CONCEPT PLAN APPLICATION

Redevelopment of
Lot 11 in DP 558723, Lot 1 in DP 400697
and Lot 2 in DP 262213, Eastern Creek

Prepared for

Hanson Construction Materials Pty Ltd

planning workshop australia

A Division of Lyneham Planning &
Management Consultants Pty. Limited A.B.N. 35 068 238 826

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Document No.	Issue No.	Description of Issue	Prepared by / date	Verified by Director	Approved by Director
2051067/rep001	1	Final	SZ/CW/SL16/11/06	SL	

Note: This document is preliminary unless it is approved by a Director of **planning workshop australia** Job No. 2051067

CERTIFICATION

SUBMISSION OF ENVIRONMENTAL ASSESSMENT (EA) prepared under the ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979, Part 3A

This Environmental Assessment (EA) has been prepared on behalf of **Hanson Construction Materials Pty Ltd** (the proponent).

The proponent, seeks the Minister's approval pursuant to **Division 3 Section 75O and Section 75P** of the EP & A Act, for a Concept Plan:-

- Distribution of uses and development footprints (utilising existing access - right of carriage way and continued use of other existing infrastructure and services);
- Boundary realignment (subdivision) of Lot 11 in DP 558723 (to include portions of Lot 2 in DP262213 and Lot 1 in DP 400697); and
- Stage 1 project and ancillary infrastructure.

The proponent seeks that the Minister determines the aforementioned boundary realignment and Stage 1 of the project (including ancillary infrastructure) under **Section 75P(1)(c)** and grants an approval under **Section 75J**.

The proposed project is to be carried out on land shown on the plans included in the EA consisting of:

- Lot 11 in DP 558723;
- Lot 1 DP 400697; and
- Lot 2 DP 262213

Environmental Assessment

The reports and documentation comprising the Environmental Assessment and accompanying the Concept Plan include:

- Architectural Drawings and Plans, prepared by Urban Design Workshop (2006);
- Plan of Proposed Subdivision, prepared by Lovegrove Oxley Consultants (2006);
- Statement of Commitments, prepared by Lindsay Taylor Lawyers (2006);
- Voluntary Planning Agreement, prepared by Lindsay Taylor Lawyers (2006);
- Land Owners Consent
- Construction, Operating and Traffic Noise Assessment, prepared by Heggies Australia (2006);
- Air Quality Impact Assessment, prepared by Heggies Australia (2006);

- Traffic and Transport Assessment, prepared by Traffic and Transport Planning Associates (2006);
- Geotechnical Assessment, prepared by Martens and Associates (2006);
- Land Contamination Assessment, prepared by Martens and Associates (2006);
- Erosion and Sediment Control Plan, prepared by Martens and Associates (2006);
- Stormwater Management Assessment, prepared by Martens and Associates (2006);
- Water Cycle Management Strategy, prepared by Martens and Associates (2006);
- Wastewater Management Assessment, prepared by Martens and Associates (2006);
- Flood Study, prepared by Martens and Associates (2006);

Certificate

The EA contains all available information that is relevant to the environmental assessment of the activity to which the EA relates.

The information contained in this EA is neither false nor misleading.

I certify that I have prepared the contents of this report (Concept Application and Environmental Assessment), based on the reports cited above, which have been certified by these parties as being true in all material particulars and do not by presentation or omission of information materially mislead.

I hereby certify that I have prepared the contents of this Report in accordance with **Section 75F** of the **Environmental Planning and Assessment Act 1979**.

PREPARED BY:

C Watson 16·11·2006

Signature **Date**

Christy Watson (BPlan (Hons))
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Signature **Date**

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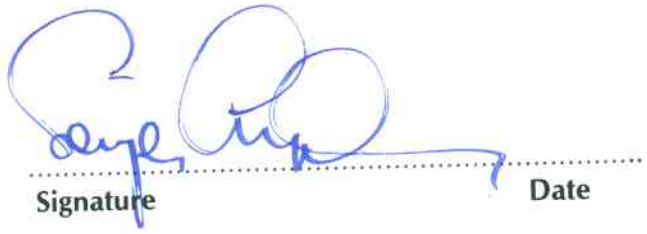
REVIEWED BY:



Signature Date

Prof. Sonja Lyneham (BA MTCP FPIA Visiting Prof FBE (UNSW)
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EXECUTIVE SUMMARY

This report has been prepared by Planning Workshop Australia on behalf of Hanson Construction Materials and is part of a Concept Plan to be lodged with the Director-General of the Department of Planning, in accordance with **Part 3A Division 3 Section 75M(3)** of the ***Environmental Planning and Assessment Act 1979*** (the EP & A Act).

The site is legally known as Lot 11 in DP 558723, Lot 1 in DP 400697 and Lot 2 in DP 262213 within Blacktown Local Government Area, Parish of Melville and County of Cumberland, New South Wales.

The proposal is to relocate the historical industrial uses and operations of the site to a smaller portion of the site whilst continuing to use the existing infrastructure and services. It enables the existing operation to achieve greater operational efficiency and to achieve a more efficient and orderly use of land in giving effect to SEPP 59.

The proponent, seeks the Minister's approval pursuant to **Division 3 Section 75O and Section 75P** of the EP & A Act, for a Concept Plan:-

- Distribution of uses and development footprints (utilising existing access - right of carriage way and continued use of other existing infrastructure and services);
- Boundary realignment (subdivision) of Lot 11 in DP 558723 (to include portions of Lot 2 in DP262213 and Lot 1 in DP 400697); and
- Stage 1 project and ancillary infrastructure.

The proponent seeks that the Minister determines the aforementioned boundary realignment and Stage 1 of the project (including ancillary infrastructure) under **Section 75P(1)(c)** and grants an approval under **Section 75J**.

Non-government stakeholders, including affected land owners and the local community, will have the opportunity to provide comments during the exhibition period of this application.

A range of background information was reviewed and consultation in the form of a Planning Focus Meeting was undertaken to identify the key issues for environmental assessment, including: transport and traffic; noise and vibration; air quality; water; visual impact; waste management; soil and erosion; geotechnical; and contamination.

The conclusion of this report is that the construction and operation of the proposed Concept Plan including the subdivision and Stage 1 of the project, will have no significant adverse environmental impacts. The potential environmental impacts identified at Section 6 are able to be effectively ameliorated by the mitigation measures recommended within this report and incorporated into the statement of commitments.

A draft Planning Agreement has also been prepared.

1 PURPOSE OF REPORT AND LEGISLATIVE CONTEXT

This report is part of a concept plan to be lodged with the Director-General of the Department of Planning in accordance with **Part 3A Division 3 Section 75M(3)** of the ***Environmental Planning and Assessment Act 1979*** (the EP & A Act).

The proponent, seeks the Minister's approval pursuant to **Division 3 Section 75O and Section 75P** of the EP & A Act, for a Concept Plan:-

- Distribution of uses and development footprints (utilising existing access - right of carriage way and continued use of other existing infrastructure and services);
- Boundary realignment (subdivision) of Lot 11 in DP 558723 (to include portions of Lot 2 in DP262213 and Lot 1 in DP 400697); and
- Stage 1 project and ancillary infrastructure.

The proponent seeks a determination by the Minister under **Section 75P(1)(c)** and approval under **Section 75J** in relation to the aforementioned boundary realignment and Stage 1 of the project (including ancillary infrastructure). The subdivision and Stage 1 (two aspects) are provided in sufficient detail to enable the Minister, determine these aspects under **Division 3 Section 75P(1)(c)**,

> *...determine that no further environmental assessment is required for the project or any particular stage of the project (in which case the Minister may, under section 75J, approve or disapprove of the carrying out of the project or that stage of the project* ***without further application, environmental assessment or report under Division 2).***

The proponent requests that the Minister determine that no further application, assessment or report is required for these aforementioned aspects of the project when giving approval under **Section 75J**.

The proponent has prepared a draft planning agreement to accompany any determination of the Minister to approve the subdivision and Stage 1 of the project (in which case the Minister may under **Section 75P(1)(c)** and therein **Section 75J** approve the carrying out of the project without further application, assessment or report under Division 2.

The remainder of the project (Stage 2) will require project approval being sought prior to the commencement of construction.

The area shown shaded yellow on **Figure CP01** is set aside for potential future expansion, subject to further environmental (including hydrological and ecological) assessment.

The concept plan sought to be approved is detailed in **Section 3.1** of this report and the detailed descriptions of the subdivision and Stage 1 are included in **Sections 3.2 and 3.3** respectively.

The concept plan and the subdivision and the Stage 1 detailed aspects form part of this application for a concept plan for which approval is sought.

In accordance with **Division 3 Section 75M(2)** of the EP & A Act, this report, assessment and attendant plans:

- outline the scope of the project and any development options;
- set out the proposal for the staged implementation of the project; and
- address all other matters required by the Director-General (as outlined in the environmental assessment requirements for the project).

The form of this document has been taken from the **Director-General's Requirements**, dated 14 November 2006 **(Appendix 1)**. The key issues are addressed in the order in which they appear in the environmental assessment requirements to ensure that each issue is systematically addressed.

2 BACKGROUND AND SITE CONTEXT

2.1 Site Description

The site is legally known as **Lot 11 in DP 558723, Lot 1 in DP 400697** and **Lot 2 in DP 262213** within Blacktown Local Government Area, Parish of Melville and County of Cumberland, New South Wales (**Figure 1**).

The application includes a boundary adjustment to Lot 11 in DP 558723 as defined in **Figure 1** and includes the relevant parts of the adjoining allotments (Lot 1 in DP 400697 and Lot 2 in DP 262213). The new proposed Lot is irregular in shape and has an area of approximately 27 hectares **(CP 02).**

The site is conveniently located with regard to major traffic routes. The site is situated approximately 900 metres to the north of Old Wallgrove Road and with access to M7 forming part of the Orbital as defined in the 1998 NSW Government Report *Action for Transport 2010.* The proximity of the M4 motorway serves the site well for both incoming and, particularly, outgoing traffic.

The site is zoned Employment Lands pursuant to the **State Environmental Planning Policy No. 59 - Central Western Sydney Employment Area** (SEPP 59) **(Figure 2)**.

2.2 Access

On advice from Allens Arthur Robinson, the site has two existing rights of carriageway:

- A long standing right of carriageway over Lot 122 DP 1049623, which gives access from the east to the site (Z560414); and

- Contractual right of carriageway over the existing road, pursuant to the Deed of Easement between ThaQuarry Pty Ltd and Hanson dated 7 July 2006. The easement allows Hanson for a period of six months to pass across ThaQuarry's land (Lot 1 DP 400697) and to carry out work on this land, such as maintaining the road.

The proposed road will be included within the proposed Lot 11 and will generally run parallel to the existing road and subject to any determination by the Minister or Council and would be available for use by adjoining land owners.

2.3 Services

On advice from Allens Arthur Robinson the site has the benefit of certain services from the west (over Lot 2 DP 262213), pursuant to the Deed of Easement between ACN 114 843 453 Pty Ltd (ACNCo) and Hanson dated 7 July 2006. They are:

- An easement for a gas main 4m wide. This can be used to convey gas to, from or through the land of ACNCo;

- An easement for electricity supply 5m wide. This can be used to transmit electricity to, from or through the land of ACNCo;

- The right to enter the easement sites and carry out work, including for construction, repair and maintenance.

On advice from Allens Arthur Robinson the site has the benefit of certain services from the north (along the boundary of Lot 1 DP 400697 and Lot W DP419612), pursuant to the Transfer Granting Easement between ThaQuarry and Hanson. They are:

- Use of the easement site to supply, convey, transmit or otherwise provide services, including water, gas, electricity and discharge of sewage, sullage and other fluid wastes;

- The right to enter the easement site and carry out work, including for construction, repair and maintenance; and

- The right to exercise all the rights of ThaQuarry in relation to the easement for services 12.19m wide and the right of carriageway 12.19m wide, created on registration of DP793433.

On advice from Allens Arthur Robinson the site has the benefit of certain services to the north (across Lot 1 DP400697 and Lot W DP419612), pursuant to another Granting Easement between ThaQuarry and Hanson. They are:

- Use of the easement to transmit electricity to, from or through the land; and

- The right to enter the easement site and carry out work, including for construction, repair and maintenance.

2.4 Context

2.4.1 Regional Context

The site is located within the Eastern Creek Precinct, in the Central Western Sydney Employment Area, approximately 35 kilometres from the Sydney CBD.

The site is in close proximity to a major transport distribution network (including the M7, the M4 and the Great Western Highway) and lies within a locality characterised by rapidly expanding industrial, storage and logistics uses.

Two major regional transport corridors directly link the Precinct into Sydney's orbital motorway network and the highway system. The Orbital (in particular the M7) and M4

are key components of metropolitan Sydney's road transport distribution network (for freight and passenger movement). The M7 Motorway links the site into Sydney's orbital motorway network, north to the M2 and south to the M5 with links to Port Botany shipping terminal and international and domestic airports. To the east, the M4 Motorway links the site to Sydney CBD and to the west the M4 continues to the Blue Mountains.

The site has access to the regional road network and the shared regional cycle and pedestrian pathways. Rail transport is also available with Mount Druitt and Rooty Hill train stations located within 4km and 5km respectively, to the north.

2.4.2 Local Context

On 25 February 2003, the Minister declared the remaining land in the Eastern Creek Precinct as the Stage 3 Release Area. The Stage 3 Release Area covers approximately 600 hectares.

As discussed earlier, the site is zoned Employment Lands pursuant to the SEPP No. 59. The Employment Lands zoning permits a range of industrial, storage and logistics as well as extractive industries.

