

---

## APPENDIX 1

### Schedule 1

#### Stated Conditions for *Integrated Planning Act 1997 (IPA)* Approvals

1. **For operational work that is the removal, destruction or damage of a marine plant**
  - (a) Any development application for operational work that is the removal, destruction or damage of a marine plant, must include information identifying:
    - (i) the areas likely to be disturbed by that work;
    - (ii) any species of marine plants likely to be affected by that work;
    - (iii) any potential changes to tidal flows likely to affect a marine plant and resulting from that work.
  - (b) Where mangrove removal cannot be avoided, site conditions are to be made suitable for the recolonisation of mangroves once construction is completed, in accordance with *Fish Habitat Guideline 002 – Restoration of Fish Habitats, Guidelines for Marine Areas, DPI, 1998*.
  - (c) Marine plants authorised for removal and/or other residual material used in the works are to be removed from the intertidal zone, unless the material is to be used in a restoration project accepted by the Chief Executive of the Department of Primary Industries and Fisheries.
2. **For operational work that is constructing or raising waterway barrier works**
  - (a) Prior to undertaking any waterway barrier works that is assessable development under the IPA, approval for operational works to construct or raise waterway barriers must be held.
3. **For operational work that is tidal work**
  - (a) Any development application for operational work that is tidal work under the IPA or operational work within a coastal management district, must include detailed information describing, among other things, the scale and nature of the proposed work, and the predicted impacts on tidal flows and hydrology, stability of the streambed and banks, erosion and deposition regimes, and navigation and other uses of the tidal waters.
4. **Material change of use of premises if all or part of the land is on the Environmental Management Register or Contaminated Land Register**
  - (a) Undertake site history investigations of the tunnel alignment to identify areas of potential soil contamination. Soil suspected of being contaminated must be adequately appraised by a suitably qualified person in accordance with the *Environmental Protection Act 1994 (EP Act)*.

- (b) Undertake investigations in locations where earthworks may potentially encounter contaminated soils (i.e. land that is listed on the Environmental Management Register (EMR) or identified areas from a site history and observations analysis). The *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland 1998* must be adhered to in these investigations. Any land identified as having contaminated soil must be notified to the EPA Contaminated Land Unit.
- (c) Contaminated soil can only be removed from land listed on the EMR or Contaminated Land Register (CLR) with prior EPA Contaminated Land Unit approval and under a disposal permit in accordance with the EP Act.
- (d) Prepare and implement a Site Management Plan for contaminated land on the tunnel alignment where that land is not being removed from the EMR or CLR prior to any surface disturbance of the soil on that land, in accordance with:
  - (i) *Australian and New Zealand Environment and Conservation Council/National Health and Medical Research Council - Guidelines for Assessment and Management of Contaminated Sites*; and
  - (ii) the EP Act.
- (e) If spills occur during the transportation of contaminated soil, the area affected will be remediated and the relevant authorities advised.
- (f) For both managed sites and sites without a Site Management Plan that are listed on the EMR or CLR, validation sampling and appropriate analysis will need to be conducted following remediation or covering. Analysis must be undertaken by a suitably qualified person in accordance with the EP Act.

## 5. **Development on a heritage registered place**

- (a) Building condition surveys must be conducted of each place on the Queensland Heritage Register which is the subject of a development application (“place of State significance”) prior to any works commencing which may impact on the place of State significance, to record present conditions. The building condition surveys must include detailed structural inspections prior to construction, including all timber framing, stonework, brickwork, and sealing of all timber in the stone/brickwork.
- (b) Prior to any works commencing which may impact on the place of State significance, prepare specific Cultural Heritage Management Plans for each place, including the following elements:
  - (i) establish and implement monitoring programs for places of State significance to assess building movement and condition;
  - (ii) include vibration goals and their monitoring and recommended actions if the goals may be exceeded;
  - (iii) archival recording of all elements of cultural heritage significance that will be removed or demolished;

- (iv) monitor the construction works which may uncover archaeologically significant records; and
  - (v) consult with the EPA in an effective and timely manner, particularly where the potential exists for the construction works to impact on a place of State significance.
- (c) Conduct archival recording of cultural heritage significance of the following sites prior to carrying out relevant construction works:
- (i) Kalinga Park between Kalinga Street and Sandgate Road, Clayfield;
  - (ii) Police Citizens Youth Welfare Association Headquarters at Lutwyche; and
  - (iii) Former Swan Hill residential estate at Windsor in the vicinity of Earle Street, prior to demolition.

---

## Schedule 2

### Recommended Conditions for Other Approvals

#### 1. Aboriginal Cultural Heritage

- (a) The Proponent must develop and have approved under the *Aboriginal Cultural Heritage Act 2003*, a Cultural Heritage Management Plan (CHMP) prior to any excavation, construction or other activity that may cause harm to Aboriginal cultural heritage.

#### 2. Connection to a State Controlled Road

- (a) Approval must be obtained from the chief executive of the Department of Main Roads under the *Transport Infrastructure Act 1994* for carrying out works for connections to any State controlled road.

#### 3. Interference with a Railway

- (a) Approval must be obtained from the railway manager prior to any interference with a railway under the *Transport Infrastructure Act 1994*.
- (b) If any Project works are likely to interfere with the operation of rail services, consult with the railway manager to identify actions which will minimise disruption to rail services.

#### 4. Road Closures

- (a) Any road closures required must follow the procedure set out in the relevant legislation.

---

## Schedule 3

### Imposed Conditions

The Project will be implemented as described in these Conditions. Schedule 4 describes which entity has jurisdiction for the conditions and the entities that should be consulted by the Proponent.

#### Construction Phase

##### 1. Community Engagement

- (a) To keep the community informed during the construction phase of the Project, a community engagement process be developed and implemented which includes, but is not limited to:
  - (i) formation of a Community Consultative Committee (CCC) for each locality in which a work site is to be situated (eg Windsor, Lutwyche/Kedron and Clayfield). The purpose of the CCC is to provide timely advice to the Proponent about construction issues. At least one representative from each of the Kedron State High School and Woolloowin State School communities must be invited to join the Lutwyche/Kedron CCC. Each CCC must be established prior to the commencement of works in a locality and will be 'decommissioned' upon completion of construction works;
  - (ii) early establishment of community information services which must include but is not limited to toll-free telephone service with 24 hour, 7 day servicing, project website and email service, regular newsletters, scheduled information sessions or open days;
  - (iii) availability of information through the Project website generally and in response to specific inquiries about environmental performance;
  - (iv) early and on-going engagement with owners and occupants of premises adjacent to the proposed works or proposed mitigation measures;
  - (v) early notification of owners and management of critical premises such as hospitals, nursing homes and schools likely to be affected by proposed construction works in terms of their scale, duration, location and potential effects;
  - (vi) a complaints process, which delivers a prompt response to community concerns with relevant information, action where required, and reporting of incidents, integrated within a wider environmental reporting framework established in the Environmental Management Plans (EMPs); and
  - (vii) where required, special procedures to respond to complaints, issues or incidents, such as face-to-face meetings and on-going communications with affected parties and a documented process for issues resolution.

## 2. **Building Works**

- (a) Toll road control buildings associated with the Project must be designed sympathetically to the surrounding environment. Temporary buildings associated with the Project must be designed and sited to reduce impacts on adjoining properties where practicable.
- (b) Buildings over worksites and toll road control buildings must be designed so that shadowing and light spill onto adjacent premises is minimised.

## 3. **Urban Mitigation**

- (a) A program of urban mitigations that form part of the Project must be submitted to the Coordinator-General prior to the commencement of construction. The program must be developed in consultation with relevant affected agencies, including Brisbane City Council, the Office of Urban Management and other relevant State agencies and must:
  - (i) identify the urban mitigations proposed, generally consistent with those urban mitigations described in Chapter 20, section 20.6 of the EIS;
  - (ii) identify the location of urban mitigations;
  - (iii) identify the entity responsible for delivering the urban mitigations; and
  - (iv) describe the timeframe within which urban mitigations are proposed to be undertaken.

