SCHEDULE 1

LANE COVE TUNNEL AND ASSOCIATED ROAD IMPROVEMENTS

CONDITIONS OF APPROVAL

(INCLUDES MODIFICATION 1)

Contents

Glossary and Abbreviations

The following acronyms and abbreviations are used in this section:

AQCCC	Air Quality Community Consultative Committee
ARI	Average Recurrence Interval
ASS	Acid Sulfate Soils
CBMS	Community Based Monitoring Station
CIP	Community Involvement Plan
CMS	Construction Method Statements
CLG	Community Liaison Group
The Company	The contractor awarded the concession by the Roads and Traffic Authority to construct and operate the Project
Department, the	Department of Planning
Director-General, the	Director-General of the Department of Planning or delegate
Director-General's Report	the report of the Director-General of the Department of Planning
DLWC	NSW Department of Land and Water Conservation
DoH	NSW Department of Health
DoP	NSW Department of Planning (PlanningNSW)
EIS	The *Lane Cove Tunnel and Associated Road Improvements Environmental Impact Statement* prepared for the RTA by Sinclair Knight Merz, dated October 2001.
EMP	Environmental Management Plan
EMR	Environmental Management Representative
EP& A Act	*Environmental Planning and Assessment Act 1979*
EPA	NSW Environment Protection Authority
ESD	Ecologically Sustainable Development
Feasible noise mitigation	For operational noise mitigation, feasible relates to engineering considerations and what is practical to build
ICLR	Independent Community Liaison Representative
LATM	Local Area Traffic Management
LALC	Local Aboriginal Land Council
LCC	Lane Cove Council
LCT	Lane Cove Tunnel and Associated Road Improvements
$L_{Aeq(9\ hour)}$	Equivalent continuous (constant) sound pressure level over a 9 hour period from 10pm to 7am
$L_{Aeq(15\ hour)}$	Equivalent continuous (constant) sound pressure level over a 15 hour period from 7am to 10pm
$L_{Aeq\ (15\ mins)}$	Equivalent continuous (constant) sound pressure level over a 15 minute interval
$L_{A1(1\ minute)}$	Sound pressure level exceeded for 1 per cent of the time measured over a 1 minute interval
$L_{A10\ (15\ mins)}$	Sound pressure level exceeded for 10 per cent of the time over a 15 minute period
Minister, the	Minister for Planning
NATA	National Association of Testing Authorities
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
NH&MRC	National Health and Medical Research Council

NPWS	NSW National Parks and Wildlife Service
PC	personal computer
PMF	Probable Maximum Flood
PM_{10}	Particulate matter with an aerodynamic diameter of less than or equal to 10 microns
$PM_{2.5}$	Particulate matter with an aerodynamic diameter of less than or equal to 2.5 microns
Public Transport	Refers to road-based public transport
PTC	Public Transport Committee
Proponent	Roads and Traffic Authority NSW
Reasonable noise mitigation	Relates to the application of judgement in arriving at a decision taking into account: ▪ Noise mitigation benefits (noise reduction provided, no. of people protected) ▪ Mitigation cost (cost versus benefit provided) ▪ Community views (aesthetic impacts and community wishes); and ▪ Noise levels for affected land uses (existing and future levels and changes in noise levels)
Relevant Councils	Any one or more of the following Councils as applicable: North Sydney Council, Willoughby City Council, Lane Cove Council, Ryde City Council
Representations Report	The report and appendices prepared by the *Lane Cove Tunnel and Associated Road Improvements Volumes I-III* dated June 2002.
RTA	Roads and Traffic Authority NSW
Sensitive Receptor	Residential, nursing home, hospital or similar
STA	State Transit Authority
Substantial construction	Does not include survey, acquisitions, fencing, test drilling/test excavations, building/road dilapidation surveys, minor surveys, minor clearing except where endangered ecological communities or threatened flora and fauna species would be impacted, establishment of site compounds in generally cleared, highly disturbed or non environmentally sensitive areas, minor access roads, minor adjustments to services/utilities, noise mitigation measures and other minimal environmental/community impact activities
Supplementary information	To be defined following submission of all outstanding information from RTA
SWC	Sydney Water Corporation
TSP	Total suspended particulates
TEOM	Tapered element oscillating microbalance analyser
TNSW	Transport NSW (NSW Department of Transport)
Tunnel	That component of the Project underground between the western portal at Mowbray Road West and the eastern portal to the east of the Pacific Highway interchange, any entrance/exit ramps from the main underground tunnel to the surface used for either construction and/or operation and any excavations required for ventilation including emission and intake.
VOCs	Volatile Organic Compounds
WHO	World Health Organisation

COMMENCEMENT, COMPLIANCE AND CONSULTATION

General

1. The Project shall be carried out in accordance with the Proposal as described in the Environmental Impact Statement (EIS), and as modified by the Representations Report and where relevant:

   (a) the Director-General's Report; and
   (b) the Conditions of this Approval imposed by the Minister.

   Despite the above, in the event of any inconsistency with the Project as described in the EIS, Representations Report, supplementary information and the Conditions of Approval, the Conditions of Approval imposed by the Minister shall prevail.

   These conditions do not relieve the Proponent of the obligation to obtain all other approvals and licences from all relevant authorities required under any other Act. Without affecting the generality of the foregoing, the Proponent shall comply with the terms and conditions of such approvals and licences.

   It shall be the ultimate responsibility of the Proponent to ensure that the Project is carried out in accordance with the EIS and as modified by the Representations Report and supplementary information, and that full compliance with all Conditions of Approval granted by the Minister is achieved.

2. The Proponent shall notify the Director-General and all relevant authorities in writing of Project commencement both in terms of 'construction', 'substantial construction' and opening of the Project to traffic at least four (4) weeks prior to the relevant commencement date.

3. The Tunnel, Falcon Street ramps and Gore Hill Freeway widening shall be opened to traffic concurrently.

Compliance

General

4. The Proponent shall comply with, 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 shall 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 shall ensure that these instructions are implemented to the satisfaction of the Director-General within such time as the Director-General may specify.

Pre-Construction Compliance Report

5. The Proponent shall submit a compliance report detailing compliance with all relevant conditions that apply prior to commencement of substantial construction. The report shall be submitted to the Director-General for approval at least one (1) month prior to commencement of substantial construction. The Pre-construction compliance report shall address:

   (a) the dates of submissions of the various studies and/or requirements of various relevant conditions, and their approval and terms of approval; and
   (b) action taken and/or proposed to implement the recommendations made in terms of approvals and/or studies.

Pre-Operation Compliance Report

6. At least one (1) month prior to commencement of operation of the Project, the Proponent shall submit to the Director-General a compliance report detailing compliance with all relevant conditions that apply prior to commencement of operation and shall include:

   (a) results of environmental monitoring during construction required under this Approval including interpretation and discussion by a suitably qualified person;
   (b) a record of all complaints and the action taken to mitigate all such complaints;
   (c) recommendations in regard to compliance issues; and
   (d) action taken and/or proposed to implement the recommendations made in terms of approvals and/or studies.

   The period of one (1) month referred to in this condition above may be altered as agreed by the Director-General.

> *Note: The Director-General shall provide a response to Conditions 5 and 6 within one (1) month of receipt of all relevant information from the Proponent assuming receipt of adequate and sufficient information. If a request is made by the Director-General for additional information, the period of time that elapses between the date on which the Proponent receives the request and the date on which the additional information is provided to the Director-General shall not be taken into account in the 1 month period referred to. Any requests for additional information shall be made by the Director-General within 2 weeks of receipt of all relevant information from the Proponent.*

Environmental Impact Audit Report

7. An Environmental Impact Audit Report shall be submitted to the Director-General, one (1) year, five (5) years from opening of the Project to traffic or at any time as requested by the Director-General within the first ten (10) years of operation. The environmental impact audit report shall be prepared by an independent person(s) or organisation approved by the Director-General and paid for by the Proponent. The Report shall assess the key impact predictions made in the EIS, Representations Report and supplementary information and detail the extent to which actual impacts reflect the predictions during the first 12 months of operation and any other periods as required. The Report shall provide details on actual versus predicted impacts for all key issues identified in the EIS. The suitability of implemented mitigation measures and safeguards shall also be assessed. The Report shall also assess compliance with the Operational EMP.

   The Report shall 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 and shall be made available to any member of the public upon request. The Proponent shall comply with all reasonable requirements of the Director-General or any determining authority with respect to any reasonable measure arising from, or recommendations in, the report.

Dispute Resolution and Complaints Procedures

8. The Proponent shall endeavour to resolve any dispute between or with relevant public authorities arising out of the implementation of these conditions of approval. Any matters which cannot be resolved shall be referred firstly to the Chief Executives and Directors of the agencies involved. If the matter cannot be resolved then it shall be referred to the Minister for resolution. The Minister's resolution of the disagreement shall be final and binding on all parties.

Nothing in this condition shall prevent, limit or restrict any statutory requirements under any legislation.

9. Prior to the commencement of construction, the Proponent shall establish and publicise a 24 hour toll-free complaints contact telephone number. The aim of the complaints line is to enable any member of the general public to reach a person who can arrange appropriate response/corrective action to the complaint within two hours during all times construction activities occur.

10. The Proponent shall record details of all complaints received during construction and ensure that at least a verbal response on the action(s) to be taken is provided to the complainant within 2 hours during all times construction activities occur (unless the complainant agrees otherwise) and a detailed written response within seven (7) calendar days. Information on all complaints received and response times shall be made available to the EMR daily and on request to the Director-General and relevant government agencies. The Proponent shall nominate an appropriate person(s) to receive, log, track and respond to complaints within the specified timeframe. The name and contact details of this person(s) shall be provided to the relevant Council(s), the Director-General and relevant agencies upon appointment and at least one week prior to the commencement of substantial construction or upon any changes to the appointment.

Communication and Consultation

Advertisement of Activities

11. As soon as practicable from the date of this approval, the Proponent shall inform all relevant residents and businesses by way of brochure of any physical changes to the concept design of the Project made since the exhibition of the PAR including the potential locations of the air intake and changes a the intersection with Willoughby Road

    At least one month prior to substantial construction the Proponent shall inform all relevant residents and businesses of the final location for air intakes or physical changes to the Project.

12. Prior to the commencement of construction, and then at three-monthly intervals, the Proponent shall advertise in relevant local newspapers, the nature of works proposed for the forthcoming three (3) months, the areas in which these works are proposed to occur, the hours of operation and a contact telephone number.

    The Proponent shall ensure that the local community, businesses and public transport operators are kept informed (by appropriate means such as: local newsletters, leaflets, newspaper advertisements, community notice boards and the Project internet site to be established in accordance with Condition 13 of the progress of the Project, including any traffic disruptions and controls, construction of temporary detours and work required outside the standard construction hours, including noisy works, prior to such works being undertaken.

13. The Proponent shall establish a Project internet site prior to the commencement of construction and maintain the internet site until at least 12 months after commencement of operation of the Project or as long as required for updating operational air quality and traffic monitoring results. The internet site shall as a minimum contain monthly work progress and consultation activities updates, including but not limited to:

    (a) a description of relevant approval authorities and their areas of responsibility;
    (b) a list of environmental management reports that are publicly available and the executive summaries of those reports;

(c) minutes of Community Liaison Group(s) meetings (refer to Condition 14);
(d) bi-monthly newsletters consistent with Condition 12;
(e) contact names and phone numbers of Project communications staff;
(f) 24 hour toll-free complaints contact telephone number, established in accordance with Condition of Approval No. 9;
(g) reporting of complaint management details including nature of complaints and how the complaint was addressed, analysis of complaints over time;
(h) a means of lodging complaints over the internet; and
(i) a means of asking questions for feedback

Work progress, construction activities and planned work schedule shall be provided and updated more frequently where significant changes in noise impacts are expected.

Note:
The intent of this condition is to ensure that information about the project is provided on the Internet and can be accessed by the general public. The Internet site could be established as a link from the Proponent's existing website or as a project specific site.

Community Liaison Groups

14. The Proponent shall establish appropriate representative Community Liaison Group(s) to the satisfaction of the Director-General and in accordance with the Community Involvement Plan required under Condition 15, having considered the Guidelines for the Establishment of the Community Liaison Group(s) (see Attachment 1). The number of groups to be established shall consider the various construction stages and sections of the Project as applicable. The Proponent shall:

(a) ensure that the first meeting is held prior to substantial construction;
(b) allow the Group(s) to make comments and recommendations about construction progress and implementation and the environmental management plan and sub plans, monitor compliance with these conditions of approval and other matters relevant to the operation of the Project;
(c) ensure that the Group(s) have access to the necessary plans and information for such purposes;
(d) consider the recommendations and comments of the Group(s) and provide a response to the Groups and Director-General;
(e) ensure that the Community Liaison Group(s) and the Air Quality Community Consultative Committee required by Condition 158 shall be appropriately co-ordinated in terms of nominees, issues covered by each committee and updates from the Air Quality Community Consultative Committee to the Community Liaison Group(s);

The Proponent shall bear all costs associated with the establishment and ongoing function of the Group(s).

Community Involvement Plan

15. The Proponent shall prepare a Community Involvement Plan for the construction period, to be initiated by commencement of construction. The Community Involvement Plan shall set out the community consultation procedures for the Project, which shall comply with the obligations under the approval from the Minister, these Conditions, other approvals, licences and permits. The Community Involvement Plan shall also include:

(a) identification of the local community likely to be affected by the Project, including identification of residences, businesses and other sensitive land uses;
(b) procedures for the establishment and functioning of the Community Liaison Groups in accordance with Condition 14;
(c) procedures for informing affected road network users of planned traffic arrangements including temporary traffic switches;
(d) procedures for informing the local community of planned investigation and construction activities;
(e) provisions for dealing with complaints (particularly night time) and response requirements as specified in Conditions 9 and 10;
(f) provision for the Proponent's attendance and participation in all groups and public meetings forming part of the Community Involvement Plan; and
(g) the provision of training for all employees and sub-contractors on the requirements of the Community Involvement Plan.

Independent Community Liaison Representative

16. The Proponent shall nominate a person(s), to be approved by the Director-General, to serve as the Independent Community Liaison Representative(s) (ICLR). The role of the ICLR shall include but not be limited to:

(a) attending and chairing Community Liaison Group meetings;
(b) consulting with the Proponent with regard to consultation strategies;
(c) being available for direct contact by the community during standard construction hours and periods of significant noise generating activities as outlined in the Construction Noise and Vibration Management Sub Plan (Condition 57); and,
(d) to the greatest extent practicable, resolve community complaints.

The ICLR shall:

(a) be experienced in mediating disputes; and
(b) contact the EMR immediately if, in the opinion of the ICLR, an unacceptable noise or other impact is being generated.

The Proponent shall bear the cost of employment of the ICLR.

Display Centres

17. At least one (1) display centre shall be established, staffed and maintained at least until opening of the LCT to traffic. The ICLR shall be based at a display centres. The display centre(s) shall be open at least between 10:00 am and 6:00 pm on business days and between 10:00 am and 1:00 pm on Saturdays. Up-to-date photographs, diagrams, engineering drawings, technical reports, samples and other suitable material shall be provided at each display centre, covering at least:

(a) noise and retaining wall locations, details and finishes;
(b) landscape concept, cross section treatments, perspective views and details;
(c) buildings;
(d) bridges;
(e) tunnels;
(f) overall architectural and landscape design theme;
(g) ventilation technology and ventilation stack design; and
(h) temporary works affecting businesses, residences, pedestrians and public transport users.

A dedicated PC internet access point to the Project internet site shall be provided at each display centre. A phone line shall be provided from one display centre to the centre where the ICLR is based if more than one display centre is established.

ENVIRONMENTAL MANAGEMENT AND MONITORING

Environmental Management Representative

18. The Proponent shall nominate a person(s) to serve as the Environmental Management Representative (EMR) for the Director-General's approval at least three (3) months prior to substantial construction. In considering the appointment, the Director-General shall take into account:

(a) the qualifications and experience of the EMR including demonstration of understanding and application of AS/NZS ISO 14012:1996 Guidelines for Environmental Auditing : Qualification Criteria for Environmental Auditors;
(b) the role and responsibility of the EMR; and,
(c) the authority and independence of the EMR from the Company or any construction contractor, including details of the Proponent's and or the Company's internal reporting structure. This shall include the authority to stop work immediately if, in the view of the EMR, an unacceptable impact is occurring and/or likely to occur or to require other reasonable steps to be taken to avoid or minimise any adverse impacts.

The EMR shall have responsibility for:

(i) considering and advising the Company and/or Proponent on matters specified in the Conditions of Approval and compliance with such;
(ii) certifying the environmental/community impacts as minor for all activities defined by the Proponent as not constituting substantial construction;
(iii) reviewing and approving the Project induction and training program for all persons involved in construction activities and monitoring implementation;
(iv) periodically monitoring the Proponent's environmental activities to evaluate the implementation, effectiveness and level of compliance of on-site construction activities with the EMP and associated plans and procedures, including carrying out site inspections at least fortnightly at all active sites;
(v) providing monthly project construction updates to the Department;
(vi) certify audits in accordance with Condition 23 and undertake informal audits/checks to ensure adequacy of environmental management measures;
(vii) recording and providing a written report to the Proponent of non-conformances with the EMP and requiring the Proponent to implement mitigation measures to avoid or minimise any adverse impacts on the environment or reporting required changes to the EMP;
(viii) requiring the Proponent to take all steps necessary to avoid or minimise an unacceptable impact on the environment such as an immediate halt to work in the vicinity of the impact and/or the implementation of mitigation measures;
(ix) reviewing corrective and preventative actions to ensure the implementation of recommendations made from the audits and site inspections;
(x) reviewing revisions to the EMP and CMS;
(xi) providing reports to the Department on matters relevant to the carrying out of the EMR role as necessary including notifying the Director-General of any stop work notices; and

(xii) certify the Construction and Operational EMPs in accordance with Conditions 20 and 24 respectively.

The EMR shall immediately advise the Proponent and the Director-General concurrently of any major issues resulting from the construction of the Project.

The EMR shall be available for contact during all time construction activities are occurring at the site(s) and be present on-site during any critical construction activities as defined in the relevant Environmental Management Plan (EMP), Sub Plans or Construction Method Statements (CMSs).

Environmental Management System

19. The Proponent shall appoint construction and/or operation head contractors (the Company) that have an Environmental Management System 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.

Construction Framework Environmental Management Plan

20. At least one (1) month prior to the commencement of substantial construction, a Construction Framework Environmental Management Plan (EMP) shall be prepared, following consultation with the EPA, DoH, DLWC, STA, relevant councils and all relevant utility/service providers. The Construction Framework EMP shall be prepared in accordance with the conditions of this approval, all relevant Acts and Regulations and accepted best practice management Sub Plans.

The Construction Framework EMP shall require approval by the Director-General prior to the commencement of substantial construction or within such time as otherwise agreed to by the Director-General. The Construction Framework EMP shall be certified by the EMR as being in accordance with these Conditions of Approval and all undertakings made in the EIS and Representations Report, prior to seeking the approval of the Director-General.

Note: The Director-General shall provide a response to the Construction Framework EMP within one (1) month of receipt of all relevant information from the Proponent assuming receipt of adequate and sufficient information. If a request is made by the Director-General for additional information, the period of time that elapses between the date on which the Proponent receives the request and the date on which the additional information is provided to the Director-General shall not be taken into account in the 1 month period referred to.