The **Eastern Creek Precinct Plan - Stage 3** ('the Precinct Plan'), outlining the provisions relating to the development of the Stage 3 release area, came into force on December 14, 2005.

The Precinct Plan identifies a standard collector road and drainage detention basin within the boundaries of the subject site. These matters are considered further in **Sections 6** of this report.

2.5 Surrounding Land Uses

To the north is the 'Pioneer Quarry', which has been operating since the 1930's.

To the east is undeveloped land, also part of the Stage 3 Release Area.

To the south-east on Part Lots 10, 11 and 14 of DP 1072146 a National Distribution Centre for Coles Myer Ltd is to be developed, which was approved by the Minister in June 2005.

To the west is a corridor of mostly undeveloped land. An electricity transmission line is located on this land, 500m from the site.

The nearest residential areas are the suburbs of Minchinbury to the immediate north of the M4 Motorway, Erskine Park to the west and Horsley Park to the south west.

2.6 Historical Uses and Infrastructure and Service Utilisation

2.6.1 Uses

The historical operation and use of the site has included:

- premix concrete production and sales;
- cement storage and storage of cement products;
- a transport/ logistics depot and workshop;
- offices;
- asphalt production and sales;
- technical laboratories associated with production of concrete and asphalt;
- concrete recycling operations;
- extractive industry (a hard rock quarry);
- aggregates storage and distribution;
- crushing, screening and blending facilities;
- heavy vehicle and light vehicle parking and maintenance;
- weighbridge;
- bitumen storage; and
- fuel storage.

2.6.2 Past Utilisation of Infrastructure and Services

The site is conveniently located with regard to major traffic routes, a situation shared by all businesses in the SEPP 59 lands. It may be confidently assumed that this was one of the determining factors in the designation of this area for employment lands.

Roads in the vicinity of the site, namely Old Wallgrove Road, Wallgrove Road, the M4 and M7, are industrial roads with two traffic lanes which have been designed to carry heavy traffic.

The maximum total vehicle movements over past years of operation associated with the site and the above uses are estimated at 390,000 per annum. The vehicle movements are made up of:

- Asphalt - 115,000;

- Premix concrete – 80,000;
- Quarry – 70,000;
- Aggregate storage and distribution depot – 45,000;
- Recycled products – 20,000; and
- Logistics – 60,000.

In addition, the utilisation of other infrastructure and services includes:

- two underground septic tanks and one above ground tank located on the site;
- existing electrical capacity in the order of 4050kVa; and
- mains water supply of 200KL per day and additional capacity from on site recycling.

2.6.3 Right-of-Carriageway

The right of carriage way has been exercised for many years. It relates to an area of land, surfaced with asphalt so as to constitute a private road, extending from Old Wallgrove Road in the south, to the eastern boundary of the site. The carriageway provides for two-way access.

The past use of the subject site and the proposed concept plan do not prejudice or compromise the implementation of the principles and provisions of the aforementioned Precinct Plan.

It is our submission that the proposed uses do not impose any significant impact upon or demand for infrastructure and services than have historically been required as part of past developments associated with existing quarry and concrete related uses. The proposed development relocates and restructures the operation to respond to current and emerging operational and market requirements.

2.6.4 Landowners Consent

Landowners consent is attached at **Appendix 2.**

3 DESCRIPTION OF PROPOSAL

3.1 Concept Plan

The Concept Plan is described in Drawing Nos CP01 – CP12 (**Appendix 3**).

Concept Plan approval for the distribution of uses and indicative development footprints (utilising existing access - right of carriage way and continued use of other existing infrastructure and services) is sought.

The proponent, seeks the Minister's approval pursuant to **Division 3 Section 75O and Section 75P** of the EP & A Act, for a Concept Plan:-

- Distribution of uses and development footprints (utilising existing access - right of carriage way and continued use of other existing infrastructure and services);
- Boundary realignment (subdivision) of Lot 11 in DP 558723 (to include portions of Lot 2 in DP262213 and Lot 1 in DP 400697); and
- Stage 1, including the asphalt and emulsion plant, concrete recycling plant, concrete batching plant, logistics and operations workshop, office and laboratory, materials storage and recycling and ancillary road, drainage/detention basin and other such infrastructure.

The proponent seeks a determination of the aforementioned boundary realignment and Stage 1 of the project (including ancillary infrastructure) by the Minister under **Section 75P(1)(c)** and the granting of an approval under **Section 75J**.

Sufficient detail is provided to enable the Minister to determine that no further assessment is required and for these two aspects of the project to proceed directly to registration of subdivision and construction certificate application for Stage 1.

All of the relevant aspects of the subdivision and Stage 1 project are detailed in **Section 3.2** of this report.

The remainder of the project (Stage 2) will require project approval to be sought.

The shaded area on **Figure 1** is set aside for potential future expansion, subject to further environmental (including hydrological and ecological) assessment and for which project approval would be sought.

3.1.1 Statement of Commitments

A draft statement of commitments has been prepared and is included at **Appendix 4** to this report.

3.1.2 Draft Voluntary Planning Agreement

In addition, a draft voluntary planning agreement (**Appendix 5**) has been prepared by Lindsay Taylor Lawyers on behalf of the proponent to provide the opportunity for an agreement to be reached with the Minister as to additional works and actions to be undertaken by the proponent to provide significant public benefits which would not otherwise be legally required. Legal advice has confirmed that a Planning Agreement can accompany submission of a concept plan.

3.1.3 Distribution of Uses and Development Footprints

The proposal seeks Concept Approval for the distribution of uses and indicative development footprints illustrated in **CP 01** and **Figure 1** and listed in **Table 3.1**. In addition, it **includes** a realignment of property boundaries (subdivision).

Table 3.1 Proposed Use, Development Footprint, Land Area & Level of Detail

Proposed Use	Development Footprint	Land Area	Level of detail
Minor road realignment and internal roads	As per drawing CP01	As per drawing CP01	Stage 1
Concrete Batching Plant	Fixed Plant – 3,000m^2 Workshop – 200m^2 Office – 180m^2	11,770m^2	Stage 1
Concrete Recycling Plant	3,000m^2	34,200m^2	Stage 1
Asphalt Plant, Emulsion Plant, Spray Seal Depot	Asphalt Plant – 7,000m^2 Emulsion Plant – 2,000m^2 Workshop – 700m^2 Office and Laboratory - 300m^2	37,000m^2	Stage 1
Materials Storage and Transfer Depot	6,000m^2	12,100m^2	Stage 1
Concrete Masonry Plant	3,200m^2	34,600m^2	Concept Approval
Office and Laboratory	2,000m^2	5,600m^2	Stage 1
Logistics Operation and Workshop	1,400m^2	17,600m^2	Stage 1
Ancillary Infrastructure and Services – including detention basins, water quality.	As per drawing CP01	As per drawing CP01	Stage 1

The Concept Plan also identifies land for future expansion. Further project approval would be required for bulk earthworks *et al.*

3.2 Concept Plan Approval for Project

In addition to seeking Concept Approval for the matters listed at **Section 3.1**, the proponent requests that the Minister, pursuant to **Division 3 Section 75P(1)(c)**, determines that no further applications, assessments or reports referred to in Division 2 are required to carry out the following stages of the project:

- the boundary realignment (subdivision); and
- Stage 1, comprising:
    - Minor realignment of the existing internal road in a southerly direction;
    - Demolition and relocation as may be required to accommodate proposed project;
    - Civil works to stabilise existing embankments;
    - Asphalt Plant, Emulsion Plant and Spray Seal Depot;
    - Concrete Recycling Plant;
    - Concrete Batching Plant;
    - Office and Laboratory;
    - Logistics Operation and Workshop; and
    - Ancillary infrastructure including the proposed sedimentation basin.

The subdivision and Stage 1 have been assessed in appropriate detail to enable this stage of the concept plan to proceed directly to registration of subdivision and construction certification application, without further application, environmental assessment or reports being required and for an approval to be granted pursuant to **Section 75J**.

3.2.1 Boundary Realignment (Subdivision)

The proposed Concept Plan includes approval for the realignment of the northern boundary marginally south of the existing internal road, utilised in past and existing operations. It accords with the contractual agreements with relevant adjoining land owners.

3.2.2 Stage 1

3.2.2.1 Realignment of Internal Road

The boundary alignment accommodates a more efficient alignment of the internal road and allows for the orderly and economic use of the land. The realignment generally follows the historical road outline and is designed to ensure that construction and ongoing operation of any uses or structures do not intrude on the road. No part of the proposed building footprints or areas allocated for various uses are within the alignment of the proposed standard collector road.

The proposed boundary adjustment and the minor realignment of the existing internal road further south of the subject site do not prejudice a range of options being implemented regarding the future realignment as per the Precinct Plan.

3.2.2.2 Site Preparation and Construction

The site requires minimal clearing and earthworks; construction of hardstand; and the delivery and erection of some equipment, offices and laboratories. Construction would be expected to be completed within six months and would be carried out during normal construction hours.

The screening plant, associated bin structures, stockpile stacker conveyors, fuel storage tank and laboratory will be demolished.

The primary jaw crusher, conveyor, electrical substation yard and control room and secondary crusher will be modified.

Some excavation will be required for footings, foundations, service trenches and the like.

Construction of the facility is not anticipated to have any adverse impacts on noise amenity.

Sediment and erosion controls will be in place during the construction period.

3.2.2.3 Asphalt Plant

The proposal includes an asphalt plant with a productive capacity to meet current market and future demand for hotmix for use in road and related surfacing works. The production capacity of the plant will be in excess of 360,000 tonnes per year.

The plant to be erected will be a state of the art facility, incorporating the latest technology in asphalt production. It will incorporate a dry air cleaning system and improved environmental controls, leading to a reduction in waste and a more efficient operation.

The operation of the plant will involve the following activities:

- delivery of aggregate, sand, bitumen and mineral filler;
- storage of these raw materials prior to mixing;
- selection of aggregates and sand according to particular mix specifications;
- heating and drying of aggregate materials;
- mixing of the aggregate materials with hot bitumen in accordance with particular job specifications;
- recycling of waste asphalt, as appropriate in the production schedules; and
- dispatch of the asphalt from the subject site.

The asphalt plant will comprise the following plant and equipment:

- stockpile bins for raw materials including sand and aggregate;
- an electric weigh hopper to dispatch finished product into trucks;
- a crusher for recycled asphalt product;
- 1 x front end loader to transfer material from stockpile to the aggregate feed bins;
- Storage tanks, basins and containers, including a truck washdown bay; and
- Operations office and amenities block

The production process is thus essentially one where various raw materials including aggregate (crushed rock) of various graded sizes, waste asphalt, sand and mineral filler are mixed in a drying drum and then combined with bitumen in a mixing tower.

The load is then dropped into trucks and dispatched in a heated state ready for application to a road surface or other similar surface. The interiors of the dispatch trucks are sprayed with a biodegradable release agent prior to loading. The product is kept hot to reduce viscosity and to allow it to be worked easily until it is laid and compacted.

Loaded trucks will leave the site, via the right of way and the Old Wallgrove Road, to travel to the appropriate job location.

3.2.2.4 Emulsion Plant

Bitumen emulsion is a mixture of bitumen and water, treated with an emulsifying agent and other stabilising agents. The bitumen is broken into very fine droplets that are suspended in water. These droplets usually have a positive (cationic emulsions) or negative (anionic emulsions) charge depending on the emulsifying agent used. The bitumen content depends on the intended application of the emulsion, but is not usually lower than 40% or higher than 70%.

Bitumen in different forms is used as a binder in road construction. At ambient temperature, bitumen is an extremely high viscous liquid that is not workable. It can be transferred into a workable state in several ways, including by heating and by emulsifying in water to form bitumen emulsion. Bitumen emulsion does not require heating when applied and has the advantage over hot bitumen in that it can be used with cold and even damp aggregate.

The operation of the plant involves the following activities:

- The equipment is mounted in one integrated steel structure and includes a bitumen pump, bitumen temperature metre, colloid mill, water-phase pump, emulsion temp metre and water phase temp metre;
- The ready-mixed water-phase is pumped from the batch tanks and injected into the bitumen stream just before the colloid mill;
- The bitumen is pumped hot from the storage tanks and, in the colloid mill;
- From there it is broken up into micron-sized droplets and dispersed in the water-phase;
- If solvent is included, it is dosed in-line and blended into the bitumen stream through a static mixer.

The process can be manually controlled or automatic, using individual flow controllers for each flow.

3.2.2.5 Concrete Recycling Plant and Materials Storage and Recycling

The Concrete Recycling plant collects both solid and liquid waste products from concrete pours and demolition sites and puts the waste through a crushing machine, often along with asphalt, bricks, dirt, and rocks. The Concrete Recycling plant will process approximately100,000 tonnes/pa.

The concrete recycling facility invoves the sorting, screening, crushing and stockpiling of materials for on-selling as recycled products. Smaller pieces of concrete are used as gravel for new construction projects. Sub-base gravel is laid down as the lowest layer in

a road, with fresh concrete or asphalt poured over it. Crushed recycled concrete can also be used as the dry aggregate for brand new concrete if it is free of contaminants.

The plant will have a sprinkler system to keep the concrete dust under control. The outdoor conveyor belts, hoppers and a large mixing tower will be used to crush rock and concrete, breaking it up into different grades of material that can be used for various projects such as filling roadbeds.

