NSW GOVERNMENT
Department of Planning

MAJOR PROJECT ASSESSMENT: Regional Distribution Centre, Rooty Hill

Director-General's
Environmental Assessment Report
Section 75I of the
Environmental Planning and Assessment Act 1979

March 2006

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1. EXECUTIVE SUMMARY

Rinker Australia (Readymix) is proposing to construct and operate a Regional Distribution Centre at Rooty Hill. The proposed project site is located within an established industrial area at Kellogg Road, Rooty Hill, in the Blacktown local government area. Construction material, such as sand and aggregate, would be transported from quarries located outside of the Sydney Basin to the proposed RDC by rail. These materials would be processed on site and distributed by road in the Sydney Metropolitan area. The initial capacity of the RDC would be 2 – 2.5 million tonnes per annum (Mtpa) of product, increasing to 4Mtpa once fully operational.

The capital cost of the proposed RDC is estimated at $80-110 million. Approximately 220 people would be employed during construction and 230-270 people during its operation. If approved, it is estimated that construction would take approximately two years.

Key issues raised in submissions received by the Department included:

- noise impacts relating to vehicle and train movements as well as operational noise and potential sleep disturbance;
- air quality impacts relating to dust emissions;
- traffic impacts during the construction and operation of the RDC; and
- the proximity of the RDC to Nurragingy Reserve and Blacktown Olympic Park.

Each of these issues was assessed by the Proponent as part of the Environment Assessment (EA). The Department has assessed each of these issues as well as all of the issues raised in submissions.

The noise impact assessment indicated that predicted noise levels were generally below construction noise goals and project specific noise goals developed for the operation of the project. However, the Department noted that construction noise goals could be exceeded in sections of Nurragingy Reserve. The Department considers that the Proponent has adopted a conservative approach for the assessment, using residential noise goals for a passive recreation area and considers impacts to be minimal. To address concerns by Council and the public, the Department has recommended that stringent noise criteria be adopted for the operation of the RDC. Additional measures recommended by the Department would also ensure any residual impacts are minimised.

The air quality assessment indicated that the incremental increase in dust emissions from the operation of the RDC would be minor. Additionally, predicted dust emission levels, including dust deposition, PM_{10} and TSP were below air quality goals. While the cumulative air quality assessment indicated that levels would exceed the relevant criteria, exceedances were predominantly the result of high background levels. The Department is satisfied that air quality impacts would be minimal.

The traffic assessment indicated that the RDC would have minimal impact on local and regional roads and intersections, with the majority of the traffic generated utilising the M7. To minimise impacts of construction traffic on Nurragingy Reserve, the Department has recommended that the Proponent negotiate alternative access to the project site via the OneSteel site.

The Department has also considered impacts on flora and fauna, surface water quality and visual amenity. The Department has concluded that residual impacts of the project can be mitigated and/or managed to ensure an acceptable level of environmental performance. Consequently, the Department considers the project is in the public interest, subject to strict conditions of approval.

2. BACKGROUND

Construction materials in the Sydney Basin are predominantly sourced from the Penrith Lakes Development Corporation Scheme. Additional materials are sourced from the Kurnell and Prospect Quarry, with 13% of construction sand and 23% of course aggregate imported into the region. It is estimated that the Penrith Lakes scheme will cease production in 2010, while production at Kurnell and Prospect will be reduced in the medium term. Subsequently, there will be a greater reliance on importing material for the Sydney market.

Rinker Australia (Readymix) has identified alternative sources of quarry material to meet the current and expected demand for the Sydney region. Rinker Australia is proposing to source material outside of the Sydney region and to transport that material into Sydney. Rinker Australia has sought approval from the Minister of Planning to construct and operate a Regional Distribution Centre (RDC) at Rooty Hill. The RDC would receive construction materials sourced from quarries located outside of the Sydney Basin and would store and blend the materials prior to distribution to the Sydney market.

The proposed project site is located within an established industrial area at Kellogg Road, Rooty Hill, in the Blacktown local government area. Rinker Australia owns 24 ha within the industrial area including a vacant block (15 ha) and the adjoining Humes site. The site comprises Lot 5 DP255515, Part Lot 1 DP 582388, Part Lot 3 DP 1042577, Part Lot 2 DP 582388, Lot 1 DP 607084, Part VIDE GAZ No 145 of 30/10/1942, Part GovGaz.5/7/1859 Folio 1500 comprising the Main Western Railway Line Corridor, Part Lot 15 DP 806053 and Council's road reserve of North Parade, Rooty Hill. A description of each of these parcels of land is provided in Table 1.

Table 1 Description of Land Parcels for the Project

Land Parcel	Description
Lot 5 DP255515	This Lot was previously owned by BHP Steel Limited. In 1993 BHP were granted approval by the then Minister for Planning to use the northern sections of the Lot to dispose of excess, uncontaminated spoil from the construction of the Mini Mill on land adjoining this lot. The Lot was acquired by the Proponent in 2000. In 2004 the Proponent was granted development consent by Blacktown City Council to construct and operate a concrete batching plant. The plant has not been constructed and has been included in the proposed project.
Part Lot 1 DP 582388	Humes, a division of Rinker Australia, operates a Concrete Pipe and Precast Manufacturing complex. Part of this Lot would be occupied by the RDC.
Part Lot 3 DP 1042577	This lot is owned by OneSteel Ltd and the section of the Lot included in the project is vacant land between the Mini Mill and North Parade.
Lot 2 DP 582388	The northern section of this Lot is occupied by part of the Nurragingy Reserve. The part of this Lot included in the project is owned by the Department of Planning and is vacant land between the southern fence line of Nurragingy Reserve and North Parade.
North Parade and Lot 15 DP806053	The section of North Parade included in the project provides access between the Blacktown City Council depot at Rooty Hill and Nurragingy Reserve. It is also used for pedestrian access between the Reserve and Rooty Hill.
1 DP 607084, Part VIDE GAZ No 145 of 30/10/1942 and Part GovGaz.5/7/1859 Folio 1500	Main Western Railway Line Corridor

Land uses directly adjacent to the proposed site include:

- industrial land including OneSteel to the west and Humes to the north;
- Nurragingy Reserve, which forms the eastern boundary of the site;
- Main Western Railway Line and Rooty Hill Station to the south; and
- the M7 Motorway to the west.

Other land uses in the vicinity of the proposed site include the Rooty Hill town centre, Blacktown Olympic Centre, Colebee Centre and Rooty Hill Council depot (refer to Figure 2) . The Rooty Hill residential area is located to the west and south west of the proposed site, with the closest residential properties located on Station Street. The Doonside residential area is located to the east and the closest residential properties are located on Crawford Road.

Figure 1 Regional Context

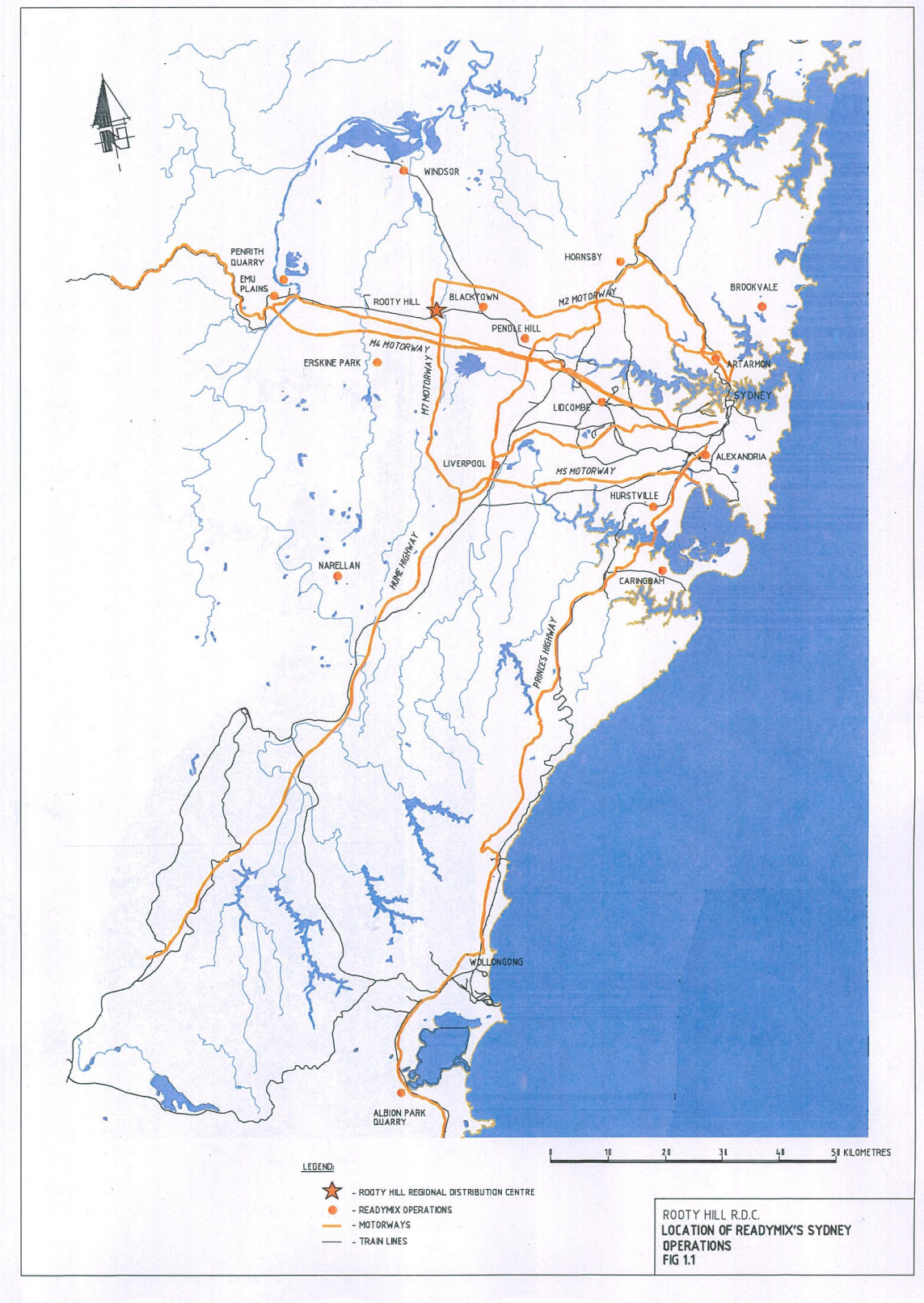
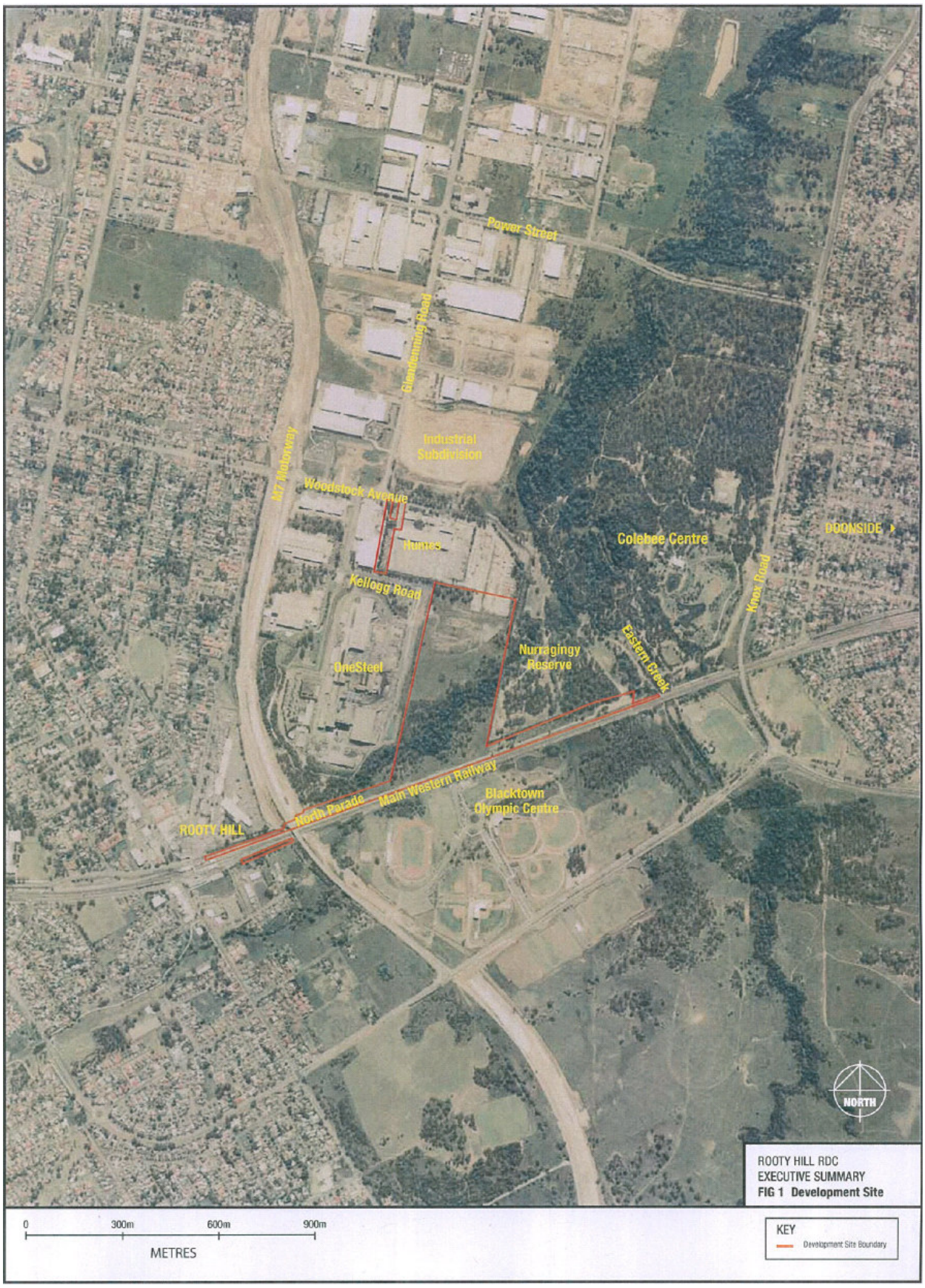