The Construction Framework EMP shall include, but not be limited to:

(a) reference and proposed timeframes for all Sub Plans required under this Approval;
(b) the role of the EMR;
(c) details of the ICLR and interaction of the EMP with the Community Involvement Plan required in Condition 15;
(d) definition of the role, responsibility, authority, accountability and reporting of personnel relevant to compliance with the Construction Framework EMP;
(e) a matrix of Construction Method Statements (CMSs) required to construct the Project, including an assessment of the predicted level of environmental risk and potential level of community concern posed by each CMS and indicative timeframes for completion; and,
(f) propose a response timeframe for all CMSs to be approved by the Director-General.

The Construction Framework EMP shall be made available to any member of the public upon request.

Construction Method Statements

21. The Proponent shall prepare Construction Method Statements (CMS) in accordance with the Construction Framework EMP required by Condition 20 and in consultation with relevant government agencies and CLGs. The Director-General shall nominate the CMSs that shall be submitted by the Proponent for approval. Those CMSs not requiring the Director-General's approval shall require the certification of the EMR as being in accordance with the Conditions of Approval and all undertakings made in the EIS and Representations Report. Any CMS to be approved by the Director-General shall be submitted to the Department following certification by the EMR and no less than one (1) month prior to the proposed commencement of the relevant construction activities.

    Each CMS shall include, but not be limited to:

    (a) construction activities and processes associated with the relevant construction site(s), including staging and timing of the proposed works;
    (b) specific hours of operation for all key elements including off-site movements;
    (c) specific environmental management objectives and strategies for the main environmental system elements and include as applicable, but not be limited to: noise and vibration; air quality; water quality; erosion and sedimentation; access and traffic including public transport changes; property acquisition and/or adjustments; indigenous and non indigenous heritage; groundwater; acid sulfate soils, spoil stockpiling and disposal; waste/resource management; weed management; flooding and stormwater control; geotechnical issues; visual screening, landscaping and rehabilitation; hazards and risks; energy use, resource use and recycling; and utilities; and
    (d) 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 other authorities and stakeholders, and key legislation and policies which control the Proponent's construction of the Project;
        (ii) measures to avoid and/or control the occurrence of environmental impacts;
        (iii) measures (where practicable and cost effective) to provide positive environmental offsets to unavoidable environmental impacts;
        (iv) definition of the role, responsibility, authority, accountability and reporting of personnel relevant to compliance with the CMS;
        (v) site specific environmental management techniques and processes for all construction processes which are important for the quality of the environment in respect of permanent and/or temporary works;
        (vi) site specific monitoring, inspection and test plans for all activities and environmental qualities which are important to the environmental management of the Project, including performance criteria, tests, and protocols (*e.g*. frequency and location);
        (vii) identification of affected residents and consultation/notification requirements;
        (viii) locational details of important elements such as temporary noise barriers; sedimentation basins and facilities; detention basins; portable offices and amenities; truck, plant and materials storage; access locations; provision of site hoardings etc;
        (ix) 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;

(x) steps the Proponent intends to take to ensure that all Plans and Sub Plans are being complied with;
(xi) consultation requirements with relevant government agencies; and
(xii) community consultation and notification strategy (including local community, businesses, relevant government agencies, public transport operators and all relevant Councils), and complaint handling procedures.

Specific requirements of the main environmental system elements referred to in (c) shall be as required under the conditions of this approval and/or as required under any licence or approval. All CMSs shall be publicly available upon request.

Environmental Monitoring – Construction

22. The Proponent shall submit to the Director-General a report(s) in respect of the environmental performance of the construction works and compliance with the Construction Framework EMP, all relevant CMSs and any other relevant conditions of this approval. The reports shall be prepared six (6) months after the start of substantial construction and thereafter at six (6) monthly intervals or any other period as requested by the Director-General to ensure adequate environmental performance over the duration of the construction works. The reports shall be submitted not more than four (4) weeks after the preceding six (6) month period. The report(s) shall include, but not be limited to, the following information:

(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 environmental monitoring results;
(e) number and details of any complaints, including summary of main areas and issues of complaint, action taken, response given and intended strategies to reduce complaints of a similar nature; and
(f) any other matter relating to the Proponent's compliance with the conditions of this approval or as requested by the Director-General.

The report(s) shall be provided to the EPA, relevant Councils and any other relevant government agency nominated by the Director-General. The report(s) shall also be made publicly available.

23. The Proponent shall ensure that it has an internal compliance audit system and that internal audits are undertaken monthly and certified by the EMR every three (3) months to ensure compliance with the EMP, the conditions of this approval and all other relevant licences and approvals. Each audit must be completed and provided to the Director-General within four (4) weeks of the end of the preceding three (3) month period.

Operational Environmental Management Plan

24. An Operational Environmental Management Plan (OEMP) shall be prepared prior to the commencement of operation. The Plan shall be prepared in consultation with the EPA, DLWC, DoH, STA, relevant Councils, and any other relevant government agency nominated by the Director-General. The Plan shall be prepared in accordance with the conditions of this approval, all relevant Acts and Regulations and accepted best practice management Sub Plans.

The OEMP shall be submitted to the Director-General for approval a minimum of one (1) month prior to opening of the Project to traffic or within such time as otherwise agreed to by the Director-General. The OEMP shall be certified by the EMR as being in accordance with the Conditions of Approval prior to seeking approval of the Director-General. Opening of the Project to traffic shall not be permitted prior to the approval of the OEMP unless otherwise agreed by the Director-General.

> *Note: The Director-General shall provide a response to the Operational EMP within one (1) month of receipt of all relevant information from the Proponent, assuming receipt of adequate and sufficient information. If a request is made by the Director-General for additional information, the period of time that elapses between the date on which the Proponent receives the request and the date on which the additional information is provided to the Director-General shall not be taken into account in the 1 month period referred to.*

The OEMP shall 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) sampling strategies and protocols to ensure the quality of the monitoring program, including the specific requirements of DLWC, relevant Australian Standards and relevant EPA Guidelines;
(c) 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 a description of potential site impacts, performance criteria, specific tests and monitoring requirements, protocols (*e.g.* frequency and location) and procedures to follow;
(d) steps the Proponent intends to take to ensure compliance with all plans and procedures;
(e) consultation requirements, including relevant government agencies, the local community and Council(s), and complaints handling procedures; and
(f) strategies for the main environmental system elements including, but not limited to: noise; water quality; erosion and sedimentation; access and traffic; groundwater; settlement; waste/resource management/removal/disposal; hydrology and flooding; visual screening, landscaping and rehabilitation; hazards and risks; and energy use, resource use and recycling.

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

The OEMP shall be made available to the public upon request.

25. All sampling strategies and protocols undertaken in accordance with the Operational EMP shall include a quality assurance/quality control plan and shall be approved by an independent auditor to ensure the effectiveness and quality of the monitoring program. Laboratories to be used for any individual analysis must be accredited by NATA (or other accreditation body as appropriate) for that analysis.

ENVIRONMENTAL, ECONOMIC AND SOCIAL ISSUES

Construction Traffic

26. A road dilapidation report shall be prepared prior to commencement of substantial construction and after construction is complete for all non-arterial roads likely to be used by construction traffic. A copy of the report shall be provided to relevant Councils. Any damage resulting from the construction of the Project, aside from that resulting from normal wear and tear shall be repaired at the cost of the Proponent.

27. The Proponent shall consult with relevant Councils to develop management techniques for construction traffic on local roads, prior to commencement of substantial construction. The Proponent shall monitor the use of local roads by construction heavy vehicle traffic in consultation with relevant Councils and shall consult with relevant Councils to develop measures to minimise and/or restrict use of local roads by heavy vehicle traffic.

> *Note: Nothing in Conditions 26 or Condition 27 shall be taken as restricting the Proponent from negotiating an alternative payment for damage to local roads with relevant Councils, subject to the agreement of relevant Councils.*

Construction Stage

28. The Proponent shall ensure that access to all properties is maintained during construction and following opening of the Project to traffic. The Proponent shall ensure that any access affected by the Project is reinstated to an equivalent standard or that adequate compensation is negotiated with the relevant landowner(s).

29. The Proponent shall prepare a Framework Construction Traffic Management Plan for overall traffic arrangements during the full construction period. The Plan shall include, with respect to the Project as a whole:

    (a) cumulative impacts of multiple construction sites and other major construction including the Parramatta Rail Link;
    (b) measures to manage traffic flows through and surrounding the Project and spoil disposal sites, including regulatory and direction signposting, line marking and variable message signs; and
    (c) identify any mitigation measures to improve the efficiency of traffic conditions.

    The Plan shall take into account both local and regional traffic impacts and shall at all stages maintain existing priority and running times to public transport, bicycles and pedestrian movements. The Plan shall be prepared by an experienced traffic/transport planner in consultation with the TNSW, PTC, STA, relevant councils and shall be approved by the RTA (Transport Management Centre) prior to substantial construction commencement.

30. The Proponent shall prepare individual Traffic Management Plans (TMPs) for each construction site in accordance with the Framework Construction Traffic Management Plan required by Condition 29 and in consultation with relevant local councils and other agencies, prior to commencement of substantial construction affecting that area. The individual TMPs shall be incorporated into the relevant Construction Method Statements required under Condition 21. The individual TMPs shall include, but not be limited to:

    (a) impacts on all existing traffic (including pedestrians, public transport, vehicles, cyclists and disabled persons), including the staging of construction works to minimise road closures and delay or detours to traffic;

(b) access to construction sites and site compounds, including minimising the disruption from construction vehicles entering and leaving construction sites and site compounds;
(c) provision of staff parking within compounds wherever possible;
(d) any changes to existing number and width of traffic lanes;
(e) maximum and average truck volumes and expected hourly distribution;
(f) truck ingress and egress routes;
(g) entry/exit locations;
(h) nature of loads and materials;
(i) road safety audits for all construction access routes;
(j) temporary traffic arrangements, including the identification and advertisement of alternative routes;
(k) minimise heavy vehicle queuing and parking on public roads during standard construction hours and no queuing or parking outside standard construction hours as defined in Condition 61;
(l) provision of barriers between working and trafficked areas;
(m) the impact on pedestrian and bicycle facilities, including measures to ensure safe pedestrian and cycle routes and access at all times, and the provision of alternative facilities and locations for pedestrians and cyclists;
(n) the provision of safe and convenient access to all bus stops;
(o) signposting;
(p) access to side streets;
(q) access to adjoining properties, which would be maintained at all times wherever practicable;
(r) road or lane closures;
(s) the use of cranes on public roads;
(t) deliveries to construction sites and site compounds;
(u) a response plan which sets out the proposed response to any traffic, construction or other incident; and
(v) appropriate review and amendment mechanisms.

TMPs shall be certified by an experienced traffic/transport planner engaged in accordance with Condition 31 and approved by the RTA Transport Management Centre and the relevant Council traffic management committees.

31. The Proponent shall engage an experienced traffic/transport planner who shall be engaged throughout the construction stage on an "as needs" basis to advise on implementation issues and amendments and as a key liaison contact for the relevant local Councils and public transport operators.

32. The Proponent shall investigate the provision of bus pick-up and drop-offs from a central location(s) for each shift and car-pooling mechanisms to minimise worker traffic generation and parking requirements during construction. The Proponent shall incorporate any recommendations for this investigation into the relevant TMPs.

Regional Traffic

33. The Proponent shall ensure adequate monitoring of the local and regional road network is conducted prior to the opening of the Project to provide an appropriate baseline for measuring any future impacts resulting from the operation of the Project as part of the impact verification required under Condition 7. Key impact verification shall include traffic volumes on approach and departure routes, Reserve Road (north and south of the Gore Hill Freeway), Falcon

Street/Military Road, Ernest Street, Pacific Highway, Longueville Road/Epping Road (surface), Mowbray Road West and East, Pittwater Road, Badajoz Road, Wicks Road and all other roads where substantial increases or decreases were predicted in the EIS and/or Representations Report. Impacts on bus travel times on these roads (where relevant) shall also be monitored. The Proponent shall consult with and take into account comments from relevant Council(s) and bus operators regarding the methodology and timing of the study.

Twelve (12) months after opening, the Proponent shall monitor morning and evening peak hour traffic levels for a period of one (1) week. Should monitoring indicate traffic intrusion on these roads/streets 10% or greater than that predicted in the EIS and Representations Report as a result of the operation of the Project, the Proponent shall also prepare and implement additional traffic management measures consistent with Condition of Approval No. 37 to mitigate the impacts of intrusive traffic in the affected areas following consultation and agreement with the relevant Council(s) and consultation with the local communities and the STA.

34. As a specific requirement under Condition 33, the Proponent shall also investigate measures to improve vehicular access to Chatswood by arterial roads such as the Pacific Highway and to discourage use of Reserve Road and other local roads through Artarmon, particularly where LATM measures are already in place. The investigations shall be undertaken in consultation with Willoughby City Council, Parramatta Rail Link, STA and the relevant CLG. Recommendations as a result of investigations shall require the approval of the Director-General.

35. The Proponent shall monitor morning and evening peak hour traffic levels for a period of one (1) week (outside of school holiday periods), 12 months after opening and then every two (2) years for ten (10) years or for a shorter period as agreed to by the Director-General should monitoring indicate traffic levels close to those predicted. The monitoring shall occur across the western and eastern screenlines, as defined in Working Paper 4 of the EIS, and in the Lane Cove Tunnel. The results of this monitoring shall be compared to levels predicted in the model used for the EIS and forwarded to the Department and PTC within one (1) month of monitoring and made publicly available.

36. Should the monitoring required as part of Condition 35 indicate substantial change to the EIS predicted regional traffic flows, the Proponent shall take appropriate measures to address the resulting impacts where such impacts are substantially attributable to the Project.

> *Note: The intention of Conditions 35 and 36 is to ensure that the key project objectives are met and are not significantly reduced through induced traffic.*

Local Traffic

37. The Proponent shall prepare a Local Area Traffic Management (LATM) Plan(s) at least six (6) months prior to the opening of the Project to traffic for the approval of the Director-General. The LATM Plan shall be prepared in consultation with the TNSW, STA, NSW Police, Emergency Services, relevant local Councils (including traffic management committees), bicycle groups and affected communities and businesses. The objectives of the LATM Plan shall be to:

    (a) Identify reasonable measures to mitigate the impact of significant increases in traffic on local roads that result from the operation of the Lane Cove Tunnel. The LATM shall particularly address the following areas, as identified in EIS Working Paper 4:

(i) Lane Cove including Mowbray Road West and Centennial Avenue north;
(ii) North Ryde including Pittwater Road, Badajoz Road and Wicks Road;
(iii) Artarmon, including Reserve Road, Jersey Road, Hampden Road and Barton Road, and
(iv) Crows Nest and St Leonards including key connecting roads to the Pacific Highway.

(b) Identify reasonable measures to maintain and enhance the benefits of significant reductions in traffic volumes on Mowbray Road West and other local roads directly influenced by the opening of the Project. These measures may be designed to benefit all road users, including pedestrians, cyclists, public transport as well as general traffic.

The installation of the identified measures shall be fully funded by the Proponent.

38. Prior to the operator collecting any toll, the Proponent shall have in place, to the greatest extent practicable, an implementation program for the necessary LATM measures referred to in Condition 37. Despite the above, the implementation of such measures including any associated construction works shall be fully completed within 12 months of commencement of toll collection. Any extension of time for the full implementation of the LATM Plan shall specifically require the approval of the Director-General following consultation by the Proponent with the relevant local councils.

39. The Proponent shall undertake Road Safety Audits during both detailed design of the Project and prior to opening (*i.e*. 2 audits).

Pedestrian and Cyclist Access

40. The Proponent shall maintain safe pedestrian and cyclist access to the fullest extent possible during construction. In circumstances where pedestrian access around construction sites is not possible due to construction activities, the Proponent shall ensure that a satisfactory alternate route is provided and signposted.

41. The Proponent shall in consultation with the PTC develop measurable performance indicators for pedestrian walk times at key pedestrian crossing locations (e.g. Delhi Road/Epping Road, Longueville Road/Epping Road intersection including Little Street, Centennial Avenue, Mowbray Road and Merlin Street) occurring as a result of the Project. The performance indicators at these crossing locations shall be reviewed one (1) and two (2) years after opening of the Project to traffic. The Proponent shall, at its own expense, implement any measures as reasonably required by the PTC.

42. A safe, high quality and contiguous cyclist/pedestrian path(s) shall be provided for recreational and commuter cyclists and for pedestrians for the length of the Project. Details of the provisions for cyclists shall be developed through the preparation of a detailed Cycleway and Pedestrian Plan which shall be prepared in consultation with Bicycle NSW, local councils, relevant bicycle user groups, NSW Health and the CLGs.

The Cycleway and Pedestrian Plan shall also include:

(a) a detailed description of the proposed design including all connections to surrounding roads, streets and paths;
(b) lighting, where appropriate;
(c) safety including safe crossings for pedestrians and those accessing bus stops and security;
(d) linemarking and signage to separate cyclists from pedestrians in accordance with signposting directions from the RTA in relation to all shared paths;
(e) maintenance;

(f) consideration of links to existing and future planned cycle networks, roads and paths and potential linkages; and
(g) landscaping in accordance with the Urban Design and Landscape plan to be prepared in accordance with Condition 86 and 87.

The Cycleway and Pedestrian Plan shall be submitted to the Director-General and require the approval of the Director-General within an appropriate timeframe to ensure that the approved cycleway and pedestrian path is opened to cyclists and pedestrians no later than completion of works on Epping Road.

43. All cycleway/pedestrian path elements resulting from the Cycleway and Pedestrian Plan shall be designed and constructed in accordance with Austroads *Guide to Traffic Engineering Practice Part 14 – Bicycles* and other relevant reference documents.

Air Quality – Construction Dust Management

44. A detailed Construction Dust Management Sub Plan shall be prepared in consultation with the EPA. The Sub Plan shall detail the procedures for the management of dust emissions from the Project. The Sub Plan shall include, but not be limited to:

(a) identification of potential sources of dust deposition;
(b) monitoring (by sampling and obtaining result by analysis);
(c) details of mitigation measures to be implemented during normal operations and during periods of extreme climatic conditions where high level dust episodes are likely to occur;
(d) establishment of a protocol for handling dust complaints that includes recording, reporting and acting on complaints; and
(e) a reactive management program detailing how and when operations are to be modified to minimise the potential for dust emissions, should emission levels exceed the criteria.

Except in the case of Moore Street, as specified in Conditions 250 and 251, the maximum acceptable increase over existing dust deposition is 2 g/m^2/month annual average. Monitoring shall be carried out during the construction phase of the Project to assess compliance with goals for dust concentration and deposition rates.

45. Prior to substantial construction commencing, dust sensitive land uses/industries shall be identified and consulted and mitigation measures implemented in accordance with Construction Dust Management Sub Plan. Background monitoring of dust and TSP shall be undertaken prior to commencement of substantial construction.

46. The Proponent shall undertake a regular dust monitoring program in accordance with the Construction Dust Management Sub Plan.

47. Wheel wash facilities or equivalent shall be constructed at exit points of all unsealed construction sites/compounds to ensure that any vehicles leaving the sites do not track materials onto public roads.

48. No open burning or incineration shall be permitted at any construction site.

Public Transport Enhancement Measures

49. Three (3) months prior to substantial construction the Proponent shall establish a Lane Cove Tunnel Public Transport Committee (PTC) to be chaired by TNSW.

The PTC shall invite representatives from, but not limited to, the RTA, NSW Police Service, STA, relevant private bus operators and TNSW. The PTC shall also consult with the relevant council(s).

