Our reference: EF13/4614, DOC13/
Contact: Nicole Jones 9995 6865

Ms Diane Sarkies
Infrastructure Projects
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2000

Dear Ms Sarkies,

Review of Final EIS CBD and Light Rail Project (SSI 6042)

I refer to the request from the Department of Planning and Infrastructure (DP&I) received by the Environment Protection Authority (EPA) on 13 November 2013 to review the Final Environmental Impact Statement (EIS) for the CBD and South East Light Rail written by Parsons Brinckerhoff dated November 2013.

The EPA has reviewed the proposal and has no objection to the proposal proceeding as described in the EIS. **Attachment 1** contains EPA's assessment of the proposal. If the project is approved, the EPA recommends that the conditions provided at **Attachment 2** are incorporated into the consent.

The EPA requests an opportunity to review the draft conditions of consent for the proposal prior to finalisation.

It is noted that the project will require a licence under the *Protection of the Environment and Operations Act 1997* (POEO Act) to commence construction activities and to operate. The proponent will need to make a separate application to the EPA to obtain this licence once development project approval is granted.

The EPA would appreciate receiving a copy of submissions received by the DP&I following exhibition of the EIS. This would assist EPA to review the draft conditions of consent and to perform its licensing function.

If you have any questions, or wish to discuss any of the issues raised in this letter, please contact Nicole Jones on 9995 6865.

Yours sincerely

FRANK GAROFALOW
Manager Infrastructure
Environment Protection Authority

Attachment 1: EPA's comments on the Final Environmental Impact Statement for the CBD and South East Light Rail.
Attachment 2: EPA's proposed conditions of approval for the CBD and South East Light Rail.

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Attachment 1: EPA's comments on the Final Environmental Impact Statement for the CBD and South East Light Rail.

The EPA has the following comments regarding the EIS:

Environment Protection Licence
The proposed CBD and SE Light Rail project may require an Environment Protection Licence (EPL) for extractive activities and/or railway system activities.

In relation to railway system activities, an EPL is required where there is railway track that forms part of, or consists of, a network of more than 30km of track. This project will result in the construction of 13km of new track. If there is more than 30km of light rail track in total (existing and new), then an EPL will be required for both the construction and operational phases of this project.

The EPA notes that the proposal is expected to result in the excavation of over 210,000 cubic metres of material of which 68,000 cubic metres will be required for fill and a remaining 142,000 cubic metres will require off-site reuse or disposal. Worst case scenario is that 210,000 cubic metres will require disposal.

Land based extractive activities that involve the extraction, processing or storage of more than 30,000 tonnes per year extractive materials, either for sale or re-use, by means of excavation, blasting, tunnelling, quarrying or other such land-based methods require an Environment Protection Licence.

Based on the expected amount of material that will be generated, it is possible that more than 30,000 tonnes of material may be excavated per year and therefore, it is likely that an Environment Protection Licence will be required.

Groundwater
It is anticipated that groundwater will be generated during the construction of the Moore Park Tunnel. It should be ensured that the disposal of this groundwater does not cause pollution of waters under Section 120 of the POEO Act.

Contamination
The EPA notes that two previous contamination investigations of the Rozelle Goods Yard have identified hydrocarbon and heavy metal levels exceeding the site assessment criteria in soil at shallow depth. There are also a few locations along the route of the light rail where there is the potential for contamination to be present. For example, contaminating activities including service stations have been identified between Moore Park and Kingsford. The extent of contamination in the majority of these locations has not been investigated so it is unclear what remediation is required and the amount of contaminated material that will need to be disposed of. The EIS only contains an outline of what may be required in a remediation strategy based on suspected contamination rather than the results of actual contamination testing. A Phase 2 Environmental Site Assessment of any suspected contaminated areas and remediation of any contaminated areas along the route of the proposal should be undertaken prior to the commencement of construction works.

Waste
The EPA notes that there will be a large amount of waste generated as a result of the construction of the project. This waste should be classified according to the EPA's Waste Classification Guidelines (DECCW, 2009) and effort should be made to divert as much waste as possible from landfill to other beneficial reuses where possible.

General Construction Impacts
The EPA notes that construction is anticipated to be undertaken 24 hrs per day in the CBD and between 7am and 11pm outside the CBD.

There are a number of construction compounds that are intended to be used for the project and these are in highly built up areas with many close to sensitive noise receivers. It should be ensured that these

compounds are constructed and operated with consideration of the potential noise impacts on surrounding noise sensitive receivers.