## 4. **Environmental Management**

- (a) A comprehensive "Construction EMP" must be prepared and implemented. The Construction EMP may be developed in stages to address each relevant stage of construction. It should be developed generally in accordance with the Draft Outline EMP (Construction) in Chapter 19 of the EIS, except where the matter is addressed by these Conditions and then to the extent required by these Conditions. An outline, structure and schedule of updates to the Construction EMP must be submitted to the Coordinator-General at least 60 days prior to the commencement of any construction operations for this Project. 30 days prior to the commencement of relevant stages of construction works, the relevant update of the Construction EMP for those works must be submitted to the Coordinator-General.
- (b) The Construction EMP may allow for progressive assessment of predicted impacts and design of mitigation measures prior to the relevant stages of construction works.
- (c) The Construction EMP must accord generally with the following framework:
  - (i) **Environmental objectives and performance criteria** – The Construction EMP must adopt and incorporate the environmental objectives and performance criteria set out in the EIS Chapter 19 Draft Outline EMP (Construction);

- A. **EMP Sub-Plans** – The Construction EMP is to incorporate sub-plans as required by these Conditions to address in detail specific environmental impacts of the construction works. EMP Sub-Plans must include measures designed to comply with the relevant industry standards for environmental management set out in Schedule 6 to these Conditions.
- (d) The Construction EMP and EMP Sub-Plans must be based on predictive studies which have regard to the scale, intensity, extent, location and duration of construction works. Properties which would be adversely affected should be identified.
- (i) **Design of mitigation measures** - Mitigation measures must be designed in response to the predicted impacts, with detailed design measures to address localised impacts where necessary.
- Mitigation measures may include a wide range of measures such as, but not limited to, changes in work procedures and practices, physical interventions to separate or buffer places from predicted construction impacts or physical relocation of affected parties for agreed periods of time. Such measures must be directed to achieving the environmental objectives and performance criteria set out in the EIS Chapter 19 Draft Outline EMP (Construction), the statutory requirements, and must be consistent with these Conditions. They may include the mitigation measures contained in the Draft Outline EMP (Construction) in Chapter 19 of the EIS or may include other measures, provided those other measures achieve the environmental objectives and performance criteria, the statutory requirements and these Conditions.
- (ii) **Monitoring** – On-going monitoring must be conducted to identify the effectiveness of the mitigation measures, having regard for the environmental requirements established in the Construction EMP. Monitoring must include a range of activities such as but not limited to scientifically-conducted measurements of specified parameters, visual inspections, recordings of events, and communications with affected property owners and occupants. Monitoring results must be reported in the form required by the Construction EMP.
- (iii) **Consultation** – Consultation procedures must at least include the community engagement measures described in Condition 1 of this Schedule and must meet the following requirements:
- A. consultation with property owners and occupants in the corridor of construction influence identified through predictive modelling, as well as the wider community, must be conducted for the duration of the construction period;

- B. consultation must commence well in advance of the commencement of works, and in some circumstances, should commence with the design of mitigation measures;
  - C. consultation with affected property owners and occupants must be conducted with confidentiality where requested by the owners or occupiers of premises and at a level of detail sufficient to address specific construction impacts and mitigation requirements.
- (iv) **Review, response and modify** – There must be a regular review of the Construction EMP. A process for review of mitigation measures must be outlined in the Construction EMP. The process should provide for further mitigation measures or review of mitigation measures to be implemented as soon as practical in response to monitoring results (where shortfalls are identified) and the outcomes of community consultation.
- (v) **Complaints** – As an extension of the consultation process, there must be a formal process for receiving and dealing quickly and effectively with complaints about construction issues. This process must be established before the commencement of construction works and should adopt a consultative and negotiated basis rather than an adversarial basis. The complaints procedure must be easy to use, with information about its implementation provided on the project website and through the visitor's information service.

As a minimum, the complaints process must include the following elements:

- A. A protocol establishing the responsibility for receiving and addressing complaints, and the means of notifying the community of this protocol (eg. publication of a complaints telephone service, website advice, and address for notices and other correspondence);
- B. Identification of the complainant, the identity of the person who received the complaint, the manner in which the complaint was made, the time and date on which the complaint was made, and the matter to which the complaint relates;
- C. A process wherein, upon receipt of a complaint, an investigation commences forthwith into the cause of the complaint and any actions reasonably required to address the complaint. Feedback to the complainant must be provided as soon as practicable about the action to be taken, and subsequently, the results of any action taken. Relevant authorities, if any, must also be notified of such actions;



- D. A database for tracking complaints, issues, the subject of complaints, responses and corrective actions taken. A means of reporting each complaint, such as a complaints register, must include identification of the entity responsible for addressing the complaint, the time and date on which the complaint was addressed and closed out, a brief summary of any action taken to address the complaint, and a notation as to the satisfaction or dissatisfaction of the complainant with the outcome; and
- E. Monthly reporting of complaints as part of an overall performance and compliance report posted on the Project website.
- (vi) **Non-Conformance** - A process for dealing with circumstances where thresholds are exceeded during critical construction activities must be established prior to the commencement of construction works. This process must establish a mechanism for reporting, taking corrective action where required, and indicating responsibilities and timing for such action.
- (vii) **Reporting** – A mechanism for reporting on compliance must be established in the Construction EMP, generally consistent with the following hierarchy of reporting.

**Table 1: Construction – Reporting on Compliance and Performance**

Report	Frequency and Scope
Construction Compliance Report	Six-monthly <ul style="list-style-type: none"> <li>• compliance with Coordinator General’s conditions;</li> <li>• satisfaction of environmental objectives and EMP requirements;</li> <li>• response to incidents of non-conformance, including corrective actions, revised construction practices, responsibility and timing.</li> <li>• all other matters pertaining to environmental performance during construction.</li> </ul>
Construction Incidents and Exceedance Report	Interim Report <ul style="list-style-type: none"> <li>• within 2 days of incident or an exceedance of a condition, goal or requirement being identified;</li> <li>• details of incident and initial response.</li> </ul> Full Report <ul style="list-style-type: none"> <li>• within 14 days of incident or an exceedance of a condition, goal or requirement being identified;</li> <li>• details of incident, response, corrective action, responsibility and timing.</li> </ul>
All reporting must be to the Coordinator-General, and must be available to relevant agencies on request.	

## 5. Traffic Management

- (a) Construct the Project in accordance with the Construction EMP, the construction traffic EMP Sub-Plan and the construction vehicle EMP Sub-Plan.
- (b) Prior to commencement of construction, a construction traffic EMP Sub-Plan must be prepared to implement measures that avoid, where practicable, or minimise and mitigate, traffic problems arising during the construction phase. Such measures must achieve the environmental objectives and performance criteria set out in the EIS Chapter 19 Draft Outline EMP (Construction) and must address the city-wide and local implications of surface construction works for traffic flows, public transport, pedestrian and cyclist safety, property access and parking. Construction traffic management measures may include the mitigation measures for traffic and transport described in the Draft Outline EMP (Construction) in Chapter 19 of the EIS or other measures in accordance with Condition 4(d)(i).
- (c) For spoil haulage, the construction traffic EMP Sub-Plan should include:
  - (i) nominated haulage routes which, as far as is reasonable and practicable, rely upon arterial roads and minimise the use of minor roads, with no spoil being hauled along Junction Road, Clayfield or Albion Road, Lutwyche or Albion Road, Albion;
  - (ii) nominated hours for collection, unloading and haulage of spoil from construction sites which may be undertaken at any time between 6.30am Mondays to 6:30pm Saturdays but with no haulage on Sundays or public holidays;
  - (iii) measures to maintain safe and functional access to community facilities, such as Emergency Services Complex, Kedron State High School, Woolloowin State School, Kalinga Park and to ensure pedestrian and cyclist safety and movements on routes adjacent to construction worksites, particularly at Windsor, Lutwyche / Kedron and Clayfield;
  - (iv) measures for avoiding disruption of scheduled major events (eg Brisbane Exhibition at Bowen Hills) and to coordinate with scheduled major construction works on other major projects (eg Northern Busway, Brisbane Airport New Runway, NSBT, Gateway Upgrade Project).
- (d) For spoil haulage, the construction vehicle EMP Sub-Plan should include as a minimum the following:
  - (i) the proposed method of haulage vehicle fleet management to:
    - A. avoid, or minimise and mitigate, disruption to local traffic movements generally and particularly during peak traffic periods including school drop-off and pick-up times;
    - B. avoid haulage vehicles queuing in proximity to residential premises, schools or health care facilities;