The Proponent shall provide appropriate financial and administrative assistance to ensure appropriate resourcing of the PTC and the implementation of any measures as determined by the PTC.

The PTC shall continue for at least two (2) years after the opening of the Project unless otherwise agreed by the Director-General. Prior to the dissolution of the PTC, the Proponent in consultation with the TNSW shall identify the appropriate transfer of its function.

The key role of the PTC shall be to:

(a) co-ordinate the concerns and interests of the local and state road-based public transport agencies relating to the Project;
(b) ensure adverse impacts of the construction and operation of the Project on public transport are minimised;
(c) develop plans and strategies for maximising short and long term public transport opportunities during construction and operation within the study area, including but not limited to:
    (i) information programs for the public and affected businesses;
    (ii) public transport improvements beyond those already identified as part of these Conditions of Approval but related to the Project, including but not limited to:
        – bus signals;
        – bus priority lanes;
        – enhanced bus services;
    (iii) giving due consideration to pedestrians and cyclists and other users of the study area; and
(d) ensure that any plans and strategies are implemented to ensure that potential benefits to public transport are captured and maintained throughout the construction and operational life of the project.

50. The PTC shall consider the following specific matters as they relate to the study area:

(a) oversee provision of bus priority measures proposed by the RTA in the EIS and Representations Report ;
(b) assessment of the potential bus stop requirements on the Gore Hill Freeway (to provide access to the Artarmon Industrial Area);
(c) bus priority measures on Falcon Street, east of Pacific Highway;
(d) pedestrian access across Epping Road to Delhi Road;
(e) potential for bus priority measures at Pittwater Road, Longueville Road to the Pacific Highway southbound and from Epping Road to Mowbray Road West;
(f) appropriate signage and marking of proposed bus lanes ;
(g) bus and transit lane enforcement measures;
(h) further opportunities for improved bus priority on the Pacific Highway including rationalisation of 'S' lane extensions to proposed bus lanes, need for parking restrictions and treatment of right turns;
(i) review the effectiveness of the T2 lane on the Gore Hill Freeway with a view to upgrading to T3 or bus lanes at 6 months and then every two years after opening
(j) potential for real time bus information at bus stops.

51. The Proponent shall prepare an annual report to the Director-General on the progress and outcomes of the PTC process, including result of communications with relevant local Council(s) and the application of these Conditions of Approval and shall make the report available to the public upon request. The PTC shall take into account any comments/requirements raised by the Director-General.

52. The Proponent shall, in consultation with the PTC, develop measurable performance indicators for bus efficiencies (including consideration of bus timetables), occurring as a result of the Project taking into account existing performance and predictions made in the EIS and Representations Report.

53. The Proponent shall, in consultation with the PTC, monitor and review bus performance against the indicators developed in Condition 52 (including bus timetables) at six (6) months after opening, then after one (1) and two (2) years of operation for key bus services and routes. The monitoring shall include bus services using the Gore Hill Freeway, Epping Road, Pacific Highway and Willoughby Road. The results of the monitoring shall be forwarded to the Director-General. If bus performance does not meet the indicator targets, the Proponent shall initiate, at its own expense, any actions as reasonably required by the PTC or TNSW.

54. Prior to the commencement of substantial construction, a Construction Stage Public Transport Management Plan(s) shall be prepared as part of the Framework Traffic Management Plan in consultation with the STA, and private bus operators and to the satisfaction of the PTC. The Plan shall address the potential impact of construction activities on public transport. The objective of the Plan shall be to achieve at least pre-construction level of service for buses and high occupancy vehicles.

Toll

55. A tolling system shall be implemented which:

    (a) is compatible with the existing standard for electronic tolling adopted throughout Sydney and Australia; and
    (b) makes adequate provision for casual users.

    The Proponent shall install appropriate signs to indicate the toll to be charged for the Tunnel and Falcon Street ramps. These signs shall be placed to allow a motorist to choose an alternative to using the Tunnel and/or Falcon Street ramps after having been advised through the sign(s) referred to above.

56. All buses (including school buses) providing scheduled public passenger transport services, emergency service vehicles responding to emergencies and bicycles shall be exempt from all Project tolls.

> *Note: The intent of this condition is to ensure that local and regional passenger services, including State Transit Authority services and those provided by private bus operators, providing public transport services are not required to pay the toll. This condition is not intended to include long haul intra and interstate coach services. Refer to the Passenger Transport Act 1990 for definitions.*

Noise and Vibration – General

Construction Noise and Vibration Management Sub Plan

57. A detailed Construction Noise and Vibration Management Sub Plan shall be prepared as part of the Construction Framework EMP to the satisfaction of the Director-General and following consultation with the EPA, Council(s) and the CLGs. The Sub Plan shall provide details of noise and vibration control measures to be undertaken during the construction and operation stages, sufficient to address the technical requirements for any EPA approvals/licences. The Sub Plan shall include, but not be limited to:

(a) tests for ascertaining acoustic parameters;
(b) identification of sensitive receivers particularly residents and sensitive equipment.
(c) identification of all noise and vibration generating tasks, duration and predicted airborne noise and vibration levels;
(d) impacts from site compounds/construction depots;
(e) location, type and timing of erection of temporary and permanent noise barriers and/or other noise and vibration mitigation measures;
(f) specific physical and managerial measures for controlling noise and vibration demonstrating how activities would be managed so that relevant EPA guidelines and the conditions of approval are complied with;
(g) a pro-active and reactive strategy for dealing with complaints including compliance with Condition 10, particularly with regard to verbal and written responses;
(h) the need for respite periods;
(i) noise and vibration monitoring, reporting and response procedures;
(j) internal compliance audits of all plant and equipment;
(k) construction timetabling, in particular works outside standard hours, to minimise noise impacts;
(l) procedures for notifying residents of construction activities likely to affect their noise and vibration amenity;
(m) contingency plans to be implemented in the event of non-compliances and/or noise complaints; and
(n) the urban design issues relating to noise and vibration control measures.

With respect to (d) above, the Proponent shall consider the use of a range of structural and non-structural measures during construction including barriers, acoustic treatment of residences, scheduling of construction activities to minimise impacts and temporary relocation of affected residents.

Construction Noise Impact Statements

58. Specific Construction Noise Impact Statements shall be prepared in consultation with relevant government agencies, relevant Councils, CLGs for specific stages of construction consistent with the Construction Noise and Vibration Management Sub Plan and the relevant CMS and shall specifically address each of the major construction sites. The statements shall include:

(a) a description of the proposed processes and activities;
(b) assessment of potential noise from the proposed construction methods including noise from construction vehicles and noise impacts from required traffic diversions;
(c) examination of alternative methods that would potentially reduce noise if the potential noise exceeds the relevant criteria;
(d) description and commitment to work practices which limit noise;

(e) description of specific noise mitigation treatments and time restrictions including respite periods, duration, and frequency (where possible programming of night works over consecutive nights in the same locality shall be avoided);
(f) justification for any activities outside the normal hours specified in Condition of Approval 61;
(g) extent of noise monitoring;
(h) internal noise audit systems including recording of daily hours of construction, progressive impact assessments as work proceeds, conducting informal checks by the EMR, providing active and continuous communication links to relevant Councils, residents etc.;
(i) community consultation and notification;
(j) all feasible measures including adopting the least noisy available construction methods, systems and equipment;
(k) assessment and examination of potential feasible offsite mitigation measures for traffic noise; and,
(l) additional noise mitigation measures as negotiated with affected residents and other sensitive receptors.

Operational Noise Management Sub Plan

59. A detailed Operational Noise Management Sub Plan shall be prepared as part of the Operational EMP, to the satisfaction of the Director-General. The Sub Plan shall provide details of noise and vibration control measures to be implemented during operation which are sufficient to address the requirements of the NSW Government's Environmental Criteria for Road Traffic Noise, the NSW Government's Industrial Noise Policy and the RTA's Environmental Noise Management Manual. The Sub Plan shall include, but not be limited to:

(a) identification of the appropriate operational noise criteria;
(b) tests for ascertaining acoustic parameters;
(c) predicted noise levels at all affected residential, recreational, commercial and industrial land uses;
(d) location, type and timing of erection of permanent noise barriers and/or other noise mitigation measures demonstrating all reasonable and feasible noise mitigation including silencers and building treatments for associated plant rooms and enclosures for exposed plant;
(e) specific physical and managerial measures for controlling noise;
(f) noise monitoring, reporting and response procedures including the monitoring on surrounding roads which experience significantly increased traffic volumes as a result of the Project; and
(g) the urban design issues relating to noise control measures.

60. Monitoring of operational noise shall be undertaken in accordance with the Operational Noise Management Sub Plan prepared in accordance with Condition 59. The Proponent shall, to the satisfaction of the Director-General and in consultation with the EPA, assess the adequacy of the traffic noise and ventilation noise mitigation measures after one (1) year from opening of the Project to traffic and having regard to the criteria specified in the Operational Noise Management Sub Plan. Should assessment indicate a clear trend in traffic noise levels on surrounding roads which exceed the Operational Noise Management Sub Plan defined noise design goals prepared in accordance with the RTA's Environmental Noise Control Manual, the Proponent shall implement further reasonable and feasible mitigation measures in consultation with affected landowners and/or occupiers.

Construction Hours

61. All construction activities, including transportation of spoil, shall be restricted to the hours of 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.

    Works outside these hours that may be permitted except as explicitly specified in other conditions include:

    (a) any works which do not cause noise emissions to be audible at any sensitive receptor;
    (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, property and/or to prevent environmental harm;
    (d) tunnel excavation and other sub-surface activities providing the criteria in Conditions 58 and 62, and regenerated noise criteria in Condition 186 can be met; and
    (e) any other work as agreed by the EPA through licence conditions, the Construction Noise and Vibration Management Sub Plan or Construction Noise Impact Statement process provided local residents are informed of the timing and duration at least 48 hours prior to commencement of the work.

Construction Noise Criteria – General

62. Without limiting any specific site requirements as specified elsewhere in these Conditions of Approval, the Proponent shall ensure that noise from construction activities is limited such that the $L_{A10(15\ min)}$ level does not exceed the background level by more than 5dB(A) at any residence or other sensitive receiver unless specified in the Construction Noise Impact Statement prepared in accordance with Condition 58.

    For the purposes of the noise criteria for this condition, 5dB(A) must be added to the measured level if the noise from the activity is substantially tonal or impulsive in nature in accordance with Chapter 4 of the *NSW Industrial Noise Policy*.

Construction Noise Management

63. The Proponent shall apply best practice, innovative noise mitigation measures, where practicable, including:

    (a) maximising the offset distance between noisy plant items and nearby noise sensitive receivers;
    (b) avoiding the co-incidence of noisy plant working simultaneously close together and adjacent to sensitive receivers;
    (c) minimising consecutive night time works in the same locality;
    (d) orienting equipment away from sensitive areas;
    (e) carrying out loading and unloading away from noise sensitive areas; and,
    (f) selecting site access points and roads as far as possible away from sensitive receivers.

64. Construction noise levels shall be monitored to verify compliance with the Construction Noise and Vibration Management Sub Plan and Construction Noise Impact Statements. Should monitoring indicate exceedances of the criteria stated in the Construction Noise Impact Statements, the Proponent shall consult with the EPA and implement all reasonable and feasible mitigation measures to the satisfaction of the EPA.

65. The Proponent shall ensure that rock breaking, rock hammering, sheet piling, pile driving and any other activities which result in impulsive or tonal noise generation are only scheduled between the following hours unless otherwise permitted under the EPA environment protection licence:

    (a) 8 am to 12 pm, Monday to Friday;
    (b) 2 pm to 5 pm Monday to Friday; and
    (c) 8 am to 12 pm Saturday.

    Where these activities are undertaken for a continuous three (3) hour period and are audible to noise sensitive receptors, a minimum respite period of at least one (1) hour shall be scheduled before activities recommence.

66. The Proponent shall ensure that no public address systems are used at any construction sites outside the standard working hours detailed in Condition 61. Any public address system shall be designed to minimise noise spillage off the site. Speakers shall be installed with their pointing axis directed away from residential buildings and sensitive receptors unless otherwise specified in the Construction Noise Impact Statement referred to in Condition 58.

67. The Proponent shall consult with relevant Council(s) and where practicable, erect operational noise mitigation measures prior to the commencement of substantial construction in order to minimise noise impacts during construction.

68. The Proponent shall use only dampened rock hammers and/or "city" rock hammers to minimise the impacts associated with rock-breaking works.

69. The Proponent shall investigate and apply all feasible noise source controls to reduce noise from all plant and equipment including bulldozers, cranes, graders, excavators and trucks. Examples of appropriate noise source controls could include efficient silencers, low noise mufflers and alternatives to reversing alarms.

70. The Proponent shall ensure that the noisiest activities associated with night time works are scheduled wherever possible to be completed before midnight.

<u>Vibration (and Blasting) Criteria</u>

71. The Proponent shall ensure that vibration, including that generated by any proposed blasting, resulting from construction of the Project is limited to:

    (a) German Standard DIN 4150 and BS 7385: Part 2 – 1993 for structural damage vibration; and,
    (b) British Standard BS 6472 and AS2670 for human exposure to vibration.

    Where there is an inconsistency between these standards, the more stringent criteria shall apply.

72. The Proponent shall ensure that overpressure level resulting from any proposed blasting is limited to 95 dBLin.

73. Unless otherwise agreed by the Director-General, following consultation with the EPA, vibration levels shall not exceed 3 mm/s at the building foundation of heritage buildings and sensitive structures.

74. Prior to commencement of construction activities likely to result in high vibration levels, the Proponent shall identify potential highly sensitive facilities, including scientific equipment, measuring equipment, printing press and the like, where the criteria in Condition 71 may not be adequate. Should such cases arise, the Proponent shall consult with the potentially affected owners and develop appropriate mitigation measures to ensure impacts are acceptable.

Property Matters

Pre-construction

75. The Proponent shall identify all properties to be affected by land acquisition and negotiate with landholders prior to construction commencement and in accordance with the RTA's Land Acquisition Policy. Where a mutually acceptable arrangement cannot be made using this method, the Proponent shall ensure that the acquisition of any land shall be in a responsive and sensitive manner and in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991*. The Proponent shall consult affected landowners prior to and during the property acquisition process in accordance with the requirements of Condition 77. Where compensation is payable the Proponent shall pay for independent valuation and legal advice if so requested.

76. Prior to the commencement of construction, the Proponent shall consult all owners of land affected by acquisition regarding any practicable and cost-effective measures which may be implemented to minimise impacts. These measures shall be completed prior to the commencement of construction or within such time as agreed with the relevant landowner. Access, car parking and safety issues are to be provided particular consideration during this process.

77. The Proponent shall consult, through notification, the owner of any property that is to be adjusted, acquired or from which an easement 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 in adequate advanced time prior to access for construction purposes.

78. Building condition surveys shall be completed on the following buildings/structures at least one (1) month prior to commencement of excavation construction works or may be subject to major vibration or settlement inducing construction activities in the vicinity of such buildings/structures (including basements) subject to the relevant owner or occupier providing access:

    (a) all buildings/ structures on solid rock within 50 metres of the construction works or within a plan distance equal to twice the invert depth from the edge of the tunnel and/or excavation works unless otherwise determined following geotechnical and vibration analysis as certified by a qualified geotechnical engineer as not likely to be adversely affected; and
    (b) any heritage buildings as identified in the Heritage and Archaeology Management Sub Plan required by Condition 100 or other sensitive structures within 100 metres from the edge of the tunnel and/or excavation works unless otherwise determined following geotechnical and vibration analysis as certified by a qualified geotechnical engineer as not likely to be adversely affected.

79. The Proponent shall advise all property owners of buildings to be surveyed, as defined in Condition 78, what the survey will entail and of the process for making a claim regarding property damage prior the commencement of building condition surveys. A copy of the survey shall be given to each affected owner. A register of all properties surveyed shall be maintained by the Proponent and provided to the Director-General upon request.

Construction

80. Prior to substantial construction commencement, the Proponent shall establish an Independent Property Impact Assessment Panel to be approved by the Director-General. Either the affected property owner or the Proponent may refer any unresolved disputes arising from potential and/or actual property impacts to the Panel for resolution. All costs incurred in establishing and implementing the Panel shall be borne by the Proponent.

81. Prior to the placement of appropriate temporary soil anchors and/or permanent rock anchors, the Proponent shall notify all affected property owners of the need for placement of temporary soil 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 any other such construction stage measure does not impose any restrictions on development (existing or proposed) unless otherwise agreed to by the landowner or where acquisition of easement(s) is undertaken in accordance with the *Land Acquisition (Just Terms) Compensation Act 1991.*

82. All temporary soil anchors shall be disconnected and made obsolete as soon as practicable after tunnel construction is completed.

83. Any damage to buildings, structures, lawns, trees, sheds, gardens, bus stops etc. caused by construction activities shall be fully rectified by the Proponent at no cost to the owner(s).

84. 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.

85. Each construction compound shall be reinstated to at least its pre-construction state following completion of construction works for which an individual compound associated with that site are completed. Rehabilitation shall be in accordance with the Framework Urban Design and Landscape Management Plan and any relevant Sub Plans required in accordance with Conditions 86 and 87. Site decommissioning shall include removal of any temporary fencing or temporary noise barriers, construction access and wheel washes etc. not required for safety or any other operational aspect of the Project.

Urban Design and Landscaping

86. A Framework Urban Design and Landscape Plan shall be prepared for inclusion in the Construction Framework EMP for the entire Project. It shall be prepared in consultation with relevant Councils, STA, and other relevant authorities and to the satisfaction of the Director-General prior to substantial construction of Project elements subject to urban design considerations. The Plan shall be prepared by a suitably qualified urban designer. The Plan shall present an integrated urban design proposal.

    The Plan shall include, but not be limited to:

    (a) be presented as an integrated proposal with the final design;
    (b) apply design principles established in the EIS, working paper, Representations Report and supplementary information;
    (c) be in consultation with all relevant land owners, Councils and the local community to the satisfaction of the Director-General; and
    (d) 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 specific features of the Project.

87. Detailed Urban Design and Landscape Sub Plans shall be prepared by a qualified urban designer, at least one (1) month prior to commencement of substantial construction, or as otherwise agreed by the Director-General, to the satisfaction of the Director-General, for the following sections of the Project:

(a) Epping Road between the western side of the Lane Cove River to Wicks Road;
(b) Western portal and Epping Road between the western side of the Lane Cove River and west of Mowbray Road West, including the western tunnel portal;
(c) Epping Road/Longueville Road between Mowbray Road West and the Pacific Highway, including the bus interchange;
(d) Gore Hill Freeway between the Pacific Highway and Reserve Road, including the eastern tunnel portal;
(e) Pacific Highway between Norton Lane and Hotham Road, including the entry and exit ramps and portals;
(f) Gore Hill Freeway between Reserve Road and Meremburn Road, including Willoughby Road underpass with particular reference to the pedestrian/cycleway;
(g) Falcon Street ramps and cantilever pedestrian pathway; and
(h) ventilation stacks, tunnel control facilities and associated infrastructure.

Each Sub Plan shall include consideration of the following (as relevant) in accordance with the Framework Urban Design and Landscape Plan:

(i) built elements including tunnel portals, bridges and other structures, retaining walls, noise walls, toll infrastructure, control buildings, substations;
(ii) motorway and road furniture including safety barriers, kerbs, paving, signage, lighting, medians, emergency phones and breakdown facilities;
(iii) pedestrian and cycle elements including footpaths and paving, pedestrian crossings, street furniture and fixtures (i.e. tree guards, seating, lighting, fencing and signage);
(iv) landscape elements including proposed treatments, finishes and materials of exposed surfaces (including colour specifications and samples);
(v) proposals for community art to be integrated into the Project;
(vi) timing and staging of works, methodology, monitoring and maintenance; and
(vii) impacts on bus stop operations and passenger access.