Figure 2 Surrounding Land Uses



3. PROPOSED DEVELOPMENT

The Proponent is proposing to construct and operate a Regional Distribution Centre (RDC) at Kellogg Road Rooty Hill, near the intersection of the Main Western Railway Line and the M7 Motorway. The proposal comprises of:

- a regional office building and quarry materials and concrete testing laboratory;
- a rail siding with an aggregate unloading facility;
- storage bin area and load out facilities;
- ground storage, radial stacker and reclaim facilities;
- blending plant/pug mill;
- a conveyor system linking the unloading station to the storage and truck load out facilities;
- workshop, stores, site offices and amenities facilities, truck wash down facilities, truck refuelling, weighbridges, truck and car parking;
- concrete batching plant;
- bridges at two locations over Angus Creek; and
- realignment of North Parade.

Construction material, such as sand and aggregate, would be transported to the proposed RDC by rail. These materials would be processed on site and distributed by road in the Sydney Metropolitan area. The initial capacity of the RDC would be 2 – 2.5 million tonnes per annum (Mtpa) of product, increasing to 4Mtpa once fully operational. The proposed RDC would operate 24 hours a day, 7 days a week. Components of the proposed development are illustrated in Figure 3 and summarised in Table 2.

Rinker Australia has estimated that the construction of the RDC would take approximately two years. Construction would initially commence on project components located in the southern section of the site; namely the road/conveyor bridge over Angus Creek and the rail siding. While constructing the road/conveyor bridge the Proponent states that access to the site would be via parts of Nurragingy Reserve. Once this bridge is constructed access to the project site would be via Kellogg Road, including access to the proposed location for the rail siding. It is anticipated that the bridge would be constructed within the first six months of the construction period.

Figure 3: Project Layout

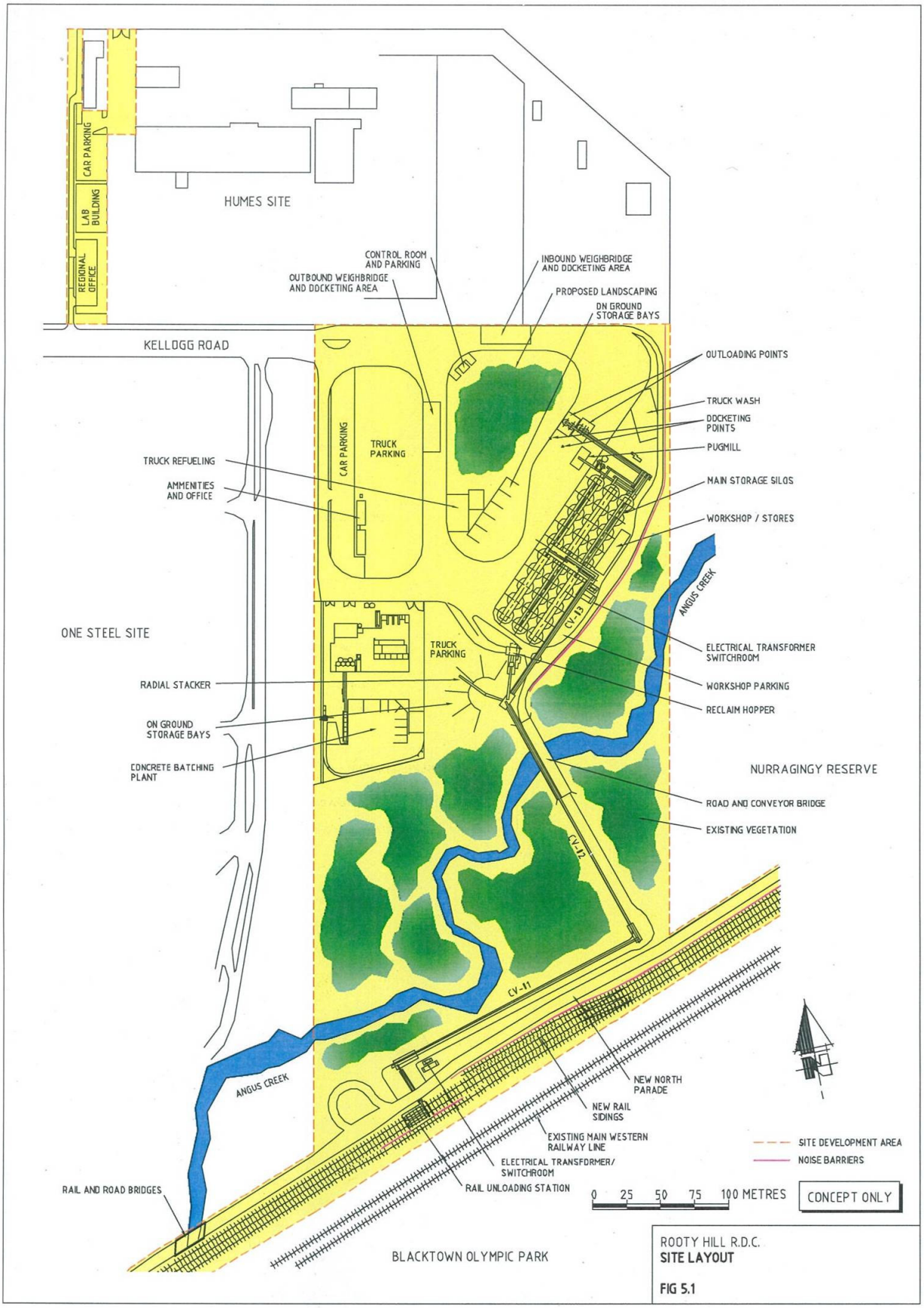


Table 2 Major Components of the Proposed RDC

Aspect	Description
Regional office building and quarry materials and concrete testing laboratory	Construction of a four storey administrative offices (plus parking) and a single storey materials testing laboratory on the existing car park area on the Humes site. Parking for 189 cars would be provided on the Humes site with Hume employees occupying 105 of these sites.
a rail siding with an aggregate unloading facility	Construction of a 1500m siding, consisting of three parallel sidings and connecting to the existing Ralcorp Railway system. Construction of a single rail unloading station comprising of two bins located below the two unloading tracks and with the capacity to hold two wagons each (150 – 200t). The unloading system would operate at ~2,500t per hour. The third siding would allow locomotives to be transferred from one end of the train to the other. A shunting siding would be located at the western end of the siding extending towards Rooty Hill Station.
Conveyor system linking the unloading station to the storage and truck load out facilities	A series of conveyors would move material from the unloading station to the storage bins. Conveyors outside a building or tunnel would be covered or enclosed and all transfer points would be fully enclosed in buildings. At the storage bins the material would be deposited in a closed top storage bin by a shuttle (variable discharge position) discharge.
Storage bin area and load out facilities	The main storage area would consist of three rows of 10 bins (bulk storage bins). Each bin would have a capacity of 2,000 to 2,500t, with the total storage capacity of the area approximately 60,000t. The bins would be approximately 33.5m high to the top of the main transfer tower that feeds the material to the bins. Load out facilities would consist of two truck loading stations, each containing two truck loading points. Loads would be transferred from the main storage bins to a loading bin via a conveyor and diverter chute. Material would be transferred to a truck via a telescopic chute.
Ground storage, radial stacker and reclaim facilities	Construction of 5 ground storage bays each with a capacity of 500t. The bays would store special/other products (sands, exposed aggregates or other specialty aggregates), blended products, materials from overloaded trucks and temporary storage of any spilled materials. The radial (telescopic) stacker is a fail safe mechanism allowing trains to be unloaded and returned to the rail system is there is a malfunction with the operation of the main storage system, or if materials at the unloading station are contaminated. The reclaim hopper would feed material back into the main storage bins from the radial stacker stockpiles or would allow for special/other products brought in by road to be held in the main storage system.
Blending plant/pug mill	The blending plant/pug mill would mix road base with cement or lime and water (capacity of 400t per hour). Cement or lime would be transferred from 100t capacity storage silos via an enclosed conveyor system.
Workshop, stores, site offices and amenities facilities, truck wash down facilities, truck refuelling, weighbridges, truck and car parking	The workshop and stores building would include office space for maintenance staff and would be used for maintenance tasks and to store spare parts and chemicals. A two storey office building house the site management team, weighbridge operators and computer system controlling activities. Driver amenities, lunch room, training room and a transport area office would be housed in an additional two storey building. The transport area office would control and track the movements of the truck fleet delivering materials to the Sydney metropolitan area and allocate loads as trucks return to the site. The truck wash bay would be located to the north of the main storage bins. The truck refuelling facility would have a 100,000L capacity and would include two refuelling bowsers and an oil store. Parking for 38 trucks, with truck parking for 12 vehicles located adjacent to the radial stacker. The main car park would consist of 110 car spaces.
Concrete batching plant	The concrete batching plant would have a capacity of 200,000m^3 and would consist of 4 silos (23m tall) and would store 120t of product. The facility would also include parking for agitators, holding bins, open on ground aggregate storage bins (capacity of 1,740t), washout pits, truck wash bays, and office and amenity facilities.
Bridges at two locations over Angus Creek;	Construction of two bridges over Angus Creek, including a road/conveyor bridge linking the northern and southern sections of the site and a rail and road bridge for the proposed sidings and the new alignment of North Parade.
Realignment of North Parade	Realignment of North Parade to the north of the proposed rail siding. The realigned North Parade would be used for access to the rail siding and unloading facility. The existing North Parade would also be maintained for restricted maintenance access to the rail siding.

4. STATUTORY CONTEXT

4.1 Major Project

The proposed development is declared a Major Project because under *State Environmental Planning Policy (Major Projects) 2005* it is development for the purpose of extractive industry related works (including processing plants, water management systems, or facilities for storage, loading or transporting any construction material or waste material) that has a capital investment value of more than $30 million. It is also development that has a capital investment value of more than $30 million for the purposes of heavy railway lines associated with extractive industries. Consequently the Minister for Planning is the approval authority for the project

4.2 Permissibility

The proposed project includes a number of land parcels with various zoning under *Blacktown Local Environmental Plan 1988* and *Sydney Regional Environmental Plan No. 31 – Regional Parklands*. The project is permissible with development consent in land zoned 4 (a) (General Industrial Zone), 5 (c) (Special Uses—Local Road and Local Road Widening Zone) and 5 (a) (Special Uses – General Zone) under *Blacktown Local Environmental Plan 1988* and is permissible without development consent in land zoned Regional Parkland under *Sydney Regional Environmental Plan No. 31 – Regional Parklands*.