The concrete recycling plant will comprise the following plant and equipment:

- 1 x primary crusher;
- 1 x secondary crusher;
- 1x screen;
- 1x dump truck;
- 3 x front end loader

The Materials Storage and Recycling area will be used in conjunction with the Concrete Recycling plant for the open stockpiling of materials.

3.2.2.6 Concrete Batching Plant

The Concrete Batching Plant is responsible for the production of concrete or concrete products that are manufactured by mixing cement, sand, rock, aggregate or similar materials. Concrete is used for a wide variety of building and construction applications.

The components of concrete include:

- Cement
- fly ash;
- aggregates consisting of gravel and sand, which comprise the major raw material of concrete (aggregates are graded according to their size and character);
- water; and
- admixtures – compounds added to the concrete in small quantities to modify its properties.

The operation of the plant involves the following activities:

- Aggregate material will be delivered to the site in a damp condition and dumped into ground storage bins.

- Bins and conveyors will be sited in a leeward position to minimise the effects of the wind.

- Water sprays or a dust suppression agent will be applied to the aggregate material when required to reduce dust emissions and minimise water usage.

- Coarse and fine aggregates will be taken from the ground level storage bins/bunkers by conveyor to an aggregate weigh hopper.

- The aggregate is then added to an agitator.

- Cement and fly ash are weighed in a separate hopper and transferred to the agitator.

- The appropriate proportion of water is added to the agitator.

- The concrete is mixed, ready for final slumping, inspection and transportation to the customer.

The concrete batching plant will comprise the following plant and equipment:

- 1 x front end loader;

- ground bins for raw materials;

- cement silos;

- fly ash silos;

- aggregate weigh bins;

- conveyor system; and

- batch office.

3.2.2.7 Logistics, Operation and Workshop Plant

The Logistics, Operation and Workshop Plant will include the following operations:

- Truck repair work;

- Truck parking and refuelling; and

- Truck washing.

3.2.2.8 Office and Laboratory

The Office and Laboratory will be used by the employees of the logistic operation, concrete recycling plant, concrete batching plant and asphalt and emulsion plant. It will contain amenities and a workshop area.

3.2.2.9 Infrastructure

Appendix 3, CP 01 contains detail of the proposed ancillary internal road, drainage and detention basin. The East-West road which could also serve as the standard collector road generally described in Council's adopted Precinct Plan would be completed prior to occupation of Stage 1.

3.2.2.10 Other

The overall hours of operation for the uses contemplated by the concept plan are 24 hours, 7 days a week.

The **Schedule** at **Appendix 6** contains further detailed information relating to each of the uses described at **Section 3.2.2** including:

- Hours of operation;
- Number of employees;
- Likely size, frequency and number of deliveries to and from site;
- Likely number of visitors to the premises including customer and trade representatives;
- On-site product storage facilities and loading; and
- Proposed vehicle access and egress.

In addition, approval is sough for staged construction and occupation of the project described overall as Stage 1.

3.3 Need for the Proposal and Analysis of Alternatives Considered

Hanson Construction Materials Pty Ltd wishes to build on its long term investment in the region and make use of new technologies to enhance and improve the production efficiency of their existing facilities which provide concrete, concrete masonry and

asphalt related products to the Sydney Metropolitan Area and regional New South Wales.

The Concept Plan process has been adopted to allow the staging of certain components in response to cycles in market demand and ongoing Hanson PLC Board approval. Staging is also required to minimise any interruption to the production of the site during the period of construction/ installation.

Consideration has been given to alternative options including different site locations, plant upgrade and replacement options and inputs to production procedures, in determining the preferred proposal.

The methodology adopted for the evaluation of these strategic alternatives involved the generation of a short list of strategic options, consideration of the advantages and disadvantages of these options in terms of project objectives, environmental, social and economic considerations and, finally, selection of a preferred option for detailed evaluation through the environmental assessment process. The description and evaluation of the alternative options considered is outlined below.

3.3.1 Option 1 – Continued operation of existing facilities/ 'Do nothing'

As previously indicated, Hanson Construction Materials Pty Ltd has been servicing the concrete, concrete masonry and asphalt related product needs of the Sydney Metropolitan Area and regional New South Wales for over 40 years. The 'do nothing' option would involve not taking any action and relying on the output of the current facilities to service the demand for such products.

The 'do nothing' option does not achieve Section 5 of the EP&A Act objectives in relation to orderly and efficient use of land and in addition it would not achieve any increased production efficiencies and would be a sub-optimal outcome having regard to the desired employment yield and future character of the SEPP 59 employment lands.

3.3.2 Option 2 - Upgrade of the existing facilities in current footprints and locations

As previously stated, the current arrangement of land uses on site does not represent the most efficient use of the land and results in a lower employment density over the entire site than could be achieved by the proposed layout. This option would be cost effectively less efficient than co-locating and introducing further 'upstream' activities such as the masonry plant on a smaller total area than that recently occupied.

The upgrade of plants within their current footprints would not result in the most significant overall benefits, as:

- increased production efficiencies could be achieved; however

- it does not represent efficient use of land or an increase in employment yield contemplated by SEPP 59 for the employment lands.

3.3.3 Option 3 – Redevelopment and consolidation of the existing facilities within a smaller portion of the existing site

This preferred option would involve redevelopment and consolidation of existing uses within a smaller portion of the existing site.

As previously discussed, the installation of new plant would allow the opportunity for investing in new technologies with increased efficiencies (including improvements in environmental outcomes through increased energy efficiency).

In addition, the proposal maximises the use of existing infrastructure, in terms of access to the market and supply network, originally established to serve the historical use of the site.

This option would provide the greatest economic and environmental benefits, as:

- increased production efficiencies could be achieved;
- location proximate to transport infrastructure will allow the reliable service of the existing plant's supply catchment;
- location in an established industrial-zoned estate surrounded by like land uses will minimise potential for land use conflicts; and
- it represents efficient use of the land owned at Eastern Creek and an increase in employment yield contemplated by SEPP 59 for the employment lands.

The proposal is consistent with the intentions of the State Government, under the Metropolitan Strategy, and will assist in supporting the economic growth and development of the area.

Consistent with the aims of SEPP 59, the proposed development will be a major employment generating development on the basis of its role in providing materials and products for infrastructure provisions throughout New South Wales. The proposal is consistent with the intentions of Blacktown City Council, under the direction of the Precinct Plan, adopted on 14 December 2006. The application does not preclude or prejudice any future action that would ensure compliance with the provisions of the Precinct Plan.

As such, the proposed development contemplated by the Concept Plan is considered the preferred option, allowing Hanson Construction Materials Pty Ltd to continue to meet existing and projected demand of its customers while presenting the opportunity to achieve the government's planning objectives for the land.

4 STATUTORY FRAMEWORK

4.1 Part 3A of the Environmental Planning and Assessment Act 1979

Part 3A (Major infrastructure and other projects) of the EP&A Act commenced on 1 August 2005. Part 3A establishes the assessment and approval regime for all Major Projects previously considered under **Part 4** (Development Assessment) or **Part 5** (Environmental Assessment) of the EP&A Act and that are considered to be of State or regional planning significance by the Minister for Planning. The Minister is the consent authority for the determination of Major Projects.

Under the provisions of **Division 1 Section 75B** of the EP&A Act, development may be declared to be a Major Project by virtue of a State Environmental Planning Policy or by order of the Minister and published in the Government Gazette.

Section 75B defines 'projects' to which this part of the EP&A Act applies. **Clause 6 of State Environmental Planning Policy (Major Projects) 2005** (SEPP 2005) defines 'Major Projects', with the proposal falling within **Group 2 Clause 9** of **Schedule 1** of the SEPP:

> *Development that has a capital investment value of more than $30 million or employs 100 or more people for any of the following purposes:*
>
> *a) metal or mineral refining or smelting; metal founding, rolling, drawing, extruding, coating, fabricating or manufacturing works; metal or mineral recycling or recovery,*
>
> *b) brickworks, ceramic works, silicon or glassworks or tile manufacture,*
>
> *c) cement works, concrete or bitumen pre-mix industries or related products,*
>
> *d) building or construction materials recycling or recovery.*

As the capital investment value of the project exceeds the $30 million threshold, and the project complies with both (c) and (d) above, it is considered to be a Major Project and therefore subject to Part 3A of the EP & A Act.

4.2 Permissibility

The proposed development lies on land zoned 'Employment' under **State Environmental Planning Policy No. 59 – Central Western Sydney Economic and Employment Area** (SEPP 59) and the proposal is permissible with development consent.

Clause 5 of SEPP 59 states that the **Blacktown Local Environmental Plan** does not apply to development within the SEPP 59 area.

4.3 Director-General's Environmental Assessment Requirements

The Director-General issued environmental assessment requirements (DGEARs) pursuant to **Division 3 Section 75N** and referring to **Section 75F** of the EP & A Act. The key issues raised in the DGEARs are indicated in **Table 4.1** below, with the corresponding section of this report in which they addressed.

Table 4.1 - Key Issues of Director General Environmental Assessment Requirements

Key Issue	**Section of this report**
Strategic Planning and consistency with the *Eastern Creek Precinct Plan (Stage 3)*	**Section 6.1**
Developer Contributions/ Planning Agreement	**Section 6.2**
Noise	**Section 6.3**
Air Quality	**Section 6.4**
Traffic and Transport	**Section 6.5**
Soil and Water Management	**Section 6.6**
Waste Management	**Section 6.7**
Flora and Fauna	**Section 6.8**
Hazards and Risks	**Section 6.9**
Visual Impacts	**Section 6.10**

4.4 Other Legislation

The concept plan is consistent with relevant provisions of other relevant legislation which apply to the site (as summarised in **Appendix 7** to this report).

4.5 Licensing and Approvals Required

Some licences and approvals that may need to be acquired for Stage 1 of the development are outlined in the following table.

Table 4.1: Licenses and approvals

Potential notification/license or approval	Authority	Relevant Legislation	Timing
Environmental protection licence to carry out work for the purpose of undertaking a scheduled activity	Department of Environment & Conservation	*Protection of the Environment Operations Act 1997*	Prior to commencement of construction
Licence for the storage of dangerous goods (if required)	WorkCover Authority	*Dangerous Goods Act 1975*	Before storage of dangerous goods for construction (if required)
Occupational health and safety approval (if required)	WorkCover Authority	*Occupational Health And Safety Act 1993*	Prior to commencement of construction
Application for consent to destroy and / or permit to salvage aboriginal relics (if required)	Department of Environment & Conservation (NPWS)	*National Parks and Wildlife Act 1974*	In the unlikely event that any aboriginal sites are identified during construction
Environmental protection licence to carry out a scheduled activity	Department of Environment & Conservation	*Protection of the Environment Operations Act 1997*	Prior to operation of proposed development
Licence for the storage of dangerous goods (if required)	WorkCover Authority	*Dangerous Goods Act 1975*	Prior to operation of proposed development
Licence for the transportation of dangerous goods (if required)	Department of Environment & Conservation	*Road and Rail Transport (Dangerous Goods) Act 1997*	Prior to operation of proposed development

5 CONSULTATION AND ISSUES RAISED

5.1 Consultation Process

5.1.1 Planning Focus Meeting

The Department of Planning has been consulted extensively over the proposed use of the site. Several pre- lodgement meetings have been held with the Department.

A Planning Focus Meeting was also held on Thursday 7 September 2006 onsite at Eastern Creek. The PFM was attended by representatives from Blacktown City Council; Environment Protection Authority; Roads and Traffic Authority and Department of Planning.

At the PFM, preliminary concept plans and stages of the project were presented along with the preliminary environmental assessment to allow the various government agencies to review and make comment on any perceived issues of concern and advise on which key issues the project team should analyse and assess in preparing this Concept Plan application.

5.1.2 Public Exhibition

Section 75(H) of the EP&A Act requires that after the Environmental Assessment has been accepted by the Director-General, the Director-General must, in accordance with any guidelines published in the Gazette, make the Environmental Assessment publicly available for at least 30 days.

5.2 Issues Raised by Government Departments

The Department of Planning received written submissions regarding the Concept Plan from the Government departments who attended the Planning Focus Meeting and Blacktown City Council.

Copies of the written submissions are included at **Appendix 8**.

The issues raised in the submissions are summarised in **Table 5.1 – Issues Raised in Consultation with Government Departments**. The table also provides a reference as to where this environmental assessment has addressed the issue raised by the relevant agency.

Table 5.1 – Issues Raised in Consultation with Government Departments

Agency	Requirement	Comment/report reference
Department of Environment and Conservation (DEC)	• Complete Assessment of air emissions, including all plant and equipment affected by the proposal. • Compliance with *Protection of the Environment Operations (Clean Air) Regulations 2002.* • Undertake Noise Impact Assessment (NIA) in accordance with the *NSW Industrial Noise Policy.* • NIA must consider noise generated by the proposed plant and whether there will be a reduction in noise from the site as a whole. • Assessment of additional waste generated as a result of the demolition and construction works as well as the operations of the new plant. • Classify and quantify waste in accordance with the *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non Liquid Wastes.* • Provide details on appropriate storage of waste with reference to the site's capacity to store additional waste if necessary. • Assessment of impact on: o threatened species and their habitat; o Aboriginal Cultural Heritage values; and o (or related to) contaminated sites.	These issues are addressed in **Sections 6.3 Noise, 6.4 Air Quality** and **6.7 Waste Management** of this report.
Roads and Traffic Authority (RTA)	In addition, the following matters should also be addressed: • The need to contribute towards the regional road infrastructure levy as part of the ultimate development of the SEPP 59 (Central Western Sydney Economic and Employment Area). • That applicable developer contributions towards external intersection works including the Wallgrove Road/Old Wallgrove Road/M7 and the M4/Archibold Road interchanges are to be arranged and agreed to with the RTA/Dept of Planning. • The need to ensure that the site ties into the future road layout for the SEPP 59 – Eastern Creek Employment Lands Precincts Plan.	Matters related to developer contributions will be addresses under the Planning Agreement to be provided under separate cover. The future road layout is addressed in the accompanying traffic report and **Section 6.1.2** of this report.

