

**PROPOSED M5 EAST MOTORWAY  
(FAIRFORD ROAD, PADSTOW TO GENERAL HOLMES DRIVE , KYEEMAGH)**

**CONDITIONS OF APPROVAL**

(includes modification 1 approved on 18 July 2007  
modification 2 approved on 22 March 2012)

The following acronyms and abbreviations are used in this document:

Department, The	Department of Urban Affairs and Planning
Director-General, The	Director-General of the Department of Urban Affairs and Planning (or nominee)
DLWC	Department of Land and Water Conservation
DoT	Department of Transport
DPWS	Department of Public Works and Services
EIS	Environmental Impact Statement and Supplement
EMP	Environmental Management Plan
EMR	Environmental Management Representative
ENCM	EPA's Environmental Noise Control Manual
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	NSW Environment Protection Authority
FAC	Federal Airports Corporation (Sydney Airport)
LAIP	Local Area Improvement Programme
Minister, The	Minister for Urban Affairs and Planning
NGR	Northern Georges River submain sewer
NO <sub>2</sub>	Nitrogen Dioxide
NPWS	National Parks and Wildlife Service
PM <sub>10</sub>	Particulate Matter Smaller Than 10 µm (micrograms)
ppm	Parts per Million
Relevant Councils	Any one or more of the following Councils as applicable: Bankstown, Canterbury, Hurstville, Rockdale
RTA	Roads and Traffic Authority
SWC	Sydney Water Corporation
SWSOOS	South Western and Southern Ocean Outfall Sewer
The Proponent	The Roads and Traffic Authority
µm	Micrograms
VEPA	Victoria Environment Protection Authority

**The specific reasons for these conditions are set out in *Proposed M5 East Motorway - Fairford Road, Padstow to General Holmes Drive, Kyeemagh: Director-General's Report* dated November 1997.**

**Except where the context indicates otherwise, any reference in this schedule to construction includes any clearing, earthworks or demolition works at the specific location(s) and/or section(s) of road where the identified impacts relate, unless otherwise specified by the Director-General.**

**Commencement of construction refers to those activities which will generate relevant impacts and as pre-determined by a schedule of activities to be approved by the Director-General.**

**Fairford Road to King Georges Road**

**The conditions of this approval do not apply to that part of the proposal located between Fairford Road and the eastern boundary of land marked *M5 - Duplication* on figure 1 of this Schedule and any west facing ramps at King Georges Road, unless they directly relate to this section of the road. Where such conditions do apply, they shall only apply to the extent of the work required for that section of road and where they do not substantially conflict with any existing conditions of approval or existing mitigation measures. In all cases, the extent of application of conditions shall be as required and approved by the Director-General.**

## General

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 Kingsgrove Road Compound modification request (06\_0290 MOD 2), including:
    - i) *M5 East Motorway Compound Kingsgrove Road, Kingsgrove – Modification Assessment Report*, prepared by Stuart J Hill Pty Ltd and dated May 2011; and
  - d) conditions of this approval.
- 1A. In the event of an inconsistency between:
  - a) the conditions of this approval and any document listed from condition 1a) to 1c) inclusive, the conditions of this approval shall prevail to the extent of the inconsistency; and
  - b) any document listed from condition 1a) to 1c) inclusive, and any other document listed from condition 1a) to 1c) inclusive, the most recent document shall prevail to the extent of the inconsistency.

## Commencement of Operation

2. Except as provided below, the whole proposal must commence operation at the same time, unless the prior approval of the Director-General has been obtained for staged opening.

Prior to seeking approval for staged opening, the Proponent must consult with the relevant Council(s) and any other relevant agency nominated by the Director-General. Any request for approval must be made at least 1 month prior to the commencement of operation. In seeking approval, the Proponent must provide a report on the traffic implications of opening that stage prior to the remainder of the proposal. The report must also address the impacts of any changes to traffic patterns on noise, amenity and local traffic movements.

That part of the proposal located between Fairford Road and King Georges Road may open independently of the remainder of the proposal, and is not subject to the provisions of this condition.

## **Compliance**

3. The Proponent must comply or ensure compliance with all requirements of the Director-General in respect of the implementation of any measures arising from the conditions of this approval. The Proponent must bring to the attention of the Director-General any matter that may require further investigation and the issuing of instructions from the Director-General. The Proponent must ensure that these instructions are implemented to the satisfaction of the Director-General within such time that the Director-General may specify.

For the purposes of this approval, the date of commencement shall be from the date that the RTA determines to proceed with the proposal. The Director-General must be provided with the date of commencement.

## **Dispute Resolution**

4. The Proponent shall endeavour, as far as possible, to resolve any dispute with relevant public authorities arising out of the implementation of the conditions of this approval. Should this not be possible, the matter shall be referred to the Minister for resolution. The Minister's determination of the disagreement shall be final and binding on all parties.

## **Complaints Telephone Number**

5. Prior to commencement of construction, the Proponent must institute and publicise a 24 hour complaints contact telephone number which will enable any member of the general public to reach a person who can arrange appropriate response action to the complaint.

## **Complaints Register**

6. A Complaints Register must be maintained and used to record details of all complaints received and actions taken during the construction stage. The complaints register shall be available to all relevant government agencies and relevant Councils upon request.

## **Advertisement of Activities**

7. The Proponent must ensure, at three-monthly intervals from commencement of construction, that the nature of works proposed for the forthcoming three months, the areas in which these works are proposed to occur, the hours of operation and a contact telephone number, are advertised in relevant local newspapers. The Proponent must ensure that the local community is kept informed (by way of local newsletters, leaflets, newspaper advertisements and community notice boards, etc.) of the progress of the project, including any traffic disruptions and controls, construction of temporary detours and work required outside of the nominated working hours prior to such works being undertaken.

## **Environmental Management Representative**

8. A suitably qualified and independent Environmental Management Representative (EMR) must be employed by the Proponent throughout the construction stage. The EMR is responsible for considering and advising on matters specified in the conditions of this approval and compliance with such, and shall facilitate an induction and training programme for all persons involved with the construction activities. The EMR shall have the independence and the authority to advise the RTA

for it to stop work immediately if an unacceptable impact on the environment is likely to occur or to require other reasonable steps to be taken to avoid or minimise the impacts.

### **Environmental Management System**

9. The Proponent must ensure the appointment of contractors that have a demonstrated capability and experience in the implementation of an Environmental Management System (EMS) prepared in accordance with the AS/NZS ISO 14000 series or BS7750-1994 certified by an accredited certifier and/or have a proven environmental management performance record.

### **Environmental Management Plan(s) (Construction Stage)**

10. Prior to commencement of construction at various sites, or within such time as agreed by the Director-General, Environmental Management Plan(s) (EMP) (Construction Stage) must be progressively prepared for various sites and locations. The EMP(s) must be prepared to the satisfaction of the Director-General, after consultation with the EPA, DLWC, NPWS, SWC, FAC, relevant local Councils, and any other relevant government agency nominated by the Director-General. The EMP(s) must be prepared in accordance with the conditions of this approval, all relevant Acts and Regulations and accepted best practice management procedures. The EMP(s) must be submitted to the Director-General for approval at least one month prior to the commencement of construction, or within such other time as agreed by the Director-General.

The EMP(s) must:

- a) address construction activities associated with all key construction sites, including staging and timing of the proposed works;
- b) cover specific environmental management objectives and strategies for the main environmental system elements and include, but not be limited to: noise and vibration; air quality; water; erosion and sedimentation; access and traffic; property acquisition and/or adjustments; heritage and archaeology; groundwater; contaminated spoil and material (including acid sulphate soils), spoil stockpiling and disposal; waste/resource management; flora and fauna; wetlands; flooding and stormwater control; geotechnical issues; recreational facilities; visual screening, landscaping and rehabilitation; hazards and risks; energy use, resource use and recycling; vermin; Sydney (Kingsford Smith) Airport issues; and utilities.
- c) address, but not be limited to:
  - i) identification of the statutory and other obligations which the Proponent is required to fulfil during project construction, including all approvals and consultations/agreements required from authorities and other stakeholders, and key legislation and policies which control the Proponent's construction of the project;
  - ii) definition of the role, responsibility, authority, accountability and reporting of personnel relevant to the EMP;
  - iii) measures to avoid and/or control the occurrence of environmental impacts;
  - iv) measures (where possible and cost effective) to provide positive environmental offsets to unavoidable environmental impacts;

- v) the role of the EMR;
- vi) environmental management procedures for all construction processes which are important for the quality of the environment in respect of permanent and/or temporary works;
- vii) monitoring, inspection and test plans for all activities and environmental qualities which are important to the environmental management of the project including performance criteria, specific tests, protocols (eg. frequency and location) and procedures to follow;
- viii) environmental management instructions for all complex environmental control processes which do not follow common practice or where the absence of such instructions could be potentially detrimental to the environment;
- ix) steps the Proponent intends to take to ensure that all plans and procedures are being complied with;
- x) consultation requirements with relevant government agencies; and
- xi) community consultation and notification strategy (including local community, relevant government agencies and relevant Councils), and complaint handling procedures.

Specific requirements for some of the main environmental system elements referred to in (b) must be as required under the conditions of this approval and/or as required under any licence or approval.

The EMP(s) (Construction Stage) must be made publicly available.

### **Environmental Monitoring - Construction**

11. The Proponent must submit to the Director-General, and make public, a report(s) in respect of the environmental performance of the construction works and compliance with the EMP(s) (Construction Stage) and any other relevant conditions of this approval. The report(s) must be prepared six months after the start of substantial construction and thereafter at six monthly intervals or at other such periods as requested by the Director-General to ensure adequate environmental performance over the duration of the construction works. The report(s) must include, but not be limited to, information on:
  - a) applications for consents, licences and approvals, and responses from relevant authorities;
  - b) implementation and effectiveness of environmental controls and conditions relating to the work undertaken;
  - c) identification of construction impact predictions made in the EIS and any supplementary studies and details of the extent to which actual impacts reflected the predictions;
  - d) details and analysis of results of environmental monitoring;
  - e) number and details of any complaints, including summary of main areas of complaint, action taken, response given and intended strategies to reduce complaints of a similar nature; and
  - f) any other matter relating to the compliance by the Proponent with the conditions of this approval or as requested by the Director-General.

The report(s) must also be submitted to the EPA, DLWC, NPWS, SWC, FAC, relevant Councils and any other relevant government agency nominated by the Director-General. The report(s) must also be made publicly available.

12. All sampling strategies and protocols undertaken as part of any monitoring programme must include a quality assurance/quality control plan and must be approved by the relevant regulatory

agencies to ensure the effectiveness and quality of the monitoring programme. Only accredited laboratories may be used for laboratory analysis.

### **Environmental Management Plan (Operation Stage)**

13. An Environmental Management Plan must be prepared for the operation of the proposal. The Plan must be prepared to the satisfaction of the Director-General and in consultation with the EPA, DLWC, NPWS, SWC, FAC, relevant Councils and any other relevant government agency nominated by the Director-General. The Plan must be prepared in accordance with the conditions of this approval, all relevant Acts and Regulations and accepted best practice management procedures. It must be submitted to the Director-General for approval at least 3 months prior to the commencement of operation, or within such other time as agreed by the Director-General.