4.3 Minister's power to approve

Department has exhibited the Environmental Assessment (EA) in accordance with section 75H (3) of the *Environmental Planning and Assessment Act 1979*, as described in Section 5 below. Additionally, the project is entirely permissible and meets the requirements of the Major Project SEPP. Therefore, the Department has met its legal obligations and the Minister has the power to determine this project.

4.4 Environmental Planning Instruments

The assessment of the proposed development is subject to the following environmental planning instruments and strategies:

- *State Environmental Planning Policy No 19 – Bushland in Urban Areas*
- *State Environmental Planning Policy No 33 – Hazardous and Offensive Development*
- *Sydney Regional Environmental Plan No 20 – Hawkesbury-Nepean River (No 2 – 1997)*
- *Sydney Regional Environmental Plan No 31 – Regional Parklands*
- *Blacktown Local Environmental Plan 1988*

The Department has considered the proposed project against the objectives and aims of these instruments, and is satisfied that the proposed project, subject to the implementation of the recommended conditions of approval, is generally consistent with the provisions of these instruments (refer to Appendix E).

5. CONSULTATION AND ISSUES RAISED

On 18 October 2005, the Proponent lodged an EA for the proposal with the Department.

The Department subsequently:
- notified all residents in the vicinity of the site who could be affected by the proposal;
- notified Blacktown City Council and all the relevant State government agencies, including the Department of Environment and Conservation, the Department of Natural Resources, the NSW Roads and Traffic Authority, the Department of Primary Industries (Fisheries branch) and Rail Corporation New South Wales;
- advertised the exhibition of EA in the *Mt Druitt-St Marys Standard*; and
- publicly exhibited the EA from 17 November 2005 to 19 December 2005 at the Department's Sydney and Parramatta offices, as well as Blacktown City Council.

This satisfies the requirements for public participation in the *Environmental Planning & Assessment Regulation 2000*.

5.1 Submissions Received

During the exhibition period, the Department received 23 submissions on the EA: 6 submissions from public authorities and 17 from the general public. Seventeen submissions, including the submission received from Blacktown City Council, objected to the proposal.

Public Authority Submissions

The key issue raised by the ***Department of Environment and Conservation*** (DEC) related to the noise impact assessment, including the adequacy of the project specific noise levels, rail noise impacts and the lack of commitment from the Proponent to achieve nominated noise levels. Other matters raised by DEC for consideration by the Department during the assessment process included dust impacts on Nurragingy Reserve, the lack of written advice from the Darug Custodians Aboriginal Corporation, the Darug Tribal Aboriginal Council and the Deerubbin Local Aboriginal Council following the cultural heritage assessment and deficiencies in the flora and fauna assessment including the lack of targeted surveys for *Pimelea spicata* and limited information on the area to be revegetated. The DEC has indicated that it could issue an Environment Protection Licence (EPL), and has accordingly provided its recommended conditions of approval for the proposed development.

Issues raised for consideration by ***Rail Corporation New South Wales*** (RailCorp) included safety of the shunting operations and the risk of derailment, disruptions to passenger trains during peak commuter traffic periods, and disruption to passenger and freight trains during major storm events due to increased flood levels.

Department of Natural Resources (DNR) raised a number of issues for consideration including the location and dimensions of the conveyor line and associated maintenance road and the lack of investigations to identify alternative locations, the lack of provisions in the Vegetation Management Plan to mitigate against any inadequacies in the Plan and the modification of the channel shape of Angus Creek.

The ***Sydney Regional Development Advisory Committee*** (SRDAC) raised no objections to the project, however, requires the Proponent to consult with Blacktown City Council in regards to traffic impacts on local and regional roads maintained by Council. It should be noted that the NSW Roads and Traffic Authority (RTA) is a member of the SRDAC.

Blacktown City Council (Council) strongly objects to the proposal with issues raised including:
- Noise impacts and inconsistencies in the noise impact assessment;
- Air quality impacts and in particular inadequacies in the air quality assessment;
- Traffic impacts on the local road network and the inadequacy of the assessment to identify upgrades required on roads and intersections in the vicinity of the proposed development;
- Deficiencies in the flora and fauna assessment relating to the survey methodology;
- Deficiencies in the sampling and proposed monitoring of aquatic ecology;

- Council's On-Site Stormwater Detention Policy was not considered in preparation of the concept Stormwater Management Plan and Council's Stormwater Quality Policy was not adequately addressed;
- Impacts on Nurragingy Reserve and in particular the impacts of construction traffic, noise impacts, air quality impacts, visual amenity as well as impacts on the aquatic ecology;
- Impacts on Blacktown Olympic Park including inadequacies in addressing:
  - the effects of noise and air pollution on participants, spectators and inhabitants of the proposed hotel on site,
  - increase noise levels compromising TV and radio coverage; and
  - the visual amenity of the proposed facilities detracting form future TV coverage of events;
- Lack of detailed plans for assessment of the proposal against the provisions of the *Blacktown Development Control Plan 1992.*

Agility raised concerns regarding the lack of information concerning the management and risk associated with the close proximity of the proposed development to the Sydney to Newcastle Natural Gas Pipeline.

Public Submissions

The key issues raised in submissions from the general public related to:

- noise impacts relating to vehicle and train movements as well as operational noise and potential sleep disturbance;
- traffic impacts;
- air quality impacts, and in particular dust emissions; and
- the proximity of the RDC to residential areas, Nurragingy Reserve and Blacktown Olympic Park.

The Department has assessed all of the issues raised in the various submissions in Section 6 of this report.

6. ASSESSMENT

6.1 Environmental Impacts

Key issues raised in the submissions to the proposal and/or identified during the Department's assessment included:

- noise impacts and in particular operational, traffic and rail noise impacts;
- air quality impacts relating to an increase in dust emissions;
- traffic impacts on the local road network;
- impacts on flora and fauna including the removal of Cumberland Plain Woodland and River-Flat Eucalypt Forest endangered ecological communities and impacts on threatened and migratory species; and
- impacts on Nurragingy Reserve and Blacktown Olympic Park including noise, air quality, traffic and visual impacts.

6.1.1 Noise Impacts

Issue

The project would be operational 24 hours a day 7 days a week and has the potential to generate construction, operational and road/rail traffic noise impacts. An increase in noise levels was one of the key issues raised in public submissions and in particular the increase in noise levels associated with vehicle and train movements. In addition, the DEC and Council raised a number of issues associated with the noise impact assessment.

Consideration

A noise impact assessment was undertaken by the Proponent in accordance with the DEC's *Industrial Noise Policy* which considered potential noise impacts from construction and operation of the RDC as well as road and rail traffic noise. The assessment of construction noise considered impacts associated with the operation of plant and equipment as well as construction traffic and vibration generating activities. Modelling of operational noise, a cumulative noise assessment, sleep disturbance analysis and a rail and road traffic noise assessment were undertaken as part of the operational noise impact assessment.

Construction Impacts

The Proponent has estimated that the construction of the RDC would take approximately two years, with major earthworks to be completed within the first six months and the rail siding and associated track work to be completed within 12 months of the commencement of construction works. The noise impact assessment compared predicted noise levels against the "greater than 26 weeks" criterion (that is, background plus 5dB(A)) as specified in the DEC's *Environmental Noise Control Manual* for residential areas.

No specific construction noise goals are available for passive recreation areas, and therefore the maximum amenity criteria defined in DEC's *Industrial Noise Policy* was adopted for the assessment of the impact of construction noise on Nurragingy Reserve. The Department considers the use of residential criterion for the assessment of construction noise in a passive recreational area to be a conservative approach as residential noise goals assume continual or constant human occupation in a residential area. To minimise impacts that Department recommends that construction hours be restricted to 7:00 am to 6:00 pm Mondays to Fridays and 8:00 am to 1:00 pm on Saturdays.

Predicted noise levels during the construction of the RDC are provided in Table 3 and indicate that the project would meet the criteria for residential areas. However, the Department notes that the noise levels have been predicted on the assumption that barriers adjacent to the rail siding and along the eastern boundary of the site are in place. Therefore, construction noise levels could exceed relevant residential noise goals while noise barriers are being constructed or when multiple pieces of equipment are in use. However, the Department considers that any exceedances would be minimal.

Table 3 Predicted Construction Noise Levels at Residential Areas

Location of Plant and Equipment	Highest Noise Level (L_{A10})	Noise Goals (dB(A))	Residential Area
Eastern boundary of site	40 dBA	45	Crawford Road
Western boundary of site	30 dBA	52	Station Street
Southern boundary of site	39 dB(A)	52	Station Street
Eastern end of rail siding	40 dB(A)	45	Crawford Road
Western end of rail siding	51 dB(A)	52	Mavis Street

Noise levels in Nurragingy Reserve are likely to exceed residential noise goals, even with noise walls in place, with noise levels predicted to be 61 dB(A) L_{Aeq} when heavy construction equipment in operating at the eastern boundary of the site. Similar noise levels are also likely in sections of the Reserve adjacent to the rail siding. The Department notes that monitoring undertaken by the Proponent indicates that the ambient noise levels in some sections of the Reserve are already above the recommended maximum amenity level of 55dB(A). As discussed previously the use of residential noise goals for a passive recreation area is considered a conservative approach and the Department recognises that construction works would be transient and noise levels would decrease as works move away from the Nurragingy Reserve boundary. The Department is therefore satisfied that construction activities can be appropriately managed and scheduled to ensure impacts are minimised.

The nearest resident to vibration generating activities, such as excavation and use of vibratory rollers, are located in located in Mavis Street, approximately 125m from the proposed rail siding. The nearest industrial building is located within the Blacktown Olympic Park, approximately 70m from these activities. The Proponent states that the level of vibration caused by construction activities is unlikely to impact on nearby residences and industrial buildings. The Department is satisfied that there would be minimal impact on nearby residential and industrial buildings as a result of vibration generating activities.

The Proponent has predicted that there would be approximately 40 vehicle movements per day via Knox Road/Nurragingy Reserve, with 20 vehicle movements during the morning peak period (7.30am – 8.30am). Predicted construction traffic noise levels were compared against criterion for noise in a passive recreation area as specified by the DEC's *Environmental Criteria for Road Traffic Noise*. The assessment concluded that construction traffic noise levels within Nurragingy Reserve would be approaching but below the relevant criteria of 55 dBA $L_{Aeq(1\ hour)}$. The Department is satisfied that construction traffic noise would have minimal impact on Nurragingy Reserve.

Operational Impacts

Noise levels for the operation of the RDC were predicted using the Environmental Noise Model for two scenarios, with and without the use of the radial stacker under calm and prevailing weather conditions. Predicted noise levels are presented in ***Table 4*** and represent levels which have been predicted based on worst-case prevailing meteorological conditions, that is, they represent a worse case scenario. The Proponent states that the operation of the radial stacker would only occur if the main storage system was to malfunction or if materials at the unloading station were contaminated. Predicted noise levels which include the operation of the radial stacker represent a worse case scenario.

In general, noise levels predicted for the operation of the RDC were similar with and without the use of the radial stacker. Where noise levels differed this value is provided in brackets. The Department notes that evening and night noise levels have been predicted based on operations being reduced during these periods. The blending plant/pug mill would not be operated, less trucks would be loaded with product (3 instead of 4) and the agitator loading and slumping would have reduced operation (1 instead of 2 agitators) during this period.

As shown in ***Table 4***, predicted noise levels meet Project Specific Noise Criteria, which were derived in accordance with the DEC's *Industrial Noise Policy*. The Proponent states that there are areas in the Reserve adjacent to the project site boundary which may experience noise levels higher than the acceptable amenity level of 50 dB(A) for a passive recreation area when all equipment are operating simultaneously. This would occur under the influence of south to south-westerly winds (worst-case meteorological condition) during the evening or

night-time period. The Reserve is not open to the public during the night-time period, and the Proponent states that any exceedance would occur for up to one hour a day for four months of the year. The Department is satisfied that any exceedance of noise criteria at Nurragingy Reserve would be minor and would have minimal impacts on the Reserve.

