Transport Roads & Traffic Authority

NSW GOVERNMENT

M5 East Motorway compound
Kingsgrove Road, Kingsgrove

Modification Assessment Report

May 2011

PREPARED BY:

Stuart J Hill P/L
PO Box 6148
HAMMONDVILLE NSW 2170
T: 0414957376
Email: stuart@stuarthill.com.au

PREPARED FOR:

Roads and Traffic Authority of NSW
Motorway Projects
101 Miller Street
NORTH SYDNEY, NSW, 2059

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Background

The construction and operation of the M5 East Motorway was approved by the Minister for Urban Affairs and Planning, Mr Craig Knowles, on 9 December 1997. The motorway was opened to traffic in December 2001.

The Roads and Traffic Authority (RTA) is seeking approval to establish a permanent maintenance compound at 197-201 Kingsgrove Road, Kingsgrove for the M5 East Motorway. This proposal will be considered as a modification to the approval of the construction and operation of the M5 East Motorway. The proposed modification requires the approval of the Minister for Planning in accordance with Part 3A of the *Environmental Planning and Assessment Act 1979*.

What is proposed?

The RTA proposes to establish a permanent compound at 197-201 Kingsgrove Road, Kingsgrove (corner of Kingsgrove Road and the M5 East Motorway).

The proposed site is owned by the RTA and would be used to maintain the M5 East Motorway.

The compound would include:

- A single story site office building
- Marshalling area for maintenance trucks
- Three single story storage sheds
- An amenities block
- A single story workshop building
- Two driveways off Kingsgrove Road, one for entry, one for exit
- Parking for up to 50 private vehicles for staff working at the site

The site would be used as a storage compound, repair and testing facility and would be the starting and finishing point for day and night maintenance activities during planned and unscheduled motorway closures. Planned closures generally occur on five consecutive nights each month. There are also likely to be some unscheduled night closures, on average about 12 nights per year.

A 2.1m high lapped and capped timber fence would be erected around the perimeter of the proposed compound to secure the site, improve visual appearance and reduce noise impacts.

Outside of the planned closure period, a small daytime workforce would occupy the office and workshop.

Why is it needed?

The M5 East Motorway's maintenance works are currently based at 25 - 27 Henderson Street, Turrella.

The motorway's maintenance requirements have increased as the asset has aged and as a result the RTA needs to establish an additional compound at a location close to the motorway.

The existing compound at Turrella will continue to be used for M5 East Motorway activities including abandoned vehicle storage and maintenance of assets currently on the site such as the exhaust fans, exhaust sub station, water treatment plant, and ventilation stack.

How it would satisfy the need?

197-201 Kingsgrove Road is proposed for use as a compound because of its close proximity to the motorway. This compound would also allow for a quick response to emergencies such as breakdowns or incidents in the tunnels.

The RTA owns the site and no additional land would be acquired to establish the compound.

What are the likely impacts of the proposal?

The main potential impacts associated with the proposal have been identified as operational noise, traffic generation and reduced visual amenity.

Noise

Operational noise is expected to comply with NSW Government Department of Environment, Climate Change and Water, Industrial Noise Policy criteria for intrusive noise and only minor, infrequent exceedances of the noise criteria are likely. These exceedances would be barely perceptible to the human ear and are considered acceptable, given that the night time activities are limited to the planned closures of five nights each month and relatively infrequent unscheduled closures.

Road traffic noise and sleep disturbance criteria are not likely to be exceeded.

Traffic generation

The proposal would generate some traffic with about 40 employee vehicles and 10 trucks entering and exiting the site in the evening and night during both planned and unscheduled closures.

About eight employees would attend the site between 6.00 am to 3.30 pm on a daily basis.

Access would be directly to Kingsgrove and would therefore not affect the local road network. Most traffic movements would occur outside of peak periods.

Visual amenity

The visual impact of the proposal is considered moderate given the nature of the activities proposed and the proximity of nearby residential and recreational areas. The proposed 2.1m perimeter fence would reduce visual impact by screening most site activity from adjacent areas. The potential for overshadowing and light spill has been assessed and is considered minor.

How would the likely consequences be managed?

Environmental safeguards outlined in this document would be implemented during construction and operation of the proposal. These safeguards would minimise any potential adverse impacts arising from the proposed works on the surrounding environment and include:

- Installation of a 2.1m perimeter fence, to reduce noise and screen the proposal from the neighbouring park and residential area.
- Implementation of management measures, including site inductions, to minimise the amount of noise generated by workers and machinery.

1
Introduction

1.1 Background and purpose

The M5 East Motorway is nine kilometres long and includes twin four kilometre tunnels and a 550m tunnel under the Cooks River. It is an important link in the Sydney Orbital Network, delivering motorway standard access between South Western Sydney, the city, and the major industrial and commercial areas of South Sydney.

The Minister for Urban Affairs and Planning, Mr Craig Knowles, granted approval to the construction and operation of the M5 East Motorway on 9 December 1997 subject to 150 conditions. The motorway was opened to traffic in December 2001.

On 1 August 2005, the Minister's planning approval became a project approval under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) via transitional provisions. The approval was modified in July 2007 when the then Minister for Planning granted approval for the RTA to construct a filtration plant with associated monitoring and reporting.

The RTA now proposes a further modification for use of an operational compound site at 197-201 Kingsgrove Road, Kingsgrove (the proposed modification).

The purpose of this report is to assess the potential environmental impacts of the proposed modification.

1.2 Modification process

1.2.1 EP&A Act transitional provisions

The M5 East Motorway approval by the Minister for Urban Affairs and Planning, Mr Craig Knowles, on 9 December 1997 was granted under Part 5 of the EP&A Act in accordance with the now repealed Division 4.

On 1 August 2005 amendments to the EP&A Act, including the addition of Part 3A, commenced. The amendments included transitional provisions in which provide:

Schedule 6

88 Pending or previous matters under Division 4 of Part 5…

(3) The approval of the Minister for an activity that was given under Division 4 of Part 5 of this Act before its repeal (or under that Division as continued by subclause (1)) is taken to be an approval under Part 3A of this Act, and that Part (sections 75U and 75V excepted) applies accordingly…

Any modification to the project is therefore being considered under Part 3A of the EP&A Act, specifically section 75W.

1.2.2 Modifying a Part 3A project

Section 75W (within Part 3A) of the EP&A Act regulates the modification of a Part 3A approval. It provides that a proponent may request that the Minister for Planning modify an approval for a project. A modification is defined as changing the terms of the Minister's approval, including revoking or varying a condition of the approval or imposing an additional condition of approval.

Section 75W(2) provides that the Minister's approval for a modification is not required if the project as modified will be consistent with the existing approval. In this case the RTA has determined that the construction and use of the proposed compound would not be consistent with the existing approval.

A request for modification of a planning approval is lodged with the Director-General of the Department of Planning. The Director-General may notify the proponent of any environmental assessment requirements.

After considering a modification request, the Minister may modify the approval (with or without conditions) or disapprove of that modification.

1.2.3 Consistency with the existing approval

The RTA has assessed the consistency of the proposed compound with the existing approval.

The proposed compound was not assessed in the original assessment documentation and is not specifically referenced in the existing approval. The RTA has decided that the proposal is not consistent with existing approval. Accordingly, a modification of the Minister's approval is required under section 75W of the EP&A Act.

1.2.4 Modification Assessment Report

This report:

1. Describes relevant aspects of the approved project.
2. Describes the proposed modification to the approved project and explains why it is needed.
3. Assesses the environmental impacts of the proposed modification.
4. Identifies environmental safeguards that the RTA would implement to reduce or avoid harmful impacts arising from the proposed modification.