Noise

The EPA notes that construction will take between five and six years from mid-2014. Due to traffic impacts, construction works are anticipated to take place at all times of day, particularly in the CBD but also at some intersections in other locations.

The noise and vibration impact assessment (NVIA) does not explore the potential noise impacts of existing light rail vehicles operating on the new system. The EIS does state in Section 5.4.5, however, that the passenger movements for the existing Inner West Light Rail and the proposal have been 'designed to operate independently of each other during the operation of the overall light rail network'. In the event that existing LRVs are to be used on the new system, any noise and vibration impacts should be thoroughly assessed against the relevant criteria.

The NVIA predicts changes to road traffic noise resulting from the proposal, but does not compare these to the increase in light rail noise. Accurately quantifying and assessing the relative and overall noise impacts from this proposed shift in transport modes is difficult and subject to many factors. These impacts are also very likely to change over time until a degree of equilibrium is reached.

The EPA recommends that suitable compliance assessment conditions are included in the approval that require additional noise mitigation measures if the assessment identifies impacts above predicted impacts.

Community Consultation

The construction of the project may take up to 6 years, during which time there is expected to be construction noise impacts on noise sensitive receivers along the route of the light rail. Extensive consultation with the community during the construction will be essential for informing the community of upcoming works and the expected impacts on their amenity.

Attachment 2: EPA's proposed conditions of approval for the CBD and South East Light Rail.

ENVIRONMENTAL PERFORMANCE

NOISE AND VIBRATION

Operational Noise and Vibration

C1. Rail line components of the SSI shall be designed and operated with the objective of not exceeding the airborne and ground-borne noise trigger levels at existing development, at each stage of the SSI, as presented in RING.

For the purpose of this condition, existing development includes all development that at the date of this approval, has been carried out in the vicinity of the rail corridor and any such development approved prior to the determination of this SSI, but only to the extent that the location of the development is known.

C2. The following facilities shall be designed and operated, where feasible and reasonable, to satisfy project specific noise levels (PSNL) derived from the NSW Industrial Noise Policy (INP, DECCW, 2000) and acceptable vibration levels presented in the publication 'Assessing Vibration: a technical guideline' (DECCW, 2006):

- Randwick Train Stabling Facility and Rozelle Maintenance Facility;
- CBD and South East Light Rail stations: Circular Quay, Grosvenor Street, Wynyard, Queen Victoria Building, Town Hall, World Square, Chinatown, Rawson Place, Central Station, Surry Hills, Moore Park, Carlton Street, Todman Avenue, UNSW Anzac Parade, Strachan Street, Kingsford, Royal Randwick Racecourse, Wansey Road, UNSW High Street and Randwick; and
- electrical substations.

Prior to operational commissioning of the above facilities, the proponent shall submit an Operational Noise and Vibration Review (ONVR, see also condition C8) based on detailed design to, and have approved by, the Director General. The ONVR shall identify the PSNL and acceptable vibration levels applicable to each facility and the means by which the noise and vibration levels will be satisfied. Where the noise and vibration levels cannot be achieved, the assessment shall present an analysis of feasible and reasonable noise and vibration mitigation measures, and the 'best practice' achievable noise and vibration outcome for each facility.
NOTE: this condition does not extend to noise from patrons, nor the operation of light rail vehicles on track.

C3. The activity of light rail vehicles operating on track, shall be designed and operated to satisfy the following air borne and ground borne noise criteria, where feasible and reasonable, at noise sensitive receiver locations.

Receiver Location	Time	Airborne noise[2]	Ground borne Noise[3]
Noise sensitive receiver locations[4]	7am to 7pm	L_{Amax} 82dB(A) and $L_{Aeq(7am\ to\ 7pm)}$ 60dB(A)	$L_{Amax\ (slow)}$ 40dB(A)
	7pm to 11pm	L_{Amax} 82dB(A) and $L_{Aeq(7pm\ to\ 11pm)}$ 55dB(A)	$L_{Amax\ (slow)}$ 40dB(A)
	11pm to 7am	L_{Amax} 82dB(A) and $L_{Aeq(7pm\ to\ 11pm)}$ 50dB(A)	$L_{Amax\ (slow)}$ 35dB(A)
Commercial	When occupied	L_{Amax} 82dB(A) and $L_{Aeq(7am\ to\ 7pm)}$ 60dB(A)	$L_{Amax\ (slow)}$ 50dB(A)

1. LAmax refers to the maximum noise level not to be exceeded for 95% of rail pass-by events over any 24hr period.

2. Airborne noise levels are to be assessed at 1m from the façade of sensitive receiver locations.
3. Ground borne noise levels are to be assessed close to the centre of the most affected habitable room at receiver locations. Ground borne noise criteria only apply at locations where the ground borne noise is higher than the airborne noise.
4. Noise sensitive receiver locations include residences, schools (and other educational institutions), hospitals, places of worship, passive recreational areas. However, where schools, hospitals and places of worship are passively ventilated (openable windows) in the façade being impacted by noise, the external airborne noise criteria shall be adjusted by minus 10dB.