- C. avoid generation of dust in and beyond the worksites;
  - D. minimise and mitigate potential impacts from vehicle emissions upon adjoining premises and sensitive places situated nearby construction worksites;
  - E. avoid excessive noise from haulage vehicle operations within and at the immediate entries and exits of the worksites; and
  - F. any other measures necessary to minimise and mitigate the adverse environmental and community impacts of construction vehicle operations.
- (ii) Specific measures for the spoil haulage fleet to:
- A. only include vehicles and equipment, with consistent payloads and bin sizes;
  - B. minimise the emissions of both noise and exhaust emissions, complying with ADR28/01; and
  - C. avoid haulage during peak traffic periods where reasonable and practicable, including peak traffic periods associated with major events at the RNA Showgrounds, Bowen Hills.
- (iii) Spoil haulage trucks to be fitted with measures to facilitate:
- A. real time management of trucks and traffic conditions to avoid traffic congestion, particularly in peak times, and real time scheduling to avoid queuing and the use of local roads;
  - B. investigation of complaints and to assist with management of spoil haulage fleet performance.
- (iv) Spoil haulage fleet systems to address:
- A. safety including accident & incident reporting and a Hazard Register, Risk Analysis and Safe Operating Procedures;
  - B. routine and preventative vehicle maintenance; and
  - C. OH&S Tri Safe Audit (Qld Government self insurance audit) to assess the suitability of operators.
- (e) The construction traffic EMP Sub-Plan and the construction vehicle EMP Sub-Plan must be subject to periodic review and be updated to address construction program requirements and construction sequencing. The construction traffic EMP Sub-Plan must be provided to Queensland Transport, Department of Main Roads and Brisbane City Council prior to its implementation.

## 6. Spoil Handling and Placement

- (a) All placement of spoil must comply with the performance criteria of the *Filling and Excavation Code* in City Plan.
- (b) Spoil placement areas must be rehabilitated as quickly as reasonable and practicable to manage and mitigate the potential adverse environmental impacts of dust, soil erosion and sedimentation.
- (c) Spoil placement must be managed to minimise adverse environmental impacts on waterways, and sensitive receptors.

## 7. General Construction

- (a) Construct the Project in accordance with the Construction EMP and Construction EMP Sub-Plans.
- (b) Collection, unloading and haulage of spoil from construction sites may be undertaken at any time of the day or night between 6.30am Mondays to 6:30pm Saturdays, but with no haulage on Sundays or public holidays. Otherwise, construction activities for works on or above the surface and which generate excessive levels of noise, vibration, dust or construction traffic movements, must only be undertaken between 6.30am to 6.30pm Mondays to Saturdays and at no time on Sundays or public holidays, except for special circumstances where the above-the-surface works should be conducted outside these days and hours. Examples of such special circumstances include:
  - (i) works on arterial roads to avoid disruption to peak traffic flows (eg Inner City Bypass, Lutwyche Road, Gympie Road, East West Arterial);
  - (ii) works in rail corridors; and
  - (iii) works involving and transport of large pre-fabricated components (eg bridge works).
- (c) Construction worksites along the tunnel alignment must be designed and constructed to provide for the management and mitigation of construction impacts by:
  - (i) incorporating acoustic screening, ventilation and dust filtration equipment to achieve the environmental objectives and performance criteria set out in the EIS Chapter 19 Draft Outline EMP (Construction) of these Conditions. In particular, spoil-handling facilities (being for stockpiling, handling and loading into haulage trucks) and tunnel shafts servicing underground works should be enclosed, ventilated and acoustically-lined;
  - (ii) installing and positioning night lighting, including security lighting, to avoid light spill onto adjoining premises, at intensities exceeding 8 lux measured at the common boundary;
  - (iii) design and siting of construction buildings and facilities to avoid overshadowing between 9 am and 3 pm on 21st June;

- (iv) siting access points for pedestrian and vehicular traffic according to the *Transport, Access, Parking and Servicing Planning Scheme Policy* in City Plan; and
  - (v) achieving compliance with the requirements of the *Hazard and Risk Assessment Planning Scheme Policy* in City Plan.
- (d) Construction sites must be rehabilitated as quickly as reasonable and practicable to manage and mitigate the potential impacts such as dust, soil erosion and sedimentation. Surface earthworks must be managed to minimise adverse environmental impacts on waterways, significant places and sensitive receptors.

## 8. Air Quality

- (a) Construct the Project in accordance with the Construction EMP and the Construction Air Quality EMP Sub-Plan.
- (b) Prior to commencement of construction, prepare and implement a Construction Air Quality EMP Sub-Plan incorporating measures that will avoid, or mitigate and manage the potential adverse environmental impacts of diminished air quality arising from construction activities including but not limited to:
  - (i) surface construction works (eg roadworks, cut and cover tunnelling, worksite activities);
  - (ii) movement or queuing of construction vehicles with diesel-powered motors adjacent to sensitive activities such as residential, schools, child care centres, hospitals;
  - (iii) long-term operation of diesel-powered plant and equipment at worksites;
  - (iv) venting air from the tunnel construction areas;
  - (v) removal of tunnel construction spoil from worksites to placement sites; and
  - (vi) placement of tunnel construction spoil at placement sites.
- (c) The release of dust from the construction works must not exceed the dustfall criteria set out in Table 2.

**Table 2: Recommended Dust Monitoring Goals**

Existing dust fallout level (g/m <sup>2</sup> /mth)	Maximum acceptable increase over existing background fallout levels (g/m <sup>2</sup> /mth)	
	Residential Area	Commercial Area
2	2	2
3	1	2
4	0	1
≥ 5	0	0
<b>Health-based goal for ambient air (PM<sub>10</sub>)</b>		
24 hr average (exceedances no more than 5 times / year)	50 µg/m <sup>3</sup>	

- (d) Ventilate the tunnel during tunnel excavation works and treat ventilation air for the removal of dust prior to release from the worksheds. Maintain the particle filters at the worksheds regularly and ensure the performance of the particulate removal technology meets the required standards set out in the *Environmental Protection (Air) Policy 1997* Reprint 3.
- (e) Conduct regular monitoring of air quality for dust, total suspended particulates (TSP) and particles (PM<sub>10</sub>) to determine whether environmental requirements of the Construction EMP are being met. The monitoring program, including the frequency of monitoring and the locations of monitoring stations, are to be established in the Construction EMP. The Construction EMP and the construction air quality EMP Sub-Plan should include a monitoring station in the vicinity of the following locations:
  - (i) in or immediately adjacent to the Woolloowin State School;
  - (ii) adjacent to residential properties in Lutwyche, west of Lutwyche Road and north of Norman Avenue;
  - (iii) in or immediately adjacent to the Kedron State High School;
  - (iv) adjacent to residential properties in Kedron, in an area bounded by Gympie Road, Leckie Road, Eighth Avenue and Kedron Brook;
  - (v) in proximity to Nyamba aged care facility in Federation Street, Windsor;
  - (vi) adjacent to residential properties in Kalinga Street, Clayfield;
  - (vii) in Kalinga Park, adjacent to residential properties in Alma Road, Clayfield; and
  - (viii) at locations appropriate to assessment of dust complaints.
- (f) Monitoring for construction impacts on ambient air quality must include representative sampling of baseline air quality.
- (g) Monitoring of construction air quality impacts must be reported in the Construction Compliance Report in accordance with Condition 4 of Schedule 3 of these conditions. Records of monitoring results are to be maintained by the Proponent at all times during the construction program and must be available for inspection by the relevant agency at any time.

## 9. Noise and Vibration

- (a) Construct the Project in accordance with the Construction EMP and the Construction Noise and Vibration EMP Sub-Plan.
- (b) Prior to the commencement of construction works, prepare and implement a Construction Noise and Vibration EMP Sub-Plan addressing the environmental objectives and performance criteria for noise and vibration management, providing measures to mitigate and manage the adverse environmental impacts from noise and vibration, and to establish early consultation with the owners and occupants of potentially affected sensitive places. Such sub-plan should be based on predictive modelling

of the potential construction noise and vibration impacts having regard to the proposed construction methods, the proximity of sensitive places, and where the duration of construction exceeds two weeks in a particular locality.