The EMP must address at least the following issues:

- a) identification of the statutory and other obligations which the Proponent is required to fulfil including all licences/approvals and consultations/agreements required from authorities and other stakeholders, and key legislation and policies which control the Proponent's operation of the project;
- b) requirements of and compliance with relevant approvals and licences;
- c) sampling strategies and protocols to ensure the quality of the monitoring programme, including specific requirements of the EPA, DLWC, NPWS and SWC;
- d) monitoring, inspection and test plans for all activities and environmental qualities which are important to the environmental performance of the project during its operation, including description of potential site impacts, performance criteria, specific tests and monitoring requirements, protocols (eg. frequency and location) and procedures to follow;
- e) steps the Proponent intends to take to ensure compliance with all plans and procedures;
- f) consultation requirements, including relevant government agencies, the local community and relevant Councils and complaint handling procedures; and
- g) strategies for the main environmental system elements and including, but not limited to: noise and vibration; water; air quality; erosion and sedimentation; access and traffic; goods vehicle priority; property acquisition and/or adjustments; heritage and archaeology; groundwater; settlement; contaminated spoil; waste/resource management/removal/ disposal; flora and fauna; hydrology and flooding; recreational facilities; visual screening, landscaping and rehabilitation; hazards and risks; energy use, resource use and recycling; and utilities.

Specific requirements for some of the main environmental system elements referred to in (g) must be as detailed under the conditions of this approval and/or as required under any licence or approval.

The EMP (Operation Stage) must be made publicly available.

14. All sampling strategies and protocols undertaken as part of the EMP (Operation Stage) must include a quality assurance/quality control plan and must be approved by the relevant regulatory agencies to ensure the effectiveness and quality of the monitoring programme. Only accredited laboratories can be used for laboratory analysis.

## **Environmental Impact Audit Report**

15. An environmental impact audit report must be submitted to the Director-General, the EPA, DLWC, NPWS, SWC and relevant Councils and upon request by the Director-General to any other relevant government agency 12 months after commissioning of the project and at any additional periods thereafter as the Director-General may require. The Report must be prepared by an independent person to be appointed by the Director-General and at the Proponent's expense. The report shall assess the key impact predictions made in the EIS and any supplementary studies and detail the extent to which actual impacts reflect the predictions. In particular the report shall provide details on actual versus predicted traffic volumes on local roads, groundwater changes, settlement, noise and air emissions, water quality and flooding, the success of compensatory wetlands and other measures to protect green and golden bell frogs, migratory bird species and their habitats and all other key impact issues identified in the EIS. Suitability of implemented mitigation measures and safeguards shall also be assessed. It shall also assess compliance with the EMP (Operation stage).

The report shall also discuss results of consultation with the local community in terms of feedback/complaints on the construction and operation phases of the project and any issues of concern raised. The Proponent shall comply with all reasonable requirements of the Director-General, the EPA, DLWC, NPWS, SWC and any other relevant determining authority with respect to any reasonable measure arising from, or recommendations in the report.

The Report must be made publicly available.

## **Community Liaison Group(s)**

16. A Community Liaison Group or Groups including the EMR, representatives from the RTA, the contractor, relevant local community and business groups and relevant Councils, must be formed prior to the commencement of construction to discuss detailed design issues and methods for minimising the impact on the local community and businesses, including but not limited to: local vehicle, pedestrian and cyclist access requirements; construction stage traffic diversions; groundwater control; settlement; noise control measures; air quality; water quality; flooding; landscaping requirements (including design of noise control measures); and any other issues as considered relevant by the Group. Appropriate facilities and information must be provided by the Proponent to assist the Group in carrying out its functions. The Group may make comments and recommendations about the design and implementation of the proposal which must be considered by the Proponent.

## **Public Transport**

17. Prior to the commencement of construction at the sites which would affect public transport, management plan(s) must be prepared to deal with the impact of construction activities and road closures on public transport. The plans must be prepared in consultation with affected bus companies and shall ensure that buses and high occupancy vehicles are able to operate at pre-construction levels of use at all times and shall be to the satisfaction of the Department of Transport.
18. Bus priority measures and measures to accommodate appropriate bus services on the surrounding road network must be investigated by the Proponent. A plan of management must be prepared, prior to the commencement of operation, in consultation with the Department of

Transport, affected bus companies, the relevant Councils and any relevant community groups. It must address the potential for staged implementation of measures during the construction process and prior to the commencement of operation. It must include a general public exhibition process to the satisfaction of the Department of Transport. Prior to adoption of these measures, the Proponent must ensure that there is appropriate environmental impact assessment of any such measures to be implemented. The plan of management must be approved by the Department of Transport.

## Traffic

### *Construction Stage*

19. As part of the EMP referred to in Condition 10, a detailed Construction Traffic Management Procedure must be prepared, prior to the commencement of construction, for various affected sites. The Procedure must assess the impacts and management of any temporary road closures, detours or other major disruptions to traffic flows and pedestrian/cyclist access during the construction of the scheme. The Procedure shall be prepared in consultation with the relevant local Council traffic management committees and the FAC. The Procedure shall provide details on but is not limited to: traffic management principles; timing of road disturbance; measures so as not to discourage public transport; modifications to existing roads and intersections; truck manoeuvring and access to construction sites; spoil and material disposal routes; implications and arrangements for bus and taxi stops; pedestrian/cyclist management; temporary or permanent loss of parking and requirements for adequate signage; co-ordination of construction activities proposed by other major developments; impacts on existing operating conditions and need for temporary improvements; notification to residents affected by proposed road changes; signposting and markings; lighting; speed limiting devices and any other relevant matters. The report shall also address impacts on businesses. No traffic changes including lane and road closures, detours, intersection changes or the like shall occur without prior consultation with the relevant local Council traffic management committee(s), DoT, Sydney Buses and the Bus and Coach Association. In the case of substantial disagreement as a result of consultations the matter shall be referred to the Director-General for resolution.
20. A road dilapidation report must be prepared for all non-State roads likely to be used by construction traffic prior to their use by construction traffic and then after construction is complete. Copies of the report shall be provided to all relevant Councils. Any road/footpath damage, aside from that resulting from normal wear and tear, shall be repaired to a standard at least equivalent to that existing prior to any disturbance at the cost of the Proponent or as otherwise agreed with the relevant local Council(s).
21. Monitoring of any local roads affected by the proposal to be used by heavy vehicle traffic ~~to the satisfaction of the local council(s)~~ shall be undertaken in consultation with the relevant Council(s) to develop measures to minimise and/or restrict the use of local roads by heavy vehicle traffic. Details on the intervals and duration for monitoring ~~shall to be~~ developed in consultation with the relevant local Council(s).

### *Operational stage*

22. Prior to commencement of operation, a Technical Advisory Committee shall be established to

oversee the preparation of the Local Area Improvement Programme (LAIP). The Committee shall include representatives from the RTA, NSW Police, relevant Councils, Department of Transport, Sydney Buses and the Bus and Coach Association, and any other relevant road user groups.

23. The LAIP shall include a comprehensive consultation process, including the agencies represented in Condition 22 as well as community, business and bicycle groups.

The key objectives of the LAIP are to improve the amenity and safety of local roads and public spaces by restricting through traffic. The LAIP should identify the potential to introduce traffic calming measures brought about by the opening of the proposal. It should also identify any additional traffic that may be generated on local roads as a consequence of the opening, and propose mitigation measures. The Proponent shall be responsible for funding any measures required to mitigate adverse impacts resulting from the proposal. Any measures arising from the LAIP will require the approval of the relevant local Council traffic management committees.

Prior to the implementation of the LAIP, the Proponent shall ensure that there is appropriate environmental impact assessment of any measures to be implemented and adequate involvement of the local Council(s), community and local business groups.

24. As part of the LAIP referred to in condition 23, the Proponent must specifically identify roads where traffic is likely to increase as a consequence of the opening of the proposal. Consideration must be given to the impacts on local amenity and traffic conditions, particularly heavy vehicle impacts. The LAIP must contain a detailed strategy for addressing these impacts.
25. Prior to the commencement of the operation of the proposal, the Proponent shall have in place to the greatest extent practicable and have agreed on all funding requirements for the necessary LAIP measures referred to in Condition 23 in consultation with the Technical Advisory Committee and to the satisfaction of the Director-General. Despite the above, the implementation of such measures including any associated construction works shall be fully completed within 6 months of commencement of the proposal's operation. Any extension of time for the full implementation of the LAIP measures shall be specifically approved by the Minister following consultation with the relevant local Councils.

#### *Princes Highway*

26. The Proponent must provide a report to the satisfaction of the Director-General, prior to the commencement of construction of the ramp in this area, on the design of the proposed intersection between the Princes Highway and the Motorway off ramp. This report must be prepared in consultation with the relevant Council and local businesses and residents and must consider the traffic efficiency and safety of the proposed design. It must be submitted for approval at least 1 month prior to the commencement of construction of the ramp, or within such other time as agreed by the Director-General. Consideration should be given to alternative designs. The proposal must be modified in accordance with any reasonable requests of the Director-General.

### *General Holmes Drive*

27. The Proponent must provide a report to the satisfaction of the Director-General, prior to the commencement of construction in this area, on the design of the proposed intersection between General Holmes Drive and the Motorway off ramp, and the reconfiguration of the General Holmes Drive tunnel. This report must be prepared in consultation with the relevant Council, the FAC and Port industry and must consider the traffic efficiency and safety of the proposed design. It must be submitted for approval at least 1 month prior to the commencement of construction, or within such other time as agreed by the Director-General. Consideration should be given to alternative designs. The proposal must be modified in accordance with any reasonable requests of the Director-General.

### **Goods Vehicle Measures**

28. As part of the EMP referred to in condition 13 the Proponent must prepare a strategy, in consultation with the Department of Transport, which aims to ensure that goods vehicles are encouraged to use the proposed motorway.

### **Pedestrian/Cyclists**

#### *Construction Stage*

29. Safe pedestrian and cyclist access must be provided, without undue inconvenience to pedestrians and cyclists, at all times during the construction stage unless otherwise agreed to by the relevant local Council(s). This must include retention of opportunities for access along General Holmes Drive during the construction period.

#### *Operation Stage*

30. The Proponent must investigate opportunities for pedestrian access across the Motorway along Karne Street, Narwee and Welfare Avenue, Beverly Hills. This investigation must be carried out in consultation with the relevant Council(s) and the local community. The results of this investigation must be submitted to the Director-General within 6 months of this approval, or such other period that the Director-General may agree to. The Proponent must comply with any reasonable requests of the Director-General resulting from the investigation.
31. The Proponent must ensure consultation with the RTA's Bicycle Co-ordinator and Bicycle NSW and any other relevant cycling group as identified by Bicycle NSW during the detailed design of the proposal in terms of the design of specific cyclist facilities including: provision of off road facilities, circulation around Sydney Airport, Motorway on/off ramps, on-road facilities, intersection treatments, linemarking, signposting and stencils, drainage grates, and kerb and gutter treatments.
32. The Proponent must prepare a detailed cycleway strategy for access around the Airport. The strategy shall address measures to encourage coherent and safe cyclist movements, such as dedicated lanes and the feasibility of a bicycle tunnel under the Sydney Airport runways, in the vicinity of General Holmes Drive. The strategy must be prepared in consultation with Bicycle NSW, the relevant Council(s), FAC and relevant community groups, to the satisfaction of the Director-General within 12 months of the date of approval and implemented prior to the opening of the

Motorway.