2
Description and need for the proposed modification

2.1 The approved project

The approved M5 East Motorway is the completed four lane motorway between Fairford Road, Padstow and General Holmes Drive, Kyeemagh. Key features are:

- Duplication of the two lane road between Fairford Road and King Georges Road.
- New four lane road between King Georges Road and General Holmes Drive.
- Grade separated, interchange at King Georges Road with the motorway passing under King Georges Road and Cooloongatta Road.
- East facing ramps at Kingsgrove Road.
- Tunnel between Bexley Road, Bexley North and Marsh Street, Amcliffe.
- Grade separated interchanges at Bexley Road (west facing ramps only), Princes Highway (west facing off-ramp only), and Marsh Street (full interchange).
- Access to the westbound motorway lanes from West Botany Street.
- Single ventilation shaft at Turrella and 4 air intakes for the tunnel.
- Trial of air filtration technology.
- Tunnel crossing of the Cooks River.
- Connection with General Holmes Drive, on the west side of the Airport tunnel.

The approved project is formally defined by condition No.1 of the planning approval. Following the modification of the approval in July 2007 condition No.1 reads as follows

1. The proposal shall be carried out in accordance with:

a) the original request for approval of the proposal, including:

i) Proposed M5 East Motorway (Manidis Roberts, June 1994);

ii) Supplement to the M5 East Motorway Environmental Impact Statement (Manidis Roberts, December 1996);

iii) the modifications made to the project in Part 6 of Representations Report (RTA, August 1997);

iv) M5 East Property Value Guarantee Procedure (RTA, 1 December 1997);

v) Appendix B of Proposed M5 East Motorway - Fairford Road, Padstow to General Holmes Drive, Kyeemagh: Director-General's Report (DUAP, November 1997), hereafter referred to as 'the Director-General's Report';

b) the filtration trial modification request (06_0290 Mod 1), including:

i) M5 East Tunnel - Partial Portal Emissions and Trial of Tunnel Filtration Technology, Environmental Assessment Report: Application for Modification of the Approval (Maunsell Australia Pty Ltd, October 2006);

ii) correspondence from the RTA to the Department, dated 25 June 2007, amending the modification request to be confined solely to the trial of filtration technology; and

iii) M5 East, Air Quality Improvement Program: Filtration Trial Submissions Report (RTA, July 2007);

c) the conditions of this approval.

There are no approval conditions dealing specifically with the location of equipment and support facilities for operation and maintenance of the motorway.

2.2 Description of proposed changes to the approved project

The RTA proposes to undertake maintenance activities (as described below in section 2.2.3) at a purpose built compound at 197-201 Kingsgrove Road, Kingsgrove. It proposes to cease undertaking similar activities at the existing site on Henderson Road, Turrella.

2.2.1 Description of the existing site

The site is located at 197-201 Kingsgrove Road, Kingsgrove, and formally comprises Lot A in DP345722, Lot B in 19339 and Lots 11, 12 and 13 in DP 1077303. It is within Canterbury local government area, is owned by the RTA and has an approximate area of 3500 m^2. Figure 2-1 shows the location of the site.

The site has recently been used as a compound by the Sydney Harbour Bridge Alliance for storage of equipment and materials. It addresses Kingsgrove Road and is fenced with wire mesh and barbed wire fencing with dust screen material attached. As illustrated by Figure 2-2, there are existing stockpiles of recycled asphalt material currently located on the site. The site has direct access to Kingsgrove Road via a concrete driveway.

To the north of the site is a strip of parkland approximately 15 metres wide. Beyond that is a vacant commercial/retail premises and five single storey residential dwellings of brick construction, which address Kingsgrove Road and Forrester Street respectively.

To the west is an area of parkland approximately 60 metres wide comprising mown grass, sparse landscape planting and play equipment for children. Beyond is residential development, which addresses Karingal Street.

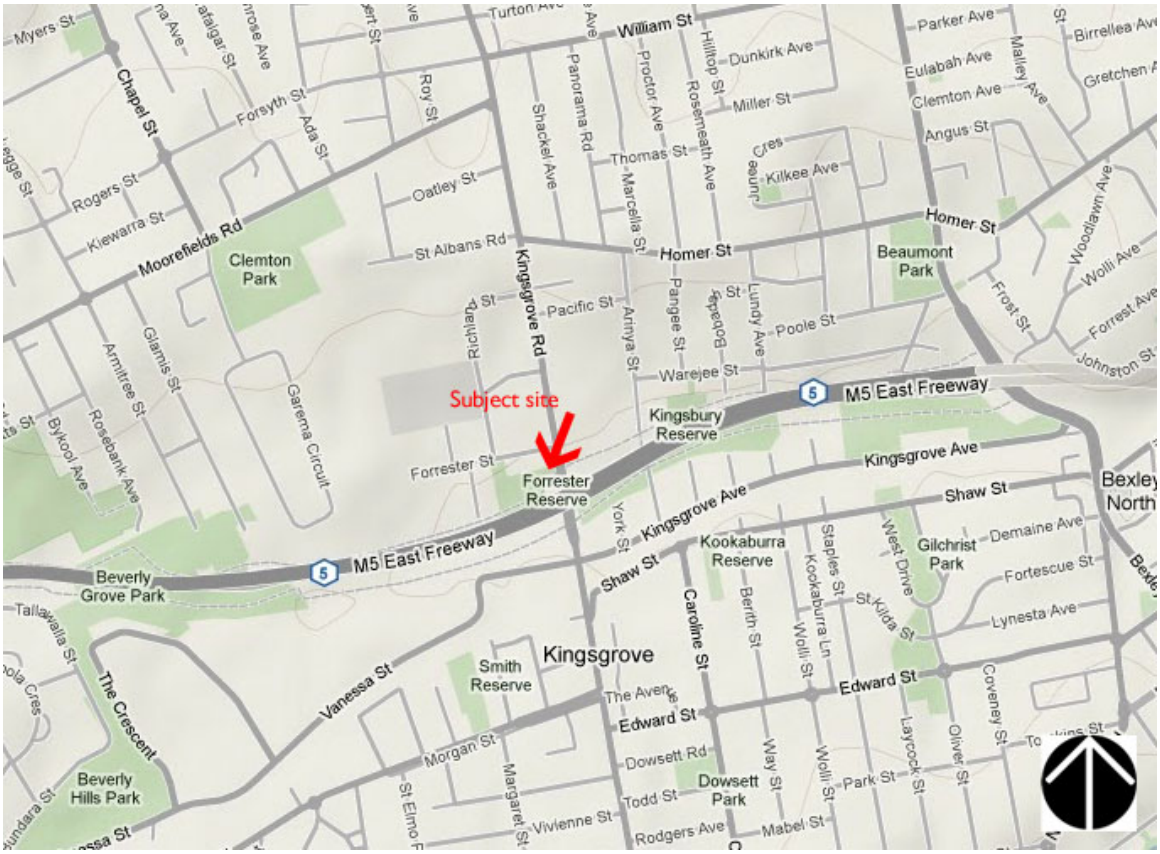

Figure 2-1 Location of the subject site

Image source: Google Maps Australia

To the south is a shared path that forms part of the M5 Linear Park. Beyond are the motorway carriageways, which are on fill embankments at this location.

To the east is Kingsgrove Road. The Kingsgrove Road interchange with the motorway is a key feature of the road environment at this location. The motorway passes over Kingsgrove Road on bridge structures while interchange movements to and from Kingsgrove Road are regulated by traffic control signals.

View east across the site.

View south along Kingsgrove Road site frontage.

Figure 2-2 Photographs of the subject site

Beyond the more immediate pockets of residential development around the site, the broader area has an industrial/commercial character with a range of developments including electrical wholesalers, automotive service businesses, printers and the State Transit Kingsgrove Bus Depot.