Prior to commencement of light rail vehicle operations, the proponent shall submit a train Operational Noise and Vibration Impact Review based on detailed design to, and have approved by, the Director General. The assessment shall identify the proposed measures to be used in the project to satisfy the air borne and ground-borne noise limits identified in this condition. All uncertainties in the design process (e.g. engineering performance tolerances, modelling assumptions, transmission path assumptions etc) shall be identified and conservatively quantified. Appropriate safety factors or margins of error shall be adopted in the design process to account for design uncertainties.

C4. The activity of light rail vehicles operating on track, shall be designed and operated to satisfy the following vibration criteria, where feasible and reasonable, at noise sensitive receiver locations.

Receiver Location	Time	Vibration velocity [1] (Lmax dB re: 10^{-6} mm/s)	Vibration dose [2] ($m/s^{1.75}$)
Residences	7am to 7pm	103	0.20
	7pm to 11pm	103	0.20
	11pm to 7am	103	0.13
Commercial [3]	When in use	112	0.40

1. Vibration velocity criterion apply at exposed facades of sensitive receiver locations. Lmax refers to the maximum noise level not to be exceeded for 95% of rail pass-by events over any 24hr period.
2. Vibration dose criterion apply inside sensitive receiver locations at the point of concern. Nominally this would be at the centre of the most affected habitable room.
3. Commercial receiver locations include offices, schools, educational institutions and places of worship.
   Where there is any inconsistency between vibration velocity and vibration dose criterion, the more stringent provision shall apply.

C5. Between the hours of 10pm to 7am warning bells and horns shall only be used where in the opinion of the driver there is considered to be danger to public safety.

C6. Suitable provisions shall be incorporated into the design of the light rail system to avoid, to the greatest extent practicable, wheel squeal and flanging noise.

C7. The track shall be continuously welded rail for the whole running surface (except at points and crossings) and shall be subject to rail grinding maintenance consistent with best practice.

C8. The Proponent shall prepare an **Operational Noise and Vibration Review (ONVR)** to confirm noise and vibration control measures that will be implemented for the SSI. The ONVR shall be prepared in consultation with the EPA and relevant Councils and shall:

a) identify the appropriate operational noise and vibration objectives and levels for receiving existing development, including all sensitive receivers;

b) predict the operational noise and vibration impacts at receiving existing development based on the final design and operation of the SSI;

c) assess all feasible and reasonable noise and vibration mitigation measures, with a preferential focus on source control and design consistent with RING. The feasible and reasonable analysis shall be

transparent and fully justified and shall include, but not be limited to, the consideration of subjective noise factors, such as the number of noisy events, the duration of noisy events and the characteristics of the noise and consideration of mitigation measures;

d) include a mitigation plan for each catchment showing all sensitive receivers where RING triggers are exceeded and a strategy to mitigate the noise, including the identification of specific physical and other mitigation measures for controlling noise and vibration at the source and at the receiver including location, type and timing for the implementation of mitigation measures;

e) include a consultation strategy to seek feedback from directly affected property owners on the noise and vibration mitigation measures; and

f) include procedures for operational noise and vibration complaints management, including investigation and monitoring (subject to complainant agreement).

The ONVR is to be independently verified by a noise and vibration expert. The scope of the verification exercise undertaken by the noise and vibration expert is to be developed by the Proponent in consultation with the EPA. The verification will be undertaken at the Proponent's expense and the independent expert shall be approved by the Director-General. The ONVR and independent review is to be submitted to and approved by the Director-General prior to the commencement of the laying of rail track or the construction of physical noise mitigation structures, unless otherwise agreed to by the Director-General. The Proponent shall implement the identified noise and vibration control measures prior to operation and make the ONVR publicly available.

SOIL, WATER QUALITY AND HYDROLOGY

Water Pollution
C9. Except as may be provided by an EPL, the SSI shall be constructed and operated to comply with section 120 of the Protection of the Environment Operations Act 1997, which prohibits the pollution of waters.