Table 4: Operational Noise Predictions dB(A) $L_{Aeq\ (15\ mins)}$

Receiver Location	Period	Predicted Noise (dB(A))	Project Specific Noise Criteria (dB(A))
Station St	Morning Shoulder	39[1]	52
	Day	35[2]	52
	Evening	44[3]	46
	Night	39[4]	43
Crawford Rd	Morning Shoulder	39 (40)[4]	52
	Day	34[2]	52
	Evening	38 (39)[4]	45
	Night	38 (39)[4]	45
Mavis St	Morning Shoulder	34[1]	43
	Day	30[2]	52
	Evening	35[3]	52
	Night	33[1]	46
Nurragingy Reserve	Day	49[2]	50
	Evening	49[4]	
Colebee Centre	Day	42[4]	50
	Evening	49[4]	
Blacktown Olympic Park	Morning Shoulder	52 (53)[1]	55
	Day	51[2]	
	Evening/Night	52 (53)[1]	

[1]Temperature Inversion
[2]Calm
[3]Easterly wind
[4]South to south-westerly wind

The Department notes that predicted noise levels are generally considerably lower than the Project Specific Noise Criteria, and as such considers that the operation of the RDC would have minimal impacts on noise levels at nearby residential and recreational areas. However, the Department concurs with the DEC that where predicted noise levels are below project specific noise levels, then noise limits for any approval the Minister may grant should reflect the noise levels that the Proponent states would be achieved. This ensures best management practice (BMP) and best available technology (BATEA) are not only described in the noise impact assessment but are also adopted by the Proponent. Additionally, it ensures that level of performance presented by the Proponent in the EA is achieved.

The Proponent states that operational scenarios modelled are considered to represent an acoustically worst-case scenario, with actual operational noise levels likely to be less than predicted. Therefore, DEC and the Department consider the use of predicted levels as noise limits for any approval the Minister may grant as appropriate. As such, noise criteria presented in Table 5 are recommended for the operation of the RDC.

Council has raised concerns about the noise impacts of the RDC. The recommended operational noise criteria for the residential areas are considerable lower than both the recommended amenity criteria provided in the DEC's *Industrial Noise Policy* and the project specific noise criteria derived by the Proponent. The Department therefore considers that the issue of potential noise impacts have been adequately addressed through the adoption of more stringent noise criteria.

Table 5: Operational Noise Criteria

Location	Morning Shoulder (6am – 7am Monday to Saturday and 6am – 8am Sundays and Public Holidays	Day 7am – 6pm Monday to Saturday and 8am – 6pm Sundays and Public Holidays	Evening 6pm – 10pm Monday to Sunday	Night 10pm – 7am Monday to Saturday and 10pm – 8am Sunday	
	$L_{Aeq(15\ minute)}$ (dB(A))	$L_{Aeq(15\ minute)}$ (dB(A))	$L_{Aeq(15\ minute)}$ (dB(A))	$L_{Aeq(15\ minute)}$ (dB(A))	$L_{A1(1\ minute)}$ (dB(A))
Any residences in Station Street	39	44	44	39	53
Any Residences in Crawford Road	40	40	39	39	53
Any residences in Mavis Street	35	35	35	35	53
Nurragingy Reserve	When in use – L_{Aeq} 50 dB(A)				
Colebee Centre	When in use – L_{Aeq} 50 dB(A)				
Blacktown Olympic Centre	When in use – L_{Aeq} 55 dB(A)				

Sleep Disturbance

The Proponent has undertaken an assessment of activities that could result in sleep disturbance for residents in Station Street, Mavis Street and Crawford Road. These activities include loading material into an empty truck, a truck reversing, a front end loader scraping concrete and rail shunting. The Proponent predicts that the highest L_{Amax} noise level would occur when trains are manoeuvring at the extremities of the rail siding under temperature inversion. Predicted L_{Amax} levels reported by the Proponent include:

- 47 dB(A) at Station Street;
- 52 dB(A) at Mavis Street; and
- 50 dB(A) at Crawford Road

Predicted levels are below the sleep disturbance criterion of 53 dB(A). The Department is satisfied that sleep disturbance criteria can be met provided the Proponent implements the measures outlined in the noise impact assessment to minimise sleep disturbance impacts. These measures include not loading storage bins from an empty state, the use of visual warnings rather than reverse alarms for front end loaders and visual rather than audible start-up warnings for conveyors. The Department recommends that these measures be included in any approval the Minister may grant to minimise sleep disturbance impacts.

Rail Noise

The project would generate 4 trains per day (8 movements) and materials would be unloaded in a purpose built unloading station. An assessment of the increase in noise levels as a result of the additional freight train traffic was undertaken by the Proponent. The Proponent has predicted that the increase in rail movements per day would increase the existing $L_{Aeq(24hour)}$ rail noise level by less than 0.5 dBA. The L_{Amax} noise levels would not increase as a result of the additional rail movements. The Department considers that any increase in rail noise levels would not be discernable by nearby sensitive receivers.

The Proponent proposes to construct a number of noise walls which would result in a decrease in the existing noise levels. It is proposed that two noise walls would be constructed to the north of the Main Western Railway

Line. The first would extend from the western extremity of the rail siding, past the Rooty Hill Station to the M7 overpass. The second would extend east from the rail unloading station along the Nurragingy Reserve to the Additionally, the Department considers that existing rail noise levels would be decreased as a result of the proposed construction of noise walls to the west of the M7 overpass and from the unloading station e

Road Noise

The assessment of traffic noise generated from the RDC included an assessment of the impacts on noise levels for the Westlink M7 south of Power Street, the on ramp for Power Street and the off ramp to Woodstock Avenue. The Proponent has indicated that 60% of traffic generated by the RDC would travel south on the M7, with 40% travelling north. Therefore, the southbound scenario was considered by the Proponent to be a worst-case increase in traffic noise levels for the M7.

The Proponent has predicted an increase in noise levels of 0.4dB(A) during the day and 0.8dB(A) at night from heavy vehicles. The Proponent states that the increase in noise levels is unlikely to perceptible to residents along the M7 route. However, the DEC have noted that this assessment relies upon predictions of traffic volume and composition contained in the Environmental Impact Statement for the Western Sydney Orbital, and that more up to date data is available in the Operational Noise Management Sub Plan for the Westlink M7. DEC conducted an additional assessment using the more recent traffic volume/composition predictions and predicted that the increase in noise levels on the section of the M7 between the Great Western Highway interchange and Power Street is 2.6dB(A). Based on the design of the M7 meeting the new road criteria of $L_{Aeq(9hour)}$ 50dB(A), the DEC has predicted that the noise level including the RDC traffic would be 52.6dB(A) for the M7, and therefore likely to meet applicable noise criteria.

The Proponent has predicted that the $L_{Aeq(1hour)}$ road traffic noise level (including RDC traffic) would be 55dB(A) for the Power Street off ramp and 57dB(A) Woodstock Avenue on ramp. The Proponent states that levels would be less than the $L_{Aeq(15hour)}$ criteria of 60dB(A) as peak hourly movements would not occur for every hour of the daytime period. No assessment has been undertaken for night time traffic movements. However, the predicted worse case noise levels (as described above) meet the $L_{Aeq(9hour)}$ night time criteria of 55dB(A) for the Power Street ramp and only exceed the criteria by 2dB(A), and therefore, the Department is satisfied that night traffic would not result in unacceptable noise levels.

RDC traffic would access the M7 via Woodstock Avenue for southbound traffic and Power Street for northbound traffic. Land uses immediately adjacent to the M7 between the Main Western Railway Line and the Power Street interchange consist of industrial areas to the east, with the Rooty Hill and Plumpton residential areas and the Rooty Hill town centre to the west. Therefore, all heavy vehicles accessing the M7 would travel through industrial areas.

Conclusion

The Department and the DEC are satisfied that the Proponent has assessed the potential noise impacts of the project in accordance with relevant DEC guidelines. The assessment indicated that construction noise could exceed residential noise goals in Nurragingy Reserve when heavy construction equipment is in operating at the eastern boundary of the site or the eastern extremity of the rail siding. However, the Department considers the Proponent has adopted a conservative approach for the construction noise impact assessment by comparing predicted noise levels to residential noise goals for a passive recreation area. The Department is satisfied that construction activities can be appropriately managed and scheduled to ensure impacts are minimised. However, the Department recommends that the Proponent prepare and implement a noise management plan, as part of the Construction Environment Management Plan, outlining measures to minimise construction noise impacts.

In addition, to minimise and manage the potential noise impacts associated with the operation of the project, the Department believes the Proponent should be required to:

- comply with operational noise criteria;
- prepare a noise management plan as part of the Operation Environmental Management Plan detailing measure to minimise noise generated during the operation of the RDC;
- establish an ongoing noise monitoring plan during the operation of the RDC to assess compliance with the noise criteria; and

- conduct a noise audit within 90 days of the commencement of the operation of the project to identify any non-compliance with the noise limits imposed, and where required, to detail additional measures to be implemented to ensure compliance.

6.1.2 Air Quality

Issue

The project has the potential to generate dust emissions during the construction and operation of the RDC. Total dust emissions from the operation of the proposed RDC are estimated to be 38,600kg/y (as TSP). The major source of dust emissions for the project is expected to be the movement of heavy vehicles on site. TSP levels of 18,182kg/y were estimated by the Proponent for this activity, approximately 50% of the total TSP. Air quality impacts at nearby residents, Nurragingy Reserve and Blacktown Olympic Park was a key issue raised in submissions received from the public and Council.

Consideration

An air quality assessment has been undertaken for the operational phase of the RDC, in which total suspended particulates (TSP), particulate matter (PM_{10}) and dust deposition levels were modelled and impacts on nearby residential areas, Nurragingy Reserve and Blacktown Olympic Park were assessed. In addition, an assessment of cumulative 24 hour average PM_{10} impacts was undertaken for all sensitive receiver locations, including residential and recreational areas.

Dust deposition, TSP or PM_{10} concentrations were not measured as part of the assessment. Monitoring data from the DEC's St Marys and Blacktown sites were utilised for the assessment. It is noted that TSP concentrations and dust deposition are not measured at the St Marys or Blacktown monitoring sites. A TSP value of 45$\mu g/m^3$ was derived from the annual average PM_{10} levels (18$\mu g/m^3$) assuming 40% of the TSP is PM_{10}. A dust deposition value of 2 to 3g/m^2/month was estimated based for the area on a site inspection. The Department considers the use of air quality data from St Marys and Blacktown to be appropriate for the air quality assessment and data is likely to be representative of the air quality at the project site.

The following concentrations were predicted by the Proponent at nearby residential areas:

- maximum 24 hour average PM_{10} concentrations of less than 10$\mu g/m^3$ at residential areas to the west, south and east of the site, compared to an air quality goal of 50$\mu g/m^3$;
- an incremental increase of 2$\mu g/m^3$ to the existing annual average PM_{10} background concentrations of 18$\mu g/m^3$, compared to an air quality goal of 30$\mu g/m^3$;
- an incremental increase of 2$\mu g/m^3$ to annual average TSP background levels of approximately 45$\mu g/m^3$, compared to an air quality goal of 90$\mu g/m^3$; and
- an incremental increase of less than 0.1g/m^2/month to dust deposition background levels of 3g/m^2/month, compared to an air quality goal of 4g/m^2/month.

A preliminary assessment indicated that maximum 24 hour average PM_{10} levels may exceed the air quality goal of 50$\mu g/m^3$, predominantly due to high background levels. As shown in Table 6, background levels are approximately 48$\mu g/m^3$ and are approaching the cumulative 24 hour average PM_{10} air quality goal. Where background levels are high, the DEC recommend that there should be no additional exceedances 50$\mu g/m^3$ criterion, however, allow 5 days a year where cumulative values can exceed the criterion. A detailed assessment of the cumulative 24 hour average PM_{10} air quality impacts indicated that generally the RDC would not result in any additional exceedances of the 50$\mu g/m^3$ criterion. However, the analysis did indicate that the RDC would result in an additional two days when the 24 hour average PM_{10} criterion would be exceeded at a single location near Crawford Road. The Department recognises that predicted results are based on worst-case meteorological conditions and that any exceedences of the 24 hour average PM_{10} would be dominated by the high background levels of PM_{10}.

An assessment of the likely frequency of the highest 24 hour average PM_{10} concentrations at Nurragingy Reserve indicated that there were two days in the modelled year where 24 hour average PM_{10} were approximately 8 to

10µg/m^3 higher than the 50µg/m^3. Modelling indicates that air quality parameters would be within air quality goals at Blacktown Olympic Park.