Agency	Requirement	Comment/report reference
Blacktown City Council Development Services Unit Issues	• Council's view is that future collector road should remain as per the alignment shown in the Precinct Plan and should form the northern boundary to ensure a 50/50 split between the subject site and the Dial-a-Dump property to the north for equity, for satisfactory access into each site and to avoid creating residue areas severed by the road. • Address the road's location so that the plans approved provide the road as per the RTA's and Council's preferred location. • Provision of a minimum setback of at least 30m (as measured from the top of the bank of the pit) to provide a landscape buffer with appropriate earth mounding and fencing; • The provision of a geotechnical report that addresses the structural stability, safety and soundness of the road prepared by a suitably qualified engineer. • Provision of sufficient information regarding the current and proposed operation and range of activities and processes on the existing site and explain the altered impact of the existing operation with respect to the future proposed development. • Fully document why increased traffic movements will not result from the proposed concept plan. • If proposal is approved by Minister without the need for the road to be rebuilt upfront to the collector standard, the applicant should be required to engage a suitably qualified consultant to prepare a report investigating structural capacity of the road. • Provide more detailed information on how the various components of the development are to operate and how vehicles arrive, load and unload number of employees and the processes to occur on the site. • Demonstrate that the proposal can accommodate the future collector road based on the assumption that the road will be located as per the Precinct Plan. In this regard, plans should be prepared to demonstrate how provision can be	The future road layout is addressed in the accompanying traffic report and **Section 6.1.2** of this report. The proposed layout will not preclude the upgrading of the access to a standard collector road in accordance with the Precinct Plan. A 50/50 split of the subject site does not provide a good planning outcome. The proposed alignment provides for the grouping of related land uses and avoids the isolation or severance of parcels of land. Satisfactory access to each lot will not be precluded by the concept plan. The proposed road alignment is located along the historic right of access and is in accordance with geotechnical analysis. The proposed concept plan includes a 30 metre setback from the top of the quarry to all structures other than the road. Geotechnical analysis of the structural capacity of the road (accompanying the application) confirms that the road can be safely located within this setback. Precinct Plan compliance is addressed at **Section 6.1** of this report.

Agency	Requirement	Comment/report reference
	made for a 23.75m wide road reserve plus 10m landscaped setbacks on both sides of the road with all proposed development located outside of the 10m setbacks.	
Blacktown City Council Environmental Health Unit	• Prepare an acoustic report addressing both construction noise and operational noise of the entire facility. • Provision of a Dust Dispersion report with respect of all proposed activities. • Provision of actual specifics of the dust suppression measures to be used. • Details of what will happen to water/wastewater/rainwater on any forecourt/hard paved areas. • Identify all potential sources of pollution from all activities to be carried out and to identify what measures are to be used to ensure these do not make their way into the nearby watercourses and ponds or to the vegetated area along southern part of the site. • Details of bunding and measures to prevent contaminated runoff. • Details of chemical storage to occur on site. • Consult with DEC to seek an EPA license and to satisfy any DEC requirements • Submit an Environmental Management Plan prior to any approval from Minister – this should include what will be carried out in the event that a problem is detected.	These issues are addressed in **Sections 6.3 Noise, 6.4 Air Quality** and **6.7 Waste Management** of this report. DEC has been consulted. An Environmental Management Plan has not been requested by the Department of Planning, however, the draft Statement of Commitments required by the Department of Planning (and included in this report) will address such matters.
Blacktown City Council Traffic Engineering	• Provision of a Traffic Report, investigating and having regard to the traffic generated by the adjoining Dial-A-Dump site • Amendment to road pattern at Eastern Creek Precinct Plan should be supported by a Traffic Study. Any change in road alignment to be supported with a detailed investigation of its impact onto the wider road network.	The future road layout is addressed in the accompanying traffic report and **Section 6.1.2** of this report.

Agency	Requirement	Comment/report reference
Blacktown City Council S94 Contributions	• Detailed designs and cost estimates for stormwater drainage and roads required	Matters related to developer contributions will be addresses under the Planning Agreement to be provided under separate cover.
Blacktown City Council Drainage Engineer	• A detailed stormwater concept plan needs to be prepared that makes provision for all the proposed uses on the site. • Comments relating to stormwater treatment and quality control need to be addressed for the whole catchment and not just the proposed development itself. • Concept plans need to address the controls outlined in Section 5 of the Precinct Plan and also the biodiversity controls in Sections 7 & 8 of the Precinct Plan. • Some form of spillage control should be incorporated into the overall site.	Soil and Water Management is addressed at **Section 6.6** of this report.
Blacktown City Council Riparian Issues	• The final PEA is required to address Section 8 of the Precinct Plan and demonstrate how the proposal will satisfy the objectives and controls with respect to the riparian corridor.	Precinct Plan compliance is addressed at **Section 6.2.5** of this report.
Blacktown City Council Indigenous Heritage	• Prepare an archaeological report to identify the significance of any artefacts on the site and prepare a plan to show how these will be fenced off and protected during construction works and on an ongoing basis.	The proposal incorporates land identified in the Precinct Plan as of the lowest sensitivity for potential indigenous values. An aboriginal heritage assessment is therefore not considered necessary.
Blacktown City Council Rehabilitation Plan	• A rehabilitation plan will be required to be prepared as part of the Final PEA.	Due to the site's disassociation from the quarry and the proposed subdivision of the site, it is considered that the rehabilitation plan will be submitted as part of the application for the remainder of the northern lots containing the quarry pit.

6 ENVIRONMENTAL ASSESSMENT

6.1 Part 3A Assessment Requirements

Section 75F requires consideration of any published guidelines in the Gazette and Director General requirements.

6.2 Statutory Planning

The following environmental planning instruments are referred to in the DG Requirements in interpreting merit assessment of the project.

6.2.1 State Environmental Planning Policy (Major Projects) 2005

State Environmental Planning Policy (Major Projects) 2005 outlines the types of development declared to be a Major Project for the purposes of Part 3A of the Act. **Clause 6** of SEPP 2005 defines 'Major Projects' and as previously described the proposal falls within **Group 2 Clause 9** of **Schedule 1** of the SEPP and is therefore subject to Part 3A of the EP & A Act.

6.2.2 State Environmental Planning Policy No. 11 – Traffic Generating Developments

State Environmental Planning Policy No. 11 (SEPP 11) aims at ensuring that the Roads and Traffic Authority is aware of major traffic generating developments.

Developments of the types listed in **Schedule 1** and **2** of the SEPP require referral to the Roads and Traffic Authority. The proposed concept plan would be referred to the Roads and Traffic Authority on the basis that the proposal includes the erection of buildings for the purposes of industry where the gross floor area of the buildings exceeds 20,000 square metres.

As part of the agency consultation process, the proposal was referred to the RTA. The RTA's submission advised that the proposal should ensure that the site ties into the future road layout for SEPP 59. The comments provided by the RTA have been further addressed by way of the traffic consultant report. The RTA's submission also dealt with Matters related to developer contributions will be addressed under the Planning Agreement to be provided under separate cover.

In brief, the proposal redevelopment of the site is anticipated to have similar traffic movements to the historical movements. The road system servicing the site is adequate and the proposal does not negate any concepts contained in the Stage 3 Precinct Plan. Sight lines to and from the site are also assessed as adequate by the traffic consultant.

6.2.3 SEPP 33 – Hazardous and Offensive Development

SEPP 33 applies to the site and includes the following relevant aims within Clause 2: -

(d) to ensure that in determining whether a development is a hazardous or offensive industry[1], any measures proposed to be employed to reduce the impact of the development are taken into account, and

(e) to ensure that in considering any application to carry out potentially hazardous or offensive development, the consent authority has sufficient information to assess whether the development is hazardous or offensive and to impose conditions to reduce or minimise any adverse impact...

In the absence of any mitigating measures, the proposed application may have the potential to emit a polluting discharge which would have an impact on the locality.

Therefore the **Clause 13 Matters for consideration of potentially offensive industries**, by consent authorities are addressed in the relevant sections of this report, including consultation with public authorities regarding safety (**Section 5**), feasible alternatives to development and any likely future use of land surrounding the development (**Sections 2, 3.3** and **7**), as required by the Act.

6.2.4 SEPP 55 – Remediation of Land

Clause 7(1) of SEPP 55 requires that a consent authority must not consent to the carrying out of any development on land unless:

- *it has considered whether the land is contaminated;*
- *if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out; and*
- *if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.*

Investigations have been undertaken for the site to confirm that the site is suitable for continuing industrial purposes and is unlikely to pose unacceptable risk to human health and environment.

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[1] **Clause 3** of this Policy defines ***potentially hazardous industry*** as development for the purposes of an industry which may "pose a significant risk in relation to the locality: (a) to human health, life or property, or (b) to the biophysical environment" unless impact mitigation measures are employed. **Clause 3** defines ***potentially offensive industry*** as development for the purposes of an industry which may "emit a polluting discharge (including for example, noise) in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land" unless impact mitigation measures are employed. The proposed development does not constitute ***hazardous industry*** or ***offensive industry*** pursuant to the definitions in **Clause 4** as employing impact mitigation measures will ameliorate any potential adverse impacts of the development.

6.2.5 SEPP 59 – Central Western Sydney Economic and Employment Area

SEPP 59 is the statutory planning instrument that provides the planning and zoning regime for the site. Pursuant to this SEPP, the site is located within the **Eastern Creek Precinct (Clause 3)** (**Figure 4**).

Clause 5, Relationship to other environmental planning instruments has the effect of setting aside a number of environmental planning instruments and of particular relevance is S**ubclause (1c)** which states that Blacktown LEP 1988 does **not** apply to particular land.

Clause 10 addresses **Matters for Consideration**, this forms the framework of assessment in the remaining parts of **Section 6** of this report.

The Council adopted Precinct Plan followed extensive investigations including those related to threatened species and ecology, transport and drainage et al.

Assessment of the Concept Plan against the attendant provisions of the Stage 3 Precinct Plan is included at **Appendix 9** to this report and illustrated in **CP13**. In summary, the assessment concludes that the application complies with the intent of the Stage 3 Precinct Plan and does not preclude or prejudice any future action that would ensure compliance with the provisions of the Precinct Plan.

In brief, the proposed Concept Plan including the subdivision and Stage 1 project have taken into account the relevant Precinct Plan provisions. The proposed local road could serve as a 'standard collector road' not limited to the proponents use should the Minister so determine. Notwithstanding this, no new uses or developments are located within the alignment of the proposed Precinct road.

The drainage, stormwater, detention and water quality facilities are accommodate onsite demands generated by the proposed development.

Further to investigations by Council a riparian zone has been defined and no part of the development is within the riparian zone nor adversely impacts on any ecological or other values within that zone.

6.2.5.1 Draft SEPP 66 – Integration of Land Use and Transport

Draft SEPP 66 aims to integrate land use with public transport services and reduce the dependence on cars. While the proposed development may satisfy the general provision of having a floor space greater than 1,000 square metres, the provisions clearly relate to developments which are likely to have a significant impact on surrounding land users via the quantity of traffic movements.

This Policy aims to ensure that urban structure, building forms, land use locations, development designs, subdivision and street layouts help achieve the following planning objectives:

(a) improving accessibility to housing, employment and services by walking, cycling, and public transport,

(b) improving the choice of transport and reducing dependence solely on cars for travel purposes,

(c) moderating growth in the demand for travel and the distances travelled, especially by car,

(d) supporting the efficient and viable operation of public transport services,

(e) providing for the efficient movement of freight.

In this case the proposed site is within an undeveloped Employment Area, which has no direct public transport services. Additional services would be expected as the Employment Area is further developed.

6.3 Developer Contributions and Planning Agreement

A draft agreement has been prepared pursuant to the proponent's request that the Minister in granting approval to the Concept Plan determines that no further application, assessment or report under Division 2 is required to carry out the subdivision and Stage 1. Accordingly, a draft Planning Agreement has being prepared by Lindsay Taylor Lawyers and will be provided under separate cover.

6.4 Noise

6.4.1 Existing Environment

A Construction, Operating and Traffic Noise Assessment has been prepared by Heggies Australia (**Appendix 10**). The Assessment quantified background noise levels and estimated industrial noise (in the absences of transport, natural and domestic noise) at two representative residential receivers, namely Minchinbury (to the north) and Erskine Park South (to the west).

To supplement the unattended logger measurements and to assist in identifying the character and duration of the noise sources, operator-attended daytime surveys were also conducted at the two logging locations.

The Rating Background Levels (RBLs) and industrial amenity levels for each receiver area of interest are presented in Table 8 of the Assessment. In all cases, the measured background noise levels are unaffected by any existing Hanson operations.

6.4.2 *Potential Impacts*

In accordance with the NSW Industrial Noise Policy's Chapter 2, Industrial Noise Criteria and in conjunction with the INP's Application Notes (July 2006), the "project specific" intrusive and amenity assessment criteria for the residential and industrial receiver areas are presented in Table 10 of the Assessment and reproduced below. These criteria are nominated for the purposes of assessing potential noise impacts in relation to construction and operational noise.