- (c) The Construction Noise and Vibration EMP Sub-Plan must include:
- (i) measures for mitigation of predicted impacts on sensitive places (eg installation of acoustic screens, enclosure of worksites possibly with purpose-built sheds, fitting of mufflers and similar measures to vehicles, plant and equipment) identified in the predictive modelling. Measures may include those contained in the Draft Outline EMP (Construction) in Chapter 19 of the EIS or other measures in accordance with Condition 4(d)(i);
  - (ii) programming of activities (eg hours of work for particular circumstances or locations);
  - (iii) operational techniques (eg use of particular construction techniques to suit circumstances);
  - (iv) for sensitive places identified in the predictive modelling referred to in (b) above, conduct on-going monitoring of construction noise and vibration levels relative to environmental requirements established in the Construction EMP;
  - (v) consultative measures (eg early, on-going and effective consultation, including advanced notification to owners and occupants of potentially affected properties); and
  - (vi) prior to commencement of construction, building condition surveys must be conducted of properties identified in the predictive modelling above as likely to be adversely affected.
- (d) Where the predictive modelling predicts that noise goals for sleep disturbance are likely to be exceeded by construction works, then consultation, reasonable and practicable mitigation and management measures, and a monitoring program must be adopted. These measures must be developed in consultation with owners and occupants of potentially-affected premises. The noise goals are:
- (i) For intermittent construction noise, the internal noise goals (sleeping areas) to avoid sleep disturbance during night hours (i.e. 6.30pm to 6.30am) are:
    - A. 50dBA  $L_{Amax}$  (for residences within R4 – R6 categories<sup>1</sup> as described in NIAPSP), or
    - B. 45 dBA  $L_{Amax}$  (for residences within R1 – R3 categories as described in NIAPSP).

---

<sup>1</sup> NIAPSP, Section 6.2.2 - Areas with dense to extremely dense transportation or commercial and industrial activities

- (ii) For steady construction noise, the internal noise goals (sleeping areas) to avoid sleep disturbance during night hours (i.e. 6.30pm to 6.30am) are:
- A. 40 dBA  $L_{Aeq,adj(15\text{ minutes})}$  for temporary noise and 35 dBA  $L_{Aeq,adj(15\text{ minutes})}$  for long-term noise (for residences R4 – R6 categories as described in NIAPSP<sup>2</sup>), or
  - B. 35 dBA  $L_{Aeq,adj(15\text{ minutes})}$  for temporary noise and 30 dBA  $L_{Aeq,adj(15\text{ minutes})}$  for long-term noise (for residences within R1 – R3 categories as described in NIAPSP<sup>2</sup>).
- (e) Where the predictive modelling predicts that noise goals for day-time construction works are likely to be exceeded by construction works, then consultation, reasonable and practicable mitigation and management measures, and a monitoring program must be adopted. These measures must be developed in consultation with owners and occupants of potentially-affected premises.
- (f) For day time construction works, the noise goals for internal construction noise levels at affected adjacent premises, are derived from levels in AS/NZS 2107:2000. Day time construction noise must be assessed by a  $L_{Aeq(15\text{ minute})}$  parameter for steady noise sources and a  $L_{A10(15\text{ minute})}$  parameter for non-steady noise sources. The goals for day time construction internal noise are set out in Table 3.

**Table 3: Daytime Construction Internal Noise Goals (derived from AS/NZS 2107:2000).**

Type of Building Occupancy	Maximum Construction Internal Noise Targets (dBA)	
	Steady $L_{Aeq(15\text{ minute})}$ (dBA)	Non-steady $L_{A10(15\text{ minute})}$
Residential buildings (living areas)	45 (near major roads) 40 (near minor roads)	55 (near major roads) 50 (near minor roads)
Place of Worship	40 (with speech amplification)	50 (with speech amplification)
School music rooms	45	55
School teaching area	45	55
School library	50	60
School Gymnasium	55	65
Commercial buildings – office space	45	55
Commercial Buildings – retail space	50	60

Note - Additional “Building Occupancies” to those documented in Table 3 above may apply throughout the construction period. The “maximum” levels provided in AS/NZS2107:2000

<sup>2</sup> NIAPSP, section 6.2.2 – Application of AS2107



should be utilised in these instances for steady noises, with the non-steady levels set 10 dBA higher.

- (g) During construction, engine noise for on-road spoil haulage vehicles must be tested and maintained in accordance with *Australian Design Rule 28/01*.
- (h) Predictive modelling for vibration must be undertaken progressively and prior to the commencement of works along the corridor of construction influence. Results from such predictive modelling must be reviewed as construction proceeds, having regard to the potential for impact on human comfort, the risk of cosmetic damage to buildings and the contents of sensitive buildings.
- (i) Due to the range of human perceptions and sensitivity to vibration from construction works, early and on-going consultation with occupants of potentially-affected premises where predictive modelling predicts the goals will be exceeded must be undertaken. Such consultation must:
  - (i) be consistent with the consultation procedures established in accordance with Condition 1 – community engagement above;
  - (ii) precede tunnelling and other works likely to cause vibration at the surface; and
  - (iii) where predictive modelling predicts the goals will be exceeded, notify occupants of premises of the range of works proposed, their planned duration and the possible effects and predicted levels of vibration.
- (j) Where the predicted level of vibration within sleeping areas during continuous night-time tunnelling<sup>3</sup> works is likely to exceed 0.5mm/sec peak particle velocity based on a ‘low probability of reaction’ (ref AS2670.2:1990), reasonable and practicable mitigation and management measures must be developed in consultation with occupants of potentially-affected sensitive places, and implemented in accordance with the Construction Noise and Vibration EMP Sub-Plan.
- (k) Monitoring must be undertaken in representative locations where predictive modelling for vibration indicates the potential for impacts on sensitive building contents. Guides for vibration levels at sensitive buildings are indicated in Table 4. Monitoring locations must be determined in consultation with property owners and occupants following building-specific and contents-specific vibration sensitivity investigations.

**Table 4: Guide for Satisfactory Vibration Levels - Sensitive Building Contents**

<b>Sensitive Building Contents</b>	<b>Vibration Levels</b>
Precision balances	0.5 – 2.0mm/s
Some optical microscopes	0.5mm/s
Large computer disk drives	1.0 – 5.0mm/s

<sup>3</sup> Continuous tunnelling works include operations of tunnel boring machines and roadheaders.

Sensitive electronic instrumentation	
--------------------------------------	--

- (l) Building condition surveys should be undertaken in locations identified in the predictive modelling as potentially being affected with cosmetic damage by vibration from project construction and related activities.

**Table 5: Guide to Vibration Levels for Minimal Risk of Cosmetic Damage**

Vibration Type	Peak Particle Velocity (mm/s)		
	Heritage Listed	Residential	Sensitive Commercial
Transient Vibration <sup>1</sup> (eg blasting )	2	10	10
Continuous Vibration <sup>2</sup> (eg TBM, roadheading)	2	5	5

Note <sup>1</sup> - Measured in the ground directly adjacent the building of concern

Note <sup>2</sup> - Measured on the building foundations

- (m) Mitigation and management combined with advanced notification and other consultation must be adopted for predicted vibration impacts in the following circumstances:
- (i) where predicted vibration levels of 4mm/sec for blasting are likely to be exceeded in the vicinity of sensitive healthcare places (eg Rosemount Hospital and Amarina Nursing Home); or
  - (ii) where the guide values for minimal cosmetic damage presented in Table 5 are likely to be exceeded.
- (n) The impacts of transient blast noise and vibration must be assessed, monitored, and if necessary, mitigated and managed in accordance with the *Environmental Protection Regulation 1998* and Brisbane City Council's *Local Law 5*. This includes limiting transient airblast over-pressure to 115 dBL in peak hold for 4 out of 5 blasts and must not exceed 120dB (linear) peak for any blast.
- (o) To manage construction noise and vibration effectively, on-going, continuous monitoring must be commenced with occupants of affected premises in the corridor of construction influence prior to the commencement of construction works likely to cause exceedences of either the noise or vibration goals.
- (p) Monitoring of construction noise and vibration must be undertaken in accordance with accredited procedures and must be readily and publicly available. In circumstances where the goals are not met, the reporting must describe the corrective actions taken to mitigate and manage the impacts. Monitoring results must be reported in accordance with the requirements of condition 4 of Schedule 3 of these conditions. Monitoring results and management actions regarding construction noise and vibration must be included in the required reporting.