In reviewing the air quality impact assessment, the following dust and particulate matter predicted levels, as presented in Table 6, were provided by the DEC. The Department considers the incremental increases in dust emissions as a result of the RDC to be minor and is satisfied that the RDC would have minimal impact on the ambient air quality for the surrounding area.

Table 6: Predicted dust and particulate matter levels

Pollutant	Criteria	Predicted at Receptor	Background	Combined Level
Dust (g/m^2/month)	2 4 (max)	0.2	3	3.2
PM_{10} Max	50	15	N/A	N/A
PM_{10} Annual Average	30	2	17	19
TSP Annual	90	5	45	50
PM_{10} 24 hour Cumulative	50	52[1]	48	52

N/A – not applicable
[1]Residential area near Crawford Road.

An assessment was also undertaken by the Proponent to identify potential adverse health effects resulting from the composition and dust concentrations emitted by the RDC. The assessment concluded that based on the annual average PM_{10} and maximum 24 hour average PM_{10} concentrations, dust emissions from the RDC would not produce adverse health effects for nearby residents, staff or casual visitors to Nurragingy Reserve and Blacktown Olympic Park.

The Proponent considers that without the project, delivery of all materials to customers in the Sydney region would be by road from outside the region, resulting in an increase in truck kilometres travelled. The project would require fewer trucks travelling within the Sydney metropolitan area, with materials being delivered to the site via rail. The Proponent has estimated that greenhouse emissions (total CO_2-e emissions) would be 54,540t/y without the project, compared to 23,942t/y with the project (including road and rail transport).

Conclusion

The Department is satisfied that the Proponent has assessed the air quality impacts of the RDC in accordance with DEC guidelines, and that the incremental increase in dust emissions from the RDC is minor. Additionally, the Department considers that controls proposed by the Proponent are consistent with best management practices and the Department recommends that these controls should be included in any approval the Minister may grant. These controls include:

- the use of water sprays on open stockpile areas;
- enclosing all transfer, load-out and unloading points;
- covering/enclosing all conveyors and storage bins;
- loading cementitious products to the silos pneumatically;
- and the implementation of dry dust collection system at the concrete batching plant

While the Department is satisfied that the measures proposed by the Proponent would minimise any residual impacts, the DEC has recommended a number of additional measures to ensure dust emissions are appropriately managed and monitored. The Department concurs with the DEC that the following measures be implemented:

- all dust control systems for transfer, load out and unloading points, as well as materials handling activities be designed and operated to comply with a solid particles emission limit of 20 mgm^{-3} as required by Part 4 of the *Protection of the Environment (Clean Air) Regulation 2000*;
- all storage bins should be enclosed;
- water spray systems should be installed to service all stockpiles;
- all paved trafficable areas should be swept as required by a permanently stationed street sweeper to minimise dust;

- All trafficable areas and vehicle manoeuvring areas on the site should be maintained in a condition that will minimise the generation or emission of wind blown or traffic generated dust from the site at all times; and
- Heavy vehicles entering and leaving the site that are carrying loads should be covered at all times, except during loading and unloading activities.

Additionally, the Department believes that the Proponent should implement all dust control measures as outlined in section 4 of the final Statement of Commitments, attached to Appendix B.

The Department recommends that the Proponent prepare and implement a Dust Management Plan as part of the Operation Environmental Management Plan to minimise and manage any impacts from the operation of the project on local air quality. The Department also recommends that the Proponent implement an Ambient Dust Monitoring Program to monitor ambient dust concentrations (PM_{10}) at the site.

6.1.3 Traffic and Transport

Issue

The RDC has the potential to impact on local and regional road networks. The RDC would generate 340 vehicle (two way) movements during the construction phase. During the operation the RDC (maximum capacity) would generate 1572 vehicle (two way) movements, comprising of light vehicles, delivery vehicles, heavy vehicles and agitators. The impacts of the RDC on local and regional roads was a key issue raised in submissions received from the public and Council.

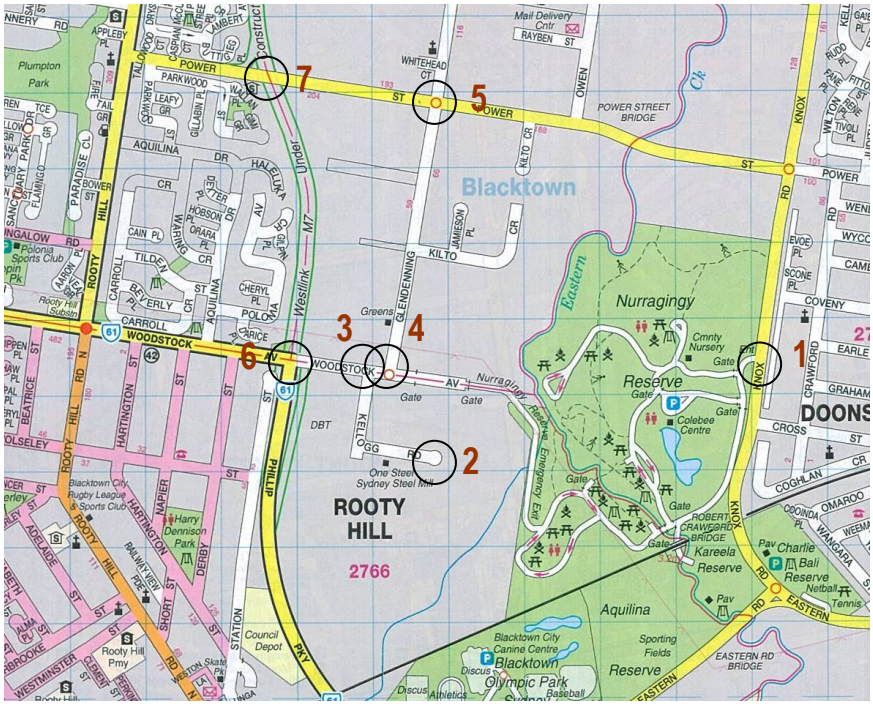
Consideration

Construction Impacts

The Proponent has predicted that there would be approximately 340 vehicle movements per day (two way) with 40 vehicle movements via Knox Road/Nurragingy Reserve and 300 vehicle movements via Woodstock Road/Kellogg Road intersection. Access to proposed site through parts of Nurragingy Reserve (via Knox Road and North Parade) would be required during the initial 6 months of the construction period to allow the Angus Creek bridge to be construction. Once constructed, access to the southern sections of the site would be via the bridge with vehicles entering the site via Kellogg Road.

An analysis of the existing performance of the Woodstock Road/Kellogg Road and Knox Road/Nurragingy Reserve intersections (refer to Figure 4) was conducted to determine how intersections would be affected by construction traffic from the proposed development. This assessment focused on potential impacts during the morning peak period (7.30am – 8.30am), with approximately 35% of construction traffic (heavy vehicles only) accessing the site during this period. The Proponent predicted that the number of construction staff would peak at 150 people per day, however, staff are expected to arrive on site prior to the morning peak hour.

Figure 4 Local Access Routes and Intersections



1. Nurragingy Reserve/Knox Road
2. Kellogg Road
3. Woodstock Avenue/Kellogg Road
4. Woodstock Avenue/Glendenning Road
5. Power Street/Glendenning Road
6. Woodstock Avenue interchange
7. Power Street Interchange

Performance of the existing intersections was analysed using aaSIDRA Version 2 (Signalised and Unsignalised Intersection Design Research Aid), while the Level of Service (LoS) assessment was based on the NSW Roads and Traffic Authority's (RTA) 'delay method'. The analysis of the Woodstock Avenue/Kellogg Road intersection assessed impacts under two scenarios, namely, vehicles utilising Phillip Parkway only and vehicles utilising the M7 with a directional split of 40% to/from the north and 60% to/from the south. The performance of the intersections under existing conditions and during the construction of the RDC are summarised in Table 7. It should be noted that figures presented in Table 7 are for vehicles utilising the M7 only, as this will be the main access route to the site rather than Philip Parkway now that the motorway is operational.

Table 7: Performance of Intersections under Existing Conditions and During Construction of the RDC

Intersection/ Movement	Existing Performance		Forecast Performance	
	Average Delay	LoS	Average Delay	LoS
Knox Road/ Nurragingy Reserve				
Knox Rd (northbound)				
Left	9.0	A	9.0	A
Through	0	A	0.0	A
Knox Rd (southbound)				
Left	0	A	0	A
Through	12.2	A	17.1	B
Nurragingy Reserve Access Point (eastbound)				
Left	22.5	B	27.0	B
Through	54.0	D	54.0	D
Woodstock Ave/Kellogg Rd				
Kellogg Rd (northbound)				

Intersection/ Movement	Existing Performance		Forecast Performance	
	Average Delay	LoS	Average Delay	LoS
Left	15.7	B	17.9	B
Through	32.5	C	55.7	D
Woodstock Ave (westbound)				
Left	9.6	A	10.9	A
Through	0.0	A	0.0	A
Woodstock Ave (eastbound)				
Left	0.0	A	0.0	A
Through	14.6	B	17.8	B

The analysis indicates that the additional vehicles from the construction of the proposed development would only marginally influence vehicle delays at the Knox Road/Nurragingy Reserve access point intersection, with the level of service decreasing from a rating of 'A' to a rating of 'B' for the right hand turn into Nurragingy Reserve (Knox Road southbound). The Department considers this level of delay acceptable given the relatively short period (approximately 6 months) this intersection would be utilised during the construction period and that the assessment is based is based on a worst-case scenario of peak vehicle movements.

One of the key issues raised by Council was the use of Nurragingy Reserve for access to the project site. Of concern was the potential for heavy vehicles to damage existing roads, the hazard of heavy vehicles crossing the single lane causeway on Eastern Creek which is generally lightly trafficked by light vehicles and bicycles and the lack of alternative route should the causeway be closed during localised flooding events. The Proponent has indicated that the southern sections of the site could also be accessed via North Parade through the OneSteel Mini Mill site.

While the Department considers that impacts of the use of Nurragingy Reserve for access to the site during the initial construction phase could be appropriately managed, the use of the OneSteel site for construction access is considered to pose reduced residual environmental impacts, and is therefore the preferred outcome. The Department recommends that the Proponent negotiate with the owner of the OneSteel site to use that land to access the southern sections of the site for the construction of the road/conveyor crossing of Angus Creek. Should the Proponent and the owner of the OneSteel site be unable to negotiate access through that site, than the Department recommends that the Proponent must seek the Director-Generals agreement to access the project site via the Knox Road/ Nurragingy Reserve. In seeking the Director-Generals agreement, the Proponent should demonstrate that it has applied all reasonable endeavours to negotiate an outcome that avoids the use of the Knox Road/Nurragingy Reserve access point.

Should the Director-General agree to use of Knox Road/ Nurragingy Reserve for access to the project site, the Department recommends that access be limited to 40 vehicles movements per day (20 round trips) until the completion of the Angus Creek road/conveyor bridge. Once this bridge is constructed, access to the site during the construction period should be restricted to use of Kellogg Road. Additionally, the Department recommends that Proponent should develop a Construction Access Management Program, in consultation with Council, to mitigate and manage any residual impacts associated with the use of Knox Road/ Nurragingy Reserve for access to the site.

Operational Impacts

As discussed previously, the Proponent proposes to transport up to 4 million tonnes per annum (Mtpa) of construction materials (such as sand and aggregate) from various quarries via rail to the RDC. Materials would be blended on site and transport by road throughout Sydney. The Proponent has estimated that 8 train movements (two way) would be required per day, with the average daily vehicle movements (two way) during the maximum operating capacity of the RDC including 836 trips for heavy vehicles, 266 trips for agitators (concrete delivery), 100 trips for delivery vehicles and 370 trips for staff vehicles.

Access to the site would predominantly be via Kellogg Road, with some vehicles accessing the laboratory facilities via Woodstock Avenue. Intersections that would be affected by the proposed development include:

- M7 interchanges at Woodstock Avenue and Power Street;

- Woodstock Avenue/Kellogg Road;
- Woodstock Avenue/Glendenning Road; and
- Power Street/Glendenning Road.