Table 6.1 Project Specific Noise Assessment Criteria (dBA re 20 μPa)

Receiver Area	Land Use	INP Intrusive $L_{Aeq(15minute)}$			Precinct Amenity $L_{Aeq(period)}$[1]		
		Day	Evening	Night	Day	Evening	Night
Minchinbury (South)	Urban Residential	52	50	45	57	47	42
Erskine Park (North)	Urban Residential	52	50	45	57	47	42
Erskine Park (South)	Suburban Residential	47	47	42	54	44	39
Eastern Creek Precinct	Industrial	Intrusive noise not applicable			70	70	70
Any	School	Intrusive noise not applicable			External 45 when in use		
Any	Hospital	Intrusive noise not applicable			External 50 when in use		

Note 1: Daytime 0700 hours to 1800 hours, Evening 1800 hours to 2200 hours, Night-time 2200 hours to 0700 hours.

The Assessment provides:

By reducing the night-time intrusive the criteria at Minchinbury (South) and Erskine Park (North) to the background level plus 3 dBA (ie 45 dBA) then INP's intrusive criteria becomes the controlling noise criterion. Compliance with intrusive criteria will also ensure that the Precinct Plan amenity criteria is also achieved.

The Assessment applied the Project SoundPlan computer model, incorporating significant noise sources associated with the proposal, plus the surrounding terrain and nearby receiver areas. The following scenarios were assessed:

* Daytime Construction and Operation; and

* Daytime, Evening and Night-time Operation

The noise model includes all significant items of plant and equipment working concurrently to simulate and predict the intrusive $L_{Aeq(15minute)}$ and amenity $L_{Aeq(Period)}$ levels.

6.4.2.1 *Construction*

The site requires minimal earthworks, extension of hardstand areas and the delivery and erection of some fixed plant and equipment, offices and laboratories. Some excavation will be required for footings, foundations and service trenches. Supplementary heavy mobile vehicles would include Front End Loaders (FEL), grading and compaction equipment.

The screening plant, associated bin structures, stockpile stacker conveyors, fuel storage tank and laboratory will be demolished. The primary jaw crusher, conveyor, electrical substation yard and control room and secondary crusher will be modified.

Construction would be expected to be completed within six months and would be carried out during normal construction hours in accordance with DEC guidelines.

A Construction Noise Assessment has been undertaken by Heggies Australia in accordance with the Department of Environment and Conservation's, Environmental Noise Control Manual (ENCM) (1994) Chapter 171 Noise Control Guideline - Construction Site Noise. The Assessment found that:

> *As the duration of the daytime (only) construction works is 6 months, the guideline suggests that the construction noise emissions should generally not exceed the background noise level by more than 10 dBA for residential receivers.*
>
> *However, as construction activities will be carried out simultaneously with ongoing daytime operations at the site, the initial 6 month daytime construction and operation period has been conservatively assessed in accordance with INP where the noise emissions should generally not exceed the background noise level by more than 5 dBA for residential receivers.*

The predicted LAeq(15minute) intrusive noise emissions from the simultaneous daytime construction and operation to the nearest residential receiver areas are presented in Table 11 of the Assessment, and reproduced below.

Table 6.2 Daytime Construction and Operation Intrusive Noise (dBA re 20 μPa)

Receiver Area	ID/Location	Daytime Calm[1]	Daytime Criteria
Minchinbury (South)	MB1 Cobbler Cresent	39	52
	MB2 Barossa Drive	38	
	MB3 Agrafe Place	41	
Erskine Park (North)	EN1 Warbler Street	33	52
Erskine Park (South)	ES1 Swamphen Street	34	47
	ES2 Fantail Cresent	35	
	ES3 Pollux Close	35	

Note 1: Daytime meteorological parameters as described in Table 6 of the Noise Assessment.

The Assessment concludes:

> *All predicted intrusive noise levels are below the relevant daytime construction criteria and any noise impacts are considered acceptable.*

6.4.2.2 Operation

The potential noise sources which may operate simultaneously include:

- the proposed concrete batching plant, concrete recycling plant, asphalt and emulsion plant, logistics operation and workshop, office and laboratory, future concrete masonry plant and the materials storage and transfer depot; and

- On-site heavy vehicle movements associated with the abovementioned operations.

The proposed uses, fixed plant, mobile equipment and associated peak hourly heavy vehicle movements are summarised in Table 3 of the Construction, Operating and Traffic Noise Assessment.

The NSW Industrial Noise Policy (INP) (EPA 2000) prescribes detailed calculation routines for establishing "project specific" LAeq(15minute) intrusive criteria and LAeq(period) amenity (ie non-transport related) criteria for a development at potentially affected receivers.

The intrusive noise emission should generally not exceed the background level by more than 5 dBA. Similarly, the amenity level should generally not exceed the specified INP acceptable or Eastern Creek Precinct Plan noise levels appropriate for the particular locality and land use as shown in Table12 of the Assessment and reproduced below.

Daytime and Evening Operation

The predicted LAeq(15minute) intrusive noise emissions from the daytime and evening operation to the nearest residential receiver areas are presented in Table 12 of the Assessment and reproduced below.

Table 6.3 Daytime and Evening Operation Intrusive Noise (dBA re 20 μPa)

Receiver Area	ID/Location	Daytime Calm[1]	Daytime Criteria	Evening Calm[1]	Evening Criteria
Minchinbury (South)	MB1 Cobbler Cresent	38	52	38	50
	MB2 Barossa Drive	38		38	
	MB3 Agrafe Place	39		40	
Erskine Park (North)	EN1 Warbler Street	32	52	32	50
Erskine Park (South)	ES1 Swamphen Street	33	47	33	47
	ES2 Fantail Cresent	33		34	
	ES3 Pollux Close	33		34	

Note 1: Daytime and Evening meteorological parameters as described in Table 6 of the Noise Assessment.

The Assessment concludes:

> *All predicted intrusive noise levels are below the relevant daytime and evening assessment criteria and any noise impacts are considered acceptable. Compliance with intrusive criteria ensures that the Precinct Amenity criterion is also achieved.*

Night-time Operation

The predicted $L_{Aeq(15minute)}$ intrusive noise emissions from the night-time operation to the nearest residential receiver areas are presented in Table 13 of the Assessment and reproduced below.

Table 6.4 Night-time Operation Intrusive Noise (dBA re 20 μPa)

Receiver Area	ID/Location	Calm[1]	Inversion[1]	Inversion & Drainage[1]	Night-time Criteria
Minchinbury (South)	MB1 Cobbler Cresent	38	43	40	45
	MB2 Barossa Drive	39	43	43	
	MB3 Agrafe Place	40	45	45	
Erskine Park (North)	EN1 Warbler Street	33	37	31	45
Erskine Park (South)	ES1 Swamphen Street	34	38	32	42
	ES2 Fantail Cresent	34	39	32	
	ES3 Pollux Close	34	39	33	

Note 1: Night-time meteorological parameters as described in Error! Reference source not found..

The Assessment concludes:

> *All predicted intrusive noise levels are below the relevant night-time assessment criteria and any noise impacts are considered acceptable. Compliance with intrusive criteria ensures that the Precinct Amenity criterion is also achieved.*

Road Traffic

The Department of Planning and the Department of Environment and Conservation confirmed at the Planning Focus Meeting that the right-of-way access to the site (Quarry Road) be treated as a 'Collector Road' for the purposes of traffic noise impact assessment.

The anticipated peak hourly daytime and night-time site related vehicle movements along Quarry Road together with the calculated off-set distance to achieve the residential traffic noise criteria are presented in Table 15 of the Noise Assessment and reproduced below.

Table 6.5 Quarry Road Peak Hour Project Related Vehicle Movements

Period	Light Vehicle Peak Hour	Heavy Vehicle Peak Hour	Off-set Distance to Achieve Noise Criteria
Daytime (0700hrs to 2200hrs)	30 movements	100 movements	50 m
Night-time (2200hrs to 0700hrs)	7 movements	40 movements	60 m

The Assessment concludes:

The Project related traffic movements are consistent established vehicle movements over recent years; hence traffic noise levels remain generally unchanged with minimal noise impact. As there are no residential receivers adjacent to Quarry Road it is reasonable to assume traffic noise amenity levels at that current and future industrial receivers will be acceptable.

6.4.3 Conclusion and Mitigation Measures

Construction activities will be confined to daytime hours in accordance with Table 1 of the Noise Impact Assessment and are scheduled to be completed within a 6 month period.

In relation to operational noise the Noise Impact Assessment concludes:

All predicted intrusive noise levels are below the relevant daytime and evening assessment criteria and any noise impacts are considered acceptable. Compliance with intrusive criteria ensures that the Precinct Plan amenity criteria are also achieved.

The daytime 70 dBA (blue) noise contour is generally contained within the Project site boundary and any noise impacts to adjacent industrial receivers are also acceptable.

All predicted intrusive noise levels are below or meet the relevant night-time assessment criteria and any noise impacts are considered acceptable. Compliance with intrusive criteria ensures that the Precinct Plan amenity criteria are also achieved.

The daytime 70 dBA (blue) noise contour is generally contained within the Project site boundary and any noise impacts to adjacent industrial receivers are also acceptable.

Notwithstanding the above the Assessment concludes:

In the event of an exceedance of project specific criteria during construction or operations additional noise mitigation and management measures may include:

- *Targeted noise monitoring on-site and within the community.*
- *Prompt response to any community issues of concern.*
- *Refinement of on-site noise operating procedures where practicable.*

The LAeq sound power levels presented in Table 11 of the Noise Impact Assessment do not include noise emissions which emanate from alarms.

The Assessment concludes:

> *Alarms will be subject to procurement specifications detailing the tone frequency, noise emission levels, directionality and coverage. They will be installed to optimise safety and to minimise off-site noise leakage. In the unlikely event that alarm noise remains a source of disturbance, then further on-site optimisation and fine adjustments will be implemented to achieve further noise reductions without compromising safety standards.*

6.5 Air Quality

6.5.1 Existing Environment

An Air Quality Impact Assessment has been prepared by Heggies Australia (**Appendix 11**). The Assessment estimated the background air quality, primarily by referencing data from the Department of Environment and Conservation air quality monitoring station at St Marys, located approximately 5km to the west-northwest of the site and dust suppression data surrounding the site from Hanson.

The Assessment provides that the site specific ambient air quality levels adopted for assessment purposes are as follows:

- *Dust: An annual average ambient dust deposition rate of the order of 1.6g/m^2/month;*
- *TSP: An annual average of the order of 34µg/m^3;*
- *PM10: A daily varying 24-hour average concentration and an annual average of the order of 17µg/m^3;*
- *Individual Odorous Pollutants: Negligible*

6.5.2 Potential Impacts

6.5.2.1 Construction

During dry conditions, the following construction related site activities have the potential to generate dust:

- Earthworks;
- Loading trucks;
- Wheel generated dust from construction traffic; and

- Wind erosion from disturbed stockpiles/earth mounds.

The Air Quality Impact Assessment concludes:

> *Any potential atmospheric emissions during construction are anticipated to be largely controllable through technical means including good site management / housekeeping, vehicle maintenance and applying appropriate dust mitigation measures when required.*

6.5.2.2 Operation

The following operational activities have the potential to affect air quality and have been included in the Assessment's particulate emissions inventory:

- Handling and conveying of raw and processed materials;
- Pneumatic loading of cement storage silos from trucks;
- Loading of trucks at the concrete batching and asphalt and emulsion plants;
- Unloading of trucks at concrete recycling plant;
- Wind erosion of exposed ground areas and material stockpiles; and
- Combustion and production process emissions associated with the asphalt and emulsion plant.

The majority of the site is to be paved and therefore dust generation from vehicle movement on site has not been considered as a significant pollutant source.

The Assessment looked at the following air quality elements:

- *Emissions of odorous compounds originating from the stack;*
- *Fugitive atmospheric (including odourous) emissions;*
- *Process particulate emissions;*
- *Fugitive particulate emissions*

The NSW DEC has established ground level air quality criteria for key pollutants to achieve appropriate environmental outcomes and to minimise associated risks to human health. The Assessment adopted the criteria specified by DEC, as expressed in their document *Approved Methods and Guidance for Modelling and Assessment of Air Pollutants in New South Wales 2005,* as the ambient air quality goals for this assessment.

Subsequently, the Air Quality Impact Assessment established the following project-specific air quality goals:

- *A 24-hour maximum of PM10 of 50 $\mu g/m^3$*
- *An annual average of PM10 of 30 $\mu g/m^3$*
- *A 24-hour maximum of PM 2.5 of 25 $\mu g/m^3$*
- *An annual average of PM 2.5 of 8 $\mu g/m^3$*
- *An annual average incremental dust deposition rate of 2.0 g/m^2/month*
- *A 1 hour maximum of Acetaldehyde of 0.042 mg/m^3*
- *A 1 hour maximum of Toluene of 0.36 mg/m^3*
- *A 1 hour maximum of Xylene of 0.19 mg/m^3*

Computer predictions of fugitive emissions (PM10, dust deposition, individual toxic/odourous pollutants) from the site were undertaken using the Ausplume Gaussian Plume Dispersion Model to determine the resulting air quality impacts of the proposed operation.