## **Property Matters**

### *General*

33. Prior to the placement of permanent rock anchors, the Proponent shall notify the owners of all affected properties of the need for placement of permanent rock anchors. The Proponent must provide sufficient detail to each owner to enable the precise location of such anchors relative to existing buildings to be determined. The Proponent must ensure, if necessary, adjustments to construction methods, at no cost to the property owner, to ensure that the placement of any rock anchors or other such construction stage measure does not impose any unreasonable restrictions on development of the affected property unless otherwise agreed by the landowner.
34. Prior to the placement of temporary soil or sand anchors the Proponent shall notify all affected property owners of the need for placement of temporary anchors and shall provide sufficient detail to determine the precise location of such anchors relative to existing buildings. The Proponent shall instigate, if necessary, adjustments to construction methods at no cost to the property owner, to ensure that the placement of any temporary soil anchors or other such construction stage measure does not impose any unreasonable restrictions on development (existing or proposed) unless otherwise agreed to by the landowner.
35. Once construction is complete all temporary anchors shall be disconnected and made obsolete and no restrictions shall be placed on the use of the land.
36. Structural surveys shall be undertaken for all buildings and major structures located within 50 metres of construction works prior to commencement of construction works or other major vibration inducing construction activities in the vicinity of such buildings/structures. A copy of the survey shall be given to each affected property owner together with information on how to pursue a claim for damage. The Proponent shall ensure that any damages occurring as a result of the construction are fully rectified at no cost to the owner(s).
37. The Proponent shall notify the owner of any property that is to be adjusted, acquired or for which an easement or stratum is to be obtained. This notice shall contain sufficient details to identify the land of interest being adjusted/acquired and is to include dimensions, location with respect to boundaries and any other information necessary to enable the identification of the land in relation to the development. This notification shall be given prior to access for construction purposes.
38. The Proponent must consult with any property owner where temporary access is required over the property. This consultation must occur prior to any access occurring. The Proponent must comply with any reasonable requests of the owner.
39. Alternative access arrangements shall be provided to the reasonable satisfaction of the relevant Council, to any property or public area which would otherwise be denied access as a result of the construction or operation of the proposal. Such alternative access shall be provided at an appropriate standard to the reasonable satisfaction of the relevant Council. Any temporary access road(s) shall be removed and any affected areas reinstated to the reasonable satisfaction of the

relevant Council when no longer required.

40. All affected property, which is not acquired by the Proponent, (including any affected buildings, structures, lawns, trees, sheds, gardens etc.) shall be fully restored to at least the condition it was in prior to disturbance at no cost to the owner(s). Restoration shall be completed in a timely manner and, unless otherwise agreed to by the owner, within 3 months of completion of works. Construction activities undertaken within private property shall be sympathetic to the specific needs of individual property owners particularly in terms of requirements for temporary facilities such as fencing, access to footpaths/ driveways/garages etc.
41. The Proponent must make arrangements satisfactory to SWC before it commences construction on land owned or controlled by SWC.

### **Urban Design/Landscaping**

#### *Urban design and landscape plan for the overall route*

42. A detailed urban design and landscape plan for the entire proposal is to be prepared, prior to the commencement of construction, to the satisfaction of the Director-General. The plan must be submitted for approval at least 1 month prior to the commencement of construction, or as otherwise agreed by the Director-General. The plan must be prepared by a qualified urban designer.

The plan must:

- a) be presented as an integrated proposal with the final M5 East Motorway road design;
- b) apply all design principles established in the Urban Design Assessment Report - M5 East Motorway (Jackson Teece Chesterman Willis, 1997);
- c) address all design issues identified by the Urban Design Advisory Service in its report of November 1997 titled Urban Design Assessment: M5 East EIS;
- d) address all areas of land within and around the Motorway identified in the Urban Design Assessment Report - M5 East Motorway (Jackson Teece Chesterman Willis, 1997);
- e) be in consultation with all relevant land owners, Councils and the local community to the satisfaction of the Director-General;
- f) consist of a report with accompanying annotated plans, sections and perspective sketches at a scale and level of detail which is adequate to convey the proposal.

#### *Detailed urban design and landscape plans for key areas*

43. Detailed urban design and landscape plans are to be prepared by a qualified urban designer, at least one month prior to commencement of construction, or as otherwise agreed by the Director-General, to the satisfaction of the Director-General, for the following sections of the proposal:

- ◆ King Georges Road Environs
- ◆ King Georges Road to Canterbury Golf Course
- ◆ Canterbury Golf Course and Beverly Grove Park
- ◆ Gareema Circuit to Kingsgrove Road
- ◆ Kingsgrove Road Environs
- ◆ Kingsgrove Road to Bexley Road

- ◆ Bexley Road to Marsh Street
- ◆ Princes Highway and Marsh Street Environs
- ◆ Marsh Street to General Holmes Drive

and must:

- a) be presented as an integrated proposal with the final M5 East Motorway road design;
- b) apply all design principles established in the Urban Design Assessment Report - M5 East Motorway (Jackson Teece Chesterman Willis, 1997);
- c) address all design issues identified by the Urban Design Advisory Service in its report of November 1997 titled Urban Design Assessment: M5 East EIS;
- d) address all areas of land within and around the Motorway identified in the Urban Design Assessment Report - M5 East Motorway (Jackson Teece Chesterman Willis, 1997);
- e) be generally agreed by all relevant land owners, Councils and the local community through a process of stakeholder consultation;
- f) consist of a report with accompanying annotated plans, sections and perspective sketches at a scale and level of detail which is adequate to convey the proposal.

#### *Management and implementation strategy*

44. A management and implementation strategy for the overall urban design and landscape plan, and for the detailed urban design plans must be prepared to the satisfaction of the Director-General at least 1 month prior to the commencement of construction, or as otherwise agreed by the Director-General.

The strategy must:

- a) clearly indicate the extent of work to be undertaken;
- b) provide indicative costings of the proposed urban design and landscape works and funding commitments;
- c) set out responsibilities for implementing all the urban design and landscape works, and expected dates for completion;
- d) be in consultation with all relevant land owners, Councils and the local community to the satisfaction of the Director-General.

#### *Detailed urban design guidelines*

45. Detailed urban design guidelines for the following components of the proposal must be prepared by a qualified urban designer, at least one month prior to commencement of construction, or as otherwise agreed by the Director-General, and to the satisfaction of the Director-General:

- ◆ Noise amelioration and edge conditions
- ◆ Pedestrian circulation
- ◆ Built elements
- ◆ Finishes and Materials
- ◆ Signage and advertising
- ◆ Lighting

### *Monitoring of implementation*

46. Monitoring of the implementation of the urban design and landscape plans and urban design guidelines must be undertaken by a qualified urban designer during construction. Regular progress reports must be provided to the Director-General. The Proponent must comply with any reasonable requirements of the Director-General arising from her consideration of these reports.

### **Groundwater**

#### *Groundwater Management Procedure*

47. As part of the EMPs referred to in conditions 10 and 13, a detailed Groundwater Management Procedure shall be prepared to meet the requirements of DLWC and the EPA. The Procedure shall cover the complete proposal and shall provide details of groundwater control measures to be undertaken during both the construction and operation stages and include but not be limited to: impacts on nearby structures from potential settlement; groundwater inflow control; handling, treatment and disposal of contaminated groundwater; monitoring; auditing; measures for dealing with exceedances; and response actions. Approval from DLWC shall be obtained prior to the commencement of any dewatering work.

#### *Tunnel Section*

48. Piezometers shall be installed at locations and to standards as specified by the DLWC prior to tunnel construction commencement.

### **Settlement**

49. Detailed settlement analysis of representative geological conditions shall be undertaken prior to construction commencement adjacent to buildings to ensure that underground services, infrastructure and adjacent buildings will not experience settlements exceeding the criteria in Table 1. The analysis shall be made publicly available. This condition applies where the Motorway will be in an excavated cutting, generally in the area between Penshurst Road and to the east of Kooemba Road, and where the Motorway may be constructed as a cut and cover tunnel generally in the area to the east of the Princes Highway.

**TABLE 1 - SETTLEMENT CRITERIA FOR SPECIFIC STRUCTURES  
(AS2870-1996: Residential Slabs and Footings Construction)**

<b>Structure/Facility</b>	<b>Maximum Settlement</b>	<b>Maximum Angular Distortion</b>
<b>Buildings</b>		
Clad frame	40mm	1/300
Articulated masonry veneer	30mm	1/400
Masonry veneer	20mm	1/600
Articulated full masonry	15mm	1/800
Full masonry	10mm	1/2000
Heritage	10mm	1/2000
o 3 levels	10mm	1/2000
<b>Roads and Parking areas</b>	40mm	1/250
<b>Parks</b>	50mm	1/250
<b>Critical utilities</b> (including SWSOOS)	To be determined in consultation with the relevant authorities	To be determined in consultation with the relevant authorities

50. The settlement criteria shall not remove any responsibility from the Proponent for the protection of existing structures or for rectifying any damages.
51. Settlement criteria for individual sensitive utility structures, shall be determined in consultation with the relevant authorities prior to construction commencement.
52. Settlement shall be monitored throughout the construction period and for a period of not less than 12 months after construction to the satisfaction of the Director-General and paid for by the Proponent. The monitoring system shall be able to provide adequate forewarning of any significant subsidence of the ground surface. The monitoring shall also continue at appropriate intervals and frequency during the operation stage. If monitoring during construction indicates exceedance of the criteria then all work shall cease immediately and work shall not resume until fully rectified.

### **Noise and Vibration Management Procedure**

53. A detailed Noise and Vibration Management Procedure must be prepared as part of the EMPs referred to in Conditions -10 and 13 to the satisfaction of the EPA. The Procedure must provide details of noise and vibration control measures to be undertaken during both the construction and operation stages\_sufficient to address the technical requirements for any EPA approvals/licences.

54. The Procedure must include, but not be limited to, tests for ascertaining acoustic parameters; anticipated airborne noise and vibration for all major noise and vibration generating activities and locations and durations of these activities; impacts from site compounds/construction depots; location, type and timing of erection of temporary and permanent noise barriers; ~~other~~ specific physical and managerial measures for controlling noise and vibration; noise and vibration control equipment to be fitted to machinery; predicted noise and vibration levels at sensitive receivers; noise and vibration monitoring and reporting procedures; measures for dealing with exceedances; arrangements to inform residents of construction activities likely to affect their noise amenity; contact point for residents; complaints handling systems; reporting of complaints and response actions.

The Procedure must be prepared prior to the construction and operation (as appropriate) of the proposal and must be made publicly available.

## **Construction Noise and Vibration**

### *Construction Hours*

55. All construction activities including entry and departure of heavy vehicles are restricted to the hours 7.00 am to 6.00 pm (Monday to Friday); 8.00 am to 1.00 pm (Saturday) and at no time on Sundays and public holidays.

The following works may be permitted outside these hours, providing the prior approval of the EPA is obtained:

- a) any works which do not cause noise emissions to be audible at any nearby residential property;
- b) the delivery of materials which is required outside these hours as requested by police or other authorities for safety reasons;
- c) emergency work to avoid the loss of lives, ~~and/or~~ property and/or to prevent environmental harm.

Other works may be undertaken outside the specified hours, providing the prior approval of the EPA is obtained. The EPA must be satisfied, before it grants any approval for such works, that there is a demonstrated genuine need to undertake the work and all reasonable measures will be taken to minimise noise impacts.