As noted previously, vehicles accessing the project site would predominantly travel through industrial areas, this includes all vehicles accessing the M7.

An analysis was undertaken to determine the existing performance of intersections and the impact of the RDC once operational on the above mentioned intersections for the morning peak period. As described previously, performance of the existing intersections were analysed using aaSIDRA Version 2, while the LoS assessment was based on the NSW RTA's 'delay method'. The performance of the intersections under existing conditions and during the operation of the RDC are summarised in Table 8.

Table 8 Performance of Intersections under Existing Conditions and During Operation of the RDC (AM Peak)

Intersection/ Movement	Existing Performance		Forecast Performance	
	Average Delay	LoS	Average Delay	LoS
Woodstock Ave/Kellogg Rd[1]				
Kellogg Rd (northbound)				
Left	16	B	13	A
Right	33	C	18	B
Woodstock Ave (eastbound)				
Through	0	A	8	A
Right	15	B	14	A
Woodstock Ave (westbound)				
Left	10	A	12	A
Through	0	A	9	A
Woodstock Ave/Glendenning Rd				
Glendenning Rd (southbound)				
Left	13	A	13	A
Right	13	A	13	A
Woodstock Ave (eastbound)				
Left	7	A	7	A
Through	7	A	7	A
Woodstock Ave (westbound)				
Through	9	A	11	A
Right	9	A	11	A
Power St/Glendenning Rd				
Glendenning Rd (northbound)				
Left	14	A	15	B
Through	11	A	11	A
Right	15	A	15	B
Power St (westbound)				
Left	9	A	10	A
Through	8	A	9	A
Right	14	A	15	A
Glendenning Rd (southbound)				
Left	23	B	37	C
Through	18	B	24	B
Right	24	B	30	C
Power St (eastbound)				
Left	13	B	20	B

Intersection/ Movement	Existing Performance		Forecast Performance	
	Average Delay	LoS	Average Delay	LoS
Through	13	B	20	B
Right	13	B	20	B

[1]Forecast performance is based on the upgrade of this intersection to include a 2 lane roundabout.

The majority of the RDC traffic will utilise the Woodstock Avenue/Kellogg Road intersection. Due to potential delays, particularly for vehicles turning right into and out of Kellogg Road and safety aspects of heavy vehicles utilising this intersection, the Proponent is proposing to upgrade this intersection. The Proponent is proposing to construct a two lane roundabout to improve the performance of this intersection. As shown in Table 8 the upgrading of this intersection the LoS would improve the overall performance of Kellogg Road. Council raised concerns as to whether the roundabout could be physically constructed at this location without the need for land acquisition. However, alternative upgrades of this intersection, such as signalisation, would be possible. The Department recommends that the Proponent consult with Council and the RTA during the detailed design of the intersection upgrade to determine a suitable alternative should it not be possible to construct a two lane roundabout at this location.

Analysis of the Woodstock Avenue/Glendenning Road intersection indicated that the LoS would not be altered as a result of RDC traffic. However, Council raised concerns that the existing single lane roundabout may not be adequate for the increase in traffic, and in particular for vehicles turning left from Woodstock Avenue into Glendenning Road. The Council has proposed that the intersection would require a two lane configuration at the Woodstock Avenue western approach to the roundabout. This is turn would require the realignment of the kerb line at the north-west corner of the intersection to accommodate two lanes at the roundabout and Glendenning Road. The Proponent has stated that this issue should be reviewed during the design of the Woodstock Avenue/Kellogg Road roundabout. The Department recommends that the Proponent consult with Council and the RTA regarding any road upgrades required to minimise any conflicts with other road users. In addition, the department recommends that the Proponent appoint an independent civil or traffic engineer at their own expense to certify the adequacy of road works design and the adequacy of any works once constructed.

The RDC would result in delays at the Power Street/Glendenning Road intersection, particularly for southbound traffic on Glendenning Road and eastbound traffic on Power Street. The delay for left turning vehicles on the Glendenning Road north approach is predicted to increase from 23 seconds to 37 seconds, with an increase in delays of 6 seconds for through and right turning traffic. While the average delay for eastbound traffic on Power Street would increase by 7 seconds for left turning, through and right turning traffic, the LoS would not change. The Department notes that the majority of movements at the Power Street/Glendenning Road intersection have a LoS of 'B' or better and therefore, the Department considers that the RDC will have minimal impact on the LoS for this intersection.

Analysis of the M7 interchanges on Woodstock Avenue and Power Street indicate that the RDC would have minimal impact on the performance of these interchanges with an expected LoS of 'B' of better.

Conclusion

The Department considers that the RDC would have minimal impact on local intersections and would have minimal impact on local and regional roads. Nevertheless, the Department recommends that the Proponent implement a number of measures to ensure impacts are appropriately managed and monitored. The Department believes that the Proponent should:

- negotiate with the owner of the OneSteel site to use that land for access to the southern sections of the project site for the construction of the Angus Creek road bridge;
- develop, in consultation with Council, a Construction Access Management Program to comprehensively mitigate and manage impacts associated with construction access via Knox Road/ Nurragingy Reserve should the Proponent demonstrate that it has not been possible to reach an agreement with the owner of the OneSteel site regarding access to the project site; and
- limit the number of vehicles using the Knox Road/ Nurragingy Reserve point to 40 vehicle movements per day (20 round trips per day) until the completion of the Angus Creek road/conveyor bridge.

Prior to construction the Department recommends that the Proponent develop a schedule for the implementation of road upgrades, relocations and replacements necessary for the implementation of the project in consultation with Council and the Roads and Traffic Authority. This schedule should include the timing, coordination and detailed design of road works, provision of the design of access routes to the site to cater for B-Double vehicles where appropriate, arrangements for the funding of road works and the provision for the appointment of an independent civil or traffic engineer to certify the adequacy of road works design. The Department also recommends that the Proponent prepare a Traffic Management Plan as part of the Construction Environmental Management Plan to minimise the impact of heavy vehicle traffic on the local and regional road network during both the construction phase of the project.

To manage and monitor the traffic impacts from the operation of the RDC, the Department recommends that the Proponent prepare a traffic management plan as part of the Operation Environmental Management Plan and implement a traffic monitoring program.

6.1.4 Flora and Fauna

Issue

The construction of the RDC would require the removal of 1.6ha of native vegetation comprising of the Endangered Ecological Communities of the Cumberland Plain Woodland and River-Flat Eucalypt Forest. The project also has the potential to impact on threatened species. Additionally, the project also has the potential to impact on the aquatic ecology of Angus Creek due to a the removal of riparian vegetation, the construction of two bridges over Angus Creek and a decrease in water quality as a result of erosion and sedimentation and stormwater runoff.

Consideration

Terrestrial Ecology

The flora and fauna assessment undertaken by the Proponent has included database searches, literature reviews and field survey work to assess the potential ecological impacts of the project. The majority of the site is cleared grassland, with riparian vegetation along the banks of Angus Creek which grades into woodland. Patches of woodland also occur in the northern sections of the site and in the vicinity of the railway line.

Vegetation communities identified within the proposed site include riparian forest (River-Flat Eucalyptus Forest), Cumberland Plain Woodland and cleared/disturbed areas. The proposal would require the removal of approximately 1.6ha of native vegetation, comprising of 1.4ha of Cumberland Plain Woodland and 0.2ha of River-Flat Eucalypt Forest, and 8.5ha of cleared/disturbed grassland area. Cumberland Plain Woodland and River-Flat Eucalypt Forest are listed as endangered ecological communities under the *Threatened Species Conservation Act 1995*. The Cumberland Plain Woodland is also listed as an EEC in the *Environment Protection and Biodiversity Conservation Act 1999*. The Proponent referred the project to the Department of Environment and Heritage. The project was not considered a controlled action and therefore would not have a significant impact on matters of environmental significance including threatened species and ecological communities, as well as migratory species listed in the *Environment Protection and Biodiversity Conservation Act 1999.*

The Proponent states that the Cumberland Plain Woodland at the site varied from moderate to poor condition. Woodland recorded in the southern sections of the site was considered to be in moderate condition consisted of a high diversity of species in the understorey, although weed evasion was evident. Patches of woodland recorded in the north of the site and adjacent to North Parade to the east of the site was considered by the Proponent to be in moderate to poor condition. There was a higher incidence of weed invasion and fewer species in the understorey compared to woodland present in the southern sections of the site. The Proponent states approximately 4.2ha of Cumberland Plain Woodland occurs on the project site and that 0.9ha of the 1.4ha that would be cleared due to the construction of the RDC is in poor condition.

The DEC has mapped and undertaken a conservation significance assessment (CSA) for the EECs of the Cumberland Plain. Through the CSA, DEC has identified that the project site contains "Core Habitat", "Support Habitat" and "Other Remnant Vegetation" and has estimated that 0.6ha of Core Habitat, 0.25ha of Support to Core and 0.7ha of Other Remnant Vegetation would be lost as a result of the construction of the RDC. While the Proponent has made a commitment to prepare and implement a Vegetation Management Plan (VMP), including provisions for the regeneration of vegetation and revegetation of areas outside the development footprint, limited

information has been provided on trade-offs for the loss of remnant vegetation. The DEC recommend that for areas of "Core Habitat" or "Support to Core" no net loss of EECs should occur, with this outcome achieved through off-setting or rehabilitation/revegetation.

The Proponent has not provided details on how they would achieve no net loss of EECs. Therefore, the Department recommends that the Proponent should establish a compensatory habitat package in consultation with DEC prior to the removal of the EEC of the Cumberland Plain Woodland. The package should include either the of purchase and/or restoration of areas of Cumberland Plain Woodland, equivalent financial contribution to a rehabilitation project in the Blacktown LGA, or another form of compensatory habitat agreed with by the DEC. Where areas are purchased or restored off-site, the Department considers that an off-set ratio of 3ha of Cumberland Plain Woodland for every 1ha of "Core Habitat" or "Support to Core" habitat impacted would be adequate.

Two threatened species, as listed under the *Threatened Species Conservation Act 1995,* were recorded within the study area, namely the Cumberland Plain Land Snail *Meridolum corneovirens* and the plant species *Grevillea juniperina ssp. juniperina*. Additionally, Latham Snipe (*Gallinago hardwickii*), a migratory species listed under the *Environment Protection and Biodiversity Conservation Act 1999* was observed during surveys of the site and there is potential habitat within the proposed site for another four migratory species and Koalas.

Eight Part Tests were undertaken in accordance with section 5A of the *Planning and Assessment Act 1979* for *M. corneovirens,* the Koala*, G. juniperina ssp. juniperina,* Cumberland Plain Woodland, River-Flat Eucalypt Forest and *Acacia pubescens. A. pubescens* is listed as Vulnerable under the *Threatened Species Conservation Act 1995* and has the potential to occur within the proposed site. An assessment was also undertaken in accordance with *Environment Protection and Biodiversity Conservation Act 1999* for five migratory species (Latham's Snipe, Square Tailed Kite, Satin Flycatcher, Swift Parrot, and Reagent Honeyeater), Cumberland Plain Woodland and *A. pubescens*. The assessments concluded that the threatened species, migratory species and endangered ecological communities listed above would not be significantly impacted by the proposed construction and operation of the RDC. While the Department considers that the RDC would not have a significant impact on threatened species, migratory species and endangered ecological communities, the Department recommends that the following mitigation measures be implemented to minimise any residual impacts:

- prior to construction, vegetation to be protected should be fenced off with clearly visible, durable, and appropriately signposted exclusion fencing;
- the Proponent should prepare and implement a Vegetation Management Plan to the satisfaction of satisfaction of the DNR and DEC. The Plan should be prepared in accordance with the DNR's guidelines *How to Prepare a Vegetation Management Plan – Version 4* and *Watercourse and Riparian Zone Rehabilitation Requirements* as well as DEC's *Recovering Bushland on the Cumberland Plain*; and
- the Proponent should establish a compensatory habitat package as described above.

Aquatic Ecology

An assessment of the aquatic habitats within the study area as well as targeted surveys for macroinvertebrates and fish were undertaken by the Proponent to assess the impacts of the proposal on the aquatic ecology of Angus Creek and Eastern Creek. Surveys of Angus Creek were undertaken upstream and downstream of the proposed bridges within the site. Additionally, surveys were undertaken at Eastern Creek to provide an indication of the habitat quality and species composition upstream of the proposed project site.