The Sub Plan(s) shall consist of a report with accompanying annotated plans, sections and perspective sketches, photo montages and other illustrative material at a scale and level of detail which is adequate to convey the specific aspects of the Project as required.

Specific Urban Design Aspects

88. Where practicable, directional signs for the Project shall be accommodated on existing signage.

89. No advertising shall be permitted within the lease area for the Project during construction or operation except at bus stops.

90. A report shall be prepared during detailed design which investigates the location for electronic tolling facilities for both the tunnel and Falcon Street ramps and the use of variable messaging signage for the complete Project. The report shall consider the location, integration, visual impact, urban design features and installation of such facilities and be submitted to the Director-General for approval.

Flora and Fauna

Pre-Construction

91. A detailed Tree Protection Plan shall be prepared to manage construction impacts on any existing trees, including those to be retained with particular regard to Turrumbarra Park and Tantallon Oval and the proposed Moore Street Compound. This plan shall identify any significant trees, based on species or age/size which may be affected during construction and detail appropriate management and impact mitigation measures. Measures to be considered shall include, but not be limited to, fencing, ongoing maintenance, pruning, tree relocation etc.

92. Construction footprints at each construction site and compound shall be surveyed and marked using poly-web fencing or other such measures, prior to the commencement of vegetation clearing. Vegetation clearing shall be limited to within the surveyed construction footprint. No access to construction equipment or personnel shall be permitted outside the surveyed area(s). Fencing (or other alternative measures) shall remain in place until the risk of accidental clearing from construction activity is removed.

93. Cleared vegetation must be reused or recycled on site to the greatest extent practicable. Alternative reuse opportunities shall be sought where material is not required for reuse within the Project and included in the Flora and Fauna Management Sub-Plan as required in Condition 95. No burning of cleared vegetation shall be permitted.

94. Wherever possible, seed of locally native species shall be collected prior to the commencement and/or during construction to provide seed stock for revegetation purposes to the satisfaction of a qualified bushland regenerator. The bushland regenerator shall be used to advise the Proponent on the degree of weed infestation and the suitability of topsoil for regeneration. Where weed infestation deems topsoil unsuitable for regeneration, the material shall be disposed of in an appropriate manner in accordance with the Spoil Management Sub Plan in Condition 120 and be outlined in the Flora and Fauna Management Sub Plan referred to in Condition 95.

95. As part of the Framework Construction EMP, the Proponent shall prepare a detailed Flora and Fauna Management Sub Plan in consultation with the DLWC and NPWS, with particular reference to areas proximal to Lane Cove National Park. The Sub Plan shall be prepared prior to substantial construction and shall include but not be limited to:

    (a) requirements for seed collection;
    (b) strategies for minimising vegetation clearance and protection of vegetated areas outside the direct impact zone;
    (c) maps identifying all native vegetation clearing associated with all construction works
    (d) handling of any fauna;
    (e) controlling impacts due to spills, spread of debris and refuse;
    (f) movement and storage of materials and equipment,
    (g) maps and strategies outlining rehabilitation and revegetation plans for disturbed/cleared areas;
    (h) weed control within the construction site(s) and managing spread of weeds to other areas; and
    (i) ongoing maintenance.

Construction

96. A suitably qualified tree surgeon or arborist shall be present for the duration of excavation works within the vicinity of any significant trees as identified in the Tree Protection Plan required under Condition 91 that are not to be removed or relocated and to undertake any root pruning required. The Proponent shall ensure that the condition of any affected trees is monitored throughout the construction period and for 18 months after opening of the Project to traffic. Any measures necessary to ensure the survival of the trees (e.g. fencing, watering, fertilising) shall be undertaken by a suitably qualified person in accordance with the recommendations of the Tree Protection Plan.

97. Maintenance of all landscaping works provided under the Urban Design and Landscape Plan referred to in Condition 86 and 87 (including the health of all trees) shall be provided for at least two (2) years from the date of opening of the Project to traffic unless alternative arrangements are negotiated with the relevant Council(s).

98. The Proponent shall consult with the relevant council(s)/landowners regarding replacement of any trees identified in the Tree Protection Plan (Condition 91) that are lost due to either direct or indirect impacts during construction or within 18 months of opening of the Project to traffic. Where practicable, replacements shall be specimens of similar species and similar maturity unless otherwise agreed with the relevant Council(s)/landholder.

99. If, during the course of construction (including vegetation clearing) the Proponent becomes aware of the presence of any threatened flora and fauna species which are likely to be significantly affected, the Proponent shall immediately cease those construction activities that are likely to affect the threatened species and consult with the DoP, NPWS and/or NSW Fisheries as appropriate. Following this consultation, the Proponent shall meet all requirements as directed by the Director-General prior to recommencement of any works likely to affect any threatened species.

Indigenous and Non-Indigenous Heritage

100. As part of the Construction Framework and Operational EMPs, the Proponent shall prepare and implement a Heritage and Archaeology Management Sub Plan in consultation with the, NSW Heritage Office and relevant Councils to manage heritage items and archaeological resources located within the area affected by the Project. The Sub Plan shall include:

(a) an assessment of the significance of effects on heritage and archaeological items including demolition, relocation, removal, damage and physical intrusion into conservation areas;
(b) a Contingency Protocol to be implemented in the event of discovery of relics including provision for significance assessment, consideration of management options and, where destruction or removal is proposed documentation and recording for archival purposes in accordance with How to Prepare Archival Records of Heritage Items and Guidelines for Photographic Recording of Heritage Sites, Buildings and Structures (DoP/NSW Heritage Council);
(c) a conservation management strategy including management measures for all identified features; and
(d) an independent conflict resolution process.

101. A suitably qualified archaeologist and a representative of the Metropolitan Local Aboriginal Land Council shall be on-site during initial ground clearing and preliminary works in the vicinity of known or potential archaeological sites.

102. During construction, temporary protective fencing shall be place around sites considered to be archaeologically sensitive and for which Consent to Destroy Permits have not been obtained.

103. Plans of Management shall be prepared prior to construction commencement for any historically significant items potentially affected by the Project. Any Plans of Management shall be prepared in consultation with the relevant local Council and NSW Heritage Office.

104. If during the course of construction the Proponent becomes aware of any heritage items or archaeological material, all work likely to affect the site(s) shall cease immediately and the relevant authorities, including NPWS, NSW Heritage Council and/or the relevant Local Aboriginal Land Council(s) shall be consulted to determine an appropriate course of action prior to the re-commencement of work at that site in accordance with the requirements of the Contingency Protocol to be prepared as part of Condition 100.

Water Management

Construction Water Management Sub Plan

105. As part of the Construction Framework EMP, a detailed Construction Water Management Sub Plan shall be prepared following consultation with the EPA, DLWC, SWC and relevant councils. The Sub Plan shall be prepared in accordance with the Department of Housing's guideline *Managing Urban Stormwater – Soils and Construction* (3rd edition) to manage the cumulative impacts of the development on the quality and quantity of surface and groundwater, including stormwater in storage, sedimentation dams and flooding impacts. The Sub Plan shall contain, but not be limited to:

(a) preparation of a catchment analysis in consultation with the relevant Councils and Sydney Water to determine the capacity of existing drainage systems and capacity, changes resulting from the construction of the Project and implications of pumping load and detention requirements;
(b) details of short and long term measures to be employed to minimise soil erosion and the discharge of sediment to land and/or waters including the exact locations and capacities of sedimentation basins;
(c) identification of all potential sources of water pollution and a detailed description of the remedial action to be taken or management systems to be implemented to minimise emissions of these pollutants from all sources within the subject site;
(d) measures to handle, treat, re-use and dispose of stormwater, contaminated water and soil;
(e) measures for the use of water reclaimed or recycled on-site;
(f) detailed description of water quality monitoring to be undertaken including base line monitoring, identification of locations where monitoring would be carried out and procedures for analysing the degree of contamination of potentially contaminated water;
(g) contingency plans to be implemented in the event of fuel or chemical spills or turbid water discharge from the site; and
(h) program for reporting on the effectiveness of the sediment and erosion control system against performance goals.

106. The Proponent shall prepare a detailed Flooding and Drainage Management Sub Plan(s) as part of the Construction Framework EMP in consultation with local councils. The Sub Plan(s) shall address all drainage catchments affected by the construction and operation of the Project. The objective of the Sub Plan(s) shall be to identify the measures to be implemented such that there is no increase in inundation levels or durations in any areas sensitive to flooding at or above the critical flood event.

Pre-Construction

107. The Proponent shall ensure that construction and operational water management systems for the Project are designed and implemented to include the management measures identified in the EIS and Representations Report and meet the performance objectives unless otherwise agreed through the preparation of the Construction Water Management Sub-Plan.

108. Prior to finalisation of detailed drainage design, the Proponent shall undertake and incorporate all required management measures into the final drainage design. As a minimum the tunnel drainage design must provide capacity to deal with at least a 100 year ARI storm for tunnel carriageway and ramp approaches. The Proponent shall also consider the implications of a PMF event in accordance with the *Floodplain Management Manual: the management of flood liable land* and in consultation with DLWC.

109. The Proponent shall undertake monitoring of water quality both upstream and downstream of construction sites and compounds to determine any change attributable to construction activities. Where there is deterioration in water quality attributable to construction activities for the Project, the Proponent shall implement all reasonable and practicable measures to minimise impacts on water quality.

Construction

110. The Proponent shall ensure that all appropriate soil, 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.

111. All water collected during construction, including water drained from tunnel excavations (portal entry, groundwater influx) and from dewatering of major cuts, which is likely to be contaminated shall be tested, treated and handled consistent with any licence obtained from the EPA.

112. No disposal of water shall be allowed to the sewer or the stormwater system without prior agreement from Sydney Water as applicable.

Soil and Water Quality Management Plan(s)

113. As part of the Construction Method Statements and Operational EMPs, detailed Soil and Water Quality Management Plan(s) shall be prepared in consultation with the EPA, DLWC, SWC NSW Fisheries, NPWS (where relevant), relevant catchment management trusts and Councils. The Plan(s) shall be prepared in accordance with the Department of Housing's guideline *Managing Urban Stormwater – Soils and Construction, 1998* (3rd Edition) and the RTA's *Guidelines for the Control of Erosion and Sedimentation in Roadworks*. The Plan(s) shall be prepared prior to substantial construction or operation as appropriate. The Soil and Water Quality Management Plan(s) shall contain, but not be limited to:

    (a) management of the cumulative impacts of the development on the quality and quantity of surface and groundwater, including stormwater in storage, sedimentation dams and flooding impacts;
    (b) details of short and long term measures to be employed to minimise soil erosion and the discharge of sediment to land and/or waters including the exact locations and capacities of sedimentation basins;
    (c) identification of all potential sources of water pollution and a detailed description of the remedial action to be taken or management systems to be implemented to minimise emissions of these pollutants from all sources within the subject site;

(d) detailed description of water quality monitoring to be undertaken during the pre-construction, construction and operation stages of the Project, including baseline monitoring, identification of locations where monitoring would be carried out and procedures for analysing the degree of contamination of potentially contaminated water;
(e) measures to handle and dispose of stormwater, effluent and contaminated water and soil including incident management structures;
(f) a process for the disposal of water from sedimentation basins;
(g) measures for the use of water reclaimed or recycled on site; and
(h) contingency plans to be implemented in the event of fuel spills or turbid water discharge from the site(s).

Operational Water Management

114. All operational stormwater and wastewater systems of the Project, including stormwater drainage, erosion, sedimentation and water pollution control systems and facilities of the Project shall be located, designed, constructed, operated and maintained to meet the requirements of the relevant authorities including the EPA, NSW Fisheries, DLWC and relevant Councils. All facilities including gross pollutant traps and sedimentation basins shall be inspected regularly and maintained in a functional condition for the life of the project.

115. As part of the Operations EMP a detailed Operational Stormwater Management Sub Plan shall be prepared in consultation with EPA, DLWC, SWC, and the relevant Councils to the satisfaction of the Director-General. The Sub Plan shall 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 Project, potential reuse and implications for the system including total pumping load to drainage systems, detention requirements, possible reuse of wastewater (such as water recycling for park irrigation) and the associated environmental impacts.

116. Provision shall be made for retention and treatment of fire water in accordance with the Government's *Best Practice Guidelines for Contaminated Water Retention and Treatment Systems*.

Spoil and Waste Management

Spoil Disposal

117. The Proponent shall ensure that transportation of spoil (and where possible, all other construction vehicles) is only by the routes shown in Figure 5.6 of the Director General's Report.

118. Spoil transportation from all construction sites, except for the Marden Street compound, shall be in accordance with the standard construction hours stated in Condition 61.

119. A detailed geotechnical/soil analysis assessment shall be undertaken during detailed design to ascertain the quality of material to be excavated and the potential for it to be used for construction or other such higher value purpose. The beneficial use of all excavated material shall be in accordance with the waste hierarchy outlined in Condition 125. Disposal of spoil to landfill shall not be permitted where other such higher value purposes are economically viable.

120. As part of the Construction Framework EMP, the Proponent shall prepare a Spoil Management Sub Plan in consultation with Resources NSW, EPA, DoP and relevant Council(s). The Sub Plan shall be approved by the Director-General prior to the commencement of substantial construction at relevant sites. This Sub Plan shall address:

(a) measures to handle, stockpile, reuse and dispose of spoil;
(b) the reuse or recycling of all clean and/or treated spoil where possible, including EMR certification that:
    (i) use of spoil generated from construction activities is maximised in preference to any import of fill; and
    (ii) where practicable all clean excavated natural material is either reused on the Project or otherwise made available for reuse elsewhere in preference to disposal to landfill
(c) spoil transport options and routes, including potential use of barge and rail;
(d) noise and local amenity;
(e) dust mitigation;
(f) drainage;
(g) contaminated material (including procedures for dealing with the unanticipated discovery of contaminated material during the course of construction) including:
    (i) disposal only to a EPA approved landfills;
    (ii) integration with the Contamination Investigation Report required in Condition 122 and waste management procedures in Condition 125;
(h) full integration with the Transport Management Plans.

The Sub Plan shall also assess the cumulative impacts and opportunities for non-road based transport of spoil and/or reuse associated with other Projects such as the Parramatta Rail Link, Western Sydney Orbital, South Windsor Flood Relief Route and Cross City Tunnel.

121. Prior to commencement of substantial construction at various relevant sites where spoil is to be generated the Proponent shall ensure that Resources NSW, the EPA and any other relevant authority are provided with spoil disposal/reuse details. The Proponent shall also assess the environmental impacts of the disposal in accordance with the EP&A Act and obtain any necessary approvals.

Contamination

122. The Proponent shall prepare a Contamination Investigation Report to the satisfaction of an EPA accredited contaminated site auditor as part of the Spoil Management Sub Plan to determine the nature, extent and degree of contamination. The Report shall detail the results of site investigations and the assessment of potential risks posed by contaminants to health and the environment and indicate whether remediation is required.

Should the Contamination Investigation Report indicate that remediation is necessary to reduce or remove risks posed by contaminants in particular locations, the land shall be remediated in accordance with a Remedial Action Plan to be incorporated into the relevant CMS(s) required by Condition 21. The Plan(s) shall be prepared in accordance with relevant guidelines and in consultation with relevant Council(s) and should be subject to independent review by an EPA accredited site auditor.

123. In the event of discovering previously unidentified area(s) of potentially contaminated material, the Proponent shall cease work in the vicinity of the discovery. Work shall not recommence until the extent of contamination has been assessed and a Remedial Action Plan has been prepared and implemented in accordance with Condition 122 if required.

124. Where remediation is required, the treatment options should consider and be consistent with the ANZECC and NH&MRC site remediation hierarchy as published in the EPA's guidelines for the NSW Site Auditor's Scheme.

Waste Management and Recycling

125. A detailed Waste Management and Reuse Sub Plan shall be prepared in consultation with the EPA as part of the construction framework and operational EMPs. The Sub Plan shall address the management of wastes during the construction and operation stages respectively. It shall be prepared prior to substantial construction, and shall identify requirements for the waste hierarchy as follows:

(a) waste avoidance;
(b) reduction;
(c) reuse; and
(d) recycling,

and provide details of requirements for:

(e) handling;
(f) stockpiling;
(g) waste disposal: specifically contaminated soil or water, concrete, demolition material, cleared vegetation, oils, grease, lubricants, sanitary wastes, timber, glass, metal, etc.; and
(h) identifying final disposal site(s) for any waste material and remedial works required at the identified disposal site(s) before accepting the material.

This Sub Plan shall include but not be limited to:

(i) management of all waste generated as part of the Project;
(ii) an outline of comprehensive plans of action for key waste streams;
(iii) implementation of the waste hierarchy by seeking to avoid waste generation as a priority, the reuse, recycling or reprocessing of waste and, as a last resort, disposal of waste;
(iv) the need for environmental safeguards and the adoption of environmentally sensitive work practices to minimise waste and advance the values of ecologically sustainable development;
(v) arrangements for waste which cannot be re-used, recycled or reprocessed to be disposed of at a licensed waste disposal facility;
(vi) procedures for separating excavation and demolition waste and for identifying destinations for the material;
(vii) procedures for classifying waste in accordance with the EPA's Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes;
(viii) installation of segregated bins for recyclable materials and provision for material to be reused or recycled wherever possible;
(ix) except where a sewer is available, sewage discharge of from site amenities to holding tanks for removal by tankers;
(x) the provision of rubbish skips at all construction sites and site compounds and their regular removal or emptying;
(xi) erecting signs within construction sites and site compounds encouraging employees to reduce, re-use, or recycle wherever possible;
(xii) the disposal of solid (including fuel and lubricant containers) and liquid wastes in accordance with relevant guidelines;
(xiii) the disposal of chemical wastes in accordance with manufacturers' instructions;

(xiv) appropriate induction and training of all employees and sub-contractors in the waste hierarchy and the requirements of the Waste Management and Reuse Sub Plan;
(xv) a schedule for undertaking regular audits of waste management procedures; and
(xvi) keeping of a waste management register of all significant waste collected from construction sites and site compounds for disposal, including amounts, date and time and details and locations of disposal.

As part of the Sub Plan, an Action Plan shall be prepared to promote the use of recycled materials, including construction and landscape materials. The Plan shall detail how the Project gives consideration and support to the Government's Waste Reduction and Purchasing Policy. The Plan shall also include details on measures to implement energy conservation best practice.

126. Water demand for construction activities shall be kept to a minimum. The Project shall incorporate water reduction initiatives including water reuse and recycling to the maximum extent practicably possible.

Hazards and Risks

127. At least 6 months prior to Project opening, the proponent shall conduct a road safety audit on Centennial Avenue between Penrose Street and Mowbray Road West. A revised preliminary hazard analysis shall be prepared based on the results of these investigations and all recommended measures adopted as appropriate to the satisfaction of the Director-General.

Dangerous Goods

128. The Proponent shall not store or handle a quantity of goods defined as dangerous under the Australian Dangerous Goods Code, at any location associated with the Project, whether during the construction or the operation of the Project. This Condition does not include diesel fuel, to which Condition 132 applies.