Public notification shall be in a manner to the satisfaction of the EPA.

### *Construction Noise Impact Assessment*

56. A specific noise impact statement must be prepared for each stage of construction consistent with the noise management procedure identified above. The statement must include:
- a) description of proposed processes and activities;
  - b) valid background levels;
  - c) examination of alternative methods that would potentially reduce noise impact;
  - d) assessment of potential noise from proposed construction methods;
  - e) description and commitment to work practices which limit noise;
  - f) description of specific noise mitigation treatments and time restrictions, and consideration of

their effectiveness;

- g) justification for any activities outside the normal hours;
- h) consideration of construction vehicle movements;
- i) noise impacts of traffic diversions;
- j) compliance with EPA criteria;
- k) monitoring of construction activities; and,
- l) community consultation and notification.

The statement must ensure that construction noise will be within the following criteria unless otherwise agreed with the EPA:

- i) For a construction period of four weeks ~~and under or less~~, the L<sub>10</sub> level measured over a period of not less than 15 minutes when the construction site is in operation must not exceed the background level by more than 20dB(A) existing L<sub>90</sub> background noise level by more than 20 dB(A).
- ii) For a construction period of greater than four weeks ~~and not exceeding but less than 26~~ weeks, the L<sub>10</sub> level measured over a period of not less than 15 minutes when the construction site is in operation must not exceed the background level by more than 10dB(A).
- iii) For a construction period greater than 26 weeks, the L<sub>10</sub> level measured over a period of not less than 15 minutes when the construction site is in operation must not exceed the background noise level by more than 5dB(A).

~~of construction noise should not exceed the existing L<sub>90</sub> background noise level by more than 5dB(A).~~

Each noise impact statement shall be prepared in consultation with the relevant Council(s) and be subject to the approval of the EPA as part of the information required to obtain a Pollution Control Approval.

### *Construction Noise Level Monitoring*

- 57. Construction noise levels must be monitored to verify compliance with the requirements specified in the Noise and Vibration Management Procedure and in the noise impact statements. Should monitoring indicate exceedance, the Proponent must ensure consultation with the EPA and must ensure the implementation of any additional mitigation measures as required.

### *Blasting*

- 58. Prior to any blasting being undertaken a "Blasting Management Strategy" must be prepared in accordance with Chapter 154 of the EPA's ENCM to the satisfaction of the EPA.
- 59. For any section of the tunnel construction where blasting is proposed, a series of initial trials at reduced scale must be conducted prior to production blasting to determine site-specific blast response characteristics and to define allowable blast sizes to meet ANZECC guidelines presented in 'Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (1990)'.
- 60. If necessary, air blast control doors must be erected at tunnel portals to reduce air blast emissions from blasting in the tunnels, until tunnel construction has advanced to a stage where emission

levels without the doors comply with ANZECC limits.

61. Blasting can only be undertaken between the hours of 9am and 5pm (Monday to Friday) and 9am to 1pm on Saturdays and at no time on Sundays or Public Holidays, unless otherwise approved by the EPA.

#### *Vibration/Structural Borne Noise*

62. The vibration level due to construction activities including both above ground and underground work must meet the requirements of the EPA as specified in its pollution control approval. In general the EPA's noise control manual dealing with Vibration in Buildings in Chapter 174 of the ENCM (1994) shall be applied for all buildings potentially affected unless otherwise agreed to by the EPA.

#### **Operational Noise**

63. A noise impact report, on the operation of the proposal, must be prepared as part of the Noise and Vibration Management Procedure. The report must be prepared in consultation with the local community, relevant Councils and must be to the satisfaction of the EPA. The report must include the following:
  - a) identification of noise catchments and predicted noise levels;
  - b) specific consideration of noise sensitive receptors;
  - c) relationship of predicted noise levels to EPA traffic noise criteria;
  - d) available noise control measures and those proposed to be used. Consideration of their likely effectiveness. The urban design principles identified in conditions 42, 43 and 45 must be addressed in the assessment of noise control measures.

The report must address both traffic noise and the impacts of fixed plant associated with the proposal. The report should demonstrate that the proposal will comply with the EPA's traffic noise criteria in all areas, unless the EPA agrees otherwise taking into account community views, and the practicality of achieving the noise criteria.

64. Monitoring of the operational traffic noise must be undertaken as part of the Noise and Vibration Management Procedure. The Proponent must, in consultation with the EPA, assess the adequacy of the traffic noise mitigation measures. Should the assessment indicate a clear trend in traffic noise levels which are higher than the general predictions made in the noise impact report, the Proponent must ensure the implementation of further noise mitigation measures if practicable and cost effective to the satisfaction of the EPA, and after community consultation.
65. Fixed plant associated with the proposal including ventilation stacks, equipment, fans etc, must be designed to comply with EPA criteria for stationary sources as outlined in Chapters 19-21 of the ENCM.

## Air Quality

### *Construction Stage*

66. As part of the EMP referred to in condition 10, a specific Construction Stage Air Quality Procedure must be prepared to the satisfaction of the EPA. The Procedure shall provide details of all dust control measures to be implemented during the construction stage sufficient to address the technical requirements for any EPA approvals/licences. The Procedure must include measures to reduce dust from stockpiles and cleared areas or other exposed surfaces. Measures such as temporary planting of stockpiles and progressive rehabilitation of any exposed areas should be designed to achieve EPA local air quality protection goals. The Procedure must also identify the potential for odours and incorporate strategies for dealing with this issue.
67. All construction vehicles shall be maintained and covered to prevent any loss of load whether in the form of dust, liquid, solids or otherwise and shall be maintained in such a manner that they will not track mud, dirt or other material onto any street which is opened and accessible to the public. Without limiting the generality of this requirement, the Proponent shall install and maintain a wheel wash facility for effective wheel cleaning of construction equipment prior to it leaving construction areas and/or other such devices to ensure that material from construction vehicle tyres is not deposited on nearby streets.
68. Equipment and facilities necessary for the control of the potential odour problems from activities in the Cooks River must be approved by the EPA, and must be ready on site before the activities can be carried out.
69. No open burning or incineration shall be permitted on site.

### *Operation Stage*

70. The tunnel ventilation system(s) must be designed and operated so that the World Health Organisation (WHO) 15-minute carbon monoxide (CO) goal of 87 ppm is not exceeded under any conditions. The design must be independently verified to the satisfaction of the Director-General, prior to the commencement of operation, by an independent person(s) or organisation(s) to be approved by the Director-General. The Proponent must develop and implement a tunnel air quality monitoring and reporting system to the satisfaction of the EPA. The system must be installed and fully operational prior to the commencement of tunnel operations. The Proponent must implement any reasonable requirements of the EPA which aim to improve in-tunnel air quality, as requested by the EPA.
71. Tunnel portals must be designed to avoid air being recirculated between tunnel portals. The ventilation system for the main tunnel (Bexley Road to Marsh Street) must be designed to avoid air emissions, through the portals, as far as is practical. In any event, the air emissions must not result in the following ambient air quality emerging goals being exceeded at ground level:
  - NO<sub>2</sub> - One hour average of 256 µg/m<sup>3</sup> (0.125 ppm)
  - PM<sub>10</sub> - 24 hour average of 50 µg/m<sup>3</sup>

The design must have regard for the current short term Victoria EPA 3 minute design ground level concentration criteria of:

*Toxic Organic Compounds*

Benzene - 3 minute average of 0.10 mg/m<sup>3</sup> (0.033 ppm) (VEPA); and  
1-3 Butadiene - 3 minute average of 1.0 mg/m<sup>3</sup> (0.45 ppm) (VEPA)

*Odorous Compounds*

Acetaldehyde - 3 minute average of 0.076 mg/m<sup>3</sup> (0.042 ppm) (VEPA); and  
Formaldehyde - 3 minute average of 0.10 mg/m<sup>3</sup> (0.033 ppm) (VEPA)

The portal design must be independently verified to the satisfaction of the Director-General, prior to the commencement of operation, by an independent person(s) or organisation(s) to be approved by the Director-General.

Modelling of emissions from the Cooks River tunnel must be undertaken, to the satisfaction of the EPA, prior to the commencement of operation. The portals must be designed to minimise emissions and aim to achieve the emerging goals and criteria referred to above, as far as is practical, and to the satisfaction of the EPA.

72. The tunnel exhaust stack must be designed so that emissions do not result in ambient air quality at ground level exceeding the following emerging goals:

NO<sub>2</sub> - One hour average of 256 µg/m<sup>3</sup> (0.125 ppm)  
PM<sub>10</sub> - 24 hour average of 50 µg/m<sup>3</sup>

The design must have regard for the current short term Victoria EPA 3 minute design ground level concentration criteria of:

*Toxic Organic Compounds*

Benzene - 3 minute average of 0.10 mg/m<sup>3</sup> (0.033 ppm) (VEPA); and  
1-3 Butadiene - 3 minute average of 1.0 mg/m<sup>3</sup> (0.45 ppm) (VEPA)

*Odorous Compounds*

Acetaldehyde - 3 minute average of 0.076 mg/m<sup>3</sup> (0.042 ppm) (VEPA); and  
Formaldehyde - 3 minute average of 0.10 mg/m<sup>3</sup> (0.033 ppm) (VEPA)

73. The height of the tunnel exhaust stack must be higher than 25m high unless otherwise approved by the Director-General, upon advice from the EPA. Wind tunnel testing must be undertaken of the stack, by an independent organisation to be approved by the Director-General, prior to detailed design, in a manner approved by the EPA.

The Director-General in consultation with the EPA shall approve the height of the stack above 25m as deemed necessary to improve dispersion of emissions and/or to reduce the potential impact of emissions on the local population, after considering the results of the wind tunnel testing and any advice from the EPA. The Proponent must comply with any reasonable request of the Director-General to raise the stack.

74. The tunnel ventilation system must make provision, to the satisfaction of the Director-General, for the installation of treatment systems, including electrostatic precipitators and gas treatment

systems. The Director-General may require the installation of a treatment system by the Proponent, after considering the results of independent monitoring (as per condition 75), whether emissions comply with the goals specified in condition 72, input from the Community Consultative Committee specified in condition 78 and the views of the EPA, and the outcome of investigations from condition 80. In any case, any treatment system can only be required if there is an exceedance of the goals specified in condition 72.