Land Contamination
C10. To protect the environment and human health from contamination, measures to identify, remediate, handle and manage potential contaminated soil, materials and groundwater shall be incorporated into the Construction Environmental Management Plan. If remediation of contaminants is required, a soil sampling validation report shall be prepared verifying that the site has been remediated to a standard consistent with the intended land use prior to the commencement of construction in that area.

WASTE MANAGEMENT
C11. All waste materials removed from the site shall only be directed to a waste management facility or premises lawfully permitted to accept the materials.

C12. All liquid and/or non-liquid waste generated on the site shall be assessed and classified in accordance with Waste Classification Guidelines (Department of Environment, Climate Change and Water, 2009), or any superseding document.

HAZARDS AND RISK
C13. Dangerous goods, as defined by the *Australian Dangerous Goods Code*, shall be stored and handled strictly in accordance with:
a) all relevant Australian Standards;
b) for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bund; and
c) the *Environment Protection Manual for Authorised Officers: Bunding and Spill Management,* technical bulletin (EPA, 1997).

In the event of an inconsistency between the requirements listed above, the most stringent requirement shall prevail to the extent of the inconsistency.

COMMUNITY INFORMATION, REPORTING AND AUDITING

COMMUNITY INFORMATION, CONSULTATION AND INVOLVEMENT

D1. A **Stakeholder and Community Involvement Plan** shall be prepared and implemented to provide mechanisms to facilitate communication between the Proponent (and its contractor(s)), the Environmental Representative, the relevant Council(s) and community stakeholders (particularly adjoining landowners) on the construction environmental management of the SSI. The Plan shall include, but not be limited to:

a) identification of community and business stakeholders to be consulted as part of the Strategy, including affected and adjoining landowners;

b) procedures and mechanisms for the regular distribution of information to community and business stakeholders on construction progress, construction activities that are likely to affect their amenity and matters associated with environmental management;

c) the formation of community/business-based forums that focus on key environmental management issues for the SSI. The Strategy shall provide detail on the structure, scope, objectives and frequency of the forums;

d) procedures and mechanisms through which community and business stakeholders can discuss or provide feedback to the Proponent and/or Environmental Representative in relation to the environmental management and delivery of the SSI;

e) procedures and mechanisms through which the Proponent can respond to enquiries or feedback from community and business stakeholders in relation to the environmental management and delivery of the SSI; and

f) procedures and mechanisms that would be implemented to resolve issues/disputes that may arise between parties on the matters relating to environmental management and the delivery of the SSI. This may include the use of an appropriately qualified and experienced independent mediator.

Issues that shall be addressed through the Community Communication Plan include (but are not necessarily limited to) construction traffic and access arrangements, construction noise and vibration, impacts to local businesses, land uses and community facilities, and other construction generated impacts. The Proponent shall maintain and implement the Plan throughout construction of the SSI. The Plan shall be submitted to and approved by the Director General prior to the commencement of construction, or as otherwise agreed by the Director General.

Complaints and Enquiries Procedure

D2. Prior to the commencement of construction, or as otherwise agreed by the Director General, the Proponent shall ensure that the following are available for community enquiries and complaints for the duration of construction:

a) a 24 hour telephone number(s) on which complaints and enquiries about the SSI may be registered;
b) a postal address to which written complaints and enquires may be sent;
c) an email address to which electronic complaints and enquiries may be transmitted; and
d) a mediation system for complaints unable to be resolved.

The telephone number, the postal address and the email address shall be published in newspaper(s) circulating in the local area prior to the commencement of construction. This information shall also be provided on the website (or dedicated pages) required by this approval.

D3. Prior to the commencement of construction, or as otherwise agreed by the Director General, the Proponent shall prepare and implement a Construction Complaints Management System consistent with *AS 4269: Complaints Handling* and maintain the System for the duration of construction and up to 12 months following completion of the SSI.

Information on all complaints received, including the means by which they were addressed and whether resolution was reached, with or without mediation, shall be maintained in a complaints register and included in the construction compliance reports required by this approval. The information contained within the System shall be made available to the Director General on request.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT

NOISE AND VIBRATION

Construction Hours

E1. Except as permitted by an EPL, construction activities associated with the SSI shall be undertaken during the following standard construction hours:

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

E2. Except as permitted by an EPL, high noise impact works and activities shall only be undertaken:

(a) between the hours of 8:00 am to 6:00 pm Monday to Fridays;
(b) between the hours of 8:00 am to 1:00 pm Saturday; and
(c) in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block.