Security and Crime

129. The final design of bus stations/stops, pedestrian and cyclist access routes and ancillary structures of the Project shall be in accordance with the DoP/NSW Police Service's *Safer By Design* safety guidelines.

130. The Proponent shall prepare and implement a Security and Crime Management Strategy for each of the construction and operation phases of the Project. The aim of the strategy shall be to prevent unauthorised access to the Project and to minimise the potential for crime in the vicinity of infrastructure (e.g. vandalism, loitering, illegal dumping etc). The Strategy shall be generally in accordance with the principles outlined in the joint Department and Police Service publication Crime Prevention and the Assessment of Development Applications, and be developed in consultation with the NSW Police Service and relevant councils. The Strategy shall include, but not necessarily be limited to:

(a) details of security arrangements to prevent unauthorised access to the Project, including physical exclusion measures, detection devices and management mechanisms;
(b) policies and procedures for addressing security issues, should they arise;
(c) specific design features to discourage the incidence of crime at and in the immediate vicinity of the bus interchange, access points and cycleways;

(d) lighting considerations, including light intensity, direction and hours of operation at and in the immediate vicinity of the bus interchange, access points and cycleways, with the aim of minimising areas that may encourage crime;
(e) policies and procedures for the management and removal of graffiti, amelioration of vandalism, should it occur at or on any component of the; and
(f) policies and procedures for the management and removal of illegal or inappropriate bill-posting and illegally dumped materials, should it occur at or on any component of the.

The Security and Crime Management Strategy shall be submitted for the approval of the Director-General no later than one (1) month prior to the commencement of substantial construction or opening of the Project to traffic as applicable, or within such period as otherwise agreed by the Director-General.

Pre-Construction

131. An Emergency Response Sub Plan shall be prepared as part of the Construction Framework EMP. The Sub Plan shall include, but not be limited to:

(a) the provision of adequate emergency procedures and equipment for the response to and management of any environmental pollution events;
(b) a program for training all staff;
(c) a protocol for notifying the appropriate authorities in the case of an emergency;
(d) procedures to ensure compliance with all legislative and industry standard requirements for safe handling and storage of hazardous substances; and,
(e) undertaking hazardous activities such as washing out of concrete delivery vehicles, washing down of construction plant etc. only at appropriate locations that have appropriate environmental protection controls.

Construction Hazards

132. The Proponent may seek the approval of the Director-General for the temporary storage of diesel fuel to permit continuous operation of equipment during the construction of the Project. In seeking the Director-General's approval, the Proponent shall provide:

(a) details of the location(s), stored volume(s) and storage method(s) for the diesel fuel;
(b) the maximum length of time diesel storage will be required;
(c) assessment of the potential environmental and risk impacts associated with the storage of diesel at the locations required; and
(d) details of the mitigation measures proposed to address potential environmental and risk impacts from diesel storage including bunding of storage area(s).

133. The Proponent shall not locate any quantity of diesel fuel at any location associated with the Project without the prior written approval of the Director-General. The Proponent shall implement all measures required by the Director-General to mitigate environmental and risk impacts identified through the information listed from (a) to (d) above, within such period as the Director-General may agree.

Note: Diesel fuel is a combustible liquid and not defined as a dangerous good under the Australia Dangerous Goods Code.

134. The Proponent shall prepare and implement a Construction Safety Study for the approval of the Director-General prior to the commencement of substantial construction of the Project. The Study shall address all safety-related matters relevant to the construction of the Project and shall have regard to the principles outlined in the Department's publication Hazardous Industry Planning Advisory Paper No. 7 – Construction Safety Study Guidelines.

Operational Hazards

135. At least six months prior to the opening of the Project, the Proponent shall prepare an Emergency Response Plan , in consultation with the NSW Fire Brigades, the Police Service and State Emergency Services and be submitted to the Director-General for approval. The Plan shall include, but not necessarily be limited to:

(a) protocols and procedures to be followed during emergency situations associated with the operation of the Project including vehicle collisions, fires and explosions;
(b) details of traffic management measures to be implemented during emergencies, where appropriate, to minimise the potential for escalation of the emergency;
(c) management and infrastructure measures to address the potential environmental impacts of an emergency situation, including measures for containment of contaminated firefighting water, fuel spills and gaseous combustion products; and
(d) a training and testing program to ensure that all operational staff are familiar with the Plan and coordination with the Fire Brigades, Police and Emergency Services is regularly rehearsed.

A rehearsed emergency response in accordance with the approved Emergency Response Plan, including the Proponent, NSW Fire Brigades, the NSW Police Service and State Emergency Services, shall be undertaken on at least one (1) occasion prior to the opening of the Project to traffic.

136. The Proponent shall undertake an annual Hazard Review of the Project and hazardous incidents that have occurred during the preceding twelve-month period for the first five years of operation. The first Review shall be undertaken no later than twelve months after the opening of the Project to traffic. A report outlining the results of the Hazard Review, and any proposed additional safety measures to be implemented in response to the findings of the Review, shall be submitted to the Director-General within one month of completion of the Review. The Proponent shall meet the Director-General's requirements in relation to the findings of the Review, within such time as may be agreed by the Director-General. The Director-General may direct the Proponent to undertake further hazard review following any major incident in the tunnel.

Project Utilities and Services

Pre-Construction

137. Prior to the commencement of construction the Proponent shall identify the 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 provider(s).

138. During the detailed design process the Proponent shall consult with relevant utility and service authorities to determine potential co-location opportunities for services with the construction of the Project.

Construction

139. Any alterations to utilities and services shall be carried out to the satisfaction of the relevant service provider(s), and unless otherwise agreed to, at no cost to the service/utility provider(s).

> *Note: Nothing in Condition No. 139 shall be taken as requiring the Proponent to meet the cost of any alterations should any prior agreements or protocols be in place between the Proponent and service provider(s) for such alterations.*

140. The Proponent shall ensure that disruption to services resulting from the Project are minimised and shall be responsible (with the approval of the relevant service provider) for advising local residents and businesses affected at least 48 hours prior to any disruption of service.

141. The Proponent shall prepare dilapidation surveys and reports in consultation with relevant infrastructure/service providers. The Proponent shall carry out rectification work at the Proponent's expense and to the satisfaction of the owners, except where Condition of Approval No. 139 applies.

Energy and Greenhouse Gases

142. The Proponent shall promote the reduction of greenhouse gases by adopting energy efficient work practices including, but not limited to:

(a) developing and implementing procedures to minimise energy waste in accordance with Conditions 125;
(b) conducting awareness programs as part of induction for all site personnel regarding energy conservation methods; and,
(c) conducting an energy audit prior to construction and regular energy audits during the Project to identify and address energy wastage.

143. No rainforest timbers shall be used in any construction activities.

144. SEDA accredited 'Green Power' shall be purchased for the supply of 50% of the electrical energy requirements for the construction phase of the Project. During operations, SEDA accredited 'Green Power' shall be purchased for all operational electrical energy requirements to a minimum level of twice the amount specified by the Government Energy Management Policy (currently 6%), to a maximum of 100%.

SITE SPECIFIC ISSUES

Tunnel

Fire Safety

145. The Proponent shall develop a scope of works (Fire and Smoke Management Plan) to address fire safety in the tunnel. The Plan shall outline fire protection systems and other tunnel equipment and systems and operation protocols required for fire and smoke management.

The Proponent shall undertake a detailed fire engineering study in accordance with the Australian Building Codes Board, Fire Safety Engineering Guidelines. The study must also take into consideration the following current relevant international studies including:

(a) French Inter-ministry Circular No. 200 – 63 of August 2000 Relating to Safety in Tunnels in the National Highway Network;
(b) PIARC – Fire and Smoke Control in Road Tunnels; and

(c) US NFPA 502 Standard for Road Tunnels and other Limited Access Highways, 2001 Edition.

Detailed design of the tunnel shall incorporate the design and operational measures outlined in the scope of works to minimise the potential for and impact of fire in the tunnel. The scope of works shall be developed in consultation with and to the satisfaction of the NSW Fire Brigades. The final design of the tunnel in relation to the fire safety shall be approved by the Director-General and verified against the scope of works to the satisfaction of the NSW Fire Brigades by an independent person/organisation.

146. Prior to the opening of the Project to traffic, a full audit of the fire safety system as defined by the scope of works developed in Condition 145 shall be undertaken by an independent person(s)/organisation to be paid for by the Proponent. The objective of the audit shall be to ensure that all design and operational measures outlined in the scope of works have been installed and are operational and achieves the required design criteria. The results of the safety audit shall be made available to the NSW Fire Brigade and the Director-General for review prior to opening of the Project to traffic. The Proponent shall comply with any requirements resulting from the NSW Fire Brigade.

147. Fire simulation and smoke testing shall be undertaken as part of the rehearsed emergency response to be staged prior to opening of the Project to traffic as required in Condition 135.

148. A maintenance testing program outlining the methods of testing fire safety facilities and schedule for implementation shall be developed to the satisfaction of the NSW Fire Brigade prior to opening of the Project to traffic. Maintenance testing of fire safety facilities shall be undertaken at least annually or any other interval as required by the NSW Fire Brigade. Results of maintenance testing shall be made available to the NSW Fire Brigade for review and the Proponent shall comply with any requirements to ensure the fire safety systems operate adequately.

149. The Proponent shall develop a community education program for the general public and bus operators regarding the potential implications of incidents and emergencies in the Lane Cove Tunnel prior to opening of the Project to traffic. The program shall outline the actions that should be taken by drivers and passengers in the tunnel during such incidents/emergencies to minimise the potential for serious injury or loss of life.

The Proponent shall consider implementation of the education program by methods such as pamphlets to be disseminated with licence/registration renewals, inclusion in the Learner Driver Handbook and test and/or any other appropriate method.

The program shall be prepared in consultation with the relevant NSW emergency services, NSW Health and DoP.

Air Quality

Physical Requirements

150. One (1) ventilation stack shall be constructed at each of the following locations: 5 Sirius Road, Lane Cove West Industrial Estate and 6 Marden Street, Artarmon Industrial Area as shown Attachment 2), with the top of the ventilation stacks at a minimum height of 62 m and 134 m AHD respectively, or as otherwise agreed by the Director-General.

151. Prior to finalising the ventilation stack design, the Proponent shall in consultation with relevant Councils, demonstrate to the satisfaction of the Director-General, that potential opportunities to incorporate the ventilation stack within an existing, proposed or newly constructed building have been appropriately considered through the selected proposal invitation and final design process.

152. The tunnel ventilation system shall be designed, constructed and operated to avoid emissions of tunnel air from the portals. Portal emissions are not permitted except in the following circumstances:

(a) emergency situations and/or where emergency personnel are involved;
(b) accidents and genuine breakdowns inside the tunnel;
(c) major maintenance periods where it can be demonstrated that the in-tunnel CO requirements specified in Table 2 cannot be met; and
(d) any other situation approved by the Director-General in consultation with the DoH, EPA and AQCCC.

If portal emissions are required as a result of any of the above events occurring, all practical measures shall be taken to minimise air quality impacts and the period (duration) of portal emissions shall be limited to that necessary until normal traffic operations resume.

153. The tunnel shall be designed and constructed so as to make provision for future installation of an appropriate pollution control system to treat air emissions from the tunnel as may be required by the Director-General. The Proponent shall provide evidence to this effect during the design and construction phases to the satisfaction of the Director-General.

154. All plant and equipment associated with the ventilation stack including possible pollution control systems shall be located below the existing surface level unless incorporated into an existing, proposed or newly constructed building as identified in Condition of Approval No. 151 or otherwise agreed by the Director-General following consultation with the relevant local Councils.

155. The Proponent shall install stack emission sampling points and associated safe access thereto, during construction of each ventilation stack in accordance with Condition 172. The sampling points shall be designed and located in accordance with TM-1 of the EPA's *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW, 2001.*

156. The Proponent shall develop a Pre-commissioning Tunnel Ventilation, Incident Response and Traffic Management Systems Integration Protocol in consultation with the RTA's Traffic Management Centre. The Protocol must be reviewed by an appropriate experienced person/firm to confirm to the satisfaction of the Director-General, before the tunnel is open to traffic, that the systems would operate together to ensure that the primary objective of satisfying Conditions 160 and 161. The Protocol should include a pre-commissioning procedure to be completed before the tunnel is opened to traffic.

> *Note: Tunnel ventilation design and operation, incident response triggers and procedures, and traffic management, should be fully integrated in accordance with the primary objective of ensuring the safety of tunnel users, tunnel workers and emergency services personnel under all conditions.*

157. The Proponent shall install appropriate traffic management devices upstream and downstream of the tunnel entrances and exits to regulate traffic flow in the tunnel in addition to the ventilation system, as required to ensure compliance with air quality goals. Traffic management devices shall include ramp metering and/or tunnel closure devices as

appropriate. Monitoring devices to measure traffic speeds inside the tunnel shall be installed and operated.

Unless otherwise agreed by the Director-General, stop signals (including advance signals) must be installed at least 50 metres (or at another distance as agreed by the Director-General) from the front of each entrance and incorporated into the overall traffic management system for the route on which the tunnel is located. Where practical this shall also enable tunnel users to be diverted to other routes well before the entrance. The stop signals must be supplemented by a remote-controlled physical closure device and by a variable message panel, which will inform users of the reason for the closure.

Air Quality Community Consultative Committee

158. An Air Quality Community Consultative Committee (AQCCC) shall be established by the Proponent. Representatives from relevant Councils and local community representatives with interests in tunnel ventilation shall be invited to participate on the Committee. The AQCCC must be established prior to the commencement of substantial construction. The Committee's role shall be defined in a detailed terms of reference document to be submitted for approval by the Director-General within three (3) months before commencement of construction or within any other time as agreed by the Director-General. The terms of reference shall include providing community feedback on air quality monitoring and reporting during the design, construction and operational phases of the project, accessing and disseminating monitoring results and other information on air quality issues. The functions and conduct of the AQCCC shall be in accordance with the terms of reference approved by the Director-General.

Air Quality – In-Tunnel

- Monitoring of In-Tunnel Air Quality

159. Within the Tunnel, the Proponent must monitor (by sampling and obtaining results by analysis) the pollutants, specified in Table 1. The Proponent must use the sampling method, units of measurement and sample at the frequency specified opposite in the other columns. The number and siting of the monitoring stations inside the tunnel must be independently verified in accordance with the EPA's Approved Methods for the Sampling and Analysis of Air Pollutants in NSW, 2001 to the satisfaction of the Director-General. Each sampling point established under this condition shall be audited prior to its commencement of monitoring for compliance with the requirements set out in Table 1. Verification and compliance auditing is to be undertaken by an independent person(s) or organisation(s) approved by the Director-General and paid for by the Proponent.

Table 1 – In-Tunnel CO Monitoring Methodology

Pollutant	Units of measure	Frequency	Method[1]
CO	ppm	Continuous	AM-6

Note: [1]NSW EPA, 2001, Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales

- In-Tunnel Air Quality Limits

160. The tunnel ventilation system must be operated so that the concentration of carbon-monoxide (CO) for exposure to any motorist inside the Tunnel must not exceed the concentration limits specified for that pollutant in Table 2 under all conditions (including fully congested conditions).

Table 2 – In-Tunnel CO Individual Exposure Limits

Pollutant	Units of measurement	Averaging period	Limit
CO	ppm	Rolling 30–minute	50
CO	ppm	Rolling 15-minute	87

For the purposes of interpreting compliance with the rolling average periods specified in Table 2, the Proponent shall install appropriate systems to the satisfaction of the Director-General in consultation with NSW Health and the EPA, to enable as accurate as possible estimate of time spent inside the tunnel by any motorist or any emergency services, Proponent or Company personnel and corresponding CO levels. The Proponent must justify that the measuring points present an accurate representation of the CO profile and shall provide data/evidence including appropriate modelling to support that justification. The pollution concentrations outside the vehicle cabin shall be assumed to be equivalent to the pollution concentration within the cabin for the purposes of interpreting compliance.

161. The tunnel ventilation system must be operated so that the concentration of carbon-monoxide (CO) as measured at any single point in the tunnel must not exceed the concentration limit specified for that pollutant in Table 3 under all conditions (including fully congested conditions).

Table 3 – In-Tunnel CO Single Point Limits

Pollutant	Units of measurement	Averaging period	Limit
CO	ppm	Rolling 3-minute	200

- Notification of In-Tunnel Air Quality

162. In addition to the general reporting requirements specified in Condition 178, the Proponent shall notify the Director-General, EPA and DoH within 24 hours of the Proponent becoming aware of any single monitoring point CO recording above the limits specified in Condition 160 and/or 161.

Note: The requirement to report on any single point recording above the limits for Condition 162 is for information and reporting purposes only.

- Air Quality Compliance

163. If the air quality limits specified in Conditions 160 and/or 161 are exceeded, the Director-General may direct the Proponent to expend an amount, which is to be calculated as the aggregate of $50,000 (CPI adjusted) for each day on which any one (1) or more of the air quality limits specified in Conditions 160 and/or 161 are exceeded, for the implementation of the strategy.

In the event that the Proponent is directed to expend any amount as required under this condition, it shall, within 3 months, prepare a strategy in consultation with the AQCCC and approved by the Director-General, on how any money shall be spent, including options of improvements to in-tunnel and external air quality in the area affected by the Project.

Nothing in this condition shall prevent, limit or restrict any statutory requirements under any legislation, nor shall it limit any action being taken under the EP&A Act.

Ambient Air Quality

- Monitoring of Ambient Air Quality

164. The Proponent shall monitor (by sampling and obtaining results by analysis) the pollutants and parameters specified in Column 1 of Table 4 at the following four (4) locations as a minimum:

(a) One (1) ground level receptor near the eastern vent stack and one ground level receptor near the western vent stack;
(b) At the air conditioning intake nearest to the top of building 18-20 Orion Road (Compaq building); and
(c) At the air conditioning intake nearest to the top of building 401 Pacific Highway (Corinthian building).

All monitoring stations shall be established subject to the land owner's agreement. The Proponent must use the sampling method, units of measure, and sampling frequency specified in Table 4. The Proponent shall commence monitoring within 18 months of this approval or ensure monitoring occurs for at least 12 continuous months prior to opening of the tunnel. The establishment and operation of the stations is to be undertaken in accordance with recognised Australian standards and undertaken by an organisation accredited by NATA for this purpose and approved by the Director-General. The quality of the monitoring results shall be assured through a NATA accredited process prior to the data being considered as a basis for compliance/auditing purposes.