2.2.2 Proposed site layout

The compound would contain.

- A single story site office building
- Marshalling area for maintenance trucks
- Three single story storage sheds
- An amenities block
- A single story workshop building
- Two driveways off Kingsgrove Road, one for entry, one for exit
- Parking for up to 50 private vehicles for staff working at the site

A 2.1 metre high lapped and capped timber fence would be erected around the perimeter of the proposed compound to secure the site and reduce noise impacts.

The general arrangement of proposed compound elements is shown on the drawing included at Appendix B.

2.2.3 Proposed site operations

The site would be used as a storage compound, repair and testing facility and would be the starting and finishing point for day and night maintenance activities during planned motorway closures. These planned closures typically occur over a period of 5 consecutive nights, once a month. Outside of the planned closure period, a small daytime workforce would occupy the office and workshop.

During the planned closures, work trucks would depart from the site for maintenance associated with the M5 East Motorway and return upon completion of these works. The site would also be used for the occasional storage and maintenance of assets used in the M5 East Motorway.

The site would also be used during any unscheduled night time motorway closures (on average about 12 nights per year).

Typical operations are expected to include the following:

Day

- A day shift based in the office and workshop.
- Following arrival in the early morning, the day workforce of approximately 8 vehicles would depart from site at approximately 3:30 pm.

Evening

- Arrival of planned closure workforce in up to 40 private cars, at approximately 8.00 pm. This would occur on nights of planned closure and where unscheduled maintenance is required.
- Departure of the M5 East Motorway site maintenance workforce in up to 10 small trucks, at about 9.30 pm.

Night

Arrival of the site workforce back to site at 12.00 am during the meal break, on nights of planned closure and during unscheduled maintenance.

- Departure of the site workforce in work vehicles at the end of break at 12.30 am.
- Arrival of site work force at the end of the shift.
- Subsequent departure of the site workforce in private cars at around 5.00 am.
- Occasional arrival of asset items during the night for repairs carried out during the daytime at nominated workshops.
- Outside of the planned closure period, the day workforce of approximately 8 would arrive on site from 6.00 am.

The majority of the night time activities (i.e apart from day shift staff arrivals to site) would occur during the period of planned closure, which generally takes place once a month for approximately five consecutive nights. On occasion there will also be the need to carry out unscheduled maintenance and this would also occur at night.

Approximate vehicle movements

Traffic movements related to site crew travelling to and from the M5 East Motorway site would be via the M5 East Motorway itself. Staff movements to and from site are expected to be by way of Kingsgrove Road (northbound and southbound) and the M5 East Motorway. The following vehicle movements could be expected where maintenance (planned or unscheduled) occurs:

- About 20 private vehicle movements during the day (typical daily activity).
- About 80 private vehicle movement during the evening and night.
- About 20 small truck movements during the evening and night.
- Additional deliveries by trucks as needed during the day, evening and night periods.

It is expected that day shift workers would use the car park located at the eastern end of the site. During the planned closures, additional staff vehicles would be parked at the western end of the site, where it is also expected that the work vehicles would be parked.

Delivery and storage of M5 East Motorway asset items is expected to be in the area between the site buildings, shielded by the site buildings from the nearby residents, or in the case of no available space, in the area at the west of the site.

2.3 Need for proposed changes to the approved project

The ongoing operation of the M5 East Motorway requires a range of maintenance activities. A number of these activities have been increasingly undertaken within the area surrounding the Turrella ventilation station, amongst other locations. While these locations were described and assessed in the EIS, a number of the required maintenance activities were not contemplated in earlier planning approval documentation, and therefore may not be consistent with the Minister's approval.

RTA has undertaken a process of site selection to identify an appropriate location for these activities. The Kingsgrove Road site is preferred as it provides:

- A large useable area.
- Direct access to the arterial road network as well as the M5 East Motorway via the on-ramp at Kingsgrove Road.
- An area that can accommodate the proposed use with acceptable environmental outcomes.
- Is owned by the RTA and is consistent with the character of the adjacent transport corridor and the prevalence of industrial land use in the broader area.
- Potential impacts on nearby residences are minor and can be addressed through the implementation of environmental safeguards.

2.4 Construction activities

2.4.1 Construction sequence

The construction sequence would be generally as follows:

- Installation of temporary erosion, sedimentation and drainage controls.
- Connection to services (water, power, sewer and communications). A sewer main traverses the site. Buildings would be connected to this main via a sewer to be installed via open trenching. Power would be connected via an aerial drop cable. Telecommunications and water services would be connected to site from existing services in Kingsgrove Road.
- Spreading and compaction of recycled asphalt material.
- Placement of demountable buildings using a crane.
- Repair of existing fencing and dust screens as required.
- Stabilisation of disturbed areas.

2.4.2 Construction equipment

Construction of the compound would require the use of a range of equipment including:

Trucks	Generator
Backhoe	Crane
Hand held plant	Bobcat
Compactor	Water cart

2.4.3 Construction hours

The proposal would be constructed during standard working hours as follows:

Monday to Friday:	7:00am to 6:00pm
Saturday:	8:00am to 1:00pm
Sunday:	No work
Public holidays:	No work

2.5 Traffic and access

Access and egress would be via a left-in left/right-out arrangement. The access point would be located approximately 15m to the south of the existing driveway. The egress point would be at the existing driveway. This arrangement would allow vehicles to enter and leave the site in a forward motion and would minimise the need for turning movements on site.

Approximately 40 employee vehicles would be attending the site in the evening and night during both planned and unscheduled closure. About eight employees would attend the site during the hours of 6.00 am to 3.30 pm on a daily basis.

Approximately ten trucks with crane attachments would be entering and exiting the site during the planned and unscheduled closure nights. These trucks would be used to maintain the assets and transport asset items to and from the M5 East Motorway.

2.6 Public utility adjustment

Public utility adjustments are not required for the proposed modification. Arrangements for connections to services have been described above in section 2.4.1.

2.7 Property acquisition

Property acquisition would not be required for the proposed modification.

3
Environmental assessment

3.1 Soils and water quality

Existing environment

Chapman and Murphy (1989) in *Soil Landscapes of the Sydney 1:100,000 Sheet* identify the site as being located within a disturbed soil landscape. The geology of disturbed terrain is artificial fill comprising a range of natural and other materials. The erosion hazard associated with disturbed terrain is highly variable.

The subject site is not mapped (DLWC 1995) as having identified risk of acid sulfate soil occurrence.

Potential impacts of the approved project

The approved project involved no permanent operations at the subject site. The site was however disturbed during the construction of the motorway.

Potential impacts of the modified project

The erosion and sedimentation risk for the establishment of the compound is considered low. In particular, it is noted that:

- The site is relatively flat
- Large areas of land would not be disturbed.
- No major constraints to the implementation of erosion and sediment controls appear to be present.

Disturbance of contaminated land is not expected. Any excess spoil would be disposed of at an appropriately licensed facility.

The potential for accidental spill and leaks represents a risk for water quality. This is considered manageable and has been addressed through the proposed safeguards and mitigation measures.

Changes to the flooding regime in the area are not expected.

The proposal would not result in a major increase in impermeable surfaces or modifications to the existing drainage network. Increases in peak flows to receiving watercourses are therefore not expected.

Safeguards and mitigation measures

- Erosion and sediment control measures would be implemented and maintained in accordance with the *Landcom/Department of Housing Managing Urban Stormwater, Soils and Construction Guidelines* (the Blue Book) (Landcom 2004) to:
  - Prevent sediment moving off-site and sediment-laden water entering any watercourse, drainage lines, or drain inlets.
  - Reduce water velocity and capture sediment on site.

- Minimise the amount of material transported from site to surrounding pavement surfaces.
- Divert clean water around the site.