75. The Proponent must install a comprehensive monitoring network, including dedicated stations in the Turrella and Undercliffe areas, for ambient air quality measurements. The location of the network and pollutants to be monitored must be developed in consultation with the EPA and the Committee referred to in condition 78, and be approved by the Director-General. The network must provide for extensive monitoring of stack emissions. The monitoring station(s) and network must be installed and operational, as applicable, at least 6 months prior to commencement of tunnel operations. Monitoring must be carried out by an independent organisation, to be approved by the Director-General, and reports must be made available at 6 monthly intervals from the date the Motorway commences operation. The reports must be made available to the Director-General, the EPA, relevant Council(s) and the Committee referred to in condition 78, and must be made publicly available. The total duration of the monitoring shall be as requested by the Director-General.
76. The exhaust stack and air intakes must be designed in consultation with relevant Councils and must be architecturally sympathetic with other development in the vicinity. They must be consistent with the urban design principles referred to in conditions 42 to 45.
77. Prior to the commencement of construction of the tunnel exhaust stack, the Proponent must comply with the reasonable requirements of the FAC for the stack.
78. A Community Consultative Committee must be established by the Proponent. This Committee must include representatives from the Turrella and Undercliffe areas and relevant Council(s), and must be established prior to the commencement of construction. The Committee's role includes: input into defining/formulating air quality monitoring requirements; accessing and disseminating monitoring results and other information on air quality issues; and associated potential impacts.
79. The Proponent must examine international developments in tunnel emission treatment systems, in consultation with the EPA and the Director-General. The Proponent must report on the outcome of these examinations (including the cost effectiveness of systems) for five years on an annual basis from the date of approval and thereafter as required by the Director-General. The results must be made available to the Director-General, the EPA, relevant Council(s) and the Committee referred to in condition 78, and must be made publicly available, upon request.
80. The Proponent must continue to participate with the Department of Urban Affairs and Planning, the Department of Health, the Department of Transport and the EPA, at its own expense, in investigations into subregional air quality and participate in identifying strategies for improving air quality. The aim of the investigation is to identify key contributors to air pollution in the sub region and formulate cost effective measures to control/manage such contributors. The Proponent must contribute to the implementation of any control measures within its areas of responsibilities.
81. The Proponent must set aside a sum of \$0.5 million per year over a period of 5 years,

commencing from the start of the proposal's operation. This allocation is to be used, as necessary and as applicable, towards funding air quality improvement measures arising out of the studies in condition 80 above.

- 81A. The Proponent is permitted to undertake a trial of filtration technology as part of the project, as generally described in the documents referred to under condition 1b) of this approval, and for an initial period of up to 18 months from the date of commencement of operation of the technology, and subject to extension in accordance with condition 81B of this approval. Only conditions 1 to 1A inclusive and 81A to 81O inclusive apply to the filtration technology trial.
- 81B. As soon as practicable after the conclusion of the initial 18-month trial period for the filtration technology, the Proponent shall notify the Director-General of whether the operation of the filtration technology shall cease or continue, either as an on-going trial or as a permanent facility. The notification shall include a report on the findings of the Filtration Trial Monitoring Program (refer to condition 81M) and shall indicate whether any additional measures are required and will be applied to the filtration technology and associated infrastructure.
- 81C. In the event that the Proponent notifies the Director-General under condition 81B that it intends to continue operation of the filtration technology, the conditions of this approval applicable to the filtration technology trial will continue to apply to on-going operation of the technology.

#### **Noise and Vibration Impacts**

- 81D. The Proponent shall ensure that the vibration resulting from construction and operation of the filtration technology does not exceed the evaluation criteria presented in *Environmental Noise Management – Assessing Vibration: A Technical Guideline* (DEC, 2006).
- 81E. The Proponent shall only undertake construction activities associated with the filtration technology trial, other than rock-breaking, that would generate an audible noise, including ground-borne noise, at any residential premises during the following hours:
- 7:00 am to 6:00 pm, Mondays to Fridays, inclusive;
  - 8:00 am to 1:00 pm on Saturdays; and
  - at no time on Sundays or public holidays

Notwithstanding, underground tunnelling and other subsurface works are permitted to extend into the periods from 6:00 pm to 10:00 pm, and from 10:00 pm to 7:00 am provided that regenerated noise from those works does not exceed an  $L_{Aeq(15 \text{ minute})}$  noise level at any residential premises greater than 40dB(A) and 35 dB(A), respectively.

This condition does not apply in the event of a direction from police or other relevant authority for safety reasons.

- 81F. The Proponent shall only undertake rock-breaking activities associated with the filtration technology trial, that would generate an audible noise at any residential premises during the following hours:
- 8:00 am to 12:00 pm, Mondays to Fridays, inclusive;
  - 2:00 pm to 5:00 pm, Mondays to Fridays, inclusive;
  - 8:00 am to 12:00 pm on Saturdays; and
  - at no time on Sundays or public holidays

This condition does not apply in the event of a direction from police or other relevant authority for safety reasons.

- 81G. The hours of construction and rock-breaking activities specified under conditions 81E to 81F of this approval may be varied with the prior written approval of the Director-General. Any request to alter the hours of construction specified under conditions 81E to 81F shall be:
- considered on a case-by-case basis;
  - accompanied by details of the nature and need for activities to be conducted during the varied construction hours; and
  - accompanied by any information necessary for the Director-General to reasonably determine that activities undertaken during the varied construction hours will not adversely impact on the acoustic amenity of receptors in the vicinity of the site.
- 81H. Prior to the commencement of construction or installation of infrastructure associated with the filtration trial, the Proponent shall derive noise limits for the trial and associated works in accordance with the *New South Wales Industrial Noise Policy* (EPA, 2000). The Proponent shall submit a copy of this derivation to the Director-General who may agree with the derived noise limits, in which case, the noise limits shall henceforth apply to the trial and associated works.

Note: noise monitoring and noise limit derivation undertaken during the assessment of the filtration technology trial indicated that an operational noise limit of approximately 40 db(A) (as  $L_{Aeq(15 \text{ minute})}$ ) may be appropriate. This will need to be confirmed (or otherwise) with assessment prior to the commencement of construction of the filtration trial and associated infrastructure.

### **Dust Impacts**

- 81I. The Proponent shall undertake all construct works associated with the filtration technology trial in a manner that minimises dust emissions from the site, including wind-blown and traffic-generated dust.

### **Spoil and Waste Management**

- 81J. Where opportunities exist and spoil quality permits, the Proponent shall preferentially beneficially reuse spoil generated during construction works associated with the filtration technology trial, rather than directing those materials to a waste management facility.
- 81K. The Proponent shall ensure that all spoil and other waste materials generated during construction and operation of the filtration technology trial are assessed and classified in accordance with *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes* (DEC, 2004). Waste materials directed off-site for disposal shall only be directed to a waste management facility lawfully permitted to accept those materials.

### **Visual Amenity and Urban Design**

- 81L. Prior to the commencement of aboveground buildings associated with the filtration technology trial, the Proponent shall submit for the approval of the Director-General, details of the external façades for the buildings, including demonstration of the façade(s) on an external finishing board. The finishing board shall clearly show the materials to be used for the building façades including details of external treatments of the buildings (such as painting, and other external features aimed at reducing the bulk of the building and to improve the general appearance of the project). The finishing board shall demonstrate that the external treatments of the buildings are non-reflective and of sufficient design quality to minimise the visual affects of the buildings as far as is

reasonable and feasible.

### **Monitoring and Reporting**

81M. The Proponent shall prepare and implement a **Filtration Trial Monitoring Program** to monitor and record the performance of the filtration technology. The Program shall be developed in consultation with the Department, the EPA and NSW Health, and shall include, but not necessarily be limited to:

- a) monitoring and verification of the noise performance of the filtration technology and provision of a filtration trial report that includes a conclusion and recommendations regarding the viability of continuing the trial;
- b) monitoring times, durations, reliability and availability of the filtration technology operation;
- c) monitoring relevant flowrates through the project tunnels, and into/ out of the filtration technology;
- d) monitoring relevant parameters prior to and following treatment through the filtration technology, including PM<sub>10</sub>, PM<sub>2.5</sub> and oxides of nitrogen;
- e) monitoring relevant parameters within the project tunnels, to assess the effects of the filtration technology on in-tunnel air quality;
- f) calculation of the performance of the filtration technology, on the basis of pollutant concentration, total pollutant load and cost per kilogram of each pollutant removed;
- g) provisions for recording and reporting monitoring data and analyses, as relevant;
- h) monitoring of the energy consumption and equivalent greenhouse gas emissions associated with the filtration trial; and
- i) provision for the Program and summary reports on the monitoring to be made publicly available.

### **Environmental Management**

81N. The Proponent shall prepare and implement a **Construction Environmental Management Plan** to outline environmental management practices and procedures to be followed during construction works associate with the filtration technology trial. The Plan shall be consistent with *Guideline for the Preparation of Environmental Management Plans* (DIPNR 2004) and the Construction Method Statement Matrix presented in Appendix J of the document referred to under condition 1b)i) of this approval.

81O. The Construction Environmental Management Plan referred to under condition 81N shall include a detailed **Construction Noise and Vibration Protocol** to detail measures to mitigate and manage noise and vibration during construction of the filtration technology trial. The Protocol shall be developed in consultation with the Department, the EPA and NSW Health and shall include, but not necessarily be limited to:

- a) identification of each work area, site compound and access route (both private and public);
- b) identification of the specific activities that will be carried out and associated noise sources at each work area, site compound and access route;
- c) identification of all potentially-affected sensitive receivers;
- d) construction noise objectives consistent with the *Noise Control Guideline – Construction Site Noise*, formerly published as chapter 171 of the *Environmental Noise Control Manual* and a ground-borne noise objective of 40dB(A) (L<sub>Aeq(15 minute)</sub>) during the daytime,
- e) assessment of potential noise and vibration from the proposed construction methods (including noise from construction traffic) against the objectives identified under d);
- f) where the objectives are predicted to be exceeded an analysis of feasible and reasonable noise mitigation measures that can be implemented to reduce construction noise impacts;

- g) description of management methods and procedures and specific noise mitigation treatments that will be implemented to control noise and vibration during construction;
- h) procedures for notifying residents of construction activities that are likely to affect their noise and vibration amenity;
- i) measures to receive, record and respond to complaints;
- j) measures to monitor and report against noise performance; and
- k) provision for assessment of vibration against the requirements of condition 81D of this approval.

## **Flora and Fauna**

82. All practical preventative measures must be taken in order to minimise any potential disturbance of habitats surrounding work sites.
83. No spoil material shall be dumped in a manner so that it is likely to have a significant effect on threatened species, populations, ecological communities or their habitats. As far as possible, spoil shall not be dumped in areas containing native vegetation. Any dumping of spoil must be consistent with the management plan referred to in condition 93.

### *Green and Golden Bell Frog*

84. The Proponent must comply with the conditions of concurrence as determined by NPWS.

### *Salt Pan Creek Wetland*

85. The Proponent must prepare a plan of management for that part of the Salt Pan Creek wetlands affected by the proposal. The plan of management must address measures for the protection and revegetation of these wetlands both during and after construction of the Motorway. The plan of management must be prepared 1 month prior to construction, or as otherwise agreed by the Director-General, to the satisfaction of the Director-General.

### *Cooks River Clay Plain Scrub Forest*

86. The proposed Motorway route shall not pass through any areas of Cooks River Clay Plain Scrub Forest, at the site located adjacent to Rosebank Avenue between Beverly Grove Park and Canterbury Golf Course, without the approval of the Director-General. Prior to seeking approval, the Proponent must prepare an assessment of the ecological values of the community and identify proposed mitigation measures. Consideration must also be given to other impacts in this area, including impacts on open space and nearby dwellings. The assessment must be prepared in consultation with NPWS.

### *Eve Street Wetlands*

87. The Motorway shall be constructed so as to minimise intrusion into the Eve Street wetland as bordered by the Norfolk Island pine trees, the NGR and heritage sewers, and Eve Street, Arncliffe, to the satisfaction of the Director-General, in consultation with SWC and NPWS. Details of mitigation measures which seek to minimise the impacts of the proposal on the wetland must be

approved by the Director-General.