## **10. Ground Water and Surface Water**

- (a) Construct the Project in accordance with the Construction EMP and the Construction Groundwater and Surface Water (CGSW) EMP Sub-Plan.
- (b) The CGSW EMP Sub-Plan must:
  - (i) be based on predictive modelling for areas where construction works are likely to intercept groundwater or cause the movement of groundwater;
  - (ii) contain measures to avoid, or mitigate and manage impacts on groundwater and surface water quality by construction works, including the transport and placement of tunnel construction spoil;
  - (iii) contain measures for the interception, treatment if required and disposal of groundwater entering construction sites including the tunnel works; and
  - (iv) contain measures for the interception, treatment if required, and disposal of contaminated surface water on construction sites and spoil placement sites.
- (c) Where there is an identified potential risk of groundwater movement to the tunnel or other construction works, reasonable and practicable measures must be taken in project design and construction to monitor and manage groundwater entering the tunnel or other construction works.
- (d) The design and construction of the Project must provide suitable measures to intercept, treat if required and dispose of groundwater, liquid wastes, such as fire retardants, wash-down water, and contaminated stormwater, to avoid contamination of surface waters.
- (e) Monitoring of groundwater resources must be undertaken in accordance with the Construction EMP and generally and specifically in locations where predictive modelling suggests there is a potential for groundwater draw-down.

## **11. Acid Sulphate Soils**

- (a) Prior to the commencement of works in the vicinity of Enoggera Creek, Kedron Brook and Schulz Canal, undertake detailed investigations to identify the risk of intercepting acid sulphate soils or potential acid sulphate soils, or causing the oxidation of such soils leading to impacts on the environment.
- (b) Where such investigations identify a potential risk, prepare an Acid Sulphate Soils (ASS) EMP Sub-Plan, prior to the commencement of construction works in the vicinity of Enoggera Creek, Kedron Brook and Schulz Canal, describing the current groundwater regimes and impacts on groundwater during construction and post construction. The ASS EMP Sub-Plans are to detail site specific prevention, minimisation, mitigation and monitoring strategies and must be prepared in accordance with:

- (i) *State Planning Policy 2/02: Planning and Managing Development Involving Acid Sulphate Soils, the SPP 2/02 Guideline: Acid Sulphate Soil* and with reference to the *Guidelines for Sampling and Analysis of Lowland Acid Sulphate Soils in Queensland 1998, the Soil Management Guidelines, and the Acid Sulphate Soils Laboratory Methods Guidelines.*
- (ii) A detailed risk assessment of potential dewatering providing an estimate of the extent of the cone of depression and quantities of acid that could be generated from oxidation of in-situ potential ASS.

## 12. Hazard and Risk

- (a) Construct the Project in accordance with the Construction EMP, the Construction Hazard and Risk (CHR) EMP Sub-Plan and AS4360:2004 Risk Management.
- (b) Prepare and implement the CHR EMP Sub-Plan having regard to the potential risks associated with tunnel construction including, among other things, inundation, flood inundation via the portals, tunnel collapse, fire and chemical hazard, traffic hazards associated with construction traffic, accessibility for emergency services vehicles to the road network and construction sites, maintenance of essential urban services (water, power), transport and the use and storage of dangerous goods in construction sites, and communications during incidents.
- (c) The CHR EMP Sub-Plan may also include the measures for managing construction hazard and risk set out in the Draft Outline EMP (Construction) in Chapter 19 of the EIS or other measures in accordance with Condition 4(d)(i).
- (d) The CHR EMP Sub-Plan must be prepared and implemented in consultation with the relevant emergency services organizations for risk minimisation and incident management during construction.

## 13. Waste

- (a) Construct the Project in accordance with the Construction EMP and the Construction Waste EMP Sub-Plan.
- (b) The Construction Waste EMP Sub-Plan:
  - (i) must adopt and reflect the principles of 'reduce, re-use, recycle';
  - (ii) must identify the type, source and estimated quantities of waste;
  - (iii) must identify the procedures and responsibilities for dealing with an incident in which waste material with the potential for causing environmental harm, is released to the environment; and
  - (iv) may include the waste management measures contained in the Draft Outline EMP (Construction) in Chapter 19 of the EIS

or may include other measures designed to meet the environmental objectives and performance criteria in EIS Chapter 19 Draft Outline EMP (Construction).

- (c) In circumstances where waste material is released to the environment, the incident must be reported immediately to the relevant authorities and such corrective or remedial action as required to render the area safe and to avoid environmental harm must be taken forthwith.
- (d) All regulated waste must be transported by a licensed operator and disposed of at a facility licensed to accept such waste.

#### **14. Urban Design**

- (a) The Project must achieve a high quality urban design outcome for the surface areas including the connections to the surface road network, residual space in land on the surface, buildings, plant and equipment.
- (b) An overall Urban Design Master Plan must be prepared and implemented in the design of the tunnel works, construction and rehabilitation of surface areas affected by construction works.
- (c) The Urban Design Master Plan must include measures to address the urban design principles relating to the urban, environmental and visual character of the corridor generally consistent with section 15.2, Chapter 15 of the EIS.

#### **15. Cultural Heritage**

- (a) Conduct archival recording of cultural heritage significance of the following sites prior to carrying out relevant construction works:
  - (i) Kalinga Park between Kalinga Street and Sandgate Road, Clayfield;
  - (ii) Police Citizens Youth Welfare Association Headquarters at Lutwyche; and
  - (iii) Former Swan Hill residential estate at Windsor in the vicinity of Earle Street, prior to demolition.

#### **Operation Phase**

#### **16. Community Engagement**

- (a) To respond to community concerns during the operational phase of the Project, there must be a mechanism for receiving and dealing with complaints about the operational aspects of the Project, including achievement of the environmental objectives for the Project. The complaints mechanism should:
  - (i) be similar to that established for the construction phase;
  - (ii) provide a mechanism to resolve operational impacts where the environmental performance criteria have not been met;

- (iii) provide for prompt responses to complaints made, with information, corrective action where required, and reporting back to the complainant and Proponent; and
- (iv) be incorporated within the wider environmental reporting framework for the Project.

## 17. Environmental Management

- (a) A comprehensive “Operation EMP” must be prepared and implemented. The Operation EMP must implement these Conditions. It should be developed generally in accordance with the Draft Outline EMP (Operation) in Chapter 19 of the EIS, except where the matter is addressed by these Conditions and then to the extent required by these Conditions. The Operation EMP must be provided to the Coordinator-General at least 90 days prior to commencement of operation of the Project.<sup>4</sup>
- (b) The Operation EMP must accord generally with the following framework:
  - (i) **Environmental objectives and performance criteria** – The Operation EMP must adopt and incorporate the environmental objectives and performance criteria set out in the EIS Chapter 19 Draft Outline EMP (Operation).
    - A. **EMP Sub-Plans** – The Operation EMP is to incorporate sub-plans as required by these Conditions to address in detail specific environmental impacts of the operational aspects of the Project. EMP sub-plans must include measures designed to comply with the relevant industry standards for environmental management set out in Schedule 6 to these Conditions.
  - (ii) **Design of mitigation measures** - Mitigation measures must be designed in response to the predicted impacts, with detailed design measures to address localised impacts where necessary.

Mitigation measures may include a wide range of measures such as, but not limited to, changes in operation procedures and practices, and design interventions to buffer places from predicted operation impacts. Such measures must be directed to achieving the environmental objectives and performance criteria set out in the EIS Chapter 19 Draft Outline EMP (Operation), the statutory requirements and must be consistent with these Conditions. They may include the mitigation measures contained in the Draft Outline EMP (Operation) in Chapter 19 of the EIS or may include other measures, provided those other measures achieve the environmental objectives and performance criteria, any relevant statutory requirements and these Conditions.

---

<sup>4</sup> Operations commence with the opening of the tolled road to traffic.