- Procedures for assessing potential contamination of spoil generated at each site would be implemented. Contaminated spoil would be treated onsite or removed to an appropriately licensed landfill. Management would be in accordance with the following guidelines and would include options for disposal or treatment of contaminated material:
  - *Managing Contaminated Land Planning Guidelines SEPP 55 – Remediation of Land* (DUAP and EPA, 1998)
  - *Waste Classification Guidelines – Part 1: Classifying Waste and Part 2: Immobilisation of Waste* (DECCW, 2008).
- Erosion and sedimentation controls are to be checked and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request.
- Erosion and sediment control measures are not to be removed until the works are complete or areas are stabilised.
- Disturbed areas would be progressively stabilised and rehabilitated during the works.
- Water quality control measures would be used to prevent any materials (eg. concrete, grout, sediment etc) entering drain inlets or waterways.
- An emergency spill kit would be kept on site at all times. All staff would be made aware of the location of the spill kit and trained in its use. If a spill occurs, the RTA's Environmental Incident Classification and Management Procedure is to be followed.
- Vehicles and plant would be properly maintained and regularly inspected for fluid leaks.

Summary

The proposal involves limited ground disturbance and the site does not present any major constraints to the management of erosion and sedimentation. Potential impacts are considered minor and can be appropriately managed.

3.2 Air quality

Existing environment

The site is located within the Sydney East Region for the purposes of DECCW air quality monitoring. The Regional Air Quality Index (RAQI) ratings for the Sydney East Region for January 2011 were primarily in the "Good" range. On three occasions during the month RAQI ratings were in the "Fair" category.

National Pollution Inventory (2008/09 data) search indicates that local air quality is influenced by a range of point and diffuse source emissions including industry, motor vehicles, architectural surface coatings, domestic/commercial solvents and solid fuel burning.

The most commonly reported point source air emissions are:

- Total volatile organic compounds
- Carbon monoxide

- Oxides of nitrogen
- Sulfur dioxide
- Polycyclic aromatic hydrocarbons

The most commonly reported diffuse air emissions are:

- Total phosphorus
- Total volatile organic compounds
- Total nitrogen
- Toluene (methylbenzene)
- Xylenes

Potential impacts of the approved project

The approved project involved no permanent operations at the subject site. The site was however disturbed during the construction of the motorway.

Potential impacts of the modified project

Potential impacts associated with the proposal include minor emissions from machinery (e.g. delivery vehicles, construction plant) and dust.

Dust would be generated from earthworks associated with the construction of the proposal. The total amount of dust would depend on the silt and moisture content in the soil and the types of activities being carried out. The major sources of dust associated with the construction of the proposal would be the use of excavators and wind erosion of the exposed surfaces.

Nuisance dust can be expected to impact on residential and commercial areas when annual average dust deposition levels exceed 4g/m^2/month. The mobilisation of dust associated with the proposal is expected to be below nuisance levels through the implementation of appropriate mitigation measures.

Safeguards and mitigation measures

- Measures (including watering or covering exposed areas) would be used to minimise or prevent air pollution and dust.
- Works (including the spraying of paint and other materials) would not be carried out during strong winds or in weather conditions where high levels of dust or air borne particulates are likely.
- Vehicles transporting waste or other materials that may produce odours or dust would be covered during transportation.
- Stockpiles or areas that may generate dust would be managed to suppress dust emissions in accordance with the RTA's *Stockpile Management Procedures* (2005).
- Equipment would be properly maintained to ensure exhaust emissions comply with the POEO Act.
- Silt would be removed from behind filter fences and other erosion control structures on a regular basis, so that collected silt does not become a source of dust.
- Any soil or mud deposited on public roads by construction activities and vehicle movements would be removed immediately and disposed of appropriately.

Summary

Potential impacts on air quality would be limited to minor emissions from machinery (e.g. delivery vehicles, construction plant) and dust. The measures proposed adequately address these issues.

3.3 Biodiversity

Existing environment

The site is generally cleared of all vegetation except grasses. A triangular section of the northwest corner of the site contains several semi mature trees. This section is separately fenced and would not be disturbed as part of the establishment and subsequent operation of the compound. A number of mature trees are adjacent to, but outside, the northern boundary of the site.

National Parks and Wildlife Service (NPWS) vegetation maps Sydney (2002) do not show any recognised vegetation communities at the subject site.

NPWS Atlas of NSW Wildlife data shows no record for threatened flora or fauna within 1.5 kilometres of the site. The nearest record is for *acacia pubecens* (Downy wattle) at Bardwell Valley.

Potential impacts of the approved project

The approved project involved no permanent operations at the subject site. The site was however disturbed during the construction of the motorway.

Potential impacts of the modified project

The proposal would require minimal clearing of vegetation. The mature trees adjacent to the northern boundary of the site would not be affected by the proposal.

No flora or fauna species listed by the schedules of the *Environment Protection Biodiversity Conservation Act 1999* or *Threatened Species Conservation Act 1995* have been recorded within, or in close proximity to, the proposed site. Given the high level of disturbance and the absence of canopy and understorey vegetation, the site is not likely to represent habitat for threatened species previously recorded in the broader area.

Safeguards and mitigation measures

- Trees along the northern boundary of the site would be protected would be protected via the implementation of the following measures:
    - Establishment of a tree protection zone the maximum possible distance from each tree using steel mesh fencing or similar.
    - Disturbance of soil within the tree protection zone would be avoided where possible.
    - Where excavation is required within the primary root zone, it would be undertaken using hand tools and under the supervision of an appropriately qualified arborist.
    - Should accidental damage to these trees be sustained during the course of construction activities, an appropriately qualified arborist would be consulted regarding necessary actions to ensure tree health is maintained.
    - During both construction and operation, storage of equipment or stockpiling of material, would not occur within the drip line of trees.

Summary

Given the high level of disturbance and the absence of canopy and understorey vegetation, the site is not likely to represent habitat for threatened species previously recorded in the broader area. Measures have been proposed to ensure that trees with amenity value are protected.

3.4 Noise and vibration

Existing environment

Attended and unattended noise monitoring was undertaken by PAE Holmes to quantify the prevailing ambient noise environment. Monitoring locations are shown in Figure 3-1.

Figure 3-1 Noise measurement locations

Unattended noise monitoring was carried out between 13 December 2010 and 20 December 2010 at 185 Kingsgrove Road to quantify representative noise levels at the closest residential properties.

Unattended monitoring was carried out between 14 January 2011 and 23 January 2011 near the northern boundary of the proposed site to quantify the existing road traffic noise on Kingsgrove Road.

A summary of the results for background noise levels is presented below in Table 3-1. Measured road traffic noise levels are presented in Table 3-2.

Table 3-1 Measured background noise levels (RBL), dBA

Location	Day (7am - 6pm)	Evening (6pm - 10pm)	Night (10pm – 7am)
185 Kingsgrove Road (Logger Position 2)	59	56	45
197-201 Kingsgrove Road (Logger Position 1)	54	54	46

Table 3-2 Measured road traffic noise levels

Location	L_{Aeq} period	
	Day L_{Aeq} 15 hr	Night L_{Aeq} 9 hr
185 Kingsgrove Road (Logger Position 2)	68	64

Attended noise measurements were carried out in order to better understand the night time noise environment and to identify the noise sources present in the vicinity of the both the site and nearby residential receivers.

Measurements were carried out at two locations representative of the nearest residential receivers to the north and west of the site, as shown in Figure 3-1. Attended Measurement Position 1 was located near the rear fences of the residential properties to the west of the site and Attended Measurement Position 2, near the northern residences.

A summary of the measurement results is presented in Table 3-3.