88. There must be a vegetated buffer between the Motorway structure and the Eve Street wetlands, unless the Director-General agrees otherwise.
89. There must be a traffic noise reduction structure between the Motorway and the wetlands.
90. The location of the Motorway near the wetlands must be kept at the lowest possible level, having regard to the various sewer requirements, and below the tree line to minimise the visual impact and impediment to migratory waders.
91. The tidal functioning of the tidal feeder channel must be maintained, even if the channel itself has to be altered or relocated between the Eve Street wetlands and the Cooks River.
92. A compensatory wetland Plan of Management must be prepared, setting out objectives and aiming to reinstate those values which will be lost due to the proposal. These compensatory wetlands should be established and operational prior to the commencement of operation of the Motorway. The Plan of Management must be prepared within 6 months from the date of approval, to the satisfaction of the Director-General.

## **Spoil Disposal and Waste Management**

### *Spoil disposal*

93. As part of the EMP referred to in condition 10, the Proponent must prepare a Spoil Management Plan. This Plan must identify how spoil will be handled, stockpiled, reused and disposed of. The Plan must be prepared in consultation with the EPA and relevant Councils before the commencement of construction at relevant sites. The Spoil Management Plan must identify any areas of native vegetation that could be adversely affected by spoil, and propose mitigation measures to minimise impacts. The Spoil Management Plan must also identify measures to minimise potential air and water quality impacts.
94. Prior to commencement of construction at various relevant sites where spoil is to be generated the Proponent must ensure that the EPA and any other relevant authority is provided with details of the locations where spoil will be disposed.
95. All clean and/or treated spoil must be reused or recycled wherever it is possible and cost effective to do so. The Proponent must ensure that spoil generated from construction activities is maximised in preference to any import of fill.
96. No spoil, material or item of equipment can be disposed of in the ocean.
97. The Proponent must provide the relevant Councils with detailed plans for the routes and access points to be used by construction traffic. These must not be varied unless otherwise agreed to by the relevant local Council traffic management committees.

### *Contaminated Spoil*

98. The Proponent must conduct a site investigation to determine the nature, extent and degree of contamination. An Investigation Report must be submitted to the Director-General, as part of the EMP referred to in condition 10, detailing the results of the investigation and an assessment of the potential risk posed by contaminants to health and the environment. The Report must also include a strategy for dealing with unexpected occurrences of contaminated material during the course of work. The Report must be prepared to the satisfaction of the EPA, and in consultation with the FAC where it affects land under FAC control.
99. If the results of the site investigation indicate that remediation is necessary to reduce or remove risks posed by contaminants, then the Proponent must remediate the land in accordance with a Remedial Action Plan approved by the Director-General. The Plan must be prepared to the satisfaction of the EPA and in consultation with relevant Councils and the FAC, if it affects land controlled by that organisation.
100. The method of remediation used must be determined in consultation with the EPA. If contaminated material is disposed of off-site, it can only be to a landfill approved by the EPA.
101. If remediation is carried out, the Proponent must submit a Validation Report to the Director-General within 1 month of the completion of remediation works. The Report must confirm whether the pre-determined clean up objective has been attained and whether any further remediation works or restrictions on land use are required. The Director-General may require further remediation works if the pre-determined clean up objective has not been attained. The Director-General may also require an independent site audit of the remediation, at the Proponent's expense, if the Validation Report is inconclusive. A copy of the Report must be submitted to the EPA, relevant Councils and, if affecting FAC land, to the FAC, at the same time the Report is forwarded to the Director-General.
102. All work associated with contaminated spoil, including the preparation of reports, must be carried out in accordance with EPA guidelines and guidelines prepared by the Australian and New Zealand Environment and Conservation Council (ANZECC) and the National Health and Medical Research Council (NHMRC).

### *Waste Management and Recycling*

103. As part of the EMP referred to in Conditions 10 and 13, a detailed Waste Management and Reuse Procedure must be prepared, to the satisfaction of the EPA, to address the management of wastes during both the construction and operation stages. The Procedure must be prepared prior to construction and operation as appropriate and must identify requirements for waste avoidance, reduction, reuse and recycling. It must also detail requirements for handling, stockpiling and disposal of wastes specifically spoil, concrete, contaminated soil or water, demolition material, cleared vegetation, oils, greases, lubricants, sanitary wastes, timber, glass, metal etc. It must also identify any site for final disposal of any material and any remedial works required at the disposal site before accepting the material. Any waste material which is unable to be reused, reprocessed or recycled must be disposed at a landfill licensed by the EPA to receive that type of waste. The Procedure must be framed using the waste minimisation hierarchy principles of avoid-reduce-reuse-recycle-dispose.

104. The demand for water for construction purposes must be kept to a minimum. The project must incorporate water use reduction initiatives including reuse of water and recycling to the maximum extent practicably possible, taking into account technical and cost-effectiveness matters.
105. As part of the EMP referred to in condition 10, an Action Plan must be prepared to promote the use of recycled materials including construction and landscape materials. The Plan must detail how the proposal gives consideration and support to the Government's Waste Reduction and Purchasing Policy. The Plan must also include details on measures to implement energy conservation best practice.

## **Flooding and Water Quality**

### *Flooding and Stormwater Management*

106. As part of the EMPs referred to in conditions 10 and 13 a detailed Stormwater Management Procedure must be prepared in consultation with EPA, DLWC, SWC, FAC, and the relevant Councils. The Procedure must provide details on catchment analysis (including localised flooding as recognised by the relevant local Councils), existing drainage systems and capacity, drainage changes resulting from the proposal and implications for the system, detention requirements and environmental impacts of such. Agreement shall be reached with the relevant Council(s) on appropriate and specific measures to be implemented at various locations.
107. The Stormwater Management Procedure referred to in condition 106 must include a detailed consideration of flood issues affecting the Wolli Creek Valley.
108. The Stormwater Management Procedure referred to in condition 106 must include a detailed consideration of flood issues affecting the Cooks River area. This information must detail the method to be used to cross the river and include a comprehensive assessment of impacts on the River, adjacent land uses and River users, tidal regime, water velocities, and appropriate mitigation measures to ensure that flood height does not increase by more than the height specified by DLWC. The assessment must also provide details of proposed construction sites and works associated with the proposal at this location.
109. If coffer dams are proposed to be used in the construction of the Cooks River crossing, a Flooding Contingency Plan must be prepared and submitted to the DLWC for its approval, prior to the commencement of construction. The Plan must identify the size of the flood which may overtop the coffer dam, the risks associated with overtopping of the coffer dam and procedures to minimise risks. Risks which should be addressed include risks to human safety, equipment, tunnel integrity and risks to the environment from disturbance of any stored sediment.
110. The Proponent must ensure that details of insurance cover, where applicable, to compensate for any increase in flood damages as a result of construction works are provided to the DLWC. Details should include procedures for apportioning contribution of the construction works to flood damages and any procedures for public education/information regarding the flood hazards associated with the project.
111. All stormwater flows from the Motorway shall be managed through appropriate measures to

ensure that there is no exacerbation of existing flooding to the satisfaction of DLWC. Agreement shall be reached with the relevant Councils on appropriate and specific measures to be implemented at various locations.

112. Drainage from the tunnel shall be designed to take into account the 100 year Average Recurrence Interval rainfall event or portal catchment zone, seepage inflow, fire fighting contaminated water and spillage.

113. The tunnel portals must be designed so that the tunnels will remain flood free in a Probable Maximum Flood event. The portals must be designed to the satisfaction of the DLWC.

#### *Soil and Water Management Procedure*

114. As part of the EMP referred to in Conditions –10 and 13, a detailed Soil and Water Quality Management Procedure shall be prepared to the satisfaction of EPA and in consultation with DLWC, Sydney Water and the relevant Councils. The Procedure shall provide details of pollution control measures to be undertaken during both the construction and operation stages sufficient to address the technical requirements for obtaining relevant EPA approvals/licences.

The Soil and Water Quality Management Procedure shall include, but not be limited to:- identification of baseline stream and wetland water quality; environmental limits/criteria; performance objectives; measures to handle and dispose of stormwater; effluent and contaminated water and soil; the capacity of the proposed on-site detention systems to contain all runoff; procedures for analysing the degree of contamination of potentially contaminated water; sedimentation and control measures to prevent erosion and pollution; measures of dealing with overland flow; measures for the use of water reclaimed or recycled on-site; and a monitoring programme including monitoring of baseline stream and wetland water quality at locations potentially affected by the construction and operation of the proposal.

The Procedure shall have regard to the criteria and principles detailed in the *Managing Urban Stormwater* series prepared by the EPA for the State Stormwater Co-ordinating Committee and the Department of Housing's *Soil and Water Management for Urban Development*.

#### *Construction Stage Water Pollution Control Measures*

115. The Soil and Water Management Procedure shall incorporate a detailed Erosion and Sedimentation Control Plan and Site Rehabilitation Plan which shall be prepared and submitted to the satisfaction of DLWC and EPA to satisfy the technical information requirements for issuing of all relevant pollution control approvals and licences. The Plan shall include details of the location and design criteria for erosion and sediment control measures and shall specifically address measures for treatment of stormwater before disposal including performance objectives as required in the EPA Pollution Control Approval. The measures shall follow the RTA's *Guidelines for the Control of Erosion and Sedimentation in Roadworks* and DLWC's *Urban Erosion and Sediment Control*.

116. Control of river bed sediment, within the Cooks River, with measures such as silt curtains, drying basins, testing and treatment procedures, must be provided and implemented to the satisfaction of the EPA. Details of the type of mitigation measures to be installed, maintained and replacement

strategies must also be addressed.

117. Storage ponds and drying beds for treatment of slurry and river sediment removed from the Cooks River must be constructed to be flood free. The storage ponds and drying beds must not be fitted with valves or drains for gravity discharge of the excess water. The excess water must be tested and treated, if necessary, prior to disposal in ways approved by the EPA.
118. The Proponent shall ensure that all soil and erosion and sediment control works are completed and in place prior to the commencement of any works that may have the potential to generate soil erosion or sediment. Erosion and sediment protection measures shall also be in place before the commencement of any stockpiling activities.
119. Monitoring of the impact of the project on erosion of the embankments of the Cooks River must be undertaken to the satisfaction of the DLWC. Any identified impacts must be remediated as soon as identified in consultation with the DLWC.
120. The Proponent must ensure that tests are carried out in advance of excavation to test for the presence of acid sulphate soils in all areas to be disturbed by the proposal. Should acid sulphate soils be found then a detailed Acid Sulphate Soil Management Plan shall be prepared to the satisfaction of the EPA and DLWC prior to any additional construction activity taking place in the area affected. The FAC must be consulted if land under its control or ownership, and which will be disturbed, is likely to contain actual or potential acid sulphate soils. The Plan shall be prepared in accordance with the EPA's guideline *Assessing and Managing Acid Sulphate Soils*. The Proponent must also ensure that it prepares, prior to the commencement of construction, a contingency plan to deal with unexpected finds of actual or potential acid sulphate soils. This contingency plan must be prepared to the satisfaction of the EPA and DLWC.
121. All water collected during construction, including water drained from the tunnel (portal entry, seepage, groundwater influx) and from dewatering of major cuttings, which is likely to be contaminated shall be tested, treated, handled and disposed of to the satisfaction of the EPA.