The Assessment concludes:

> *All modeling predictions indicate that, provided that specific design and operational safeguards are implemented, particulate matter, dust deposition and individual odours pollutants attributable to the Project would be within the current DEC and (NEPM) air quality goals at all surrounding residences.*

6.5.3 Conclusion and Mitigation Measures

During the construction phase, the Assessment recommends the following mitigation measures be implemented, should dust become an issue:

- *Reducing the idling time of diesel vehicles onsite;*
- *Ensuring trucks are maintained in accordance with manufacturer's specifications;*
- *Minimisation of exposed surfaces on soil and road base mounds;*
- *Regular watering of exposed surfaces;*

- *Any dirt tracked onto access routes should be cleaned as soon as practical;*
- *Ensure truck loads are covered and tailgates effectively sealed;*
- *Silt and other material should be removed from around erosion control structures to ensure deposits to not become a dust source; and*
- *Amending of dust-generating construction activities during adverse wind conditions.*

In relation to the operational elements on the site, the air pollutant emission controls associated with the respective plants are documented individually within Section 2 of the Assessment and with the exception of the Emulsion Plant, require no further mitigating measures.

The Assessment concludes:

> *All modelling predictions indicate that, provided that specific design and operational safeguardsare implemented, particulate matter, dust deposition, and individual odours pollutants attributable to the Project would be within the current DEC (and NEPM) air quality goals at all surrounding residences.*

The Emulsion Plant will include the processing of recycled scrap rubber and will require an engineered solution such as an afterburner or other appropriate technology to address any potential for odour generation. The Assessment concludes:

> *...it is noted that it is Hanson's intention that should the emulsion plant produce polymer modified bitumen, particularly using scrap rubber as an input, then an engineered solution, whether an afterburner or other appropriate technology, would be fitted to the plant to mitigate odour generation and meet required DEC standards. It is anticipated that such a mitigation measure will be employed at the emulsion plant. This will be incorporated as part of subsequent construction certification and detailed engineering design process.*
>
> *In order to ensure that odour from the operation of the emulsion plant will not have an impact on the surrounding region; Hanson will adhere to the following Statements of Commitments:*
>
> - *As per the requirements of Section 129 of the Protection of the Environment and Operations Act 1997 ("POEO" Act), Hanson commits to not cause or permit the emission of offensive odour beyond the boundary of the premises.*
> - *To demonstrate the above, prior to commissioning of the emulsion plant, the proponent will provide a technical report and/or manufacture's performance guarantees for all odour mitigation plant and equipment utilised within the emulsion plant process demonstrating to the*

satisfaction of the DEC that emissions of odour from this source will comply with Section 129 of the POEO Act.

6.6 Traffic and Transport

6.6.1 Existing Environment

6.6.1.1 Traffic Generation

A Traffic and Transport Assessment was prepared by Traffic and Transport Planning Associates (**Appendix 12**). The Assessment found the 'make-up' of existing traffic movements to be 32% cars and 68% trucks.

The Assessment, found:

> *The movements of vehicles into and out of the site occurs on a 24 hour basis and is reasonably consistent throughout the day (5:00am to 6:00pm) with some slight peaking during the normal morning and afternoon 'on-street' peak traffic periods.*

The total truck movements associated with the historical use of the site is some 390,000 total trucks per annum (ttpa) comprising:

• *quarry*	*70,000ttpa*
• *aggregate storage and distribution*	*45,000ttpa*
• *premix concrete*	*80,000ttpa*
• *asphalt*	*115,000ttpa*
• *recycled products*	*20,000ttpa*
• *logistics*	*60,000ttpa*
Total	***390,000ttpa***

Of the 390,000 truck trips per annum, 55% are light/medium, 43% are semi-trailers and 2% are B Doubles.

6.6.1.2 Road Capacity

The road network serving the site comprises:

- *Westlink M7*

- *M4 Motorway;*
- *Great Western Highway*
- *Wallgrove Road*
- *Archibald Road*
- *Old Wallgrove Road*
- *Private Road off Old Wallgrove Road (Right of Carriageway)*

The Assessment found:

> *The opening of the Westlink M7 Motorway has resulted in significant relief to the road network which serves Eastern Creek. In particular, it has allowed for the redistribution of traffic flows out of Wallgrove Road and eased conditions at the major M4 and Great Western Highway Intersections'.*

6.6.2 Potential Impacts

6.6.2.1 Construction Traffic

During the construction process the following circumstances will prevail:

- there will be no export of extractive product out of the quarry;
- the proposed Concrete Masonry Plant will not be operational;
- the necessary concrete will be manufactured onsite;
- existing onsite machinery will be employed for excavation and leveling;
- the road materials and roadmarking plant will be derived from the site.

The Traffic and Transport Assessment concludes

> *...the external traffic generation associated with the construction works will be at a significantly lower order that that which would occur in normal circumstances. While there will be additional movements generated by construction workers and materials delivery etc these movements will very largely be no greater than that associated with the quarry extraction and Concrete Masonry Plant elements (which will not occur at this time).*

The existing private access road more than adequately accommodates the existing movements of vehicles accessing the site (including a significant percentage of heavy vehicles). It is apparent that the access movements during the construction phase can be suitably accommodated on this roadway particularly with the advantage provided by the traffic signal control at the Wallgrove Road intersections.

6.6.2.2 Traffic Generation

The vehicle movements which will be generated by the redeveloped facility comprise:

- the existing traffic movements, less those for the export of quarry product which will cease;

- the new movements of quarried aggregates which will be imported (to replace those previously extracted from the quarry);

- the new movements related to the proposed concrete masonry plant.

The Traffic and Transport Assessment found that the proposed total truck movements per annum will comprise:

Existing less quarry export	*(390,000 less 70,000)*	*320,000*
Future import of aggregates		*+40,000*
Future Concrete Masonry Plant		*+25,000*
	Total	*385,000ttpa*

The Assessment also found that the total make-up of projected truck vehicle movements during the morning and afternoon peak periods related to the proposed development will be:

	Existing		Future	
	AM	**PM**	**AM**	**PM**
INBOUND				
Light	21	13	31	19
Medium	27	18	39	22
Heavy	12	2	16	6
Total	**60**	**33**	**86**	**47**
OUTBOUND				
Light	6	49	12	59
Medium	38	5	44	9
Heavy	10	6	14	10
Total	**56**	**60**	**70**	**78**
Two Way Total	**116**	**93**	**156**	**125**

The Traffic and Transport Assessment compared the above rates with those anticipated in the Sims Varley Eastern Creek Precinct Traffic Management Assessment, prepared May 2005. The Sims Varley assessment established the projected traffic generation circumstances of development based on parameters provided by Blacktown City Council and the RTA.

> *The Pioneer Site was specified as 47.4ha with 45.4ha of developable area and there would be 2,216 employees engaged on the site generating some 634vtph (AM) to 728 vtph (PM) in the peak periods.*
>
> *The proposed development site (which is part of the identified Pioneer Site) will be some 27ha of developable land and application of the 'employees per ha' criteria would suggest (under the assessment assumption) that there will be some 1,318 employees engaged and the detail projected distribution of trips generated by the potential site development is assumed as:*

AM			PM		
IN	**OUT**	**Total**	**IN**	**OUT**	**Total**
320	56	376	65	367	432

The Traffic and Transport Assessment concludes:

> *...the consequential traffic generation of the relocated and new uses on the site will only be some 56% to 65% of that which was assumed in the precinct studies. It is therefore apparent that the traffic generation outcome of the redevelopment scheme will be quite satisfactory in the context of the precinct planning and the proposed road system.*
>
> *On that basis, the operational outcome on the road system will be significantly better than that which was indicated in the planning process.*
>
> *A particular benefit of the planned road system will be the ability for the traffic generated by the site to access to/from the west rather than the current constraint of only being able to access to/from the east.*

6.6.2.3 Operational Traffic

The 'make-up' of vehicle movements will comprise approximately:

- 32% cars;
- 20% medium vehicles;
- 46% long vehicles;
- 2% B Double vehicles.

The movements will occur on a 24 hour basis with relatively consistent spread of flows between 5:00am and 6:00pm. The Traffic and Transport Assessment provides

> *There will be some slight 'peaking' during the normal morning and afternoon on-street peak traffic periods.*

The total traffic generation (two-way) in the morning and afternoon peal periods will be between 200 to 300 vtpa as follows:

	AM	**PM**
IN	116	156
OUT	93	125
Total	**209**	**281**

The Traffic and Transport Assessment concludes

The traffic outcome for the site will only be some 60% of that assessed for the site in the road network planning process. It is also apparent that the directional distribution of movements (ie IN/OUT) will be far more balanced and without the dominant IN(AM) / OUT (PM) characteristics.

It is apparent therefore that the traffic outcome will be quite satisfactory both in a 'precinct sense' and in a 'local access' sense. There will be three points of vehicle access on the bounding Collector Road with the majority of movements occurring through the proposed new access cul-de-sac.

The access points will be designed to suitably accommodate all vehicles requiring to access the site and the access movements will not experience any operational difficulty or undue delays.

6.6.2.4 Proposed Road Alignment

The proposed road network for the Eastern Creek Precinct is identified within the SEPP 59 Stage 3 Precinct Plan. The exact location of the standard collector road and other roads within the Stage 3 Precinct Plan and their relationship to the external road network connections, are matters which remain the subject of further assessments and negotiations involving the RTA, Blacktown City Council and the Department of Planning as well as other landowners within the Stage 3 Precinct Plan area.

As indicated on Figure 6, the proposed road alignment, forming the northern boundary of the site will not prejudice an alternate alignment at a future date, nor will it preclude the satisfactory provision of the proposed collector road. It is noted that the proposed alignment follows the historical 'right of way' and allows a more orderly and economic use of the land. The Traffic and Transport Assessment found:

The proposed realignment of the boundary will not preclude the provision of this standard collector road in a geometry which accords the appropriate road deign standards (albeit an alignment which varies somewhat from that indicated in the Precinct Plan Road Diagram). The road patterns which are contained in the Precinct Plan Diagram do however adopt curvilinear alignments on a number of the proposed road reflecting boundary outcomes and introducing some 'interest' to the road network layout.

6.6.2.5 Access and Internal Circulation

The principal internal site access will be provided by a new 14m wide cul-de-sac (to the east of the site), running north-south and providing access for:

- the concrete batching plant;
- the logistics operation and workshop;
- the concrete recycling facility;
- the materials storage and transfer depot;

- the concrete masonry plant; and
- the office and laboratory.

The top of the cul-de-sac will intersect with the collector road in a location where there will be suitable sight distances available. The Traffic Assessment found:

The geometry of the intersection will be designed to suitably provide for all vehicles requiring to operate through the intersection.

The new access road will have a 14 metre wide industrial type carriageway with a cul-de-sac bulb suitable to allow for the turnaround of B Double vehicles. Separate access to the various use elements, including carparking areas, will be located along the cul-de-sac.

Access will also be provided for the asphalt plant and concrete recycling plant on the western part of the site. A 6.5m wide access system will operate predominately as a one-way clockwise arrangement for trucks associated with the asphalt plant, whilst vehicles associated with the concrete recycling plant will be able to use the immediate connecting section as two-way.

The Traffic and Transport Assessment concludes

'The design of the access roads will accord with the requirements of, AS 2890.1 and 2; Austroads and Council's DCP's'.

The intersection arrangement reflects a very normal and acceptable treatment with appropriate provision for:

- *truck turning;*
- *passing of right turning vehicles;*
- *bus stops; sight distances.*

6.6.3 Conclusion and Mitigation Measures

The Traffic and Transport Assessment concludes:

The proposed vehicle access and internal circulation arrangements for the redevelopment will be suitable and appropriate and assessment has shown that the traffic outcome of the construction process will be quite satisfactory.

Assessment in relation to the potential traffic implications of the proposed redevelopment has concluded that there will be no requirement for amelioration measures. This is very largely a consequence of the fact that:

- *the uses are essentially already existing;*

- *the traffic generation of the site will be substantially less than that which was assessed and envisaged for the Eastern Creek Precinct studies.*

6.7 Road Related Geotechnical / Engineering

6.7.1 Geotechnical Existing Environment

The existing haul road is located on the immediate southern side of the Quarry, on the northern side of the site's northern boundary. The existing road forms part of the quarry haul road as well as being the main road for vehicle access to the site.

A Geotechnical Assessment has been prepared by Martens and Associates **(Appendix 13)** to assess the sub-surface soil and rock properties using site drilling along the existing haul road alignment to provide a 'worst case' stability assessment given the close proximity of the existing haul road to the open-cut mine

The Assessment focused on the stability of the existing road and the proposed road development with suitably allowance working surcharge loads imposed by the road (both during construction and in operation). An assessment of the impact of traffic and earthquake loads was also undertaken.

Preliminary site inspections indicate that below the surface pavement materials (predominantly gravel and clay materials), a residual clay mantle exists overlying generally moderately weathered to fresh bedrock. Depth of the mantle varies between 1.5m the west (BH2) to 2.5 m (BH4) in the east. Fill depths over the clay mantle varied and consisted of primarily general clay based fill and road-base materials.

Existing site drainage associated with the existing road conveys runoff to adjacent drains running parallel with the road.

No natural drainage lines were noted along the road. No surface dampness or groundwater was encountered during inspection.

With regard to ground vibrations, very heavy vehicles utilise the existing road which is constructed of a mixture of gravel and clay fill. Road corrugations are substantial and considerable noise and ground vibrations occur in relation to local heavy vehicle traffic.

6.7.2 Geotechnical and Engineering Design Assessment

A geotechnical risk assessment for the proposed road alignment has been undertaken in accordance with the principles outlined in the AGS (2000) guidelines for landslide risk management.

The risk assessment included the following site features in determining site geotechnical risk classification.

- Site geological and topographical setting
- Site stormwater and sub-surface drainage
- Sub-subsurface soil and strength profiles
- Strength properties of rock materials
- Site gradient and slope instability
- Relative site position in landscape.