Table 3-3 Attended noise measurement results

Location	Time	L_{Aeq}, dBA	L_{A1}, dBA	L_{A10}, dBA	L_{A90}, dBA	Noise sources
Position 1 (west)	11:55 pm	44	52	47	41	Local traffic passing 47-55dBA Distant traffic 36dBA Industrial noise approximately 41dBA
Position 1 (west)	12:40 am	45	52	48	41	Local traffic passing 50-64dBA, Distant traffic 39dBA, Industrial noise approximately 41dBA
Position 2 (north)	12:15 am	50	58	54	44	Local traffic passing 49-54dBA, Distant traffic 37dBA,

						Industrial noise 44dBA
Position 2 (north)	1:03 am	48	56	51	44	Local traffic passing 49-57dBA, Distant traffic 39dBA, Industrial noise 44dBA

Assessment criteria

Construction noise

Noise management goals are given in the DECCW *Interim Construction Noise Guideline* (DECCW 2009).

For residential receivers the guideline provides that the construction noise should not exceed the background by more than 10dBA during standard hours, and by more than 5dBA out of hours (that is, for night-time works). The level of 75dBA is identified, as the point above which there may be a strong community reaction to noise.

The guideline provides the following noise management goals for commercial and industrial premises:

- Active recreation areas (such as parks): external L_{Aeq}, 15min 65dBA
- Industrial premises: external L_{Aeq}, 15min 75dBA
- Offices, retail outlets: external L_{Aeq}, 15min 70dBA

Intrusiveness and amenity noise criteria

The NSW Government's policy and guidelines for the assessment of industrial noise is presented in the DECCW *Industrial Noise Policy* (INP). The INP recommends Intrusiveness Criteria for residential receivers to address the potential for disturbance and Amenity Criteria to maintain acoustic amenity appropriate to the relevant land use category of the area. Project specific criteria have been calculated in accordance with the INP and are presented in Table 3-4 and Table 3-5.

Table 3-4 INP intrusiveness criteria L_{Aeq}, 15 min, dBA

Location	Day (7am - 6pm)	Evening (6pm - 10pm)	Night (10pm – 7am)
Forrester Street (north of site)	59	59	51
Karingal Street (west of site)	56	56	48

Table 3-5 INP amenity criteria L_{Aeq} period, dBA

Location	Day (7am - 6pm)	Evening (6pm - 10pm)	Night (10pm – 7am)
Forrester Street (north of site)	60	48	37
Karingal Street (west of site)	60	50	41

Sleep disturbance screening criteria

Based on the site noise measurements, the relevant sleep disturbance screening criteria applicable at 1m from any bedroom window are presented at Table 3-6.

Table 3-6 Sleep disturbance criteria

Location	Criteria L_{A1}, 1 min, dBA
Forrester Street (north of site)	61
Karingal Street (west of site)	58

Road traffic noise criteria

The NSW Government's *Environmental Criteria for Road Traffic Noise* (ECRTN) presents the NSW Government's recommended guidelines and criteria for the assessment of road traffic noise on public roads. These criteria are not mandatory, however compliance should be achieved where considered reasonable and feasible. The guideline presents noise criteria for noise-sensitive receivers next to various categories of roads, including local, collector, and arterial roads and dependent on whether the road is new or a redevelopment (upgrade). The relevant criteria are summarised in Table 5-2 of the ECRTN noise policy document.

Table 3-7 Road traffic noise criteria

Development type	Day (7am - 10pm)	Night (10pm – 7am)	Where criteria already exceeded
Land use developments with potential to create additional traffic on existing freeways/arterials	60dBA L_{Aeq}, 15hr	55dBA L_{Aeq}, 9hr	Where feasible, existing noise levels should be mitigated to meet the noise criteria. Examples of applicable strategies include appropriate location of private access roads; regulating times of use; using clustering; using 'quiet' vehicles; and using barriers and acoustic treatments. In all cases, traffic arising from the development should not lead to an increase in existing noise levels of more than 2 dB.

Potential impacts of the approved project

The approved project involved no permanent operations at the subject site. Noise generating construction activities associated with the approved project occurred in the vicinity of the subject site.

Potential impacts of the modified project

Construction noise

As illustrated by Table 3-8, noise generated by construction is expected to comply with the construction noise management goals. Furthermore, construction activity is expected to be relatively short-term and completed within a period of approximately four weeks. It should also be noted that construction activities are unlikely to be continuous over the entire construction period.

Table 3-8 Construction noise predictions

Location	Criteria	Calculated noise level L_{Aeq}, 15min, dBA		
		Mobile crane	Excavator	Both
Forrester Street (north of site)	66	57	60	62
Karingal Street (west of site)	63	46	51	52

Operational noise

Operation noise calculations were undertaken to inform the assessment. Calculated noise levels and the relevant intrusive noise criteria are shown by Table 3-9. It can be seen that without mitigation, criteria would be exceeded for two of the given operational scenarios. With the implementation of a 2.1 metre perimeter fence only one exceedance remains, and its extent is substantial reduced.

Table 3-9 Calculated noise levels L_{Aeq}, 15 min

Location	Criteria L_{Aeq}, 15 min, dBA			Scenario calculated noise level L_{Aeq}, 15 min, dBA				
	Day	Evening	Night	1	2	3	4	5
Forrester Street (north of site)	59	59	51	**55** (47)	46 (41)	**61** (**54**)	50 (45)	35 (29)
Karingal Street (west of site)	56	56	48	**48** (41)	38 (34)	**56** (**50**)	41 (39)	24 (21)

Results in bold indicate activities that exceed noise management targets.

Results in parentheses indicate the calculated noise level with a 2.1 m high perimeter fence

Scenario 1 Private cars arrive or depart from site (evening and night)
Scenario 2 Work vehicles arrive or depart from site (night)
Scenario 3 Truck with mobile crane deposits asset items in compound, at western end (night)
Scenario 4 Truck with mobile crane deposits asset items in compound shielded by buildings (night)
Scenario 5 Private cars arrive and depart from site for day shift (day)

With respect to scenario 3, it should be noted that there would be infrequent use of crane in the compound (limited to lifting delivered assets from a back of the truck during the day and depositing items onto the back of a truck during planned/unscheduled closures). This only happens when a large

asset item of the M5 East requires refurbishment /replacement. Exceedance of criteria are not expected because it is proposed that if the truck mounted crane must be used at night, it would be parked in the middle of the site where the site buildings shield noise from surrounding residences.

The noise levels relating to the amenity criteria have been calculated according to how many events occur in the assessment period and their corresponding noise level. Table 3-10 presents a summary of the calculated noise levels (mitigated and unmitigated).

Table 3-10 Calculated amenity period noise levels

Location	Day L_{Aeq}, 11 hr, dBA		Evening L_{Aeq}, 4 hr, dBA		Night L_{Aeq}, 9 hr, dBA	
	Criteria	Noise level	Criteria	Noise level	Criteria	Noise level
Forrester Street (north of site)	60	45 (28)	48	47 (38)	37	**48** (**39**)
Karingal Street (west of site)	60	39 (21)	50	39 (32)	41	**42** (33)

Results in bold indicate activities that exceed amenity criteria.

Results in parentheses indicate the calculated noise level with a 2.1 m high perimeter fence

A review of the mitigated noise levels with the 2.1m fence in place indicates compliance with amenity criteria, except for a marginal 2dBA exceedance at the nearest Forrester Street residences. A 2.5m high boundary fence would be required to achieve full compliance. The higher fence is not preferred in this case because to would represent a more dominant visual feature and would require specific structural design.

A 2dBA exceedance with the 2.1m high fence will be barely perceptible to the human ear and is considered acceptable, particularly given that the night time activities associated with the planned closures occur for a period of only five nights each month. There are likely to be some unscheduled night closures in addition to the five scheduled night closures (on average about 12 nights per year).

