- NSW Roads and Maritime Services.
- NSW Department of Primary Industries, Agriculture Land Use Planning.
- The Maroota Public School.

Copies of the responses received are provided as **Appendix 6**.

The **Hills Shire Council**, by letter dated 23 April 2014, provided the following comments for inclusion in the Secretary's Requirements:

1. *The submission of full details describing the proposal.*
2. *The submission of details confirming the proposal's relationship with the existing extractive industry operations upon the site*
3. *The submission of plans and supporting written evidence showing the proposed final landform configuration and end use of land having regard to the existing approvals in place and ensuring that the modified extraction methods will result in the extraction area being rehabilitated in a consistent manner with the existing approvals. This is to include details of the progressive rehabilitation works.*
4. *The submission of full details regarding the proposal's compliance with the requirements of SEPP Mining and Extractive Industries (2007), Council's Development Control Plan Part B Section 1 – Rural, Sydney Regional Environmental Plan No. 9 – Extractive Industry, Sydney Regional Environmental Plan No. 20 – Hawkesbury – Nepean River and Baulkham Hills Local Environmental Plan 2012, and other relevant legislation, including the Section 91 'Integrated Development' provisions of the NSW EP & A Act, 1979 if relevant.*
5. *The EIS is required to identify the maximum yearly extraction rate and the life of the extraction (based on resource within the quarry) and also the subsequent timeframe for the completion of rehabilitation works upon the site.*
6. *The submission of a detailed traffic impact assessment report addressing the increased maximum number of truck movements associated with the operation.*
7. *The submission of a comprehensive noise impact assessment report addressing the existing noise level and the likely noise levels associated with the modified extraction methods within the site, and including truck movements to / from the central processing plant.*
8. *Address the potential for increase amenity impacts to adjoining property owners given the additional ten year extraction period.*

NSW EPA, by letter dated 16 April 2014, stated:

... the EPA's key information requirements for the proposal include an adequate assessment of:

1. *Potential air pollution, including dust emissions from the site;*
2. *Potential surface and groundwater pollution from the site;*
3. *Potential noise and vibration impacts from the site;*
4. *Management of chemicals and wastes generated and/or stored at the site;*
5. *Rehabilitation of the site to its required usage after extraction has ceased.*

NSW Transport Roads & Maritime Services, by letter dated 28 April 2014, stated:

Roads and Maritime require the following issues to be included in the transport and traffic impact assessment of the proposed development:

1. *Daily peak traffic movements likely to be generated by the proposed development including the impact on nearby intersection and the need/associated funding for upgrade or road improvement works (if required).*
2. *Details of the proposed access and parking provisions associated with the proposed development including compliance with the requirements of the relevant Australian Standards (ie: turn paths, sight distance requirements, aisle widths, etc).*
3. *Proposed number of car parking spaces and compliance with the appropriate parking codes.*
4. *Details of service vehicle movements (including vehicle type and likely arrival and departure times).*
5. *Roads and Maritime will require in due course the provision of a traffic management plan for all demolitions/construction activities, detailing vehicle routes, number of trucks, hours of operation, access arrangements and traffic control measures.*

The NSW Department of Primary Industries, Agriculture Land Use Planning, by email dated 6 May 2014, advised that:

DGRs should cover:

Development Applications duly consider the following potential impacts and identify suitable mitigation responses for:

- *Impacts on agricultural resources;*
- *Transport and access changes;*
- *Rehabilitation plans;*
- *Consultation with rural stakeholders;*

- *Mitigation and monitoring.*

The **NSW Office of Water**, by email dated 8 July 2014 stated:

It is recommended that the EIS be required to include:

- *Details of water proposed to be taken (including through inflow and seepage) from each surface and groundwater source as defined by the relevant water sharing plan.*
- *Assessment of any volumetric water licensing requirements (including those for ongoing water take following completion of the project).*
- *The identification of an adequate and secure water supply for the life of the project. Confirmation that water can be sourced from an appropriately authorised and reliable supply. This is to include an assessment of the current market depth where water entitlement is required to be purchased.*
- *Full technical details and data of all surface and groundwater modelling undertaken.*
- *A detailed and consolidated site water balance.*
- *A detailed assessment against the NSW Aquifer Interference Policy (2012) using the NSW Office of Water's assessment framework.*
- *Assessment of impacts on surface and ground water sources (both quality and quantity), related infrastructure, adjacent licensed water users, basic landholder rights, watercourses, riparian land, and groundwater dependent ecosystems, and measures proposed to reduce and mitigate these impacts.*
- *Proposed surface and groundwater monitoring activities and methodologies.*
- *Proposed management and disposal of produced or incidental water*
- *Details surrounding the final landform of the site, including final void management (where relevant) and rehabilitation measures.*
- *Assessment of any potential cumulative impacts on water resources, and any proposed options to manage the cumulative impacts.*
- *Consideration of relevant policies and guidelines.*
- *A statement of where each element of the SEARs is addressed in the EIS (i.e. in the form of a table).*

1.7 Community Consultation

As part of the consultation, notification of the proposed modification was given to surrounding landowners and the Maroota Public School. A copy of the consultation letters and details of those consulted is at **Appendix 18**.

No responses have been received as a result of the consultation process.

1.8 Secretary's Requirements

Pursuant to the then **Section 75F** of the Act, by letter dated 29 May 2014, the Secretary of NSW Planning & Environment provided the requirements for the Environmental Assessment.

A copy of the Secretary's Requirements is at **Appendix 5**.

A summary of the Secretary's Requirements is outlined in **Table 1-1** together with the relevant section of the Environmental Assessment which addresses those matters.