Based on the assessment of the type and condition of the aquatic habitat of Angus Creek as well as, water quality, macroinvertebrate and fish assessment the Proponent has characterised Angus Creek as a disturbed urban creek. No threatened aquatic species, populations or endangered ecological communities were recorded during the survey and, in addition, there was an absence of suitable habitat to support threatened species.

Key threatening processes listed under the *Fisheries Management Act 1994* include the degradation of native riparian vegetation along water courses, installation and operation of instream structures and other mechanisms that alter natural flow regimes in rivers and streams and the removal of large woody debris from rivers and streams. Component of the project which could be considered key threatening processes include the removal of approximately 0.2ha of moderate to poor quality riparian vegetation and the construction of two bridges over

Angus Creek. The construction of the conveyor/road bridge would require the removal of an existing pipe in Angus Creek. While this would not be considered a snag removal it would remove potential habitat for a variety of aquatic organisms.

Removal of 0.2ha of River-Flat Eucalyptus Forest equates to approximately 5.5% of this type of vegetation available on the site. DNR requires a riparian zone width of at least 20m and an additional 10m of buffer width in which there are no exotic and/or invasive non local native plant species and there are no structures that would affect the development and viability of the riparian ecology. The DPI also requires a buffer zone of at least 20m. The Proponent states that the RDC includes a riparian buffer zone of at least 20m and up to 40m except at the location of the Angus Creek crossings and areas adjacent to the rail unloading and conveyor system to the south of the Creek. Where possible the Proponent will maintain a 40m buffer zone.

Other potential impacts on the aquatic ecology of the area relate to erosion and sedimentation and a reduction in water quality resulting from stormwater discharge. However, the Department recognises that these potential impacts can be minimised through appropriate management measures.

Conclusion

The Department is generally satisfied with the fauna and flora assessment, however, limited information has been provided on trade-offs for the loss of remnant vegetation. The Department recommends that the Proponent prepare and implement to the satisfaction of the DNR and DEC, a Vegetation Management Plan in accordance with the DNR's guidelines *How to Prepare a Vegetation Management Plan – Version 4* and *Watercourse and Riparian Zone Rehabilitation Requirements* as well as DEC's *Recovering Bushland on the Cumberland Plain*. The Plan should include:

- drawings that clearly show vegetation to be retained/removed,
- a description of the plant material to be used for rehabilitation,
- densities and species mix for areas to be rehabilitated;
- establishment methods and sequencing of tasks; and
- maintenance and performance monitoring.

While the removal of 1.4ha of Cumberland Plain Woodland is a small percentage (0.01%) of the total distribution of this community, the Department is cognisant of the need to retain existing Cumberland Plain Woodland vegetation, where possible, and to protect any retained vegetation from further degradation. Therefore, the Department recommends that the Proponent should establish a compensatory package in consultation with DEC prior to the removal of the EEC of the Cumberland Plain Woodland. The package should include either the purchase or restoration of areas comprising of no less than 3ha Cumberland Plain Woodland for every 1ha of "Core Habitat" or "Support to Core" habitat impacted, equivalent financial contribution to a rehabilitation project in the Blacktown LGA, or another form of compensatory habitat agreed with by the DEC.

6.1.5 Impacts on Nurragingy Reserve and Blacktown Olympic Park

Issue

Blacktown City Council as well as a number of public submissions raised concerns regarding the impacts of the RDC on Nurragingy Reserve. Key issues of concern were noise, air quality, traffic and visual impacts as a result of the construction and operation of the RDC.

Consideration

Nurragingy Reserve

As discussed previously, Nurragingy Reserve forms the eastern boundary of the project site. The Reserve is a popular recreational destination and includes picnic areas, formal gardens, remnant bushland and Colebee Centre, a function centre catering for conferences, weddings, parties and other functions. The Reserve is considered one of the most significant areas of remnant bushland within the Blacktown LGA.

Council has raised a number of concerns regarding the impact of the construction and operation of the RDC on the Reserve including traffic, dust, noise, visual amenity/ landscaping and runoff impacts. The Council considers the use of the Reserve as an access point to the site for construction traffic as unacceptable due to the traffic noise, damage to the existing road infrastructure, the lack of alternate access routes should the causeway within

the Reserve be closed due to flooding and the potential for the security of the Reserve to be compromised should Rinker Australia need access to the Reserve outside of the hours of operation (6.30am – 5.00pm in winter and 6.30am – 7.00pm in summer). These issues have been assessed individually above and the Department is satisfied that impacts on Nurragingy Reserve can be minimised through the management measures outlined in this report and the recommended conditions of approval (refer to Appendix A).

Blacktown Olympic Park

On the 21 March 2005 the Government, announced a major $20 million development of sports facilities in Sydney's west, of which $15 million would be provided to expand facilities for the Australian Football League (AFL) and cricket at the Blacktown Olympic Park. Under the agreement Blacktown City Council will construct new stadiums and sports fields for cricket and AFL at the Blacktown Olympic Park, with construction scheduled to commence at the end of 2006 and due for completion in 2008. Facilities to be constructed include:

- A main oval with seating capacity for around 10,000 spectators, including a grandstand;
- A second oval for junior games and training;
- An indoor practice facility with a gym, sports injury and training and education facilities;
- A licensed club and team accommodation (50 rooms);
- An adventure playground; and
- Additional car parking.

Recent discussions with management of Blacktown Olympic Park indicate it is currently negotiating management and licensing agreements with Cricket NSW and the AFL. Management of Blacktown Olympic Park anticipates that the facility would be utilised daily (except public holidays). Additionally, it is anticipated that 4 to 5 ING Cup cricket games would be held at the ground each year. No information was available on the number of AFL games expected to be held at the facility and it is the Department's understanding that a development application has yet to be lodged or determined by Blacktown City Council. Given that no development application has been lodged, the Department is not bound to consider future uses of the Park in its assessment. However, the Department has taken into consideration any potential impacts of the RDC on the Blacktown Olympic Park.

Council raised concerns that noise and air quality impacts would adversely affect participants and spectators visiting the Park, as well as visitors residing within the proposed hotel. In addition Council has raised concerns that noise impacts would compromise TV and radio coverage of sporting events, while visual impacts would detract from future television coverage of the events at the Park. The noise, air quality and visual impact assessments undertaken by the Proponent indicate that the RDC would have minimal impact on Blacktown Olympic Park. Noise predictions, based on worst-case meteorological conditions, were below amenity criteria for an active recreation area. The Department considers that the incremental increase in dust emissions from the RDC is minor compared to background levels. Additionally, predicted dust emission levels, including dust deposition, PM_{10} and TSP were below air quality goals. The Department is satisfied that traffic impacts and any visual impacts of the RDC would be minimal.

Conclusion

The Department is satisfied that the Proponent has adequately assessed the impacts of the project on Nurragingy Reserve and Blacktown Olympic Park through the noise, air quality, traffic and visual assessments undertaken as part of the EA. Recommended measures to minimise impacts on the Reserve and the Park have been provide in other sections of this report.

6.1.7 Other Issues

Visual Amenity

Visual impacts was not considered to be key issue by the Department, however, given the proximity of the RDC to Nurragingy Reserve and Blacktown Olympic Park and concerns raised by Council, an assessment of the visual impacts of the RDC on surrounding land uses was undertaken. The highest elements of the RDC would be the storage bin area and the load out facilities which would be up to 33.5m high. Additionally, the concrete batching plant, including the silos, would be 23.5m high. In comparison, the tall stack of the OneSteel Mini Mill is 45m high. An assessment was undertaken by the Proponent to determine the visual impacts of the RDC on surrounding land uses. The potential visual impacts of the RDC are summarised in Table 9.

Table 9 Visual Impacts of the RDC

Location	Visual Impact
Nurragingy Reserve	Filtered views of the bulk storage bins would occur from Nurragingy Reserve along the western boundary, and in particular from grassed areas near the western boundary of the site. The Proponent proposes to reduce visual impacts through plantings of native trees and shrubs within the site to supplement existing boundary plantings. Filtered views of North Parade, the proposed 5m high noise wall and associated landscaping would occur from the southern boundary of the Reserve.
Blacktown Olympic Park	The main component of the RDC that would be visible from the Blacktown Olympic Park would be the tops of the bulk storage bins. The aggregate unloading facility would be visible from certain areas of the Park but impacts would be reduced as a result of the proposed noise wall.
North Parade	Views of the site from North Parade would be obstructed by the proposed high noise wall and associated landscaping. However, the conveyor belt and aggregate unloading facility would be visible from North Parade and users would have occasional views of the some operational activities such as train unloading and vehicle movements.
Main Western Railway Line	The railway siding, noise wall and aggregate unloading facility would be visible to commuters on the Main Western Railway Line to the east of the M7, while to the west of the M7 the railway siding and noise wall would be visible from the tracks and platforms of Rooty Hill Station.
Rooty Hill Reserve	The main components visible from Rooty Hill Reserve would be the tops of the bulk storage bins and the silos. The Proponent proposes to reduce the visual impact of these elements through painting the bins and silos a colour that would be sympathetic to the surrounding native vegetation.
Eastern Road	Intermittent views of the tops of the bulk storage bins.
M7	Intermittent views of the tops of the bulk storage bins.
Rooty Hill Town Centre	Views of the rail siding from Station Street, Weston Lane and the car park to the rear of the shops would be obscured by the proposed noise wall and associated landscaping.
Rooty Hill/Plumpton/Doonside Residential Areas	Occasional views of the tops of the bulk storage bins.

In general the main components of the RDC which are visible from surrounding land uses are the tops of the bulk storage bins. Given that the RDC would be located in an area zoned for industrial use and that the surrounding area is extensively modified, with adjacent industrial sites including the OneSteel and Humes facilities as well as the Main Western Railway Line, the Department considers that visual impacts are not significant. The Department is satisfied that visual impacts of the RDC could be minimised through the measures proposed by the Proponent including screen planting around the boundary of the site, painting buildings and plant in a colour sympathetic to the surrounding native vegetation and directing light to ensure it does not spill into surrounding areas.

Surface Water

The proposed site is located in the Eastern Catchment which is a sub-catchment of the Hawkesbury-Nepean Catchment. The proposed site is drained by Angus Creek which flows north east through the site, Angus Creek joins with Eastern Creek approximately 400 m east of the site within the Nurragingy Reserve. The majority of the site, a section of North Parade and the Railway land drain to Angus Creek. The proposed site of the office and laboratory drain either via the Humes site water management system to Eastern Creek or towards Kellogg Road and the Council's stormwater collection system.

Surface Water Quality

The Proponent undertook a water quality monitoring program for Angus Creek between March 2003 and December 2004, during which samples were collected on eight occasions from two sites (upstream and downstream of the proposed development). The monitoring program involved the measurement of physico-chemical indicators including pH, dissolved oxygen, temperature, conductivity, nitrogen, phosphorous, metals, major anions and cations, ammonia, oils and grease and petroleum hydrocarbons. The results of the monitoring program were assessed against relevant ANZECC (2000) water quality guideline values for slightly disturbed lowland waterways.

Parameters analysed generally meet ANZECC (2000) guideline values, however, elevated concentrations of nitrogen and phosphorus were observed both upstream and downstream of the proposed development. Additionally, dissolved oxygen levels did not meet guideline levels (>6.5mg/L) on three and two occasions for samples collected upstream and downstream of the proposed site, respectively. The Proponent stated that low levels of dissolved oxygen corresponded to periods of low creek flows.

Potential impacts on surface water quality relate to sedimentation and erosion during the construction period, dust deposition, runoff from the Concrete Batching Plant/ Plug Mill containing cementitous material and the spillage and leakage of oils, fuels and other chemicals stored on site. The Department is satisfied that potential surface water quality impacts could be adequately managed through the proposed management and mitigation measures outlined by the Proponent. These include dust control measures, provision of a water management system that is designed to remove sediments and other contaminants such as grease and oil from stormwater discharged from paved areas and the bunding of chemical storage areas.

To minimise residual water quality impacts, the Department recommends that the Proponent should comply with section 120 of the *Protection of the Environment Operations Act 1997*, which prohibits the pollution of waters. Additionally, the Department recommends that the Proponent prepare and implement a Soil and Water Management Plan as part of the Construction Environmental Management Plan to minimise the discharge of sediment and other pollutants to Angus Creek. A Soil and Water Management Plan should also be prepared as part of the Operation Environmental Management Plan to manage and mitigate the impacts of stormwater runoff from and within the site.