Sleep disturbance

Noise sources with the potential to cause sleep disturbance include the following:

- Vehicle doors closing
- Normal conversation
- Maximum truck pass by noise levels
- Mobile crane

Table 3-11 presents a summary of the calculated maximum noise levels (mitigated and unmitigated). The results indicate that the implementation of a 2.1 metre high perimeter fence can address potential exceedance of sleep disturbance criteria.

Table 3-11 Calculated maximum noise levels

Location	Criteria L_{A1}, 1 min, dBA	Calculated noise level L_{A1}, 1 min, dBA				
		1	2	3	4	5
Forrester Street (north of site)	61	55 (46)	30 (21)	53 (43)	**66** (59)	56 (50)
Karingal Street (west of site)	58	44 (36)	18 (<20)	41 (34)	**62** (55)	46 (44)

Results in bold indicate activities that exceed noise management targets.

Results in parentheses indicate the calculated noise level with a 2.1 m high perimeter fence

Scenario 1 Vehicle door closing
Scenario 2 Normal conversation
Scenario 3 Truck pass by
Scenario 4 Mobile crane
Scenario 5 Mobile crane (shielded by site buildings)

Road traffic noise

Vehicle movements to and from the M5 East Motorway would be via the M5 East Motorway and the Kingsgrove Road on and off ramps, located opposite the site. Staff arriving to and departing from the site compound may travel along Kingsgrove Road north of the site, Kingsgrove Road south of the site or via the M5 East Motorway.

During the planned motorway closures, allowing for 40 cars for staff and assuming one third of traffic travels on each of the three routes identified above, the L_{Aeq}, 9hr night road traffic noise contribution along Kingsgrove Road route is calculated to be 45 dBA. This is 10 dBA lower below the night time ECRTN noise criterion of 55dBA and 19dBA below the measured existing road traffic noise level of 64 dBA. This relatively small volume of additional traffic during the more sensitive night time period will therefore not result in any increase in the L_{Aeq}, 9hr noise level and will comply with the ECRTN recommendation not to result in any increase in noise level of more than 2dBA given that the existing noise levels already exceed the ECRTN noise criteria.

Safeguards and mitigation measures

- Personnel using the site would be made aware of the sensitivity of the neighbouring community and the need to minimise noise on site, particularly at night. This may be via site induction procedure, signage and any other means.
- Workers using the site would be reminded of the need to minimise noise during regularly conducted toolbox talks.
- The proposal would incorporate a 2.1 metre high perimeter fence. The fence would be lapped and capped timber or equivalent, of at least 10kg/m^2 surface density, without any gaps or openings.
- Buildings would be placed generally in accordance with the site layout, with doorways preferably facing away from the residences.
- At night, truck mounted crane use would be restricted to the area shielded by the site buildings.

- Vehicle engines would be turned off when not in use.
- Where feasible, reversing alarms would be replaced with broadband "quacker" type alarms. If this is not possible, reversing would be kept to a minimum by, for example, positioning vehicles so that no reversing is necessary.
- No PA equipment would be used on site.
- Personnel would be instructed to gather indoors during the night rather than outside in the car park area.

Summary

Noise generated by construction is expected to comply with the construction noise management goals.

Operational noise is expected to comply with INP criteria for intrusive noise and only minor and infrequent exceedances are expected in relation to amenity criteria. These exceedances would be barely perceptible to the human ear and are considered acceptable, particularly given that the night time activities are limited to the planned closures of only five nights each month and relatively infrequent unscheduled maintenance.

Road traffic noise and sleep disturbance criteria are not likely to be exceeded.

3.5 Aboriginal heritage

Existing environment

The subject site has been extensively disturbed. Previous disturbance reduces the likelihood of archaeological resources being present.

A search of the DECCW Aboriginal Heritage Information Management System (AHIMS) for the immediate area around the site returned no records.

Potential impacts of the approved project

The approved project involved no permanent operations at the subject site. The site was however disturbed during the construction of the motorway.

Potential impacts of the modified project

Impacts on Aboriginal objects or places are not expected.

DECCW has published the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW 2010). The due diligence process outlined at section 8 of that publication has been followed for the proposal and it has been determined that an application for an Aboriginal Heritage Impact Permit is not required. Safeguards have been proposed (see below) to address any unexpected finds.

Safeguards and mitigation measures

- All personnel working on site would receive training in their responsibilities under the *National Parks and Wildlife Act, 1974*.
- Should Aboriginal heritage items be uncovered during works, all works in the vicinity of the find would cease and the RTA's Aboriginal Cultural and Heritage Advisor and Regional Environmental

Officer Sydney Region would be contacted. Works would not re-commence until appropriate clearance has been received.

Summary

Due to the level of previous disturbance, and following a search of relevant registers, impacts on Aboriginal objects or places are not expected.

3.6 Non-Aboriginal heritage

Existing environment

A search of the State Heritage Inventory (25 January 2011) returned 6 records for the suburb of Kingsgrove. The proposal would not directly or indirectly affect any of these items.

The nearest item to the proposal is the Kingsgrove Railway Station group to the south..

A search of the Australian Heritage Database (15 January 2011) returned 3 records for the suburb of Kingsgrove. None of these items are in the immediate vicinity of the subject site. Two conservation areas are located to near Kingsgrove Road, but to the south of the railway line.

The subject site is not within a heritage conservation area.

Potential impacts of the approved project

The approved project involved no permanent operations at the subject site. The site was however disturbed during the construction of the motorway.

Potential impacts of the modified project

Impact on non-Aboriginal heritage values are not expected as a result of the proposal.

Safeguards and mitigation measures

- Should archaeological material be uncovered during construction, all works would cease within the vicinity of the material/find and environment staff from RTA Sydney Region would be contacted.

Summary

There are no listed heritage items located at or adjacent to the site. Previous disturbance has reduced the likelihood of the archaeological potential at the site. Therefore, impacts on non-Aboriginal heritage values are not expected.

3.7 Visual amenity

Existing environment

The existing visual environment is varied. Kingsgrove Road exhibits features common to an arterial road environment including signage, traffic control signals and aerial cables. The M5 East Motorway interchange with Kingsgrove Road is the dominant visual feature in the immediate area. Kingsgrove Road forms a vista at this location, but it is of limited length and quality.

Nearby residential streets (Forrester Street and Karingal Street) are typical of other residential areas in the locality and primarily lined by single storey residential development. Residences on these streets adjoin Forrester Reserve, but rear fences limit visual interaction with the open space.

Other parts of the locality are visually characterised by light industrial development.

Potential impacts of the approved project

The approved project involved no permanent operations at the subject site. The site was however disturbed during the construction of the motorway.

Potential impacts of the modified project

Visual impacts associated with the presence of equipment, stockpiles and vehicles would be experienced as a result of the proposal. However, the site has been previously used for a compound and therefore these types of visual effects would have been previously experienced and are possibly an expected element of the visual landscape.

The visual impact of the proposal was considered in accordance with the *RTA Guidelines for landscape character and visual impact assessment* (RTA 2009). Those guidelines establish an assessment process by reference to the sensitivity of the area and magnitude of the proposal in that area. Figure 7-1 illustrates this process.

Sensitivity	Magnitude: High	High to Moderate	Moderate	Moderate to low	Low	Negligible
High	High Impact	High Impact	Moderate-high	Moderate-high	Moderate	Negligible
High to Moderate	High Impact	Moderate-high	Moderate-high	Moderate	Moderate	Negligible
Moderate	Moderate-high	Moderate-high	Moderate	Moderate	Moderate-Low	Negligible
Moderate to low	Moderate-high	Moderate	Moderate	Moderate-Low	Moderate-Low	Negligible
Low	Moderate	Moderate	Moderate-Low	Moderate-Low	Low Impact	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

Figure 3-2 Visual assessment matrix

Visual magnitude and sensitivity

The visual magnitude of an activity is the expression of the visual interaction between it and the existing visual environment along the road corridor. It can also be expressed as a level of visual contrast between new work and the visual setting within which it is placed.