Table 4 – Ambient Air Quality Monitoring Methodologies

Pollutant	Units of measurement	Averaging Period	Frequency	Method1
NO	pphm	1-hour	Continuous	AM-12
NO_2	pphm	1-hour	Continuous	AM-12
NO_x	pphm	1-hour	Continuous	AM-12
PM_{10}	$\mu g/m^3$	24-hour	Continuous	AM-18[1] or AS3580.9.8-2001[2]
$PM_{2.5}$[4]	ug/m^3	24-hour	Continuous	AM-18[1] or AS3580.9.8-2001[2] or method approved by EPA's chief scientist[2]
CO	ppm	1-hour, 8-hour	Continuous	AM-6
Parameter[3,]	**Units of measurement**	**Averaging Period**	**Frequency**	**Method1**
Wind Speed @ 10 m	m/s	1-hour	Continuous	AM-2 & AM-4
Wind Direction @ 10 m	°	1-hour	Continuous	AM-2 & AM-4
Sigma Theta @ 10 m	°	1-hour	Continuous	AM-2 & AM-4
Temperature @ 2 m	K	1-hour	Continuous	AM-4
Temperature @ 10 m	K	1-hour	Continuous	AM-4
Total Solar Radiation @ 10 m	W/m2	1-hour	Continuous	AM-4
Other	**Units of measurement**	**Averaging Period**	**Frequency**	**Method1**
Siting	NA	NA	NA	AM-1 & AM-4

Note: [1]NSW EPA, 2001, Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales
[2] Standards Australia, 2001, AS3580.9.8-2001, Methods for the Sampling and Analysis of Ambient Air – Determination of Suspended Particulate Matter – PM_{10} Continuous Direct Mass Method using Tapered Element Oscillating Microbalance Analyser.
[3] Location for meteorological monitoring at Compaq/Corinthian station to be at the top of the building.
[4.] Appropriately modified to include size selective inlet for PM2.5 or as otherwise approved by the Director-General

- Operation Stage Monitoring Stations – Community Based Monitoring Station

165. The Proponent shall establish one (1) community based monitoring station (CBMS) associated with each ventilation stack to monitor ambient air quality consistent with the requirements in Table 4, the locations to be agreed to by the AQCCC, at least two (2) years prior to the opening of the Project to traffic. The Proponent shall meet all operating costs associated with the stations.

    The CBMSs shall be operated independently of the Proponent and all other authorities and its establishment and operation shall be overseen by the AQCCC on behalf of the community. The establishment and operation of the stations is to be undertaken in accordance with recognised Australian standards and undertaken by a consultant accredited by NATA for this purpose. The quality of the monitoring results shall be assured through a NATA accredited process prior to the data being considered as a basis for compliance/auditing purposes.

    Monitoring results shall be made publicly available and shall be subject to audit at 6 monthly intervals or at a longer interval if approved by the Director-General by an independent auditor agreed by the AQCCC, whose report shall be directly provided to the Proponent and the AQCCC.

    The Proponent, following consultation with the AQCCC, shall review the need for the continuation of the CBMS after a period of three (3) years after the Project is opened to traffic. Any recommendation to close the CBMS shall require the approval of the Director-General in consultation with the EPA. The Director-General shall approve the independent operator.

- Operation Stage Monitoring Stations – 18-20 Orion Road (Compaq Building) and 401 Pacific Highway (Corinthian Building)

166. The Proponent shall install monitoring stations at the top of the building at 18-20 Orion Road and 401 Pacific Highway, in accordance with Condition of Approval No. 164 to monitor for pollutants identified in Table 4. Monitoring shall be undertaken over a period of at least 12 months from opening of the Project to traffic to correlate and verify impacts with the air quality modelling predictions. The results of the monitoring program shall be made available to the owners of 18-20 Orion Road and 401 Pacific Highway and the AQCCC.

- Operation Stage Monitoring Stations – Residents Living at Ground Level

167. The Proponent shall install two (2) ground level monitoring stations, in accordance with Condition 164 to assess ambient ground level impacts. The location of the stations and pollutants to be monitored shall be developed in consultation with the AQCCC and be approved by the Director-General and shall include the pollutants specified in Table 4 unless otherwise agreed by the Director-General in consultation with the EPA. The location of the ground level monitoring stations shall meet the siting requirements for a background ambient monitoring station in accordance with AS2922-1987.

    The monitoring reports must be made available at six (6) monthly intervals from the date the Project commences operation. The reports must be made available to the Director-General, the EPA, relevant Council(s) and the AQCCC, and must be made publicly available. The total duration of the monitoring shall be for at least three (3) years unless otherwise requested by the Director-General. Any closure of the monitoring station shall be approved by the Director-General in consultation with the EPA at least three (3) months prior to closure.

- Verification of Air Quality Assessment

168. The Proponent shall validate the ambient air quality assessment undertaken for tunnel ventilation system as assessed in the Environmental Assessment for the Revised Ventilation Design for Lane Cove Tunnel (RTA, undated as submitted to DoP 25/10/02) for the Project utilising actual monitoring data recorded by the Proponent following 12 months of operation of the Project. Validation shall be to the satisfaction of the Director-General in consultation with the EPA.

- Air Quality Goals – Ambient Air

169. Should ambient monitoring of air pollutants exceed the following goals, the provisions of Condition 170 shall apply:

(a) CO – 8 hour rolling average of 9.0 ppm (NEPM);
(b) NO2 – One hour average of 0.12 ppm (245 μg/m^3)(NEPM); and
(c) PM10 – 24 hour average of 50 μg/m3 (NEPM).

Only monitoring station(s) that meet the requirements for ambient monitoring stations in Australian Standard AS2922 – 1987, shall be used for the purposes of assessing compliance with the ambient goals specified in this condition unless otherwise agreed by the Director-General.

170. Should the results of monitoring required under Condition 165, 166 and 167 show that any of the goals specified in Condition 169 have been exceeded for any given event (excluding extra-ordinary events such as bushfires, dust storms etc as to be defined in a Protocol), the Proponent shall immediately notify the DoP, EPA and NSW Health. The Protocol shall be approved by the Director-General in consultation with the EPA, DoH and the AQCCC. The notification shall be followed up with a detailed report within 10 working days which shall be prepared by an independent person/organisation to the Director-General on the cause and major contributor of the exceedance and the options available to prevent recurrence. The Director-General shall approve the independent person/organisation. This report must include consideration of improvements to the installed systems such as ventilation, and traffic management measures to address ambient air and/or the option of installing pollution control systems. If the Report does not propose the installation of pollution control systems then this recommendation must be justified. The Proponent shall comply with any requirements of the Director-General's review of the Report.

- Public Access to Monitoring Results

171. Results of hourly updated real-time ambient monitoring of PM_{10}, $PM_{2.5}$, NO_2, and CO at the approved ground level monitoring locations, in-tunnel CO and relevant meteorological data shall be provided on the Internet site and made publicly available each month in hard form in an easy to interpret format. These data shall be preliminary until a quality assurance check has been undertaken by a person or organisation accredited by NATA for this purpose. The availability of these data shall be conveyed to the local community by way of newsletter (including translation into common non-English speaking languages in the area) and newspaper advertisement at least one (1) month prior to the opening of the Project to traffic.

Ventilation Stacks

- Monitoring

172. The Proponent shall install monitoring equipment to monitor pollutants inside the ventilation stack. Pollutant monitoring inside the ventilation stack (by sampling and obtaining results by analysis) shall be for the pollutants and parameters specified in Column 1 of Table 5. The Proponent must use the sampling method, units of measures and sample at the frequency specified in the other columns. Monitoring equipment installed under this condition is to be independently audited prior to its commencement of monitoring for compliance with the requirements set out in Table 5. Auditing is to be undertaken by an independent person(s) or organisation(s) approved by the Director-General and paid by the Proponent.

Table 5 – Stack Emission Monitoring Methodologies

Pollutant	Units of measure	Frequency	Method[1]
NO	mg/m^3	Continuous	CEM-2
NO_2	mg/m^3	Continuous	CEM-2
NOx (as NO_2)	mg/m^3	Continuous	CEM-2
PM_{10}	$\mu g/m^3$	Continuous	AS3580.9.8-2001, AM18 or method approved by EPA's chief scientist[2]
PM $_{2.5}$5	$\mu g/m^3$	Continuous	AS3580.9.8-2001, AM18 or method approved by EPA's Chief Scientist[2]
Solid Particles	$\mu g/m^3$	quarterly	TM15
PM_{10}	$\mu g/m^3$	quarterly	OM-5
PM $_{2.5}$5	$\mu g/m^3$	quarterly	OM-5
CO	mg/m^3	Continuous	CEM-4
VOC	mg/m^3	Continuous	CEM-8
Speciated VOC[3]	mg/m^3	Annual	OM-2
PAH[4]	$\mu g/m^3$	Annual	OM-6
Parameter	Units of measure	Frequency	Method[1]
Flow rate	m^3/s	Continuous	CEM-6
Moisture	%	Continuous	TM-22
Temperature	K	Continuous	TM-2
Other	Units of measure	Frequency	Method[1]
Sampling locations	NA	NA	TM-1

Note:
1 NSW EPA, 2001, Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales
2 Standards Australia, 2001, AS3580.9.8-2001, Methods for the Sampling and Analysis of Ambient Air – Determination of Suspended Particulate Matter – PM_{10} Continuous Direct Mass Method using Tapered Element Oscillating Microbalance Analyser
3 Must include, but not limited to; Benzene, Toluene, Xylenes, 1,3-Butadiene, Formaldehyde and Acetaldehyde
4 Must include, but not limited to; 16 USEPA priority PAHs, namely; Naphthalene, Phenanthrene, Benz(a)anthracene, Benzo(a)pyrene, Acenapthylene, Anthracene, Chrysene, Indeno(1,2,3-cd)pyrene, Acenaphthene, Fluoranthene, Benzo(b)fluoranthene, Dibenz(a,h)anthracene, Fluorene, Pyrene, Benzo(k)fluoranhtene, Benzo(g,h,i)perylene.
5 Appropriately modified to include size selective inlet for PM2.5 or as otherwise approved by the Director-General.

- Ventilation Stack Limits

173. The concentration and mass of pollutants discharged from the ventilation stack(s) referred to in Table 6 must not exceed the respective limits specified for that pollutant.

Table 6 – Mass Pollutant Concentrations

		Units of measurement	Averaging period	Total CO	Total NO_x	Total PM_{10}	Total VOC
W Stack	**Concentration limit**	mg/m^3	30 minutes	62.5	32.8	1.6	6.3
E Stack	**Concentration limit**	mg/m^3	30 minutes	62.5	25.7	1.2	6.3
Combined Stacks	**Combined Annual load limit**	t/annum	annual	1530	229	14[1]	153

1. or method approved by the EPA's Chief Scientist

An independent person or organisation, approved by the Director-General shall:

(a) verify that compliance with stack limits detailed in Table 6 will not result in air quality impacts greater than predicted in Appendix C (Environmental Assessment for Revised Tunnel Ventilation Design for the Lane Cove Tunnel) of the Director-General's report;
(b) undertake an appropriate assessment to the satisfaction of the Director General and in consultation with the EPA to indicate how stack discharge velocities have been optimised in consideration of energy requirements and air quality impacts at all sensitive receivers; and,
(c) validate recorded monitoring data and certify compliance with the stack limits.

The ventilation stack limits detailed in Table 6 shall be reviewed on a five (5) yearly basis and may be lowered (*i.e.* made more stringent), subject to improvements in vehicle fleet emissions, if the Proponent is directed to do so by the Director-General following consultation with the EPA.

- Exceedance of Stack Limits

174. Should the results of monitoring required under Condition 172 show that any of the stack limits specified in Condition 173 have been exceeded, the Proponent shall immediately notify the DoP, EPA and DoH. This notification shall be followed up with a detailed report within 10 working days to be prepared by an independent person/organisation to the Director-General on the cause and major contributor of the exceedance and the options available to ensure the prevention of a recurrence. The report must include consideration of additional traffic management measures to address air quality emissions and also the option of installing pollution control systems. If the Report does not propose the installation of pollution control systems then this recommendation must be justified. The Proponent shall comply with any requirements of the Director-General's review of the Report. Independent verification shall be undertaken by independent person(s) or organisation(s) approved by the Director-General.

- Emergency Discharge

175. Conditions 169 and 170 do not apply:

(a) in an emergency to prevent damage to life or limb other than an emergency arising from a negligent act or omission from the Proponent or tunnel operator; or
(b) as a result of an incident (not including congestion in the tunnel), which is beyond the control of the Proponent or the tunnel operator and could not have been prevented by taking those steps which a prudent, experienced and competent operator would have taken.

Condition 160 and 161 apply in (a) but not in a fire emergency attended by the emergency services and in (b) including for situations of congestion in the tunnel.

The Proponent shall, as soon as reasonably practicable, notify the Director-General and the EPA of any such discharge.

Note: Any exceedance of the goals or limits in conditions 160, 161, 169 and 170 which result from a negligent act by the Proponent/Company irrespective of potential damage to life or limb is a breach of these Conditions of Approval.

Local and Sub-Regional Air Quality Improvements

176. The Proponent shall assist the relevant Councils in developing an air quality assessment process for inclusion in a Development Control Plan or other appropriate planning instrument, in considering planning and building approvals for new development in the area which would be within a potential three (3) dimensional zone of affectation (buffer volume). This process shall include procedures for identifying the width and height of buildings that are likely to be either affected by the plume from the ventilation stack or affect the dispersion of the plume from the ventilation stack through building wake effects. The Proponent shall meet all costs for the development of this process and any necessary amendments to the planning instrument(s) required to implement the process.

177. Prior to the opening of the Project to traffic, the Proponent shall investigate, in consultation with the EPA the measures for smoky vehicle enforcement in areas surrounding the Project, taking into consideration cost effectiveness. Any measures implemented as a result of investigation recommendations shall be in accordance with the Smoky Vehicle Enforcement Program. The Proponent shall report on the effectiveness of the smoky vehicle enforcement.

General Air Quality Reporting Auditing and Quality Assurance

- General Reporting

178. The Proponent must develop and implement a reporting system for in-tunnel, ambient and ventilation stack limits to the satisfaction of the Director-General in consultation with the EPA. The reporting system must be approved, fully implemented and operational prior to the commencement of tunnel operations. Minimum analytical reporting requirements for air pollution monitoring stations shall be as specified in Section 4 of the EPA's *Approved Methods for Sampling and Analysis for Air Pollutants in NSW.*

- Auditing/Quality Assurance

179. The provision, operation and maintenance (including all auditing and validation of data) of all air quality monitoring and reporting shall be funded by the Proponent.

180. The Proponent shall appoint an external auditor to conduct an audit of the air quality monitoring (in tunnel and external) at six (6) monthly intervals or at any longer interval if approved by the Director-General. Air quality audits shall commence six (6) months from opening of the Project to traffic. The auditor shall ensure that the operating procedures and equipment to acquire air monitoring, meteorological data and emission monitoring data and monitoring reporting comply with NATA (or equivalent) requirements and sound laboratory practice. The Proponent must document the results of the audit and make available all audit data for inspection by the Director-General upon request. A copy of the audit report shall also be issued to the Proponent and AQCCC.

181. The Proponent shall undertake appropriate quality assurance (QA) and quality control (QC) measures for air quality and ventilation stack emission monitoring data. This shall include, but not limited to: accreditation/quality systems, staff qualifications and training, auditing, monitoring procedures, service and maintenance, equipment or system malfunction and records/reporting. The QA/QC measures shall be approved by an independent expert approved by the Director-General prior to monitoring of air quality and ventilation stack emissions as appropriate.

Air Intake

182. Any air intake required for the tunnel ventilation system shall be located on the RTA owned land at 130-132 Epping Road or any other location as agreed by the Director-General following further assessment. The Proponent shall design the air intake to maximise the undergrounding of facilities in consultation with nearby residents and Lane Cove Council.

Dangerous Goods

183. The Proponent shall ensure that that all practicable measures are taken to prohibit any vehicle carrying any quantity of goods defined as dangerous under the Australian Dangerous Goods Code, from entering the Tunnel during either construction or operation.

184. The Proponent shall develop a program outlining measures to be implemented to restrict access of dangerous goods vehicles into the Tunnel in accordance with Condition of Approval No. 183. The program shall be submitted to and approved by the Director-General prior to the opening of the Project to traffic.

Noise

Regenerated Noise

185. The Proponent shall not undertake any excavation using rock hammers below ground during the night time (10pm to 7am).

186. Regenerated noise from construction works shall not exceed the following criteria as measured at the nearest sensitive receptor:

(a) LAeq(15 min) 40 dB(A) between the hours of 6:00 pm and 10:00 pm; and
(b) LAeq (15 min) 35 dB(A) between the hours of 10:00 pm and 7:00 am

If any exceedances are proposed they must be fully justified, prior to undertaking the work, through a detailed noise impact assessment report prepared by a qualified acoustic specialist.

The noise impact assessment report shall be prepared in consultation with the EPA and the proposed works must not be commenced without the prior approval of the EPA.

Operational Noise Management

187. The Proponent shall ensure that noise emanating from the tunnel ventilation system does not exceed the noise limits at the nearest sensitive receptor as specified in Table 7 in accordance with the EPA's *Industrial Noise Policy*.

Table 7 – Tunnel Ventilation System Operating Noise Limits

Noise Receivers	Day ($L_{eq\ (15\ minutes)}$)	Evening ($L_{eq\ (15\ minutes)}$)	Night ($L_{eq\ (15\ minutes)}$)
Portal Entrance near Pacific Highway	54 dB(A)	45 dB(A)	40 dB(A)
Eastern Ventilation Stack	54 dB(A)	45 dB(A)	40 dB(A)
Portal Entrance near Mowbray Road West	60 dB(A)	50 dB(A)	42 dB(A)
Western Ventilation Stack	39 dB(A)	37 dB(A)	36 dB(A)
Air intake at 130-132 Epping Road[1]	45 dB(A)	45 dB(A)	45dB(A)[2]

1. In accordance with Condition 182 if the air intake location changes limits will have to be revised and reset by the Director-General.
2. Limits can only be modified with the approval of the Director-General following a detailed noise assessment during the detailed design phase.

Daytime shall be defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays. Evening is defined as the period from 6pm to 10 pm. Nighttime is defined as the period 10pm to 7am Monday to Saturday and 10pm to 8 am Sundays and Public Holidays.

Drainage

188. The Proponent shall undertake further assessment of tunnel drainage including fire water management prior to substantial construction and operation of the Tunnel to the satisfaction of the Director-General. The assessment shall include but not be limited to identification of anticipated runoff volumes, runoff treatment options and the potential impacts of runoff discharge into Stringybark Creek from a hydraulic/hydrological and environmental perspective.

Settlement

Dewatering Analysis

189. A detailed settlement study specific to all proposed construction stage dewatering shall be prepared to determine the potential extent of settlement and whether structures need to be protected through appropriate treatment. The study shall identify the implications and mitigation measures for buried services, roadways, buildings and other structures. The study shall investigate the proposed areas of dewatering operations and shall have particular reference to the following:

(a) entry and exit tunnels to/from the Pacific Highway;
(b) the area of the western vent stack exhaust tunnel, shall be conducted prior to commencement of tunnelling; and
(c) buildings on George Place, Artarmon.

Settlement Analysis

190. A detailed geotechnical model of representative geological conditions shall be prepared prior to commencement of tunnelling to identify and include significant geological structures. This model shall also include full details of existing and currently proposed excavations, basements and other sub-surface structures which may be impacted by the Project. The Proponent shall use this model to assess the predicted settlement and horizontal strain profiles caused by tunnelling.

191. Should the geotechnical model in Condition 190 indicate that exceedances of the criteria in Table 8 are likely, the Proponent shall implement mitigation measures such as appropriate support and stabilisation structures in consultation with the relevant land and/or infrastructure owners prior to the commencement of tunnelling to ensure where possible that underground services, infrastructure and adjacent buildings will not experience settlements exceeding the criteria Table 8.

Table 8 Settlement Criteria for Specific Structures

Beneath Structure/Facility	Maximum Settlement	Maximum Angular Distortion
Buildings		
Low or non sensitive buildings (i.e. ≤ 2 levels and carparks).	30 mm	1:350
High or sensitive buildings (i.e. ≥ 3 levels and heritage buildings).	20 mm	1:500

Beneath Structure/Facility	Maximum Settlement	Maximum Angular Distortion
Roads and Parking areas	40 mm	1:250
Parks	50 mm	1:250
Identified Utilities	to be determined in consultation with the relevant authorities	to be determined in consultation with the relevant authorities

The above criteria shall not remove any responsibility from the Proponent for the protection of existing structures or for rectifying any damages resulting from the Project.