- (iii) **Monitoring** – On-going monitoring for operational impacts must be undertaken for some aspects of the Project, including air quality (in-tunnel and ambient air), noise from ventilation plant and other plant and equipment, road traffic noise (limited period), surface water quality, and such other operational aspects as necessary to assess performance relative to the environmental objectives set out in the EIS Chapter 19 Draft Outline EMP (Operation) or these Conditions. The form of monitoring must be appropriate to the issue and should adopt the parameters established in the Operation EMP.
- (iv) **Review, response and modifications** – There must be a regular review of the Operation EMP. A process for review of mitigation measures must be outlined in the Operation EMP. The process should provide for further mitigation measures or review of mitigation measures to be implemented as soon as practical in response to monitoring results (where shortfalls are identified) and the outcomes of community consultation.
- (v) **Complaints** – There must be a formal process for receiving and dealing with complaints about the operation of the Project in relation to the environmental objectives. This process should be the same as that established during the construction phase.
- (vi) **Non-Conformance** - A process for dealing with circumstances where thresholds are exceeded during operation must be established prior to the commencement of operations. This process must establish a mechanism for reporting, taking corrective action where required and indicating responsibilities and timing for such action.
- (vii) **Reporting** - Reporting on the compliance with the Coordinator-General's Conditions must be prepared and provided to the Coordinator-General in accordance with the hierarchy of reporting in Table 6. The report must identify aspects of non-compliance against the conditions together with any complaints and the responses to such complaints in accordance with Condition 17(b)(v) above.

**Table 6: Operations – Reporting on Compliance and Performance**

Report	Frequency and Scope
Operations Compliance Report	Six-monthly <ul style="list-style-type: none"> <li>• compliance with Coordinator General's conditions;</li> <li>• satisfaction of environmental objectives and EMP requirements;</li> <li>• response to incidents of non-conformance, including where necessary corrective actions, revised operations practices, responsibility and timing.</li> <li>• all other matters pertaining to environmental performance during operations.</li> </ul>
Operations Incidents and Exceedance	Interim Report <ul style="list-style-type: none"> <li>• within 2 days of incident or an exceedance of a</li> </ul>

Report	condition, goal or requirement, being identified; • details of incident and initial response. Full Report • within 14 days of incident or an exceedance of a condition, goal or requirement, being identified; • details of incident, response, corrective action, responsibility and timing.
Air Quality Reporting	Real-time Reporting • For in-tunnel air quality, to be updated on an hourly basis (unvalidated) and to be available on-line via a project website. Daily Reporting • For ambient air quality, reporting of hourly unvalidated data to be reported and available daily on-line via a project website.
All reporting must be to the Coordinator-General, and must be available to a relevant agency on request.	

## 18. Traffic Management

- (a) Conduct the operations of the Project in accordance with the Operation EMP and the Operation Traffic EMP Sub-Plan.
- (b) Submit the Operation Traffic EMP Sub-Plan to the Brisbane City Council, Queensland Transport and Department of Main Roads prior to its implementation.
- (c) Prior to the commencement of operations, prepare and implement an Operation Traffic EMP Sub-Plan incorporating strategies:
  - (i) to manage in-tunnel air quality where an incident in the tunnel system or adjacent road network requires traffic to cease flowing or slow below design speeds for the ventilation system;
  - (ii) to manage traffic flows into and out of the tunnel system, having regard for conditions in tunnel and on the surface road network;
  - (iii) to enable emergency services and other relevant entities to attend to incidents in the tunnel system, evacuations if necessary, maintenance requirements and other tunnel operating requirements; and
  - (iv) to assist with efficient transport network operations, through consultation with key stakeholders.



## 19. Air Quality

- (a) Conduct the operation of the Project in accordance with the Operation EMP and the Operation Air Quality (OAQ) EMP Sub-Plan.
- (b) Submit the OAQ EMP Sub-Plan to the EPA prior to its implementation.
- (c) Prior to the commencement of operations, prepare and implement an OAQ EMP Sub-Plan to mitigate and manage the potential impacts of diminished air quality arising from the operation of the tunnel ventilation system and traffic flowing into and from the tunnel system at the portals.
- (d) The ventilation system must be designed so that it does not prevent the possible future installation of filtration equipment to remove small particles and possibly oxides of nitrogen from vitiated air before it is released to the ambient environment during tunnel operation.
- (e) Ventilation outlets for the Project should be at least 30 metres in height above ground level, or no less than 10 metres higher than the highest existing building<sup>5</sup> within 100 metres, whichever is the higher. To mitigate the potential visual impacts, the Clayfield ventilation outlet may be less than 30 metres in height where visual impact analysis and predictive modelling indicate that a lesser height will not prevent achievement of the ambient air quality goals in Table 8.
- (f) The ventilation system must be designed so that the system is capable of meeting PIARC criteria for in-tunnel air quality described in Table 7 and capable of meeting the appropriate EPP (Air) and NEPM standards with allowable exceedences for ambient air quality set out in Table 8.
- (g) For in-tunnel air quality, the goals for safe air quality set out in Table 7 must be achieved:

**Table 7: In-Tunnel Air Quality Criteria**

Carbon monoxide (CO)	70 ppm generally 90ppm in peak traffic congestion
Nitrogen dioxide (NO <sub>2</sub> )	1 ppm (average)
Visibility coefficient	0.005 m <sup>-1</sup>

**Source:** PIARC guidelines

**Note:** Monitoring and measuring protocols for each goal are set out in the PIARC guidelines.

**Note:** Peak traffic congestion occurs when traffic flows are less than 10 km/h.

Note: Visibility coefficient  $K=0.005\text{m}^{-1}$  means clear tunnel air (visibility several hundred metres). The K-value may fluctuate with peak conditions.

- (h) To manage in-tunnel air quality effectively, adopt on-going, continuous monitoring linked to a system of traffic management to maintain

---

<sup>5</sup> Existing building includes a building approved under an IPA development approval, prior to the date that is 6 months after the date of this Report.

appropriate traffic flows and consequent emission levels within nominated air quality goals.

- (i) Monitoring results for in-tunnel air quality must be reported in accordance with condition 17 of Schedule 3 of these conditions. Monitoring must be undertaken in accordance with accredited procedures, and the results must be publicly available.
- (j) In circumstances where an exceedence of the in-tunnel air quality criteria occurs, the reporting must also describe the corrective actions taken to avoid a recurrence and to minimise the impact on ambient air quality.
- (k) On-going monitoring of ambient air quality must be conducted at two monitoring stations for each ventilation outlet. The monitoring stations must be located within 500 metres of each ventilation outlet.<sup>6</sup> Monitoring parameters must be consistent with the air quality goals set out in Table 8.

**Table 8: Ambient Air Quality Goals**

Pollutant	Goal	Unit	Measuring Period
Carbon monoxide (CO)	8 or 10	ppm mg/m <sup>3</sup>	8 hour maximum*
Nitrogen dioxide (NO <sub>2</sub> )	62	µg/m <sup>3</sup>	annual mean
	0.12 or 246	ppm µg/m <sup>3</sup>	1 hour maximum
Particulate matter less than 10 µm (PM <sub>10</sub> )	50	µg/m <sup>3</sup>	24 hour maximum **
	50	µg/m <sup>3</sup>	annual mean
Particulate matter less than 2.5 µm (PM <sub>2.5</sub> )	25	µg/m <sup>3</sup>	24 hour maximum
	8	µg/m <sup>3</sup>	annual mean
Total suspended particulate matter (TSP)	90	µg/m <sup>3</sup>	annual mean

\* One day per year maximum allowable exceedence;

\*\* Five days per year allowable exceedence, not including exceedence in ambient goals due to external events (eg dust storms, fires, major construction works)

- (l) Results from monitoring in accordance with accredited procedures, must be reported by the Proponent in accordance with condition 17 of Schedule 3 of these conditions and must be publicly available. In circumstances where an exceedence of the ambient air quality goals occurs, the reporting must also set out the performance of the tunnel ventilation system at the time and provide conclusions with regards the level of contribution by the tunnel ventilation system, if any, to the exceedence of the ambient air quality goals.