Flooding

A flood study was undertaken by the Proponent to determine the impact of the proposed development on local flooding patterns. Modelling was undertaken using the TUFLOW 2D modelling software developed by WBM Oceanics.

While it is proposed that the majority of the project infrastructure would be located on the elevated northern portion of the proposed development site, a number of components would be located within the Angus Creek 100 year average recurrence interval (ARI) floodplain, including the rail siding, the rail unloading station; the rail unloading transfer conveyor system; the two bridges over Angus Creek; and the realigned North Parade.

The following increases in flood levels have been predicted by the Proponent:

- localised increase in flood levels east of the eastern boundary, near the rail siding;
- an increase of 75mm at the Bridge No. 2 floodplain crossing in the middle of the site;
- re-distribution of flood flows adjacent to the siding in the south-western corner of the site. An increase of less than 100mm is predicted;
- an increase of less than 50mm at Angus creek, upstream of the Main Western Railway Line; and
- a 100 – 250mm increase in levels between the siding and main railway embankments.

Additionally it is predicted that the construction of the bridges across Angus Creek would result in an increase of flood time flow velocities from 1.0m/s to 1.8m/s at Bridge No. 1 and from 0.7m/s to 0.9m/s at Bridge No. 2.

While the assessment indicates that there would only be minor changes to flood levels as a result of the proposed development, given the proximity of the project to the Main West Railway Line, the project has the potential to disrupt passenger and freight trains should localised flooding cause inundations above the rail level. The Department recommends that the Proponent consult with RailCorp for any on site drainage works to ensure that the project is designed to prevent this from occurring.

Heritage

The Proponent conducted an Aboriginal cultural heritage survey and assessment in consultation with local Aboriginal groups. The Proponent consulted with the Darug Custodians Aboriginal Corporation, the Darug Tribal Aboriginal Council and the Deerubbin Local Aboriginal Council regarding the proposed project. The assessment concludes that the project would not result in the disturbance or damage of any areas or artefacts of cultural significance. The Department is satisfied that the project would not impact upon cultural heritage.

Hazards and Risks

Hazards materials to be stored on site include flammable gases (acetylene and LPG), fuels and lubricants, and small quantities of chemicals (liquid additives and truck acid). The volumes of materials to be stored are less than the thresholds specified in State Environmental Planning Policy No 33 – Hazardous and Offensive Development. All materials would be stored appropriately and the proposed storage areas would be bunded. The Department concurs with the Proponent that a Preliminary Hazard Analysis is not required due to the volumes of materials stored.

The Department has concluded that the proposed development represents a low-level of risk to the locality, and that the recommended conditions of approval will ensure the further minimisation of this risk.

Utilities and Services

Construction of the rail sidings would require the relocation or alteration to RailCorp power lines and poles within this area. The rail sidings would also cross the Sydney to Newcastle Natural Gas Pipeline and several sewer and drainage lines. The Sydney to Newcastle Natural Gas Pipeline traverses Lot 2 DP582388, the Council Road Reserve North Parade and the Western Railway Corridor. The pipeline is the sole source of natural gas for the Hawkesbury, Central Coast, Lake Macquarie and Hunter regions. Due to the close proximity of the proposed development to the pipeline the Department concurs with Agility that a risk assessment be conducted in accordance with AS2885 Pipelines - Gas and Liquid Petroleum – Operation and Maintenance to identify and implement the appropriate safeguards to ensure the proposed development does not increase the risk to the community by impacting on the Sydney to Newcastle Natural Gas Pipeline. The Department recommends that the Proponent consult with RailCorp and other utility providers to make arrangements to adjust and/or relocate services as required.

As discussed previously, the project would include the realignment of North Parade, a Council owned road. North Parade provides access between the Blacktown City Council depot at Rooty Hill and Nurragingy Reserve and is also used for pedestrian access between the Reserve and Rooty Hill station and town centre. The Proponent proposes to realign North parade to the north of the rail sliding. This section of North Parade would consist of a bitumen sealed pavement, would include a cycleway and would be fenced on both sides. The realigned North Parade would be used for access to the rail siding and unloading facility and would be connected to the existing road via a spur road and level crossing over the railway siding. The existing North Parade would also be maintained for restricted maintenance access to the rail siding. The Department recommends that access to the site via the existing and realigned North Parade be limited to maintenance purposes or emergency access only.

Socio-economics

The Proponent has estimated that 220 people would be employed during the construction of the RDC, with 230-270 positions established during the operation of the RDC. The number of positions established includes the transfer of positions from other Readymix operations (such as the Penrith Lakes Development Corporation), with approximately 60 new positions being created. The Proponent has estimated that the proposal would generate additional income of $9 million for the Blacktown area during the construction phase and $1.3 million annually once operational.

7. CONCLUSION

The Department has assessed the EA, Statement of Commitments, Preferred Project Report and submissions on the proposal. The key issues raised in submissions related to noise, air quality, traffic and impacts on Nurragingy Reserve and Blacktown Olympic Park. These issues were assessed by the Department and it was concluded that impacts of the RDC would be minimal provided measures were implemented to minimise, control and manage any residual impacts and risks associated with the project.

The project would generate social and economic benefits for the Greater Western Sydney Region. It is expected that the project would:

- provide employment for 220 people during the construction phase and 230 - 270 people during operation (including the retention of jobs associated with the Penrith Lakes Development Corporation Scheme);
- generate additional income of $9 million for Blacktown and approximately $10.5million within the broader Greater Western Sydney Region during the construction phase; and
- contribute approximately $1.3 million annually to the regional economy.

The Department is satisfied that the construction and operation of would have minimal impacts on noise, air quality and traffic. Additionally the Department considers that the RDC would have minimal impact on Nurragingy Reserve and Blacktown Olympic Park. However, the Department has recommended a number of measures to ensure residual impacts are minimised. These include:

- adoption of stringent noise criteria for the operation of the RDC;
- the incorporation of best management practice (BMP) and best available technology (BATEA) to minimise dust emissions;
- negotiating alternative access to the site during the initial construction phase to minimise impacts on Nurragingy Reserve. Should the Proponent demonstrate that an agreement can not be made the Department recommends that the number of vehicles access the site via Nurragingy Reserve/Knox Road be limited until the completion of the road/conveyor bridge; and
- the preparation and implementation of noise, ambient dust and traffic monitoring programs, as well as noise, dust and traffic management plans.

The construction of the RDC would require the removal of 1.6ha of native vegetation comprising of the Endangered Ecological Communities of the Cumberland Plain Woodland and River-Flat Eucalypt Forest. While the area of vegetation to be removed is not considered significant, the Department recommends that the Proponent establish a compensatory habitat package for Cumberland Plain Woodland in consultation with the DEC. In addition, the Department recommends that the Proponent prepare and implement a vegetation management plan outlining how degraded areas at the project site will be rehabilitated.

In summary the Department is satisfied that residual impacts of the project can be mitigated and/or managed to ensure an acceptable level of environmental performance. Consequently, the Department considers the project is in the public interest, subject to strict conditions of approval.

8. RECOMMENDATION

It is recommended that the Minister:

- consider the findings and recommendations of this report;
- approve the project application, subject to conditions, under Section 75J of the *Environmental Planning and Assessment Act 1979*; and
- sign the attached project approval (Appendix A).

APPENDIX A – CONDITIONS OF APPROVAL

APPENDIX B – STATEMENT OF COMMITMENTS

APPENDIX C – RESPONSE TO SUBMISSIONS

APPENDIX D – ENVIRONMENTAL ASSESSMENT

APPENDIX E - ENVIRONMENTAL PLANNING INSTRUMENTS CONSIDERATION

The assessment of the proposed development is subject to the following environmental planning instruments and strategies:

- *State Environmental Planning Policy No 19 – Bushland in Urban Areas*
- *State Environmental Planning Policy No 33 – Hazardous and Offensive Development*
- *Sydney Regional Environmental Plan No 20 – Hawkesbury-Nepean River (No 2 – 1997)*
- *Sydney Regional Environmental Plan No 31 – Regional Parklands*
- *Blacktown Local Environmental Plan 1988*

Consideration of the proposed development in the context of the objectives and provisions of these environmental planning instruments is provided below.

State Environmental Planning Policy No 19 – Bushland in Urban Areas
State Environmental Planning Policy No 19 – Bushland in Urban Areas aims to protect and preserve bushland areas within nominated urban areas for their natural heritage value, aesthetic value or their value as a recreational, educational and scientific resource. Blacktown LGA is listed under Schedule 1 of the Policy and as such is an area to which SEPP 19 applies.

Clause 9 of the SEPP applies to land adjoining areas zoned or reserved for public space. Under this clause the Department must take into consideration:

1. *The need to retain any bushland on the land,*
2. *The effect of the proposed development on bushland zoned or reserved for public open space purposes and, in particular, on the erosion of soils, the siltation of streams and waterways and the spread of weeds and exotic plants within the bushland, and*
3. *Any other matters which, in the opinion of the approving or consent authority, are relevant to the protection and preservation of bushland zoned or reserved for public open space purposes.*

These matters have been fully considered as part of the Department's assessment of the project and the Department has concluded that any residual impacts on bushland areas can be appropriately mitigated and/or managed.

State Environmental Planning Policy No. 33
State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33) aims to ensure that if a proposed development involves a potentially hazardous and offensive industry then the consent authority must have sufficient information to impose conditions of consent which reduce or minimise any adverse impacts. SEPP 33 states that a development can be considered to be potentially hazardous and offensive if its operation, without mitigation measures, would pose significant risk to human health, life, property or the environment.

The project has been assessed against the definitions of hazardous and potentially hazardous industries and found to be neither hazardous nor potentially hazardous development and as such a Preliminary Hazard Analysis was not required.

The project is classified as a "potentially offensive development" as it requires an Environment Protection Licence (EPL) from the DEC. The DEC has indicated that it could issue an EPL, and has accordingly provided its recommended conditions of approval for the proposed development. Consequently, the project does not constitute an 'offensive' development.

Sydney Regional Environmental Plan No 20 – Hawkesbury-Nepean River (No 2 – 1997)
The proposed development is on land to which the *Sydney Regional Environmental Plan No 20 – Hawkesbury-Nepean River (No 2 – 1997)* applies. The aim of this REP is to protect the environment of the Hawkesbury-

Nepean River system by ensuring that the impacts of future land uses are considered in a regional context. Part 2 and Part 3 of the REP contains planning principles that must be considered by the consent authority in the determination of a proposed development. These principles have been fully considered as part of the Department's assessment of the project.

Sydney Regional Environmental Plan No 31 – Regional Parklands

This REP aims to provide a consistent management approach for regional parklands while promoting recreation, conservation, biodiversity and landscape protection. Clause 12 of the REP contains matters that must be considered by the consent authority in the determination of a proposed development. These matters have been fully considered as part of the Department's assessment of the project. The Department is satisfied that residual impacts on the natural environment of the adjacent Nurragingy Reserve can be appropriately mitigated and/or managed and that the project would have minimal impacts on the recreational uses of the Reserve and surrounding land uses.

Blacktown Local Environmental Plan 1988

The proposed development includes a number of land parcels with various zoning under *Blacktown Local Environmental Plan 1988*. The zoning of the project site and corresponding objectives for each zone are summarised in Table 10.

Table 10 Summary of the Zone Objectives of the Proposed Development Site

Zoning	Objectives
4 (a) - General Industrial Zone	To ensure that development for industrial purposes is carried out in a manner which contributes to the economic and employment growth of the area while improving the amenity of the surrounds and not adversely affecting the environment of the area.
5 (a) - Special Uses – General Zone	To identify land which is currently used by public authorities, council and organisations or reserved for future acquisition by public authorities and council to provide a range of community facilities and services.
5 (c) - Special Uses—Local Road and Local Road Widening Zone	To identify land required for existing or proposed local roads including the widening of existing local roads.

Additionally, the LEP lists a number of nominated uses that are permissible with development consent, with innominate uses prohibited. The proposed development is permissible with development consent.

The Department has considered the proposed development against the objectives of the above zoning, and is satisfied that the proposed development, subject to the implementation of the recommended conditions of consent, is generally consistent with the LEP.