192. Settlement criteria for individual sensitive utility structures including SWC services (*i.e.* brick sewers), gas, electricity and telecommunication services, shall be determined in consultation with the relevant authorities prior to the commencement of tunnelling.

Management

193. The Proponent shall install and monitor inclinometers and settlement monuments along the tunnel route throughout the construction period and for a period of not less than six (6) months after settlement has stabilised, with particular reference to risk areas identified in the building condition surveys required by Condition 78. If monitoring during construction indicates exceedance of the criteria then all work affecting settlement shall cease immediately and shall not resume until fully rectified or a revised method of work has been established that will ensure protection of affected structures.

Operation

194. The Proponent shall monitor settlement for any period as may be specified through the Independent Property Impact Assessment Panel referred to in Condition 80. The results of this monitoring shall be made available to the Director-General upon request.

Groundwater Inflow

195. Prior to commencement of substantial construction, the Proponent shall undertake detailed geotechnical investigations to the satisfaction of the Director-General to identify risk areas for groundwater inflow where treatment may be required to prevent groundwater inflow into the Tunnel or groundwater induced settlement. Particular reference shall be made to those areas identified as "high risk" in the EIS. The investigation shall include but not be limited to:

(a) monitoring existing groundwater for quality and quantity;
(b) groundwater contamination potential (including site histories);
(c) identifying treatment that may be required to prevent significant influence on the local groundwater or the surface flow in Stringybark Creek;
(d) the impact of groundwater drawdown on structures supported on pile foundations; and
(e) an assessment of the impacts of any proposed treatments on the natural groundwater flow paths and any resultant effects on surrounding ecological communities.

Groundwater Management Sub Plan

196. A detailed Groundwater Management Sub Plan shall be prepared to meet the requirements of DLWC and following consultation with the EPA and incorporated into the Construction Framework and Operation EMPs. The Sub Plan shall cover the complete tunnel and shall provide details of groundwater inflow and dewatering control measures to be undertaken during both the construction and operation stages respectively and include but not be limited to:

(a) impacts on nearby structures from potential settlement;
(b) groundwater inflow control, handling, treatment, reuse and disposal of contaminated groundwater;
(c) pre-construction and construction monitoring in accordance with the NSW EPA *Contaminated Sites: Sampling Design Guidelines* (NSW Environment Protection Authority 1995) to identify elevated concentrations of contaminants;
(d) auditing; and,
(e) procedures for mitigation through reinjection, grouting *etc.* identified in the dewatering analysis required by Condition 189, including:
    (i) detailed community consultation procedures;
    (ii) identification of sensitive structures requiring reinjection;
    (iii) identification of borehole spacing, borehole design, injection pipework, monitoring pipework and general system design and redevelopment; and,
    (iv) a detailed monitoring plan identifying piezometers locations and standards, construction details, monitoring frequency and analysis requirements; and
    (v) maximum allowable groundwater inflow.

Pre-Construction

197. Prior to substantial construction, the Proponent shall develop a program for implementation during construction, to monitor impacts of dewatering on groundwater before and during construction. The program shall include:

(a) identification of areas to be monitored;
(b) monitoring methods and equipment, data loggers for continuous groundwater level monitoring;
(c) the suitability for disposal of groundwater inflow/seepage into the tunnel; and
(d) frequency and duration of monitoring.

Construction Stage Dewatering

198. If dewatering is required at any stage during construction or operation, the impacts on groundwater users that could be affected by drawdown shall be identified and suitable mitigation measures proposed to the satisfaction of the DLWC. Any dewatering works required would need to be licensed by the DLWC for that purpose.

199. Probe ahead drilling shall be carried out beneath Stringybark Creek in conjunction with additional surface borehole investigations to protect against possibility that structural features in the rock link the tunnel with the creek waters, to confirm palaeochannel depth and infill composition and identify the need for pre-tunnel grouting. (Coffey report, November 2001, p. 45 & 57).

200. The ventilation tunnel to the vent stack at Sirius Road shall avoid the reservoir and dam embankment to reduce the risk of groundwater inflow and differential settlement respectively unless otherwise agreed to by the Director-General following further investigation.

201. Licensable groundwater works shall only be undertaken by drilling contractors who hold a current Drillers Licence issued by DLWC with appropriate endorsement for the nature of the work required.

202. A conventional spear point system shall be used to the satisfaction of DLWC for areas of the excavation where risks to structures are high and where it is desirable to install the system before excavation begins or desirable to locate the system outside the excavation for other reasons.

Operation Stage

203. The Proponent shall take all practicable measures to limit operational groundwater inflows to 3 litres/second/kilometre, or other such limit(s), established by the Proponent and agreed to by the Director General, based on detailed geotechnical investigations groundwater modelling and settlement analyses.

204. The Proponent shall monitor the quality of groundwater collected in the tunnel drainage system for a period of at least one (1) year after commissioning of the Project or any other such period as required by the Director-General and consistent with Condition 188. Seepage, spills, contaminated water, tunnel washing, fire fighting or other water in the tunnel which contains 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.

Acid Sulfate Soils

205. A detailed acid sulfate soils testing program shall be undertaken prior to commencement of excavation works for the Project (between the eastern and western portals, including construction access tunnels and exit/entrance tunnels from the Pacific Highway and ventilation stack tunnels), in areas required for bridge works associated with the Lane Cove River crossing and the Mowbray Road West construction compound. The testing shall determine the class and volume of potential or actual acid sulphate soils likely to be disturbed during construction. The testing program shall be developed and implemented in consultation with the DLWC.

206. Should the testing required in Condition 205 identify that the likelihood of excavating acid sulfate soils will be high, a detailed Acid Sulfate Soil Management Sub Plan shall be prepared to the satisfaction of the DLWC and following consultation with EPA and incorporated into the Construction Framework EMP. The Sub Plan shall include reference to the water quality monitoring program contained in the Construction Water Management Sub Plan and shall be prepared in accordance with the Acid Sulfate Soils Manual (ASSMC, 1998).

207. If testing undertaken in accordance with Condition 205 indicates that the potential for encountering acid sulphate soils is low, the Proponent shall prepare an Acid Sulfate Soil Contingency Plan prior to commencement of substantial construction and incorporated into the Construction Framework EMP. The contingency shall include measures for the unexpected discovery of actual or potential acid sulfate soils during construction. It shall be prepared in consultation with the DLWC. The ASS Contingency Plan shall be prepared in accordance with the Acid Sulfate Soils Manual (ASSMC, 1998).

Urban Design

208. A detailed Urban Design and Landscape Management Sub Plan(s) for the eastern and western vent stacks, air intake, tunnel control facilities and associated infrastructure shall be prepared in accordance with Condition 87 and the principles of the Framework Urban Landscape Plan. The plan(s) for any component shall be developed in consultation with relevant Councils for the approval of the Director-General prior to commencement of substantial construction works. The Sub Plan(s) shall consider, but not be limited to the following:

(a) the requirements of Conditions of Approval Nos 150, 151, 153 and 154;
(b) proposed treatments, finishes and materials of exposed surfaces (including colour specifications and samples);
(c) final location of the stacks to consider the need to minimise visual impacts on surrounding areas
(d) where appropriate, integration of the finished form with the existing structures and surrounding environment in accordance with the requirements of Condition 151.

The final design shall be prepared in consultation with the AQCCC, local Councils and approved by the Director-General.

Open Space

209. If the air intake is located at 130-132 Epping Road (subject to Condition 182) any remaining land not required for the operation of the air intake shall be dedicated to the relevant Council for use as open space, otherwise this condition is deleted..

Epping Road Surface Modifications

Bridge Construction

210. The Proponent shall ensure that wherever practical, piling activities are undertaken using bored piles. If driven piles are required they shall only be installed after the completion of a detailed noise and vibration impact assessment and in accordance with Conditions 186 and 65. The noise and vibration impact assessment shall be prepared in consultation with the EPA and the proposed works shall not be commenced without the prior approval of the EPA.

211. A detailed Urban Design and Landscape Management Sub Plan for the Lane Cove River crossing shall be prepared in accordance with Condition 87 and the principles of the Framework Urban Landscape Plan. The Plan shall be developed in consultation with the DLWC and NPWS for approval by the Director-General prior to commencement of construction works for the bridge. The sub plan shall consider, but not be limited to the following:

(a) proposed treatments, finishes and materials of exposed surfaces (including colour specifications and samples);
(b) finished form to prevent obstruction of the main watercourse;
(c) minimisation of direct and indirect impacts, including measures to limit clearing requirements and long term shading of mangroves;
(d) integration of the finished form with the existing bridge structures and surrounding environment, including the Lane Cove National Park and Great North Walk; and
(e) abutment design and location to allow for pedestrian access, fauna movement and vegetation linkages.

Public Transport

212. No more than six (6) months after Project opening the Proponent shall install continuous 24 hour bus lanes in both directions on Epping Road/Longueville Road from Mowbray Road West to the commencement of the Gore Hill Freeway in consultation with the PTC.

213. No later than at the time of Project opening the Proponent shall install bus priority facilities for westbound traffic on Epping Road at Mowbray Road West, Pittwater Road and Delhi Road intersections in consultation with the PTC.

214. No later than at the time of Project opening the Proponent shall install a continuous AM peak T3 lane on Epping Road between Delhi Road and Mowbray Road West for eastbound traffic in consultation with the PTC.

215. No more than six (6) months after Project opening the Proponent shall install bus lane enforcement systems on Epping Road for both eastbound and westbound bus lanes in consultation with the STA, PTC and NSW Police Service.

Pedestrian and Cycleway Access

216. The Proponent shall ensure that at-grade pedestrian crossings are provided at the following locations to allow pedestrians to cross in a single uninterrupted stage across:

(a) Epping Road on the western side of the junction with Longueville Road (not including the slip lane from Longueville Road northbound to Epping Road westbound);
(b) Epping Road at the junction with Mowbray Road west

> *Note: The intent of Condition 216 is to ensure that pedestrians are able to cross Epping Road in a single unbroken journey and are not required to wait on the median for a second pedestrian crossing phase and to ensure that pedestrians receive equal priority on the downgraded Epping Road surface route.*

217. The Proponent shall design the footpath next to the "Azalea Bed" display on Epping Road in consultation with Lane Cove Council and the relevant CLG.

Property Impacts

218. Prior to any construction works commencing on the Epping Road surface route, the Proponent shall prepare a Business Management Strategy in consultation with all businesses affected during the construction stage. The objective of the Strategy shall be to minimise impacts on local businesses through appropriate signage, maintaining vehicular and pedestrian access during business hours, minimising noise and dust impacts and retaining visibility of the business appropriate to its reliance on such. A draft Strategy shall be made available to all businesses and to relevant local Council(s) for comment for a period of no less than 21 days. The final Strategy shall indicate how any issues raised on the draft have been addressed in the final Strategy. The Strategy shall be made publicly available.

219. The design of the Project and the resultant acquisition (freehold, easement or other arrangement) of land from the BP service station on Epping Road must be undertaken in a way which ensures that the ability to operate the service station is protected. In particular, the Proponent must ensure that all necessary boundary and other setbacks to the storage tanks, associated dispensers and other critical components of the service station to satisfy the relevant Australian Standards and other safety related requirements. The Proponent shall bear the costs of any changes required to the Property.

220. The Proponent shall ensure that all businesses affected by altered traffic arrangements are consulted at least 10 days prior to any affectation and shall endeavour where practicable to maintain access at all times.

Urban Design and Landscaping

221. The Urban Design and Landscape Sub Plan for the Epping Road corridor between Mowbray Road West and the Pacific Highway prepared in accordance with Condition 87 shall be prepared in consultation with the local community, the CLG, Lane Cove, Willoughby and Ryde councils, PTC and the Director-General. The Sub Plan shall be based on the landscape plans prepared by Hassell Pty Ltd dated February 2002 titled "Epping Road Additional Planting Opportunities (Moore Street to Centennial Avenue)" and "Epping Road Planting Opportunities (Centennial Avenue to Parklands Avenue)" and shall include, but not be limited to:

(a) sections and perspective sketches;
(b) methodology of landscaping works;

(c) built elements including bridges and other structures, retaining walls, noise walls and toll infrastructure;
(d) road furniture including safety barriers, kerbs, paving, signage, lighting and medians;
(e) consideration of undergrounding electricity transmission lines;
(f) pedestrian and cycle elements including footpaths and paving, pedestrian crossings/overpasses and fixtures (i.e. tree guards, seating, lighting, fencing and signage);
(g) public transport facilities;
(h) landscape elements including proposed treatments, finishes and materials of exposed surfaces (including colour specifications and samples);
(i) timing and staging of works, methodology, monitoring and maintenance;
(j) location and identification of existing and proposed vegetation including use of locally native species and target survival rates for plantings; and
(k) specific measures to maintain the "azalea display" on Epping Road.

The Urban Design and Landscape Sub Plan shall consist of a report with accompanying annotated plans, sections and perspective sketches, photomontages and other illustrative material at a scale and level of detail which is adequate to convey the Project.

222. The Proponent shall prepare a specific Urban Design and Landscape Management Sub Plan for the Longueville Road bus interchange and pedestrian overbridge which is consistent with the urban design and landscape features identified for the Epping Road corridor in Condition 221. The Sub Plan shall include consideration of, but not be limited to:

(a) the role of this intersection as the eastern "gateway" to Epping Road and beyond;
(b) proposed treatments, finishes and materials of exposed surfaces (including colour specifications and samples);
(c) integration of the finished form with the existing structures and surrounding environment;
(d) the landscape plan by Hassell dated February 2002 titled "Epping Road Planting Opportunities (Centennial Avenue to Parklands Avenue) and "Epping Road Master Plan (Parklands Avenue to Pacific Highway);
(e) pedestrian safety and visibility;
(f) the adequacy of footpaths to accommodate passengers and the general public, incorporating the required abutments;
(g) appropriate shelter and seating;
(h) help point phones; and
(i) safe access to and from the interchange.

The final design of the bus interchange shall be to the satisfaction of the STA in consultation with Lane Cove Council and the PTC. Ownership and maintenance of the bus interchange and overbridge shall be determined in consultation with Lane Cove Council and the STA at least six months prior to opening.

223. On completion of the pedestrian overbridge at Longueville Road and Epping Road, the existing pedestrian bridge at Kimberley Avenue shall be removed and the immediate area be rehabilitated in accordance with the Urban Design and Landscaping Management Sub Plan required in Condition 87.

224. Additional investigations to determine the likely success or otherwise of transplanting the fig tree on the southern side of Epping Road near the Lane Cove River shall be undertaken by a qualified arborist. In the event that transplantation is unlikely to be successful, alternative mitigation measures shall be identified and implemented as required.

Gore Hill Freeway

Noise and Vibration

225. Operational noise mitigation measures shall be installed consistent with those described in Appendix M of the Representations Report, the ECRTN and RTA's Environmental Noise Management Manual. Prior to installation of these mitigation measures the Proponent shall consult with the community affected and with the EPA. The approval of the Director-General is required for any changes to proposed noise mitigation measures.

Cycleway

226. The cycleway through the Willoughby Road/Naremburn shops area shall be designed consistent with Figure 4.8 of the Director-General's report to avoid potential conflicts with traffic and pedestrians and to maximise free flow of traffic. The Proponent shall consult with Bicycle NSW, relevant bicycle groups, Willoughby Council and the relevant CLG in developing the final design.

Traffic

227. The Proponent shall ensure that one lane in each direction on the entire length of the Gore Hill Freeway is a dedicated 24 hour T2 lane.

228. The Proponent shall ensure that the design ensures priority for eastbound buses in the merge between the Longueville Road bus lane and the Gore Hill Freeway transit lane to the satisfaction of the PTC.

229. The Proponent shall investigate the installation of a bus lane or other suitable bus priority measures for southbound traffic between the end of the T2 lane on the Gore Hill Freeway and the existing southbound bus lane on the Warringah Expressway. The Proponent shall implement recommendations of the investigation to the satisfaction of the Director-General following consultation with the PTC within 1 month of opening of the Project to traffic unless otherwise agreed to by the PTC.

230. The Proponent shall investigate alternative procedures and/or facilities, including an alternative bus layover to manage bus movements to the City along the Warringah Expressway. Any alternative procedures and/or facilities shall be prepared in consultation with and to the satisfaction of the PTC, STA and relevant private bus operators. Any procedures and/or facilities shall be in place and operational prior to the commencement of construction of the north-facing Falcon Street ramps.

231. Prior to Project opening, the Proponent shall install transit lane enforcement bays on the Gore Hill Freeway and bus lane enforcement required on the Pacific Highway in consultation with the NSW Police Service, STA and the PTC.

Pedestrians and Cyclists

232. Unless otherwise agreed by the Director-General, the Proponent shall install pedestrian crossing(s) across Reserve Road in the vicinity of the Gore Hill Freeway in consultation with Willoughby City Council.

233. During the detailed design stage, the proponent shall investigate options for the location of the proposed cycleway away from the rear of properties on Olympia Road, Naremburn in consultation with Willoughby City Council, BicycleNSW and the relevant CLG. This shall include at least the option of putting the cycleway on areas adjacent to the Gore Hill Freeway. The objectives of the investigations shall be to ensure the best level of service for cyclists whilst maximising the privacy of residents to the greatest extent practicable. The final proposed design for the cycleway in this location shall require the approval of the Director-General.

Hydrology

234. The Proponent shall undertake further hydrological assessment of the Flat Rock Creek catchment prior to commencement of substantial construction to the satisfaction of the Director-General. The assessment shall include, but not be limited to:

(a) confirmation of predicted increases in peak surface water levels and peak discharge;
(b) identification of affected properties and the critical flood event at which affected properties become inundated and how these would be affected by the Project;
(c) extent of inundation for affected properties at and above the critical flood event with the Project in place; and
(d) comparison of the options available to ensure that flooding impacts are no greater than those currently experienced within the catchment, including a cost effectiveness comparison.

Falcon Street Ramps

Traffic and Access

235. The Proponent shall ensure that at grade pedestrian access is maintained across Falcon Street and Military Road from Merlin Street south to Merlin Street north unless otherwise agreed to by the Director-General.

236. The Proponent shall consult with North Sydney City Council during the detailed design stage of the Falcon Street ramps and revised traffic movements around the residential island on Falcon Street with regard to the masterplanning process for that area. Where practicable the Proponent shall incorporate any relevant recommendations of the masterplanning process area into the final design.

237. A continuous bus lane shall be provided on Falcon Street/Military Road (eastbound) from the Warringah Expressway northbound exit ramp to Big Bear Shopping Centre unless otherwise agreed to by the Director-General.

238. The Proponent shall install a bus indent bay on Military Road to the east of Merlin Street north. The location and design of the bay shall be to the satisfaction of the State Transit Authority.

239. The Proponent shall investigate installation of a 24 hour bus lane in the westbound direction on Falcon Street between the Warringah Expressway and Miller Street in consultation with the PTC. Any installation of bus lanes resulting from these investigations shall be completed within one (1) month of opening of the Project

240. Additional to Condition 239 the Proponent shall investigate measures to "capture" additional road capacity created by reduced traffic levels on Falcon Street between the Pacific Highway and Warringah Expressway for approval by the Director-General. Such measures may include installation of T2 lanes or other public transport enhancement measures. These investigations shall be carried out in consultation with the PTC and the recommendations shall be forwarded to the Director-General. The Proponent shall implement recommendations of the investigation to the satisfaction of the Director-General within 6 months of opening of the Project to traffic unless otherwise agreed by the Director-General.