---

<sup>6</sup> For the north-eastern ventilation outlet, the preferred location for one monitoring station is in Kalinga Park. For the north-western ventilation outlet, the preferred location for one monitoring station is in the campus of Kedron High School. For the southern ventilation outlet, the preferred location for one monitoring station is Eildon Hill reservoir, Constitution Road, Windsor.

- (m) Monitoring results, based on validated data, regarding ambient air quality must be included in reporting by the Proponent, in accordance with condition 17 of Schedule 3 of these conditions.
- (n) The location and reporting of monitoring of ambient air quality relating to tunnel operations should be reviewed by the Proponent after 5 years of operations. Should a decision be made to vary ambient air quality monitoring or reporting, a report assessing the issue and providing substantiated reasons for the decision is to be provided to the Coordinator-General for comment prior to the implementation of the decision.

**20. Noise**

- (a) Conduct the operation of the Project in accordance with the Operation EMP and the Operation Noise EMP Sub-Plan.
- (b) Submit the Operation Noise EMP Sub-Plan to the EPA prior to its implementation.
- (c) Prior to the commencement of operations, prepare and implement an Operation Noise EMP Sub-Plan to mitigate and manage, if necessary, the potential for noise from Project operations, including:
  - (i) ventilation system operating noise at each ventilation station and ventilation outlet; and
  - (ii) road traffic noise in specified locations identified in predictive modelling and including the following:
    - A. East West Arterial near Sandgate Road;
    - B. Project entry ramp adjacent to Alma Road Clayfield;
    - C. Project entry and exit ramps adjacent to Kedron Brook and in Lutwyche Road Lutwyche;
    - D. Gympie Road crossing of Kedron Brook;
    - E. Gympie Road at the intersection with Leckie Road and at the intersection with Stafford Road;
    - F. Federation Street adjacent to Nyamba aged care facility; and
    - G. Project roadways adjacent to The Mews apartments in Campbell Street Bowen Hills.
- (d) The ventilation system must be designed and operated to achieve the goals as set out in Table 9 at the commencement of operation of the Project.

**Table 9. Operational Goals - Ventilation System Noise**

Ventilation System Noise (via outlets,	BCC Noise Impact Assessment Planning Scheme Policy	The overall A-weighted sound pressure level component from ventilation plant, assessed as an $L_{Amax,adj}$ level with tonality penalty adjustments determined in accordance with
--	--	---

portals, fan stations)	(NIAPSP)	AS1055.1, should not exceed the Average Background Noise Level, as defined in AS1055.2, at a noise sensitive location at any time of the day or night
------------------------	----------	---

- (e) Design the Project to achieve the noise goals as set out in Table 10 upon commencement of operations.

■ **Table 10. Operational Goals - Road Traffic Noise**

Source	Reference Regulation, Standard or Guideline	Values
Airborne Traffic Noise	Environmental Protection (Noise) Policy 1997	The planning levels for a public road are as follows: <ul style="list-style-type: none"> <li>- For a State-controlled road - 68 dBA <math>L_{A10(18hour)}</math>;</li> <li>- For another public road - 63 dBA <math>L_{A10(18hour)}</math>;</li> <li>- 60 dBA, assessed as the highest 1 hour equivalent continuous A-weighted sound pressure level between 10 pm and 6 am (60 dBA <math>L_{Aeq(1hour)}</math>); and</li> <li>- 80 dBA assessed as a single event maximum sound pressure level (80 dBA <math>L_{Amax}</math>).</li> </ul>
	Main Roads Code of Practice - Road Traffic Noise Management	Residential - 68 dBA $L_{A10(18hour)}$

Note - Where the road traffic planning noise levels are already exceeded at sensitive locations it may not be reasonable and practicable to achieve compliance with these planning noise levels. In these instances, the “status-quo” noise levels should be maintained (i.e. maintain noise levels at levels anticipated in Y2022, the design year, without the Project) or specific measures to address localised impacts to be implemented in consultation with potentially affected property owners and occupants.

- (f) To manage operational noise effectively, monitoring must be conducted. Monitoring results must be reported in accordance with condition 17 of Schedule 3 of these conditions, must be undertaken in accordance with accredited procedures and must be publicly available. In circumstances where the goals are not met, the reporting must also describe the corrective actions to avoid a recurrence and to minimise the impacts of ventilation system noise.

**21. Ground Water and Surface Water**

- (a) Reasonable and practicable measures must be taken to avoid, or mitigate and manage impacts of contaminated groundwater, stormwater and other potentially polluted water (eg wash-down water, fire retardants) on surface water resources.

- (b) Measures must be initiated in the instance of an emergency or hazardous situation, to collect wastewater for subsequent removal and disposal to an authorised release point.

## **22. Hazard and Risk**

- (a) Conduct the operation of the Project in accordance with the Operation EMP and the Operation Incident Response (OIR) EMP Sub-Plan.
- (b) Prior to the commencement of operations of the Project, prepare and implement an OIR EMP Sub-Plan meeting the requirements of the Queensland Police Service, Queensland Fire Service and Queensland Ambulance Service.
- (c) The OIR EMP Sub-Plan must include:
  - (i) simulation exercises prior to commencement of operation of the Project;
  - (ii) provision for routine testing of emergency response systems;
  - (iii) designation of responsibilities in the event of an incident.

## **23. Waste**

- (a) Conduct the operation of the Project in accordance with the Operation EMP and the Operation Waste EMP Sub-Plan.
- (b) Prior to the commencement of operations, prepare and implement an Operation Waste EMP Sub-Plan. This Sub-Plan:
  - (i) must adopt and reflect the principles of 'reduce, re-use, recycle';
  - (ii) must identify the type, source and estimated quantities of waste;
  - (iii) must identify the procedures and responsibilities for dealing with an incident in which waste material with the potential for causing environmental harm, is released to the environment.
- (c) In circumstances that such waste material is released to the environment, the incident must immediately be reported to the relevant authorities and such corrective or remedial action as required to render the area safe and to avoid environmental harm must be taken forthwith.
- (d) All regulated waste must be transported by a licensed operator and disposed of at a facility licensed to accept such waste.

## Schedule 4

### Jurisdiction for Conditions

Phase / Condition Reference	Proponent Responsibility / Tasks	Entity with Jurisdiction	Consultative Bodies
<b>Construction</b>			
Schedule 3, Condition 1	Community engagement	Coordinator-General	Environmental Protection Agency, Brisbane City Council, Department of Premier and Cabinet, Community Consultative Committees
Schedule 3, Condition 2	Building works	Brisbane City Council	
Schedule 3, Condition 3	Urban mitigation	Coordinator-General	Office of Urban Management, Brisbane City Council, Department of Main Roads, Queensland Transport
Schedule 3, Condition 4	Construction Environmental Management Plan	Coordinator-General	Environmental Protection Agency, Department of Emergency Services, Department of Main Roads, Queensland Transport, Queensland Health, Education Queensland, Brisbane City Council
Schedule 3, Condition 5	Traffic Management	Department of Main Roads (for State Controlled Roads) Brisbane City Council (for Local Roads)	Queensland Transport, Education Queensland, Department of Emergency Services
Schedule 3, Condition 6	Spoil Handling and Placement	Coordinator-General	Brisbane City Council, where a development permit under City Plan is required; Port of Brisbane for spoil to be placed at the Port; Brisbane Airport Corporation for spoil to be placed on Airport Land, Environmental Protection Agency
Schedule 3, Condition 7	General Construction	Coordinator-General	Brisbane City Council, Environmental Protection Agency, Department of Main Roads, Queensland Transport
Schedule 3, Condition 8	Air Quality	Environmental Protection Agency	Queensland Transport; Department of Main Roads, Queensland Health
Schedule 3, Condition 9	Noise and Vibration	Environmental Protection Agency	Department of Main Roads, Brisbane City Council
Schedule 3, Condition 10	Groundwater and Surface Water	Environmental Protection Agency	Brisbane City Council, Department of Primary Industries and Fisheries