Table 1.1: Summary of the Secretary's requirements

Issue	Summary of matters to be addressed in EA	Reference in EA
A description of the development.	<i>A full description of the development, including:</i> - <i>the resource to be extracted, demonstrating efficient resource recovery within environmental constraints;</i> - <i>the site layout and extraction plan;</i> - <i>processing activities;</i> - <i>a waste (overburden, leachate, etc.) management strategy, dealing with the EPA's requirements;</i> - <i>a water management strategy, dealing with the EPA's and DPI's requirements;</i> - <i>a rehabilitation strategy, having regard to the key principles in the Strategic Framework for Mine Closure; and</i> - <i>the likely interactions between the development and any other existing, approved or proposed extractive industry development in the vicinity of the site;</i>	Parts 2 & 3 Appendix 14
Approvals	<i>A list of the approvals that must be obtained before the</i>	No additional

	<i>development may commence.</i>	approvals required.
Likely Impacts	<i>An assessment of the likely impacts of the development on the environment, focussing on the specific issues identified below, including:</i> - <i>a description of the existing environment likely to be affected by the development, using sufficient baseline data;</i> - <i>an assessment of the likely impacts of all stages of the development, including any cumulative impacts, taking into consideration any relevant laws, environmental planning instruments, guidelines, policies, plans and industry codes of practice;</i> - <i>a description of the measures that would be implemented to mitigate and/or offset the likely impacts of the development, and an assessment of:</i> • <i>whether these measures are consistent with industry best practice, and represent the full range of reasonable and feasible mitigation measures that could be implemented;</i> • <i>the likely effectiveness of these measures; and</i> • <i>whether contingency plans would be necessary to manage any residual risks;</i> - <i>a description of the measures that would be implemented to monitor and report on the environmental performance of the development if it is approved;</i>	Part 3
Environmental management and monitoring measures.	<i>A consolidated summary of all the proposed environmental management and monitoring measures, identifying all the commitments in the EA.</i>	Parts 3 & 4
Consideration of all environmental planning instruments.	<i>Consideration of the development against all relevant environmental planning instruments.</i>	Part 3
Reasons for approval.	<i>The reasons why the development should be approved having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development.</i>	Parts 1, 2 & 5
KEY ISSUES		
Air	<i>An assessment of the likely air quality impacts of the development in accordance with the Approved</i>	Part 3.9 Appendix 14

	<i>Methods for the Modelling and Assessment of Air Pollutants in NSW and the EPA's additional requirements.</i>	
Noise	<i>An assessment of the likely operational noise impacts of the development (including construction noise) in accordance with the NSW Industrial Noise Policy and the EPA's additional requirements, and paying particular attention to cumulative noise impacts and the obligations in chapters 8 and 9 of the policy.</i> <i>If a claim is made for specific construction noise criteria for certain activities, then this claim must be justified and accompanied by an assessment of the likely construction noise impacts of these activities under the Interim Construction Noise Guideline.</i> <i>An assessment of the likely road noise impacts of the development under the NSW Road Noise Policy.</i>	Part 3.7 Appendix 15
Water	<i>An assessment of the likely impacts of the development on the quantity and quality of the region's surface and groundwater resources, having regard to the EPA's and DPI's requirements.</i> <i>An assessment of the likely impacts of the development on aquifers, watercourses, riparian land, water-related infrastructure, and other water users.</i>	Part 3.5 Appendix 16 Appendix 19
Land	<i>An assessment of the compatibility of the development with other land uses in the vicinity of the development in accordance with the requirements in Clause 12 of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, and having regard to the Department of Primary Industries' requirements.</i>	Part 3
Traffic	<i>An assessment of the likely traffic impacts of the development on the capacity, condition, safety and efficiency of the local and State road network, having regard to the RMS's requirements.</i>	Part 3.8 Appendix 13
Biodiversity	<i>Ongoing management of approved impacts on biodiversity.</i>	Part 3 & 4
Heritage	<i>Ongoing management of approved impacts on Aboriginal and historic heritage (cultural and archaeological).</i>	Part 3
Visual	<i>Ongoing management of approved visual impacts.</i> <i>An assessment of any additional visual impacts of the development on private landowners in the vicinity of the development and key vantage points in the public domain.</i>	Part 3
Social & Economic	<i>An assessment of the likely social impacts of the development (including any perceived impacts).</i>	Part 3.13

	<i>An assessment of the likely economic impacts of the development, paying particular attention to:</i> - <i>the significance of the resource;</i> - <i>economic benefits of the project for the State and region; and</i> - <i>the demand for the provision of local infrastructure and services.</i>	
Consultation	<i>During the preparation of the EA, you must consult with relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners.</i> <i>The EA must describe the consultation that was carried out, identify the issues raised during this consultation, and explain how these issues have been addressed in the EA.</i>	Parts 1.6 & 1.7 Appendix 18

1.9 Structure of the Environmental Assessment

- Part 2** Details the proposed modification and describes the modifications which would be required to Development Consent No.267-11-99 if approval is granted.
- Part 3** Details the net impact of the proposed modification to Development Consent No.267-11-99.
- Part 4** Contains a draft Statement of Commitments.
- Part 5** A conclusion to the Environmental Assessment.

1.10 Project Team

Nexus Environmental Planning	Project Management and Planning.
Lyle Marshall & Associates	Traffic and Access.
Australian Groundwater Technologies	Groundwater Monitoring & Management.
Peter Dundon & Associates	Groundwater.
VGT Environmental Compliance Solutions	Site Layout and Extraction Plans, Modified Dam Design, Modified Resource Volumes.

Wilkinson Murray

Acoustic Impact Assessment, Air Quality
Assessment.

Conzept Landscape Architects

Site Rehabilitation.