Visual sensitivity is a measure of how critically a change to the existing landscape would be viewed from various use areas. People using recreation areas, for example, would use the surrounding landscape as part of their leisure experience and will view changes to the landscape more critically than others.

Visual impact

The visual impact of the proposal is determined by considering both the visual magnitude and the visual sensitivity as indicated in Figure 7-1. Various combinations of visual effect and visual sensitivity will produce high, moderate or low impact levels.

The visual magnitude of the proposal is considered to be moderate with much of the activity on the site screened from view by the proposed perimeter fencing.

The visual sensitivity of the site is considered to be moderate. More broadly the area has an industrial character, but there are some higher sensitivity groups present. Road users (particularly commuters) are a low sensitivity group. Pedestrians, park users and residents are higher sensitivity groups.

The combination of the moderate and the moderate visual sensitivity results in a moderate visual impact.

Solar access and overshadowing

The size of the proposed buildings, the orientation of the site and the location of sensitive land uses is such that impacts associated with solar access and overshadowing are not expected. During the Winter solstice, some overshadowing of the adjacent shared path may occur. This is considered a minor potential impact, as the use of the path is largely transitory.

Light spill

Additional lighting would be minimal and located towards the Kingsgrove Road frontage of the site. This would increase the distance to residential properties and as a result, issues associated with light spill are not expected. Lighting would comply with the relevant Australian Standard (see below).

The proposed 2.1m high perimeter fence would reduce light spill from the headlights of vehicles entering and leaving the proposed compound.

Flashing lights would only be used where they are required for occupational health and safety reasons. Perimeter vegetation (northern boundary) and the proposed 2.1 metre high perimeter fence would provide a degree of screening.

Safeguards and management measures

- The compound site would be kept tidy and rubbish free.
- Work areas disturbed during site establishment would be restored progressively and maintained
- Outdoor lighting on the site would comply with *AS4282 – 1997 Control of the Obtrusive Effects of Outdoor Lighting.*

Summary

The visual impact of the proposal is considered moderate given the nature of the activities proposed and the proximity of nearby residential and recreational areas. The proposed 2.1m perimeter fence would reduce visual impact by screening most site activity from adjacent areas. The potential for overshadowing and light spill has been assessed and is considered minor.

3.8 Waste minimisation and management

The proposal is not expected to generate large quantities of waste materials. There following waste streams have been identified.

- Spoil.
- Cleared turf/grasses.
- General garbage and refuse.

Safeguards and mitigation measures

The resource management hierarchy detailed by the *Waste Avoidance Resource Recovery Act 2001* would be adopted, namely avoid unnecessary consumption; resource recovery; disposal as a last resort.

- All waste would be treated in accordance with the RTA *Waste Minimisation and Management Guidelines* (RTA 1998).
- All noxious weeds and exotic plant species removed would be bagged and disposed of at a licensed landfill facility.
- All surplus soils and wastes generated from the proposal would be disposed of at a licensed landfill facility.
- All working areas would be maintained, kept free of rubbish and cleaned up at the end of each working day.

3.9 Operational hazards and risks

Operational hazards and risks can be associated with the operation of the proposal itself or with its proximity to adjacent land uses (including hazardous facilities).

No operational hazards with adjacent land uses were identified.

The following was identified with respect to the proposed modification:

- Security and public safety associated with unauthorised access to the site.
- Storage of chemicals and other potentially hazardous materials.

Safeguards and mitigation measures

- Any chemicals and other hazardous substances would be handled in accordance with applicable occupational health and safety requirements. Storage areas would be designed to prevent discharge to the environment. A spill kit would be available on site at all times.
- The site would be secured by ensuring that the perimeter fencing is maintained in a condition that is fit for purpose.

3.10 Cumulative environmental effects

Cumulative impacts are not anticipated because the impacts associated with the proposal would not affect elements of the environment most susceptible to the accumulation of impacts. In particular, it is noted that impacts on threatened species and ecological communities, Aboriginal heritage and non-Aboriginal heritage are either not expected or would be minor. Potential impacts on water quality have been identified as manageable.

4 Environmental management

4.1 Environmental management plans

A construction environmental management plan (CEMP) would be developed in accordance with the specifications set out in the applicable RTA QA Specifications including G36 Environmental Protection (Management System).

4.2 Summary of safeguards and management measures

Environmental safeguards outlined in this document would be implemented during construction and operation of the proposal. These safeguards would minimise any potential adverse impacts arising from the proposed works on the surrounding environment.

All safeguards described in this modification assessment report, and any requirements of the modified approval (if granted), would be incorporated into the contractor's environmental management plan (CEMP). Measures from section 7 as well as additional general measures are presented in Table 8-1 below.

Table 4-1 Proposed safeguards and mitigation measures

Aspect	Safeguards
Soils and water	• Erosion and sediment control measures would be implemented and maintained in accordance with the *Landcom/Department of Housing Managing Urban Stormwater, Soils and Construction Guidelines* (the Blue Book) (Landcom 2004) to: - Prevent sediment moving off-site and sediment-laden water entering any watercourse, drainage lines, or drain inlets. - Reduce water velocity and capture sediment on site. - Minimise the amount of material transported from site to surrounding pavement surfaces. - Divert clean water around the site. • Procedures for assessing potential contamination of spoil generated at each site would be implemented. Contaminated spoil would be treated onsite or removed to an appropriately licensed landfill. Management would be in accordance with the following guidelines and would include options for disposal or treatment of contaminated material: - *Managing Contaminated Land Planning Guidelines SEPP 55 – Remediation of Land* (DUAP and EPA, 1998) - *Waste Classification Guidelines – Part 1: Classifying Waste and Part 2: Immobilisation of Waste* (DECCW, 2008).

Aspect	Safeguards
	• Erosion and sedimentation controls are to be checked and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request. • Erosion and sediment control measures are not to be removed until the works are complete or areas are stabilised. • Disturbed areas would be progressively stabilised and rehabilitated during the works. • Water quality control measures would be used to prevent any materials (eg. concrete, grout, sediment etc) entering drain inlets or waterways. • An emergency spill kit would be kept on site at all times. All staff would be made aware of the location of the spill kit and trained in its use. If a spill occurs, the RTA's Environmental Incident Classification and Management Procedure is to be followed. • Vehicles and plant would be properly maintained and regularly inspected for fluid leaks.
Air quality	• Measures (including watering or covering exposed areas) would be used to minimise or prevent air pollution and dust. • Works (including the spraying of paint and other materials) would not be carried out during strong winds or in weather conditions where high levels of dust or air borne particulates are likely. • Vehicles transporting waste or other materials that may produce odours or dust would be covered during transportation. • Stockpiles or areas that may generate dust would be managed to suppress dust emissions in accordance with the RTA's *Stockpile Management Procedures* (2005). • Equipment would be properly maintained to ensure exhaust emissions comply with the POEO Act. • Silt would be removed from behind filter fences and other erosion control structures on a regular basis, so that collected silt does not become a source of dust. • Any soil or mud deposited on public roads by construction activities and vehicle movements would be removed immediately and disposed of appropriately.
Biodiversity	• Trees along the northern boundary of the site would be protected would be protected via the implementation of the following measures: - Establishment of a tree protection zone the maximum possible