#### *Operational Stage Water Pollution Control Measures*

122. All stormwater and wastewater systems of the proposal shall be designed, constructed, operated and maintained to meet the requirements of the relevant authorities including EPA, SWC and relevant Councils.
123. In addition to trap gullies and trashracks the Proponent shall ensure the investigation into the cost effectiveness of incorporating detention systems for containing spills and materials arising from accidents and install appropriate detention systems to the satisfaction of the EPA. The Proponent shall also ensure the investigation into the cost of removal of sediment, oil and grease.
124. Provision shall be made for retention and treatment of fire water (to the equivalent retained volume of 30 minutes of fire containment operations) so that it is not directly discharged to stormwater drains.
125. Seepage, spillages, contaminated water, tunnel washing, fire fighting or other water in the tunnel

which is likely to contain pollutant levels above the background concentrations of natural discharge points shall be directed into separate sumps with pump out facilities. This water shall not be discharged to the stormwater system unless otherwise agreed by the EPA.

## **Businesses**

126.A detailed Signage Plan shall be prepared in consultation with the relevant local traffic committee and all potentially affected businesses, with the objective of minimising impact on local businesses during both the construction and operation stage. The Plan shall be prepared to the satisfaction of the relevant local Council traffic management committee(s).

## **Heritage and Archaeology**

### *Heritage*

127.As part of the EMPs referred to in conditions 10 and 13, the Proponent must prepare a Procedure, to the satisfaction of the Director-General, which identifies, and presents management options, for heritage items. In preparing this Procedure, the Proponent must consult with the relevant Councils and SWC. Particular attention must be given to: the stone cottage at No. 96/96A West Botany Street; the SWSOOS and heritage sewer; and the pine trees located at the site of the former Rockdale Sewage Farm, Marsh Street.

### *Archaeology*

128.As part of the EMPs referred to in conditions 10 and 13, the Proponent must prepare a Procedure, to the satisfaction of the Director-General, which identifies, and presents management options, for archaeological items. In preparing this Procedure, the Proponent must consult with the relevant Councils, NPWS, Heritage Council and the relevant Local Aboriginal Land Council(s).

129.If, during the course of construction, the Proponent becomes aware of any heritage or archaeological material, all work likely to affect the site(s) must cease immediately and the relevant authorities including NPWS, Heritage Council and the relevant Local Aboriginal Land Council(s) shall be consulted in terms of an appropriate course of action prior to recommencement of work. Any required permits/consents shall be obtained and shall be accompanied by appropriate supporting documentation.

## **Hazards, Risks and Safety**

### *Emergency Planning*

130.At least 6 months prior to commissioning the proposal an Emergency Response Plan shall be prepared to the satisfaction of the NSW Fire Brigades, the Police and the State Emergency Services. Two months prior to commissioning of the proposal there shall be a thorough testing of emergency procedures and evacuation systems to the satisfaction of the Police and NSW Fire Brigades. Testing thereafter shall be at least annually, or as requested by the relevant authorities.

### *Dangerous Goods*

131.Dangerous goods as defined in the Motor Traffic Regulation 119A shall not be allowed access to

the tunnels of the proposal.

### **Tunnel Design and Operation**

132. The tunnels shall incorporate design and operational measures to minimise the likelihood and impact of accidents within the tunnels. These measures shall include fire resistant materials of construction, fire control centres, emergency access doors and stairways, deluge or sprinklers, hydrants and ventilation systems. Fire systems shall be to the satisfaction of the NSW Fire Brigades.

133. A 'traffic incident management system' consistent with the concepts described in the EIS shall be installed prior to the opening of the tunnels to enable control room staff to control traffic and aid drivers during breakdown and accidents.

134. In case of power failure, the tunnels shall have adequate back-up generators to ensure lighting, signs, CCTV and voice control continue to operate until restored.

### **Utilities and Services**

135. The Proponent must ensure the identification of services potentially affected by construction activities to determine requirements for diversion, protection and/or support. This shall be undertaken in consultation with the relevant service authority. Any alterations to utilities and services shall be carried out to the satisfaction of the relevant authority(s), and unless otherwise agreed to, at no cost to the service/utility authority.

136. The Proponent shall be responsible for minimising any disruption to services resulting from such work and shall be responsible for advising local residents and businesses prior to disruption to services.

137. Any construction in the vicinity of the SWSOOS, NGR and heritage sewer must not result in damage to the structures or their functioning, through their loadings, vibration or any other mechanism.

138. Any construction in the vicinity of the SWSOOS, NGR and heritage sewer must maintain clearances of 5m lateral and 3 m vertical, unless otherwise agreed to by SWC.

### **Open Space and Recreation**

139. The Proponent must compensate the relevant Councils for loss of any Council owned open space areas. The nature of such compensation is to be determined in consultation with the relevant Councils.

140. The Proponent must prepare and implement a plan of management for Riverine Park. Such plan of management is to be prepared prior to construction in this area and in consultation with Rockdale City Council, NPWS, DLWC, Sydney Water, Bicycle NSW and representatives of the local wetlands preservation societies, as agreed by Rockdale City Council. The plan of

management must be prepared to the satisfaction of the Director-General.

141. The Proponent must consult with Kogarah Golf Club and Rockdale City Council, prior to construction in the vicinity of Kogarah Golf Club, regarding measures that must be undertaken to ameliorate any impacts the Motorway may have on Kogarah Golf Course.

142. The Proponent must consult with Kogarah Golf Club regarding any necessary measures to eliminate the likelihood of risk to traffic from golf balls. Such measures must be implemented prior to commencement of operation.

### **Cumulative Impacts with Construction of New Southern Railway and Eastern Distributor**

143. To minimise the cumulative impacts on the environment which the construction of these projects at the same time may have, the Proponent must liaise closely with the Airport Link and Airport Motorway and incorporate where appropriate, a co-ordinated management strategy, which includes procedural and construction measures that address and mitigate relevant cumulative impacts.

### **Sydney Airport**

144. No work can be carried out on land owned or under the control of the FAC without the prior approval of the FAC.

145. Prior to the commencement of construction or operation, as appropriate, the Proponent must prepare Procedures dealing with the construction and operation stage impacts in the vicinity of Sydney (Kingsford Smith) Airport. These Procedures must be prepared to the satisfaction of the FAC, CASA and AirServices Australia. They must be submitted for approval at least 1 month prior to the commencement of construction or operation, as appropriate. The Procedures must address, as relevant to the particular stage, but are not limited to:

(a) construction stage working hours; obstacle limitation surfaces; operation of runway 07/25; 07 glidepath; runway 07 high intensity approach lighting; runway 25 instrument landing system localiser; temporary navigation aids; bomb search area; airside perimeter road; Airport security requirements; jet blast effects; lighting; bird hazards; subsidence; tunnel construction under the Airport runway; ethane pipeline; access to and from the Airport south west sector; transport of dangerous goods; Motorway height;

(b) flood mitigation and stormwater control; dust management; acid sulphate soils; contaminated land;

The Procedures must, in relation to matters specified in (b), be prepared in consultation with the EPA and DLWC.

146. In preparing the Procedures referred to in condition 145, the Proponent must consider and address the potential impact that construction activities will have on the amenity of nearby residential areas. The Proponent must ensure that adequate community consultation is carried out when it addresses this issue. Particular consideration must be given to the impacts that could

result from working outside the hours specified in condition 55.

### **Concrete Batching Plant**

147.No concrete batching plant can be operated without the prior approval of the Director-General (unless the provisions of Part 4 of the EP&A Act apply). In seeking any such approval, the Proponent should submit:

- a) details of the location, hours of operation, scale of production, period for which the plant will operate;
- b) details of potential environmental impacts, particularly noise, water quality, air quality, flora and fauna, and traffic impacts;
- c) proposed environmental impact mitigation measures;
- d) results of consultation with the EPA, relevant Council(s) and the local community.

### **Mid Tunnel Access**

148.No mid tunnel access point can be opened without the prior approval of the Director-General. In seeking any such approval, the Proponent should submit:

- a) details of the location, hours of operation, period for which the access will be required;
- b) details of potential environmental impacts, particularly noise, water quality, air quality, flora and fauna, and traffic impacts;
- c) proposed environmental impact mitigation measures;
- d) results of consultation with the EPA, relevant Council(s) and the local community.

### **Duff Street Air Intake**

149.Prior to the commencement of construction of an air intake at Duff Street, the Proponent must prepare a report to the satisfaction of the Director-General. This report must investigate potential environmental impacts (including archaeological, flora and fauna, visual and residential amenity impacts); proposed mitigation measures; any alternative feasible sites. The report must be submitted to the Director-General for approval at least 1 month prior to the commencement of construction, or within such other time as agreed by the Director-General.

### **Compliance Report**

150.The Proponent must submit for the approval of the Director-General a compliance report concerning the implementation of all conditions of this approval. The compliance report must be submitted at least 3 months prior to the commencement of the Motorway's operation, or as otherwise agreed by the Director-General.

No traffic may use the new motorway until the Director-General has approved the compliance report.

### **Site Compound at 197-201 Kingsgrove Road, Kingsgrove**

151A. The Proponent is permitted to establish and operate a site compound at 197-201 Kingsgrove Road, Kingsgrove, as generally described in the document referred to under condition 1c) of this

approval. Only conditions 1 to 1A, 5, 6 and 151A to 151P inclusive apply to the site compound.

151B. The Proponent shall comply with the reasonable requirements of the Director-General arising from the Department's assessment of:

- a) any reports, plans or correspondence that are submitted in accordance with the site compound modification; and
- b) the implementation of any actions or measures contained in the reports, plans or correspondence.

#### *Construction Hours*

151C. Construction activities associated with the compound site shall only be undertaken during the following hours:

- a) 7:00am to 6:00pm, Mondays to Fridays, inclusive;
- b) 8:00am to 1:00pm on Saturdays; and
- c) at no time on Sundays or public holidays.

Activities resulting in impulsive or tonal noise emission shall be limited to 8:00am to 12:00pm, Monday to Saturday and 1:00pm to 5:00pm Monday to Friday. The Proponent shall not undertake such activities for more than three continuous hours and must provide a minimum one-hour respite period between each three hour block.

This condition does not apply in the event of a direction from police or other relevant authority for safety reasons.

#### *Dust Impacts*

151D. The Proponent shall undertake all construction works associated within the compound site in a manner that minimises dust emissions, including wind-blown and traffic-generated dust.

#### *Water*

151E. The Proponent shall ensure that construction and operation of the compound site complies with section 120 of the *Protection of the Environment Operations Act 1997*, which prohibits the pollution of waters.

#### *Waste Management*

151F. Where opportunities exist and spoil quality permits, the Proponent shall preferentially reuse spoil generated during construction works associated with the compound site, rather than directing those materials to a waste management facility.

151G. The Proponent shall ensure that all spoil and other waste materials generated during construction and operation of the site compound are assessed and classified in accordance with *Waste Classification Guidelines – Part 1: Classifying Waste and Part 2: Immobilisation of Waste* (DECCW, 2008). Waste materials directed off-site for disposal shall only be directed to a waste management facility lawfully permitted to accept those materials.

## Lighting

151H. The Proponent shall ensure that all external lighting installed as part of the site compound is mounted, screened, and directed in such a manner so as to minimise light spillage and/or glare to surrounding land uses. The lighting shall be the minimum level of illumination necessary, and generally in accordance with the latest version of *AS 4282 – 1997 Control of the Obtrusive Effects of Outdoor Lighting*.

## Visual Amenity

151I. The Proponent shall, prior to the commencement of construction, or unless otherwise agreed by the Director-General, prepare and implement a Landscape Plan for the site.

In preparing the Plan, the Proponent shall consult with Canterbury City Council and local residents.