Noise and Vibration

241. The Proponent shall install noise mitigation measures for traffic noise on the southbound Falcon Street ramp in accordance with the Environmental Criteria for Road Traffic Noise (ECRTN) and the RTA's Environmental Noise Management Manual only after consultation with affected residents and the EPA, and detailed consideration of visual impacts. Installation of noise mitigation measures shall be to the satisfaction of the Director-General.

Urban Design and Visual

242. The Proponent shall prepare an Urban Design and Landscaping Sub Plan for the Falcon Street ramps and pedestrian overbridge in accordance with Condition of Approval No. 87 which shall consider:

(a) noise barriers on the eastern side of the Warringah Expressway;
(b) road furniture including safety barriers, kerbs, paving, signage, lighting and medians
(c) pedestrian and cycle elements including footpaths and paving, pedestrian crossings/overpasses and fixtures (i.e. tree guards, seating, lighting, fencing and signage);
(d) public transport facilities in consultation with the PTC;
(e) proposed treatments, finishes and materials of exposed surfaces (including colour specifications and samples);
(f) integration of the finished form with the existing structures and surrounding environment; and
(g) pedestrian safety and visibility, with reference to the DoP/NSW Police Service publication *Safer by Design*.

Moore Street Compound

General

243. Prior to any works at the proposed Moore Street compound site, the Proponent shall investigate alternative sites and alternative construction compound designs to address the potential environmental impacts. The assessment shall include as a minimum:

(a) detailed comparative assessment of all viable alternative sites and justification for use of this site and implications for the Project of not using it;
(b) results of consultation with affected residents, EPA, DLWC and Lane Cove Council;
(c) alternative construction compound designs, including locations of spoil stockpile, truck wheel wash, site access etc.;
(d) traffic management, with particular attention to management of access to Moore Street during peak periods;
(e) alternative means of spoil disposal to eliminate heavy vehicle traffic from Moore Street;
(f) all feasible options for noise and dust/air quality mitigation measures including cost effectiveness of the options considered;
(g) consideration of alternative means of operating the site including works scheduling, maintenance requirements etc.;
(h) impacts on vegetation and measures to minimise impacts for the alternative designs considered; and
(i) visual impacts for surrounding residents and options for screening to minimise those impacts.

The primary objective of the consideration of alternative designs and methods of operation shall be to minimise environmental impacts on local residents.

The assessment shall nominate a final site and construction compound design which shall require the approval of the Director-General at least one (1) month prior to the commencement of any works at Moore Street compound site.

244. Should the Proponent obtain approval for the Moore Street Compound under Condition 243, Conditions 245 to 259 apply, otherwise Condition 245 to 259 are deleted.

245. Any non compliance with the requirements of Conditions 245 to 256 inclusive may be identified by the Department as a breach of this condition. The Director-General may direct the Proponent to provide a report within two (2) working days outlining the cause of the non-compliance and measures implemented or to be implemented to prevent recurrence. If the Proponent fails to implement the required actions within a period specified by the Director-General, or the nature of the non-compliance is of high impact significance, the Director-General may direct the Proponent to expend an amount, which is to be calculated as the aggregate of $10,000 (CPI adjusted) for each day on which any one or more of the non-compliances occurs or remains outstanding.

    In the event that the Proponent is directed to expend any amount as required under this Condition, it shall, within 3 months, prepare a strategy in consultation with local residents and Lane Cove Council and approved by the Director-General on how any money shall be spent

246. All external surface construction activities at Moore Street, including transportation of spoil, shall be restricted to the hours of 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.

    Works outside these hours that may be permitted include:

    (a) the delivery of materials which is required outside these hours as requested by Police or other authorities for safety reasons;
    (b) emergency work to avoid the loss of lives, property and/or to prevent environmental harm; and
    (c) any other work as agreed by the EPA through licence conditions, provided local residents are informed of the timing and duration at least 48 hours prior to commencement of the work.

247. The Proponent shall prepare a Construction Method Statement (CMS) specifically for the Moore Street compound. The CMS shall contain a detailed assessment of the following as a minimum:

    (a) Noise and vibration;
    (b) construction and residential traffic management;
    (c) air quality and dust management;
    (d) flora and fauna;
    (e) water quality;
    (f) heritage; and
    (g) site rehabilitation and revegetation.

Traffic

248. Construction vehicle access and egress to Moore Street shall be directly to/from Epping Road only. Construction vehicle access to/from Epping Road shall be left in left out only during peak periods (6:00 am to 10:00am and 3:00 pm to 7:00 pm). Right hand turns into Moore Street from Epping Road shall only be permitted outside peak periods. Right hand turns from Moore Street to Epping Road shall not be permitted at any time.

249. A truck wheel wash shall be installed in accordance with the outcomes of Condition 243 to be utilised by all trucks and machinery leaving the site such that no material is tracked onto public roads.

Air Quality and Dust Management

250. The proposed construction works at the Moore Street compound must satisfy the following dust management objectives at the most sensitive receptor:

(a) 4g/m^2/month annual average for dust deposition (insoluble solids); and
(b) 90µg/m^3 annual average for TSP.

The monitoring shall be in accordance with the requirements of Table 9 as specified in Condition 251.

Note: The intent of Condition 250 is to provide objectives to be achieved in managing dust generated at the site. The stated TSP concentration provides a trigger for action rather than being a compliance goal. If the 1 hour average of 180 µg/m^3 stated in Condition 251 is not exceeded, it is unlikely that the annual average goals would be exceeded.

251. The Proponent shall develop a reactive dust management plan to ensure compliance with Condition 250. The reactive dust management plan shall be triggered at a TSP concentration level of 180 µg/m^3 as a 1-hour average or as otherwise agreed to by the Director-General. The monitoring shall be conducted at the most sensitive receptor and in accordance with the requirements of Table 9. The dust management plan shall be developed following consultation with the EPA for the approval of the Director General.

Table 9 – Moore Street Compound Ambient Dust Monitoring

Pollutant	Units of measure	Frequency	Method[1]
Dust deposition rate	g/m²/month	Continuous	AM-19
TSP0	µg/m^3	Continuous	AS3580.9.8-20012
Pollutant	**Units of measure**	**Frequency**	**Method[1]**
Siting	-	-	AM-1

Note: [1]NSW EPA, 2001, Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales
[2] Without size selective PM_{10} inlet or as otherwise agreed to by the Director-General.

Noise

252. Noise emanating from the operation of the Moore Street construction compound must not exceed the following sound pressure levels at the nearest sensitive receptor unless otherwise approved by the EPA under an Environment Protection Licence for the Project:

(a) 68 dB(A) $L_{A10\ (15\ minute)}$ between 7:00am and 6:00pm Monday to Friday and 8:00am to 1:00pm Saturday;
(b) 58 dB(A) $L_{A10(15\ minute)}$ between 6:00pm and 10:00pm on any day;
(c) 44 dB(A) $L_{A10(15\ minute)}$ between 10:00pm and 7:00am on any day and between 1:00pm and 6:00pm on Saturday;
(d) 54 dB(A) $L_{A(1\ minute)}$ between 10:00pm and 7:00am on any day.

The modification factors presented in Section 4 of the *NSW Industrial Noise Policy* shall also be applied to the measured or computed noise levels where applicable.

Note: Noise from the premises is to be measured at the most affected point on or within the residential property boundary of the most sensitive receptor to determine compliance with the $L_{A10(15\ min)}$ levels. Noise from the premises is to be measured at one (1) metre from the dwelling façade of the most sensitive receptor to determine compliance with the $L_{A1(1\ minute)}$ levels.

Water Quality

253. The Proponent shall ensure that all appropriate soil and erosion and sediment control works are completed and in place prior to 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 activity. These controls shall be maintained until all ground surfaces are stabilised and revegetated.

Heritage

254. An archaeological investigation shall be undertaken at the Moore Street compound prior to substantial construction at the compound. The investigation shall be conducted by an archaeologist and accompanied by a representative of the Metropolitan Local Aboriginal Land Council. Results and recommendations of the investigation shall be included and considered in the preparation of the Heritage and Archaeology Management Sub Plan required in Condition 100.

Site Rehabilitation

255. Prior to commencement of substantial construction at Moore Street compound, the Proponent shall consult with the Lane Cove Council, affected Moore Street community and the relevant CLG regarding rehabilitation of the site following construction. The Proponent shall rehabilitate the Moore Street compound site footprint to native bushland using locally native species in consultation with NPWS and in accordance with the Site Rehabilitation and Revegetation Management Sub Plan required in Condition 256. Additional areas to be rehabilitated at a minimum ratio of 2:1 (for the area affected at Moore Street), shall include but not limited to reinstatement of bushland corridors along the Stringybark Creek and Lane Cove River corridor. Additional areas, including any bushland corridors along the Stringybark Creek and Lane Cove River corridor to be rehabilitated shall be identified in consultation with Lane Cove Council and subject to agreement with the landholder(s). The bushland rehabilitation proposal shall be approved by the Director-General prior to completion of construction at the Moore Street compound site.

256. A detailed Site Rehabilitation and Revegetation Management Sub Plan shall be prepared at least six (6) months prior to completion of construction activities at Moore Street and site decommissioning as part of the Construction Framework EMP. The long term objective of the plan shall be to rehabilitate the Moore Street compound site and any other areas identified under Condition 255 for revegetation, particularly where opportunities to reinstate fauna movement corridors are available. The Plan shall include but not be limited to the following:

(a) consideration of completion of construction and site withdrawal activities;
(b) outcomes of consultation with Lane Cove Council, DLWC, NPWS, affected residents and the CLG;
(c) consideration of existing native species on site and likely vegetation prior to the construction of Epping Road;
(d) consideration of the final landform of the site and the locally native species most likely to succeed following revegetation;
(e) water quality and hydrology prior to site filling;
(f) condition of upstream and adjacent bushland areas and any measures required to be implemented to maximise success of site rehabilitation and revegetation;
(g) defined targets for all actions proposed, including but not limited to anticipated success rates and/or other suitable performance measures;
(h) initial establishment and maintenance programs for a minimum of five (5) years from site decommissioning; and

(i) ongoing management of the site.

The Plan shall be submitted to the Director-General for approval.

257. Any failure to achieve the actions and or/targets identified in the Site Rehabilitation and Revegetation Management Sub Plan required in Condition 256 or non-compliance with Conditions 258 or 259 within the specified timeframe may be identified by the Department as a breach of this condition. The Director-General may direct the Proponent to implement such actions as to achieve the desired outcomes and/or targets within 30 days. If the Proponent fails to implement the required actions within the specified period, the Director-General may direct the Proponent to expend an amount, which is to be calculated as the aggregate of $10,000 (CPI adjusted) for each day on which any one or more of the actions and/or targets specified in the Site Rehabilitation and Management Sub Plan remain outstanding. Any money required to be expended shall be used for additional bushland revegetation works determined in consultation with Lane Cove Council and approved by the Director-General.

Note:	*Nothing in this Condition shall prevent, limit or restrict any statutory requirements under any legislation nor shall it limit any action being undertaken under the EP&A Act.*

258. Rehabilitation of the Moore Street Construction compound and any other areas identified in Condition 256 shall be in accordance with the approved Site Rehabilitation and Revegetation Management Sub Plan.

259. Fill material imported to the Moore Street Compound site shall be removed following completion of works and decommissioning of the site unless otherwise agreed to by the Director-General and relevant Council in accordance with the Site Rehabilitation Management Sub-Plan.

ATTACHMENT 1

Guidelines for the Establishment of the Community Liaison Group

The proponent shall consider the following when establishing a Community Liaison Group:

1. The Group shall comprise at least two (2) representatives of the Proponent (including the Environmental Management Representative), at least one (1) representative of Council, at least two (2) community representatives and one (1) business representative (where relevant).

2. At its first meeting, the Group shall consider its interrelationship with any existing community liaison/ consultative groups of adjoining or interrelated developments.

3. Representatives from relevant government agencies or other individuals may be invited to attend meetings as required by the Chair.

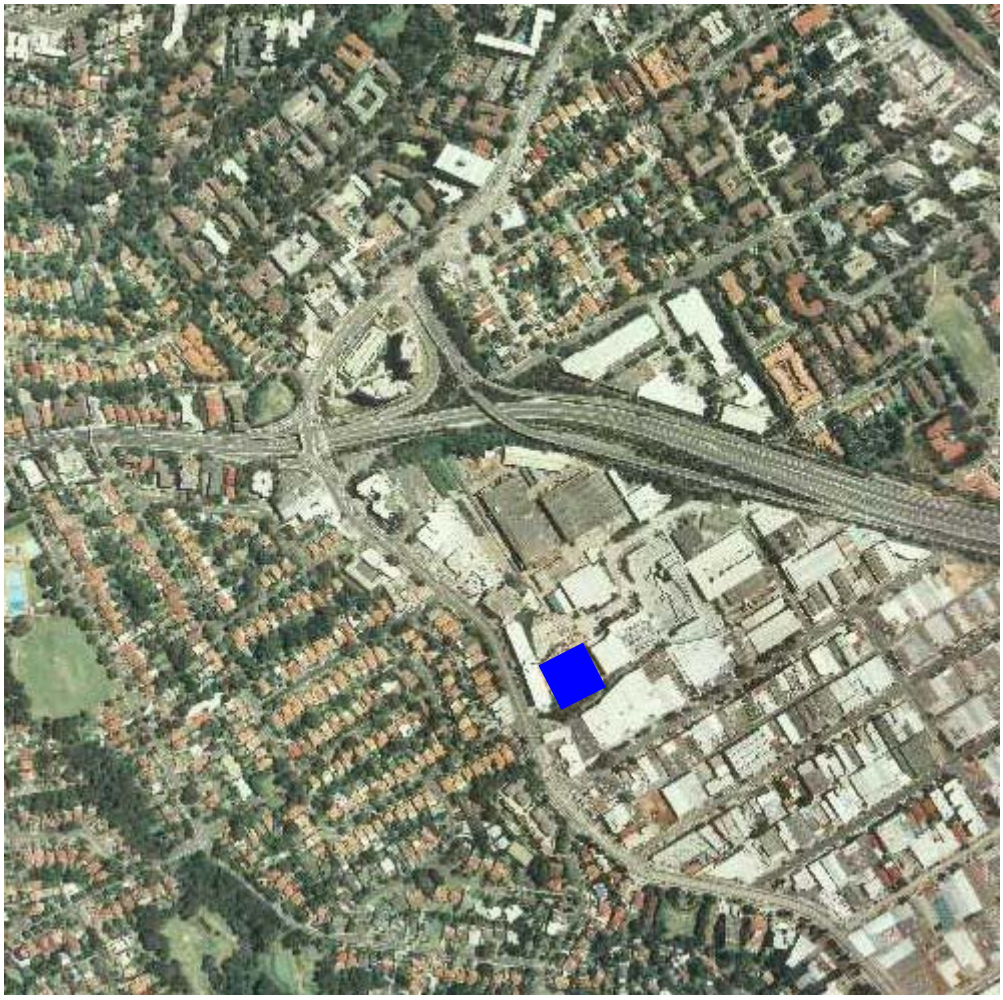
4. Minutes shall be taken for each meeting and be agreed to by the Group prior to commencement of the following meeting

5. The Proponent shall, at its own expense:

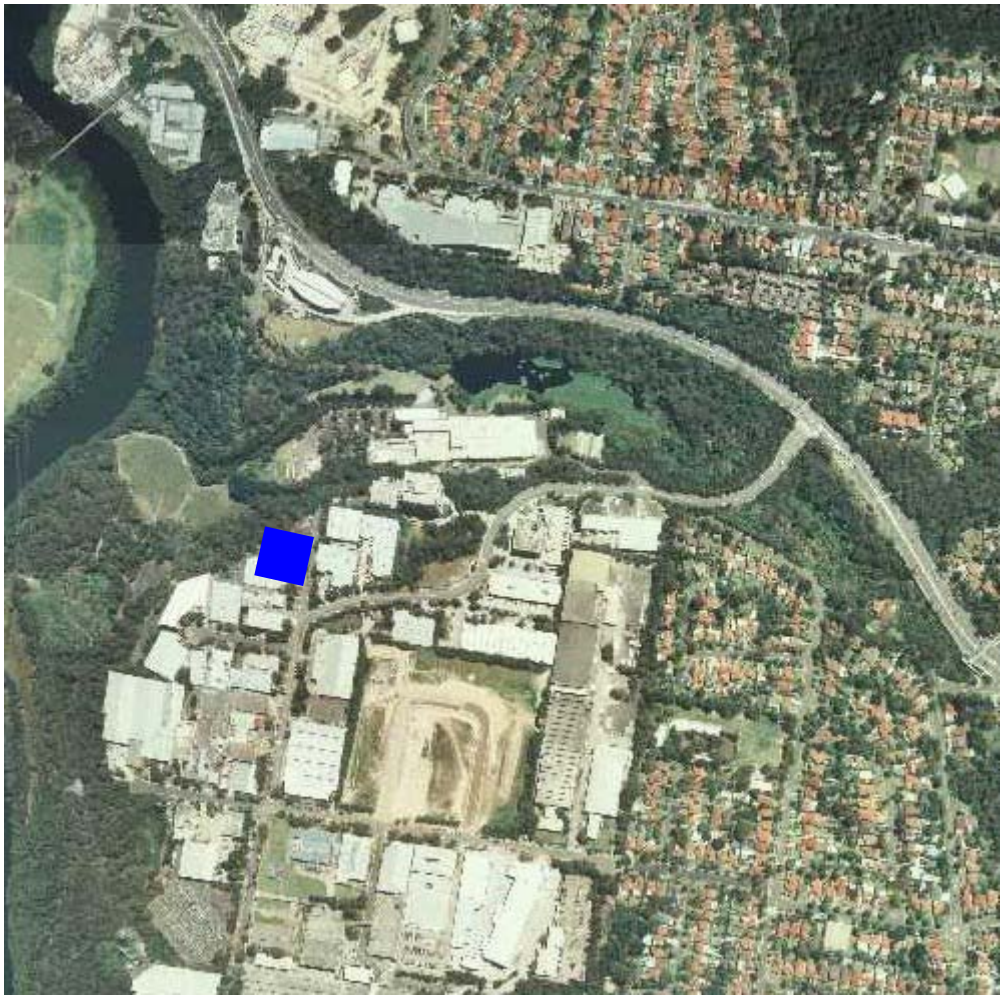
- nominate two (2) representatives to attend all meetings of the Committee;
- provide to the Group regular information on the progress of work and monitoring results;
- promptly provide to the Group such other information as the Chair of the Group may reasonably request concerning the environmental performance of the development;
- provide access for site inspections by the Group; and
- provide meeting facilities for the Group, and take minutes of Group meetings. These minutes, once endorsed by the Chair, shall be available for public inspection at Council within 14 days of the meeting.
- The Proponent shall ensure that minutes from Community Liaison Group meetings, annual reports and other public reports required by this approval, and results and interpretation of monitoring required by this Consent are placed on the Internet for public information within 14 days after they are available. The Internet address is to be made publicly available.
- Where reasonably required the Proponent shall meet all reasonable costs to engage independent consultants to interpret relevant technical information and tasks of a similar nature as agreed by the relevant CLG. In the circumstance of any disagreement, the Director-General's decision shall be final.

ATTACHMENT 2

Plan of Eastern and Western Vent Stack Locations



Eastern Vent Stack Location



Western Vent Stack