Aspect	Safeguards
	distance from each tree using steel mesh fencing or similar. - Disturbance of soil within the tree protection zone would be avoided where possible. - Where excavation is required within the primary root zone, it would be undertaken using hand tools and under the supervision of an appropriately qualified arborist. - Should accidental damage to these trees be sustained during the course of construction activities, an appropriately qualified arborist would be consulted regarding necessary actions to ensure tree health is maintained. - During both construction and operation, storage of equipment or stockpiling of material, would not occur within the drip line of trees.
Noise	• Personnel using the site would be made aware of the sensitivity of the neighbouring community and the need to minimise noise on site, particularly at night. This may be via site induction procedure, signage and any other means. • Workers using the site would be reminded of the need to minimise noise during regularly conducted toolbox talks. • The proposal would incorporate a 2.1 metre high perimeter fence. The fence would be lapped and capped timber or equivalent, of at least 10kg/m^2 surface density, without any gaps or openings. • Buildings would be placed generally in accordance with the site layout, with doorways preferably facing away from the residences. • At night, truck mounted crane use would be restricted to the area shielded by the site buildings. • Vehicle engines would be turned off when not in use. • Where feasible, reversing alarms would be replaced with broadband "quacker" type alarms. If this is not possible, reversing would be kept to a minimum by, for example, positioning vehicles so that no reversing is necessary. • No PA equipment would be used on site. • Personnel would be instructed to gather indoors during the night rather than outside in the car park area.
Aboriginal heritage	• All personnel working on site would receive training in their responsibilities under the *National Parks and Wildlife Act, 1974.* • Should Aboriginal heritage items be uncovered during works, all

Aspect	Safeguards
	works in the vicinity of the find would cease and the RTA's Aboriginal Cultural and Heritage Advisor and Regional Environmental Officer Sydney Region would be contacted. Works would not re-commence until appropriate clearance has been received.
Non-Aboriginal heritage	• Should archaeological material be uncovered during construction, all works would cease within the vicinity of the material/find and environment staff from RTA Sydney Region would be contacted.
Visual amenity	• The compound site would be kept tidy and rubbish free. • Work areas disturbed during site establishment would be restored progressively and maintained • Outdoor lighting on the site would comply with *AS4282 – 1997 Control of the Obtrusive Effects of Outdoor Lighting.*
Waste	• All waste would be treated in accordance with the RTA *Waste Minimisation and Management Guidelines* (RTA 1998). • All noxious weeds and exotic plant species removed would be bagged and disposed of at a licensed landfill facility. • All surplus soils and wastes generated from the proposal would be disposed of at a licensed landfill facility. • All working areas would be maintained, kept free of rubbish and cleaned up at the end of each working day.
Operational hazards and risks	• Any chemicals and other hazardous substances would be handled in accordance with applicable occupational health and safety requirements. Storage areas would be designed to prevent discharge to the environment. A spill kit would be available on site at all times. • The site would be secured by ensuring that the perimeter fencing is maintained in a condition that is fit for purpose.

4.3 Licensing and approvals

No approval or licensing requirements have been identified.

5
Consultation

5.1 Community involvement

Targeted communication with affected residents has occurred. Consultation has and will continue to be consistent with the principles set out in the *RTA Community and Stakeholder Policy Statement* (2008a) and *RTA Community Involvement and Communications – A resource manual for staff* (2008b).

In early February 2011, RTA staff visited the residential properties near the compound site location and information about the proposal was provided. A fact sheet was left at those houses where the resident was not home (see Appendix D).

Table 5-1 reviews the issues raised and the RTA response to those issues.

Table 5-1 Community comment and RTA responses

Issue	RTA response
Concern expressed about noise at night from vehicles and other machinery.	A 2.1 metre timber fence is proposed. The fence would reduce expected noise levels at nearby residences (see section 3.4).
Comment that increased lighting at the site would be beneficial.	Noted. Lighting would still be required to comply with the relevant Australian Standard.
Concern expressed about effect on property values.	Changes to property values as a result of the proposal would be difficult to quantify. It is noted that the proposal is generally consistent with the industrial uses already occurring in the surrounding area. It also includes a timber fence to improve acoustic amenity and visually screen the site from nearby residences.
Concern expressed that there will be more intensive use of the site in the future.	Proposed activities at the site would need to be consistent with the approval governing the use of the site (should that be granted). If activities were proposed that are inconsistent with the approval, further authorisation from the Department of Planning would be required.
Query as to why a second compound site (in addition to that at Turrella) is needed.	The M5 East assets are ageing and require higher levels of maintenance. The site at Turrella will continue to be used for tunnel ventilation maintenance but is considered unsuitable to accommodate all of the motorway's maintenance activities (see section 2.3).
Concern about traffic generation.	The higher levels of traffic generation from the site

	would be limited to the five planned motorway closures each month and any unscheduled closures. These times correspond to off-peak periods on Kingsgrove Road. The site has access and egress arrangements on Kingsgrove Road provide almost direct access to the M5 East Motorway. Maintenance vehicles will not need to travel on Forrester or Karingal streets.
Acceptance of the proposal if a noise wall or suitable fencing is provided.	A 2.1 metre timber fence is proposed. The fence would reduce expected noise levels at nearby residences (see section 3.4).
No objection to the proposal provided the usage remains as currently proposed.	Proposed activities at the site would need to be consistent with the approval governing the use of the site (should that be granted). If activities were proposed that are inconsistent with the approval, further authorisation from the Department of Planning would be required.
Comment that the site was messy and its visual appearance needed improvement.	The proposed perimeter fence would largely screen the site. A general site clean up would accompany implementation of the proposal.
Objection to the proposal. Intention to write to the Department of Planning expressed.	Noted.

5.2 Future and ongoing consultation

Ongoing consultation would occur during the construction phase and operational phases with contact details of the site supervisor to be made available to nearby residents. This would allow issues with the construction and operation of the compound to be raised and addressed.

6
Justification and conclusion

This proposal seeks approval to establish a permanent maintenance compound at 197-201 Kingsgrove Road, Kingsgrove for the M5 East Motorway. The motorway's maintenance requirements have increased as the asset has aged and as a result the RTA needs to establish an additional compound at a location close to the motorway.

The proposed site at 197-201 Kingsgrove Road, Kingsgrove is considered suitable for the following reasons:

- It has direct access to the M5 East Motorway via the on-ramp at Kingsgrove Road.
- It is a large area that can accommodate the proposed use with acceptable environmental outcomes.
- The site is owned by the RTA and is consistent with the character of the M5 corridor and industrial land use in the surrounding area.

The RTA has investigated the likely impacts of the proposal and identified the main impacts as

- Noise
- Traffic generation and
- Reduced visual amenity

Environmental safeguards would be implemented during construction and operation to address potential impacts. These safeguards include:

- Installation of a 2.1m perimeter fence to reduce noise and screen the proposal from the neighbouring park and residential area.
- Implementation of management measures, including site inductions, to minimise the amount of noise generated by workers and machinery.
- Use of direct access to Kingsgrove Road to minimise impacts on the local road network.

The RTA considers this proposal adequately addresses the need for a permanent maintenance compound for the M5 East Motorway, with minimal impacts on the surrounding community.

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Terms and acronyms used in this report

Term	Meaning
DECCW	NSW Department of Environment, Climate Change and Water
ECRTN	Environmental criteria for road traffic noise
EIS	Environmental Impact Statement
ENMM	RTA Environmental Noise Management Manual
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
Infrastructure SEPP	State Environmental Planning Policy (Infrastructure) 2007
INP	Industrial Noise Policy
LEP	Local Environmental Plan
LGA	Local government area
RAQI	Regional Air Quality Index
REF	Review of Environmental Factors
REP	Regional Environmental Plan
ROTAP	Rare or threatened Australian plant
SEPP	State Environmental Planning Policy
TSC Act	*Threatened Species Conservation Act 1995*

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www.rta.nsw.gov.au

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