Schedule 3, Condition 11	Acid Sulphate Soils	Department of Natural Resources and Water	
Schedule 3, Condition 12	Hazard and Risk	Department of Emergency Services	Environmental Protection Agency; Brisbane City Council, Department of Main Roads, Queensland Transport
Schedule 3, Condition 13	Waste	Environmental Protection Agency	Brisbane City Council
Schedule 3, Condition 14	Urban Design	Coordinator-General	Brisbane City Council, Office of Urban Management, Department of Main Roads
Schedule 3, Condition 15	Cultural Heritage	Brisbane City Council	Environmental Protection Agency
<b>Operation Phase</b>			
Schedule 3, Condition 16	Community Engagement	Coordinator-General	Brisbane City Council, Environmental Protection Agency, Department of Premier and Cabinet
Schedule 3, Condition 17	Operation Environmental Management Plan	Coordinator-General	Environmental Protection Agency, Brisbane City Council, Department of Main Roads, Queensland Transport, Department of Emergency Services
Schedule 3, Condition 18	Traffic Management	Department of Main Roads (for State Controlled Roads) Brisbane City Council (for Local Roads)	Queensland Transport, Education Queensland; Department of Emergency Services
Schedule 3, Condition 19	Air Quality	Environmental Protection Agency	Department of Main Roads, Queensland Transport, Queensland Health, Brisbane City Council
Schedule 3, Condition 20	Noise	Environmental Protection Agency	Department of Main Roads, Brisbane City Council
Schedule 3, Condition 21	Groundwater and Surface Water	Environmental Protection Agency	Brisbane City Council
Schedule 3, Condition 22	Hazard and Risk	Department of Emergency Services	Environmental Protection Agency, Brisbane City Council
Schedule 3, Condition 23	Waste	Environmental Protection Agency	Brisbane City Council

---

## Schedule 5

### Glossary of Terms

“**CCC**” means the Community Consultative Committee

“**City Plan**” means Brisbane City Plan 2000

“**the Construction EMP**” means an environmental management plan or plans, including any sub-plans, for the design and construction phase of the Project.

“**EIS**” means the environmental impact statement for the Airport Link Project dated October 2006.

“**EMP**” means an environmental management plan

“**NEPM**” means National Environment Protection Measures made under the *National Environment Protection Council Act 1994* (Cth)

“**NIAPSP**” means the Noise Impact Assessment Planning Scheme Policy under Brisbane City Plan 2000

“**the Operation EMP**” means an environmental management plan or plans, including any sub-plans, for the operation and maintenance phase of the Project.

“**PIARC**” means Permanent International Association of Road Congress (also known as the World Road Association)

“**PM<sub>2.5</sub>**” means particulate matter with equivalent aerodynamic diameter less than 2.5µm

“**PM<sub>10</sub>**” means particulate matter with equivalent aerodynamic diameter less than 10µm

“**Project**” means the Airport Link Project.

“**Sensitive Place**” means any of the following places:

- (a) a dwelling;
- (b) a library, child-care centre, kindergarten, school, college, university or other educational institution;
- (c) a hospital, surgery or other medical institution; or
- (d) a commercial premises relying on calibrated equipment or computers sensitive to vibration greater than the guide values set out in Table 0-3 of Schedule 3 of these Conditions.

“**TBM**” means Tunnel Boring Machine

“**TSP**” means Total Suspended Particulates



## Schedule 6 –Standards & Guidelines for Environmental Management

Unless described or specified otherwise in these Conditions, the standards and guidelines for environmental management set out in the table below, must be adopted and implemented in the construction and operation of the Project.

<b>Air Quality</b>	AS 3580 : 2003 Methods of Sampling and Analysis of Ambient Air
	Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW - DRAFT February 2005 (NSW EPA)
	Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW - August 2001 (NSW EPA)
	Queensland <i>Environmental Protection (Air) Policy 1997</i>
<b>Blasting &amp; Use of Explosives</b>	Brisbane City Council Local Laws – Chapter 5, Part 6 – Blasting
<b>Dangerous Goods</b>	AS 1216 : 1995 Classification, labels for Dangerous Goods
	AS 1678 : 2003 Emergency Procedure Guides – Transport
	AS 1940 : 2004 Storage and Handling of Flammable and Combustible Liquids
	AS 2508.2.007 : 2001 Safe Storage and Handling Information Cards for liquefied Petroleum Gas
	AS 2809 : 1999 Road Tank Vehicles for Dangerous Goods
	AS 3780 – 1994 The Storage and Handling of Corrosive Substances
	AS 2931 : 1999 Selection and Use of Emergency Procedure Guides for Transport of Dangerous Goods.
<b>Flora &amp; Fauna</b>	DPI&F Fish Habitat Guideline FHG 002 - “Restoration of Fish Habitats, Guidelines for Marine Areas (1998)”
<b>Noise &amp; Vibration</b>	Noise measurement manual : for use in testing for compliance with the Environmental Protection Act 1994, Third edition, 2000
	AS 1055.1 : 1997 Acoustics – Description and Management of Environmental Noise : General procedures
	AS 1055.2 : 1997 Acoustics – Description and Management of Environmental Noise : application of specific situations
	AS 1259.2 - 1990 Acoustics - Measurement of airborne noise emitted by earth-moving machinery and agricultural tractors - Stationary test condition Part 1: determination of compliance with limits for exterior noise
	AS/NZS 2107:2000 Acoustics - Recommended design sound levels and reverberation times for building interiors
	AS 2187 : 1993 Explosives – Storage Transport and Use : use of explosives
	AS 2436 : 1981 Guide to Noise Control on Construction, Maintenance and Demolition Sites
	AS 2670.1:2001 Evaluation of human exposure to whole-body vibration Part 1: General Requirements
	AS 2670.2:1990 Evaluation of human exposure to whole-body vibration Part 2: Continuous and shock-induced vibration in buildings (1 to 80 Hz)
	AS 2702 : 1984 Acoustics – Methods for Measurement of Road Traffic Noise.
	Australian Design Rule 28/01

	National Road Transport Commission - Stationary Exhaust Noise Test Procedures for In-Service Motor Vehicles
	British Standard 7385: Part 1 - 1990 Evaluation and Measurement for Vibration in Buildings - Guide for measurement of vibrations and evaluation of their effects on buildings
	<i>Environmental Protection (Noise) Policy 1997</i>
	<i>Environmental Protection Regulation 1998</i>
	Queensland Main Roads - Road Traffic Noise Management: Code of Practice 2000
	Queensland Main Roads Standard Specification MRS11.15 Noise Barriers, December 1999
	Queensland Main Roads Standard Specification 11.51 Environmental Management, December 1999
	Brisbane City Council - Noise Impact Assessment Planning Scheme Policy
<b>Risk</b>	AS 4360 : 2004 Risk Management
<b>Soils &amp; Erosion Management</b>	Australian and New Zealand Environment and Conservation Council (ANZECC)/National Health and Medical Research Council (NHMRC) – Guidelines for the Assessment and Management of Contaminated Sites
	Queensland Government Chemical Laboratory – Guidelines for Soil Sampling
	Queensland Acid Sulphate Soils Investigation Team (QASSIT) “Sampling and Analysis Procedure for Lowland Acid Sulphate Soils (ASS) in Queensland” dated 1 October 1997.
	State Planning Policy 2/023: Planning and managing development involving Acid Sulphate Soils
	State Planning Policy 2/02 Guideline: Acid Sulphate Soils
	“Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland” (Department of Environment 1998)
	Soil Erosion and Sediment Control, Engineers Guidelines for Queensland Construction Sites, 1996
<b>Waste Management</b>	AS 1216 Classification, Hazard identification and Information Systems for Dangerous Goods
	AS 1678 Emergency Procedure Guides - Transport
	AS 1940 Storage, and Handling of Flammable and Combustible Liquids
	AS 3780 The Storage and Handling of Corrosive Substances
	AS 2809 Road Tank Vehicles for Dangerous Goods
	AS 2931 Selection and Use of Emergency Procedure Guides for Transport of Dangerous Goods
	AS 2187 Explosives - Storage, Transport and Use
<b>Water Quality Management</b>	Water Quality Sampling Manual – For use in Testing for compliance with the <i>Environmental Protection Act 1994</i> . Second edition (Department of Environment Heritage 1995)
	Standard Methods of the Examination of Water and Wastewater – American Public Health Association (APHA)/Australian Waste Water Association (AWWA)
	AS 2031 : 2001 Selection of Containers and Preservation of Water Samples for Microbiological Analysis