The Plan shall detail landscaping measures to minimise the impacts of the site compound on receptors in the vicinity of the site.

The Plan shall include, but not necessarily be limited to:

- a) details of fencing;
- b) details of landscaping, including screening of the fence and the use of locally native species; and
- c) measures to monitor and maintain landscaping (including weed control) including responsibilities, timing, duration and contingencies where landscaping measures fail.

## Environmental Management – Construction

151J. The Proponent shall, prior to the commencement of construction of the site compound, prepare and implement a **Construction Environmental Management Plan**. The Plan shall outline the environmental management practices and procedures that are to be followed during construction and shall be prepared in accordance with the *Guideline for the Preparation of Environmental Management Plans* (DIPNR, 2004). The CEMP shall include, but not necessarily be limited to:

- a) a description of all relevant activities to be undertaken during construction;
- b) statutory and other obligations that the Proponent is required to fulfil during construction including all approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies;
- c) a description of the roles and responsibilities for all relevant employees involved in the construction of the site compound; and
- d) details of how the environmental performance of the construction works will be managed and monitored, and what actions will be taken to address identified adverse environmental impacts. In particular, the following environmental performance issues shall be addressed in the Plan:
  - i) noise impacts generally consistent with the requirements of the *Interim Construction Noise Guidelines* (Department of Environment and Climate Change 2009);
  - ii) soil erosion and the discharge of sediment and other pollutants to surrounding lands;
  - iii) air quality and dust impacts;
  - iv) waste management;
  - v) ecological and landscape impacts; and

- vi) a contingency plan in the case of unanticipated discovery of contaminated material during construction.

The Plan shall be submitted to the Director-General prior to the commencement of construction, or as otherwise agreed to by the Director-General.

#### *Environmental Management – Operation*

151K. The Proponent shall, prior to the commencement of operation of the site compound, prepare and implement an **Operation Environmental Management Plan** that details the environmental management framework, practices and procedures to be followed during its operation. The Plan shall be consistent with the Department's *Guideline for the Preparation of Environmental Management Plans* (DIPNR, 2004) to provide a clear environmental management framework. The Plan shall include, but not necessarily be limited to:

- a) a description of all relevant activities to be undertaken during operation of the project;
- b) statutory and other obligations that the Proponent is required to fulfil during operation including all approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies;
- c) a description of the roles and responsibilities for all relevant employees involved in the operation of the site compound;
- d) processes for consulting and/or notifying sensitive receivers of the operation of the site compound in the night time period during planned/unscheduled freeway closures;
- e) details of how the project's environmental performance at the compound will be managed and monitored, and what actions will be taken to address identified adverse environmental impacts. In particular, the following environmental performance issues shall be addressed in the Plan:
  - i) noise impacts, including measures to manage noise from staff parking and vehicle movements;
  - ii) landscape maintenance;
  - iii) vehicle movements including parking, delivery of material, dedicated vehicle turning areas and ingress and egress points; and
  - iv) waste and operational hazards.
- f) a Complaints Register used to record details of all complaints received and actions taken in response to complaints. The Complaints Register shall be made available to the Director-General on request.

Nothing in this condition precludes the Proponent from updating an existing Operation Environmental Management Plan to meet this requirement, providing the Operation Environmental Management Plan demonstrates where the relevant conditions of this approval have been addressed.

The Plan shall be submitted to the Director-General prior to the commencement of operation, or as otherwise agreed to by the Director-General.

#### *Operational Noise*

151L. The Proponent shall operate the project with the objective of ensuring that noise levels at sensitive receivers are consistent with the *New South Wales Industrial Noise Policy* (EPA, 2000) and do not exceed the project noise limits specified in Table 2 below during the periods

indicated. The noise limits apply under the following meteorological conditions:

- a) wind speeds up to 3 m/s at 10 metres above ground; and/or
- b) temperature inversion conditions of up to 3°C/100m and source to receiver gradient winds of up to 2 m/s at 10 metres above ground level.

**Table 2: Maximum Allowable Noise Levels**

Location	Day L <sub>Aeq</sub> 15 mins, dBA	Day L <sub>Aeq</sub> 11 hr, dBA	Evening L <sub>Aeq</sub> 15 mins, dBA	Evening L <sub>Aeq</sub> 4 hr, dBA	Night L <sub>Aeq</sub> 15 mins, dBA	Night L <sub>Aeq</sub> 9 hr, dBA	Night L <sub>A1</sub> , 1 min dBA
Forrester Street (north of site)	54	39	54	39	51	39	59
Karingal Street (west of site)	50	35	50	35	48	35	55

For the purpose of Table 2:

- i) Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays;
- ii) Evening is defined as the period from 6pm to 10pm; and
- iii) Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays.

151M. Noise mitigation measures contained within the report in the document referred to under condition 1c) of this approval shall be implemented, and during night operations, the use of truck mounted cranes for loading and unloading operations shall only be undertaken in the area shielded by site buildings only.

151N. The Proponent shall undertake an **Operational Noise Review** to confirm the operational noise impacts of the compound site. The Review shall be undertaken within six months of the commencement of operation, or as directed by the Director-General.

The Review shall include, but not necessarily be limited to:

- a) noise monitoring, consistent with the guidelines provided in the *New South Wales Industrial Noise Policy* (EPA, 2000), to assess compliance with the operational noise levels identified in Table 2 of this approval;
- b) a description of the methodology, locations and frequencies for operational noise monitoring;
- c) the operational noise levels (including the night-time use of the compound site and activities undertaken) as ascertained by the noise monitoring program;
- d) an assessment of the performance and effectiveness of the applied noise mitigation measures;
- e) details of any complaints received relating to operational noise and vibration impacts; and
- f) identification of any additional feasible and reasonable noise mitigation measures necessary to ensure compliance with operational noise levels, and when these measures would be implemented.

A copy of the Review shall be submitted to the Director-General and Office of Environment and Heritage within 28 days of the report's completion.

### ***Community Information, Consultation and Involvement***

#### *Access to Information*

151O. Subject to confidentiality, the Proponent shall make all documents required under conditions 151I to 151K (inclusive) and 151N of this approval available for public inspection on request.

151P. Prior to the commencement of construction, the Proponent shall, establish and maintain a new website, or dedicated pages within an existing website, for the provision of electronic information associated with the compound site. The Proponent shall, subject to confidentiality, publish and maintain up-to-date information on the website or dedicated pages including, but not necessarily limited to:

- a) a copy of the documents referred to under condition 1c) of this approval, and any documentation supporting modifications to this approval that may be granted from time to time;
- b) a copy of this approval;
- c) a copy of each relevant environmental approval, licence or permit required and obtained in relation to the compound site; and
- d) a copy of each current plan, review or other document required under this approval.

## SCHEDULE 1

**This schedule addresses outstanding operation stage air quality issues. These conditions need to read in conjunction with the Minister for Urban Affairs and Planning's Conditions of Approval issued on 9 December 1997.**

### **Condition 73.**

1. The stack shall be constructed to a minimum height of 35 metres.
2. The final materials and finish of the stack shall be approved by the Director-General.
3. The RTA shall prepare detailed Plans and Specifications for the construction of electro-static precipitators prior to the opening of the tunnel to traffic.
4. Should the results of monitoring required under Condition 75 and from the Community based monitoring station (referred to below) show that the PM<sub>10</sub> contributions from the exhaust stack results in exceedance of the goals specified in Condition 72, the RTA shall install electro-static precipitators within 6 months of the direction by the Director-General (or within other such time as agreed by the Director-General). The RTA shall establish a Protocol outlining procedures for deciding how an exceedance due to the stack will be determined. This Protocol, which is to be made publicly available, shall be developed in consultation with the EPA and the Air Quality Community Consultative Committee and require approval from the Director-General at least 3 months prior to opening the tunnel to traffic .
5. The RTA shall establish a mechanism regarding the potential for complaints about air quality impacts resulting from the stack. If complaints are received from areas where there is a reasonable potential for localised air quality impacts resulting from the stack, independent local monitoring of PM<sub>10</sub> shall be undertaken. Prior to undertaking localised monitoring, the timing and nature of the complaint shall be compared with corresponding in-stack (as specified below) and external monitoring to assess whether there is a reasonable correlation with stack emission levels. Any complainant not satisfied with the RTA's response may raise the concern with the Director-General whose decision on the need for monitoring shall be final. Should monitoring of PM<sub>10</sub> indicate localised exceedance of the goals as specified in Condition 72, the RTA shall immediately undertake such measures to meet the goals, mitigate the concerns of the resident(s) raising the complaint(s), or retro-fit electro-static precipitators
6. Subject to the agreement of the Air Quality Consultative Committee, the RTA shall, within six (6) months of this approval, provide all necessary funding for the establishment of a community based monitoring station to monitor PM<sub>10</sub>, NO<sub>x</sub> and CO. The RTA shall thereafter, on an annual basis, meet all operating costs associated with the station. The community based station is to operate independently from the RTA and all other authorities and its establishment and operation shall be overseen by the Air Quality Community Consultative Committee on behalf of the community. The establishment and operation of the station is to be undertaken in accordance with recognised Australian standards and undertaken by a consultant accredited by NATA. The results of the monitoring shall be quality assured through a NATA accredited process prior to the data being considered as a basis for compliance/auditing purposes. The monitoring results shall be made publicly available. The need for continuation of the community based monitoring station shall be

reviewed by the RTA in consultation with the EPA and the Air Quality Consultative Committee after a period of 3 years. Any recommendations resulting from this review shall require approval by the Director-General prior to implementation.

7. As part of the internal tunnel monitoring system specified in Condition 70, the RTA shall also continuously monitor PM<sub>10</sub> and NO<sub>x</sub> concentrations in the stack. The RTA shall also continuously monitor the temperature and volumetric flow-rate of ventilation air in the stack. The results shall be taken into account for the purposes of assessing compliance with Condition 72. This additional internal monitoring requirement shall be subject to the approval of the Director-General following consultation with the EPA and shall be in place prior to the operation of the tunnel.
8. The RTA shall further investigate, in consultation with the EPA, options of partial ventilation of tunnel emissions at the tunnel portals to achieve energy costs savings as well as more widespread dispersal of emissions. Irrespective of this requirement, any potential emissions from tunnel portals shall not result in ambient air quality near at the nearest residential properties to the portals exceeding the goals specified in Condition 72 nor a CO long term annual average goal of 9 ppm.
9. The RTA shall develop to the satisfaction of the Director-General following consultation with the EPA and within 3 months of this approval, a matrix of emission concentrations (mg/m<sup>3</sup>) for PM<sub>10</sub> and NO<sub>x</sub> and the corresponding volumetric flow rates (m<sup>3</sup>/s) of ventilation air in the stack that are consistent with meeting the ambient air quality goals specified in Condition 72. The tunnel ventilation system must be operated in such a manner that will ensure that the emission concentrations expressed as a function of volumetric flow rate of ventilation air will be met at all times. Compliance with the emission concentrations and corresponding volumetric flow rates of ventilation air shall be determined in accordance with the continuous stack emissions monitoring required in Condition 73, Clause 7 above.
10. The RTA shall also assess and report on the impacts of PM<sub>10</sub> stack emissions at monitoring locations in terms of meeting an annual average goal of 30µg/m<sup>3</sup>.
11. Issues relating to pollution control external to the tunnel during emergencies such as major fires, shall also be addressed in the Emergency Response Plan required under Condition 130.