With regard to ground vibrations, a new smooth pavement will replace the existing pavement and heavy vehicle traffic will be considerably reduced given the cessation of mining activities.

The Factor of Safety (FOS) against sliding rate was assessed. . Values > 1 represent stability, with a value of > 1.5 being generally acceptable. The summary of results is below:

Scenario	Existing Conditions	Developed Conditions
No Earthquake Load	6.541	7.265
With Earthquake Load	5.929	5.929

The results show that the FOS against sliding is considerably greater than 1.5 for all modelled scenarios, even under design earthquake loads. The modelling indicates that the FOS actually improves under the developed conditions in association with reduced ground vibrations and reduced traffic load due to removal of mining machinery.

6.7.3 Conclusion and Mitigation Measures

The Assessment examined the vertical, longitudinal and horizontal sections of the road alignment in relation to the NSW RTA road design guidelines. The Assessment concludes:

> *That the vertical and horizontal alignment complies with the requirements for a 60 km speed limit. Should the speed limit be increased to 70 km/hour, only minor horizontal road re-alignment may be required. Our view is that such realignment, where this would be required, would not adversely affect road stability or alter the outcomes and recommendations of this report.*

The Assessment was prepared in accordance with:

- Australian Geomechanics Society (AGS 2000)

- Australian Standards 1726 (1993) and 1289.6.3.1 (2004)

Vertical and horizontal road alignments for the proposed road and Precinct plan roads are provided in Attachment A of the Geotechnical Assessment.

In conclusion:

> *... that there are no geotechnical conditions along the proposed alignment that would preclude consent for such a road proposal. The proposed road will not detrimentally affect local slope stability. Historically the usage of heavy mining machinery at the site and along the Quarry road has demonstrated this stability without a more formal road pavement.*

6.8 Soil and Water Management

6.8.1 Land Contamination

6.8.1.1 Existing Environment

The operation and use of the site over the past 40 years has included:

- Premix concrete production and sales;
- Cement storage and storage of associated products;
- Asphalt production and sales;
- Technical laboratories associated with production of concrete and asphalt;
- Concrete recycling operations;
- Aggregates storage and distribution'
- Crushing, screening and blending facilities;
- Heavy vehicle and light vehicle parking and maintenance;
- Weighbridge;
- Bitumen storage;
- Fuel storage;
- Transport logistics depot and workshop; and
- Offices.

The soil profile is highly variable in terms of both soil depth and soil types, due to the large amounts of earthworks and regarding (filling) of the site over the past 40+ years.

Martens and Associates have prepared a Stage 1, Land Contamination Assessment **(Appendix 14)**. The Assessment concludes that the site has been used relatively intensively for a range of potentially contaminating industrial activities, for over 40 years. A summary of potentially contaminated areas and associated contaminants is provided at Table 3 of the Land Contamination Assessment.

6.8.1.2 Potential Impacts

A Stage 1 contamination assessment has been completed in accordance with SEPP 55 requirements and NSW EPA Contaminated Site (1998) guidelines for Stage 1 contaminated assessments. Investigations included a review of the history of site use, planning policy review, Council development application records and historical aerial photography.

Based on the Stage 1 investigation results, the Assessment concludes:

> *..that the site is likely to be suitable for the proposed development, following any required remediation works, because the nature of the land use and activities associated with the proposed development is similar.*

6.8.1.3 Conclusion and Mitigation Measures

The Assessment recommends Stage 2 – soil sampling and testing to confirm if there is any requirement for site remediation. Having regard to the past use and its future use as an industrial development it is appropriate that such sampling, testing and any remediation occur prior to issuing of the construction certificate.

6.8.2 Erosion and Sediment Control

6.8.2.1 Existing Environment

The Erosion and Sediment Control Plan, prepared by Martens and Associates, identified five primary soil types onsite:

- *Unsealed pavement* *43% of site*
- *Fill in work areas* *11% of site*
- *In-situ soils* *28% of site*
- *Soil spoil areas* *3% of site*
- *Stockpile areas* *15% of site*

Existing erosion and sediment control includes:

- *Sedimentation Ponds*
- *Diversion channels/banks*

- *Stabilisation of slopes (by producing appropriate batter angles and encouraging vegetation growth).*

Current stormwater management is controlled by directing the flow of water into the existing dam system. Water is then released from this system into the natural water course once treated.

6.8.2.2 Potential Impacts

It is expected that the redevelopment of the site will involve regrading of the existing site and repositioning of most stockpiles onsite.

Proposed works also include the reconfiguration of existing sedimentation basins/dams as well as the construction and realignment of a drainage depression.

The potential areas of soil loss and soil erosion are:

- Pavement and hardstand areas including access roads;
- Footings, foundations and trenching of services;
- Stockpile areas;
- Sedimentation basins and surrounding areas.

Construction

An Erosion and Sediment Control Plan has been prepared by Martens and Associates (**Appendix 15**). The ESCP breaks the construction works into five main categories:

- *Road construction* *2.0ha*
- *Level regarding* *17.5ha*
- *Stockpile relocation* *4.21ha*
- *Water quality ponds* *2.12ha*
- *Realignment of stormwater drainage depression* *0.35ha*

The Assessment found the calculated soil loss for each of the abovementioned earth work types revealed erosion hazards of *'low'* or *'very low'*. The calculated soil loss for each of the earth work types is contained in Table 6 of the Assessment.

6.8.2.3 Conclusion and Mitigation Measures

Section 4 of the Erosion and Sediment Control Plan sets out the required sediment and erosion control devices for:

- *Temporary construction exit;*
- *Diversion channels/banks;*
- *Straw bale barrier;*
- *Filter bank;*
- *Sediment traps*
- *Culverts;*
- *Filter dams;*
- *Sediment basins.*

The above control devices will be integrated with the existing measures listed at Section 6.6.1.

In addition, the Preliminary Erosion and Sediment Control Sequence at Section 6 of the ESCP will be used as a guide in the preparation of erosion control measures for the site.

6.8.3 Stormwater Management

6.8.3.1 Existing Environment

The primary watercourse on the site is an upper tributary of Ropes Creek, which starts from the catchment south of the site and flows across the south-west corner of the site.

There is also a minor drainage depression which flows from properties to the east, across the south-eastern corner of the site.

Stormwater is currently managed by directing the site surface flows into the existing dam system, consisting of twelve sedimentation ponds of varying size. The Concept Stormwater Management Strategy **(Appendix 16)**, describes the dam system as:

- *A 'top dam' adjacent to the current site office and crusher receives pumped flows from the pit area and the crushing plant;*

- *Several 'middle dams' receive flows from the top dam via an open channel (grassed) for secondary settlement consisting of a system of basins interconnected by channels, pipes ands weirs;*

- *The 'major sedimentation dam' located in the south western portion of the site receives combined pit, process effluent and stormwater runoff via a 2:1 batter drain.*

All excess flows from the 'Major' sedimentation pond flow into a 'Minor' sedimentation pond via a spillway and then into a final three detention ponds. Water is then released from this system into the natural watercourse (Ropes Creek) once it has been treated by a flocculate and had time to settle out the suspended solids'.

There is currently a pump on the major sedimentation pond which pumps water back to the top pond/dam. All ponds contain varying amounts of silt and mine tailings. The following table lists the size, depth and quantity of silt currently in each pond/dam.

6.8.3.2 Potential Impacts

Stormwater Quality

In accordance with Blacktown City Council's Stormwater Quality Control Policy (2005) the following modeling scenarios were considered:

The site development layout without any water quality control structures/measures; and

The site development layout with water quality management measures. Proposed measures include "Humeceptor" hydrocarbon and sediment traps, grassed swales and a renewed sedimentation / water quality control pond.

As required by the Eastern Creek Precinct Plan the water quality objectives of Blacktown City Council (2005) were adopted for the site:

- *90% retention of annual gross pollutant load; and*

- *80% retention of annual coarse sediment load; and 50% retention of annual fine sediment load; and*

- *45% retention of annual nutrient load; and*

- *90% retention of annual hydrocarbon load; or*

- *total discharge of TPH < 10mg/L at all times.*

The proposed stormwater management system has been developed to address three priority pollutants (coarse sediments, hydrocarbons and litter). Nutrients and fine sediments are also addressed in accordance with BCC (2005) policies.

Stormwater management devices have been incorporated into the concept stormwater management plan and include:

- Stormwater runoff collection;
- Drainage swales;
- Gross pollutant traps;
- Detention and sedimentation structures; and
- Stormwater release points.

The above devices are addressed at Section 5 of the Concept Stormwater Management Strategy. The Strategy concludes:

> *The proposed stormwater management strategy is practical, cost effective and if implemented and appropriately maintained will reduce key stormwater pollutants in line with design objectives outlined in this report. Design of stormwater management structures achieve stated objectives regarding flow attenuation and ensure future stability of downstream watercourses.*

Runoff from all future internal site buildings, parking areas, roads and stockpile areas shall be directed to the site sedimentation pond via treatment structures including drainage swales, oil and sediment traps and detention, sedimentation and harvesting structures. Further detail is provided at Section 5 of the Concept Stormwater Management Strategy **(Appendix 16)**. The arrangement of local topography allows for all stormwater runoff from internal site roads to be adequately discharged by these means.

1. *Grasses treatment swales – located along roads and carpark fringes these are provided to maximise infiltration and pretreatment of stormwater flows. These act to remove sediments (coarse and fine), litter and nutrients.*

2. *Humeceptors – these treat flows from the entire developed area of the site. They primarily remove sediment (and associated nutrient) and hydrocarbons.*

3. *Site sedimentation basin – all flows from developed site areas pass to the sedimentation basin. The basin removed residual pollutants including sediments, litter and nutrients. Water is also reclaimed from this point and used on-site for industrial purposes.*

MUSIC modeling results of the stormwater management system are set out in Table 5 and Table 6.

The specific water quality objectives adopted for the conceptual stormwater management were to ensure that post-development pollutant loads were equal to or less than pre-development loads.

The Strategy concludes:

> *'... that significant reductions in total suspended solids, total phosphorous and nitrogen occur as a result of implementing the proposed stormwater measures. This is due to a combination of factors, most noticeable a reduction in catchment area and the implementation of water quality control structures.*
>
> *The results of the MUSIC modeling demonstrate that, when managed appropriately through the implementation of water quality control techniques, the proposed development will lead to improved post-development water quality conditions onsite. Modelling also demonstrates that the proposed conceptual stormwater management strategy is effective in reducing key water quality contaminants and if implemented would serve to meet design stormwater quality objectives.*
>
> *In summary, the proposed stormwater quality control measures achieve all of the prescriptive design criteria of Blacktown City Council (2005) Stormwater Quality Policy.'*

Stormwater Quantity

A site specific analysis of on-site detention requirements has been undertaken to design an on-site detention facility which shall provide for adequate detention to achieve the objectives of the Section 5.6.5 of the Precinct Plan. The Precinct Plan identifies a need to attenuate post development flows to levels equal to the corresponding frequency run-off event from a "rural" landscape. The Concept Stormwater Management Strategy has undertaken detailed RAFTS modeling to assess the requirements for on-site detention.

Both the Precinct Plan and the Blacktown City Council Stormwater Quality Control Policy identify the 1 in 2 year ARI event as being critical for channel morphological stability.

The Concept Stormwater Management Strategy provides:

> *The proposed OSD is to be located within the same structure as the site sedimentation and rainwater harvesting dam. This dam has a storage capacity of 6.2ML of rainwater harvesting.*

The flow from the OSD has been evaluated for storms from the 1 in 2 yr ARI to the 1 in 100 yr ARI event.

Results of the analysis are provided in Table 7 of the Concept Stormwater Management Strategy.

The Strategy concludes:

A site OSD with the following general characteristics is capable of sufficiently attenuating post-development flow to achieve the stated objectives of the Precinct Plan and Council's Stormwater Quality Policy:

- *Surface area of 500m² co-located with the site sedimentation/stormwater harvesting basin.*
- *Outlet constructed of three 600mm pipes;*
- *Design retention capacity of 4.75ML;*
- *Minimum operating stage of approx 1.0m*
- *Spillway (not yet engineered) at 1.0m above outlet invert sized to pass PMF flow.*
- *Nominal free board of 0.5m*

6.8.3.3 Conclusion and Mitigation Measures

The reclamation and re-use of stormwater is an integral part of the sites water cycle management plan and minimisation of potable water demands shall be achieved through their implementation. The proposed system demonstrates 'best management practice' solutions in-line with the principles of Water Sensitive Urban Design (WSUD) and Ecologically Sustainable Development (ESD).

The following is a summary of recommendations of the Concept Stormwater Management Strategy:

1. *Stormwater management systems as detailed in this report are to be provided to ensure compliance with Blacktown Council (2005) stormwater quality Control Policy.*
2. *A stormwater collection basin is to be provided to allow for the treatment and harvesting of site runoff from the entire development area on the site. Collected runoff is to be used for non-potable site water uses. The capacity of the site sedimentation / harvesting basin is to be 6 200 KL.*

3. *An on-site detention basis is to be provided to achieve the attenuation of post development flows to 'rural' catchment flows for critical storms from the 1 in 2 to 1 in 100 yr ARI event. An OSD capacity of 7.25 ML. Where co-located with the 6.2 ML harvesting basin the OSD capacity may be reduced to 5.0 ML.*

4. *Detailed design of site stormwater quality systems is to be undertaken. This detailed design is to ensure compliance with stormwater quality criteria specified in this report. The use of treatment swales, sediment / hydrocarbon traps and a major sedimentation basin as outlined in this report are recommended.*

5. *No development works (other than approved regrading and landscaping) is to be undertaken with the nominated riparian corridor and 10 m buffer areas.*

6. *Detailed design of sedimentation / OSD basin and redirected site overland flow path are to include as far as possible natural revegetation.*

7. *The site stormwater drainage system is to be designed to relevant council policies to achieve a safe and effective means of draining the site.*

6.8.4 Water Cycle

6.8.4.1 Existing Environment

Daily rainfall data, from Prospect Dam (station number 67019), approximately 3.5km south-west of the site indicates that the site experiences a mean annual rainfall of 871.0mm (for the period 1995- 2005).

Evaporation data was also taken from the daily record at Prospect Dam station. The data indicates that mean site annual evaporation is 1392.1mm. Potential evaporation is less than 100mm/month during the period of April to August.

Existing surface water hydrology is discussed at Section 6.6.4.

Current operations include the purchase of on average between 60-80 KL/day of water from Sydney Water and some stormwater recycling onsite. Current operations have an allowance of up to 200KL/day from Sydney Water. However, demand may fluctuate considerably on a daily basis as a result of:

- Product demand;
- Weather conditions (e.g. during wet weather no concrete production);
- Staff availability (e.g. Public holidays and staff rosters)

Current water demands for the existing uses are outlined in Table 3 of the Water Cycle Management Strategy **(Appendix 17)**

6.8.4.2 Potential Impacts

The proposal relocates and restructures the historical uses into a consolidated area and introduces more efficient industrial operational methods.

A Water Cycle Management Strategy has been prepared by Martens and Associates to:

- demonstrate that sufficient supply is available for the proposed development; and
- demonstrate that water supply arrangements are ecologically sustainable and in accordance with the principles of water sensitive urban design.

The report provides a water balance assessment and water cycle management strategy for the proposed redevelopment scheme and examines:

- current water supply and demand;
- projected water supply and demand
- determination of water supply resources and constraints
- water balance modeling for rainwater harvesting and re-use
- determination of broad water cycle management operating principles.

Following site regrading it will be possible to capture and treat the stormwater runoff from the site in accordance with relevant standards issued by Blacktown Council City Council Stormwater Control Policy (2005). This water will include all roof water, surface water runoff from stockpile areas and hard stand areas.

Prior to flowing into the sedimentation dam/basin the water will be treated using an appropriately sized Humeceptor. The water will then pass through the sedimentation dam/basin enabling further settling of suspended solids. A pump and filter will be located at the end of the basin which will pump treated stormwater to two header tanks strategically located on the site to allow recycled stormwater to be used.

The projected water demands for each use are outlined in Table 4 of the Water Cycle Assessment. In summary, there is a site demand increase from 192.75 KL/day to 235.20KL/day.

The Assessment provides that with regard to the redevelopment of the site:

> *...existing water servicing arrangements, including the purchase of on average between 60-80 KL/day of water from Sydney Water and stormwater recycling on site will remain relatively unchanged. Further to this, it is intended to improve the level of current stormwater treatment such that it can also be used in a broader range of industrial purposes.*

A daily water balance (supply / demand) model (WatCycle 1.0) was utilised to evaluate stormwater harvesting potential from the site. Outcomes from the modelling were used to determine the quantum of stormwater re-use inundation on-site.

The Assessment concludes:

> *On the basis of the water balance modelling we recommend that 6200 KL of dynamic storage be provided at the stormwater treatment ponds for stormwater re-use within the site. This figure is based on 0.5 Ha of surface area with an average depth of 1.24m.*

6.8.4.3 Conclusion and Mitigation Measures

The Assessment indicates that the existing water supply system, including utilisation of recycled stormwater, has sufficient capacity to supply water to the proposed development.

In summary:

- *The existing water demand will increase from 137.8KL to 169KL per work day;*
- *Projected Sydney Water demand will be 88.61 KL/day. This is considerably less than the 200KL supply to the site and slightly higher than the 80 KL/day used presently on average; and*
- *Recycled stormwater will supply 80.39 KL/day. This is a sustainable resource and recycling is in accordance with current best management practices and water sensitive urban design.*

A concept design for the recycled stormwater scheme is provided at Attachment B of the Assessment. The scheme shows relevant supply sources, storages, demands and treatment systems. Further detail will need to be provided at the CC stage to further develop and design the scheme.

6.8.5 Wastewater

6.8.5.1 Existing Environment

A Wastewater Management Assessment has been prepared by Martens and Associates (**Appendix 18**). The Assessment found that the site experiences a mean annual rainfall

of 871.0mm (for the period 1995-2005). Evaporation data indicates that mean site annual evaporation is 1392.1mm.

The elevation of the site is between 59 and 90m AHD with the proposed uses being located on the land having an elevation between 76 and 90AHD.

The Assessment provides:

> *The elevation of the natural soils where effluent disposal is proposed is between 66 and 73m AHD. Site grades in this embankment vary from approximately 4-7.%*

The Wastewater Management Assessment found no groundwater during the test excavations and concludes:

> *A shallow water table is not expected to occur within the proposed reuse area given parent geology and topography.*

6.8.5.2 Potential Impacts

The site's capacity to assimilate treated effluent from the proposed redevelopment is determined through analayses of the proposed wastewater generation rates, the soil's effluent absorption capacity and availability of suitable land for effluent application.

Site and soil suitability for effluent re-use has been examined and determined in accordance with the Tables 4 and 6 of the NSW Department of Government *et al.*(1998) Effluent Management Guidelines. The findings indicated:

> *...that the limitation rating of the soils does not present any limitations for on-site effluent re-use provide particular attention is given to careful system design and construction.*

In consideration of the available land area and site soil characteristics, the Assessment recommends that the temporary effluent re-use areas be located in the south eastern corner of the site as described in the Concept Plan CPO1.

The Wastewater Management Assessment estimates that following redevelopment, peak wastewater load of 9,339 L.day-1 will be generated. The average daily flow is 7338l/day, due to the site being operated on average 5.5 days /week.

The temporary onsite sewage treatment plant (STP) will provide secondary quality effluent as a minimum. The proposed effluent quality would be categorized as Level A, Low Strength effluent and is suitable for irrigation in open spaces with controlled public access.

The Assessment provides:

The required minimum surface area for an irrigation system at the site is calculated to be 4450m2 (9339 L.day^{-1}/2.1 L.m^{-2}.day^{-1})

The Assessment evaluated the soil moisture conditions, nutrient specification in soil water and nutrient loss through drainage and runoff to determine:

- Hydraulic suitability of re-use schemes under varying effluent loads;
- Likely rate of nutrient accumulation within the soil profile;
- Rate of nitrogen loss from the system through leaching and surface runoff.

The detailed results of the modeling are provided in Attachment F of the Wastewater Management Assessment.

The Assessment concludes:

The reuse area requirements for environmentally sustainable re-use of effluent are less than the available area.....Thus, in terms of onsite wastewater management the site can readily sustain the proposed development and use of a temporary onsite wastewater management system is considered acceptable.

6.8.5.3 Mitigation Measures

The required area for effluent re-use at the site has been determined using the provided peak hydraulic load and design effluent application rates. The Assessment provides:

The required minimum surface area for an irrigation system at the site is calculated to be 3505 m2 (7358 L.day-1 / 2.1 L.m-2.day-1).

The re-use area requirements for environmentally sustainable re-use of effluent are less than the available area identified above. The Assessment concludes:

Thus, in terms of on-site wastewater management the site can readily sustain the proposed development and use of a temporary onsite wastewater management system is considered acceptable.

6.8.6 Flooding

6.8.6.1 Existing Environment

The site has approximately 12 sedimentation ponds/dams. All of these are being drained and filled to allow for the regrading as well as the construction of a new sedimentation pond/dam in the lower south west corner of the site. The locations of the existing ponds and the proposed new pond are provided at Attachment A of the Flood Study.

The Flood Study prepared by Martens and Associates **(Appendix 19)** provides baseline flood information for pre and post-development site watercourses.

6.8.6.2 Potential Impacts

The proposal includes filling of several current stormwater control ponds, construction of access roads, site regrading, and realignment of several existing access roads.

The re-development involves the redirection and construction of a suitable channel to redirect the existing stormwater drain away from the existing toe embankment. This will allow better stabilisation of the embankment while also disconnecting the stormwater drain from the water quality ponds. The redirected stormwater drain will flow down the eastern boundary and southern boundary and will connect to the existing upper tributary of Ropes Creek in the south west corner of the site.

6.8.6.3 Conclusion and Mitigation Measures

Whilst re-organisation of the development site is proposed, there will be no net change in the extent of hard-stand areas. Many trafficable areas will be consolidated and several stormwater quality management measures (eg. permeable vegetated road side swales) will be implemented.

The Flood Study provides:

> *On this basis, there will be no expected change to pre-development flood hydrology on the upper tributary of Ropes Creek.*

6.9 Waste Management

Asphalt, emulsion and concrete production generates very little waste. Waste minimisation principles will be applied to water, cement and aggregate.

Concrete recycling itself is a waste management system which prevents waste being land-filled or incinerated, reduces the consumption of new raw materials, and requires less energy than virgin production.

The main solid waste generated by the concrete batching plant is waste concrete. As such waste concrete will be maximized by its use for construction purposes at the batching plant or at a project site. Alternatively, waste concrete can be directed to a suitable washout pit where it becomes gravel, sand *et al.* which can subsequently be collected and reused.

Contaminated stormwater and process wastewater will be captured and recycled. A wastewater collection and recycling system has been designed to collect contaminated water from:

- agitator washout;
- truck washing;
- yard washdown
- contaminated stormwater
- concrete batching area;
- slump stand; and
- any other wastewater from the batching plant operation.

Process wastewater and contaminated stormwater collected from the site will be diverted to a settling pond, or series of ponds, such that the water can be reused in the concrete batching process.

Dust emissions due to vehicles will be minimised by reducing travel distances within the site by appropriate site layout and design and the use of wheel and truck wash facilities at site exits in relation to uses which generate dust namely, concrete recycling and matrials storage and recycling depot.

The operations will generate what may be termed as "general factory and office waste". Solid material will be collected from the site via the Blacktown City Council's refuse collection and disposal service.

Domestic waste from the office building and workshop will be disposed of in accordance with the requirements of the Wastemanagement Assessment.

Stormwater run-off will drain to the temporary STP.

6.10 Flora and Fauna

The part of the site designated "Area set aside for future expansion subject to further environmental assessment" and identified as of "low ecological value" within the Stage 3 Precinct Plan should not be precluded from any future proposal before ground truthing by a qualified ecological consultant has taken place.

Due to the historical operations and high level of disturbance on the site, it is unlikely that any of the vegetation within the areas to which Stage 1 or Stage 2 relate, would support quality habitat. Therefore the area to which proposed works relate is unlikely to have any flora or fauna significance.

The riparian zone is proposed to be retained (Concept Plan CP01). Enhancement of ecological values will occur within this riparian zone. The quality of stormwater runoff

is of a quality that results in an improvement to the existing situation and will contribute positively to the natural environment and ecological values contained in this riparian corridor.

6.11 Hazards and Risks

These have been addressed where relevant in the assessment and development of mitigating measures.

Accordingly, there are no residual hazards or risks associated with the proposed Concept Plan for project approval.

6.12 Visual Impacts

The proposal is to relocate the historical industrial uses and operations of the site to a smaller portion of the site. The design of the proposed buildings and plant will be consistent with the existing surrounding industrial landscape character.

The proposal is consistent with the desired future character of the area as set out in the objectives of the Stage 3 Precinct Plan.

The site does not adjoin any open space areas, public roads or residential zones. The adjoining land is similarly zoned for SEPP 59 Employment purposes and will also be required to develop generally in accordance with the Stage 3 Precinct Plan.

Therefore, it is considered that the proposed Concept Plan will have a negligible impact on adjoining land due to the existing operations and the established industrial/employment character of the area.

7 JUSTIFICATION AND CONCLUSION

The proposal is consistent with the intentions of the State Government, under the Metropolitan Strategy and will assist in supporting the economic growth and development of the area.

The site is strategically located to service both the Sydney Metropolitan Area and regional New South Wales. In addition, the proposed development will be a major employment generating development on the basis of its role in providing materials and products for infrastructure provisions throughout New South Wales.

The proposal is consistent with the intentions of the Blacktown City Council, under the direction of the Stage 3 Precinct Plan, adopted on 14 December 2006. The application does not preclude or prejudice any future action that would ensure compliance with the provisions of the Precinct Plan.

The proposal continues to use existing infrastructure and services. The Concept Plan relocates to a smaller portion of an existing site. It enables the existing operation to achieve greater efficiency and to achieve a more efficient and orderly use of land in giving effect to SEPP 59.

The proposal is consistent with the Objects of the Act, SEPP 59 and the relevant aspects of the Precinct Plan for Stage 3 Eastern Creek. It is a permissible use and consolidates within a smaller portion of the subject land (as per the proposed subdivision realignment) the equivalent range of uses that have historically operated on the site. There are no significant adverse impacts. Traffic generation does not exceed prior uses and levels; storm-water environmental outcomes are improved; noise and other environmental considerations meet expressly defined standards and criteria. In conclusion, the proposed mitigating measures improve environmental outcomes and would operate within the standards considered relevant for such matters. These are expressly outlined in the statement of commitments. The consolidation of historical activities on a smaller portion of the same site enable the remainder of the land which is not the subject of this application to be utilised to achieve more orderly and efficient use of land consistent with the SEPP 59 objectives.