For the purposes of this condition 'continuous' includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work that is the subject of this condition.

E3. Notwithstanding conditions E1 to E2, construction activities outside of the prescribed construction hours may be undertaken in any of the following circumstances:

(a) (i) construction works that generate air-borne noise that is no more that 5 dB(A) above rating background level at any residence in accordance with the *Interim Construction Noise Guideline* (DECC, 2009); and
(i) construction works that generate air-borne noise that is no more than the noise management levels specified in Table 3 of the *Interim Construction Noise Guideline* (DECC, 2009) at other sensitive receivers; and
(ii) construction works that generate continuous or impulsive vibration values, measured at the most affected residence, that are no more than those for human exposure to vibration, specified for residences in Table 2.2 of *Assessing Vibration: a technical guideline* (DEC, 2006); and
(iii) works that generate intermittent vibration values, measured at the most affected residence, that are no more than those for human exposure to vibration, specified for residences in Table 2.4 of *Assessing Vibration: a technical guideline* (DEC, 2006);

(b) where a negotiated agreement has been reached with affected receivers, where the prescribed noise and vibration levels cannot be achieved;

(c) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons;

(d) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; and

(e) works approved through an EPL, including for works identified in an out of hours procedure.

Notwithstanding the above, the Proponent shall limit construction outside of standard construction hours, particularly during the night time period, to the greatest extent practicable.

E4. The hours of construction activities specified under condition E1 of this approval may be varied with the prior written approval of the Director-General. Any request to alter the hours of construction shall be:
a) considered on a case-by-case or activity-specific basis;
b) accompanied by details of the nature and justification for activities to be conducted during the varied construction hours;
c) accompanied by written evidence to the Director-General that appropriate consultation with potentially affected sensitive receivers and notification of relevant Council(s) (and other relevant agencies) has been and will be undertaken;
d) all reasonable and feasible noise mitigation measures have been put in place; and,
e) accompanied with a noise impact assessment consistent with the requirements of the Interim Construction Noise Guideline (DECCW, 2009).

Construction Noise and Vibration

E5. The SSI shall be constructed with the aim of achieving the construction noise management levels detailed in the *Interim Construction Noise Guideline* (DECC, 2009). All feasible and reasonable noise mitigation measures shall be implemented and any activities that could exceed the construction noise management levels shall be identified and managed in accordance with the Construction Noise and Vibration Management Plan (condition E34 (b)).

E6. The SSI shall be constructed with the aim of achieving the following construction vibration goals:

a) for structural damage, the vibration limits set out in the German Standard *DIN*
   a. *4150-3: Structural Vibration - effects of vibration on structures*; and

b) for human exposure, the acceptable vibration values set out in the *Environmental*
   a. *Noise Management Assessing Vibration: A Technical Guideline* (Department of
   b. Environment and Conservation, 2006).

E7. Construction Noise Management Levels (CNML) shall be established using the Interim Construction Noise Guideline (DECCW, 2009). Vibration criteria shall be established using the Assessing Vibration: a technical guideline (DEC, 2006). Any construction activities identified as exceeding the CNML and/or vibration criteria shall be managed in accordance with the Construction Noise and Vibration Management Plan (CNVMP) and Construction Work Method Statements (CWMS) required by this approval. The Proponent shall implement all reasonable and feasible noise mitigation measures with the aim of achieving the CNMLs and vibration criteria.

NOTE: The ICNG (DECCW, 2009) identifies ‘particularly annoying’ activities that require the addition of 5dB(A) to the predicted level before comparing to the CNML.

E8. Prior to commencement of works, the proponent shall undertake a detailed land use survey to identify potentially critical working areas (e.g. hospital operating theatres, precision laboratories etc) that are sensitive to vibration and ground-borne noise impacts. A specific plan of management, where relevant, shall be submitted to, and approved by, the Director General outlining the proposed mitigation for both construction and operational impacts. The outcomes of specific consultation with affected receivers shall be reported.

E9. No blasting shall occur without the prior approval of the Director General.

E10. Wherever feasible and reasonable, piling activities shall be undertaken using quieter alternative methods than impact or percussion piling, such as bored piles or vibrated piles.

E11. The Proponent shall consult with potentially-affected community, religious, educational institutions and vibration-sensitive businesses and where reasonable and feasible schedule noise and vibration generating construction works in the vicinity of the receivers outside of sensitive periods, unless appropriate other arrangements are made.

E12. During construction, Proponents of other major construction works in the vicinity of the SSI shall be consulted, and reasonable steps taken to coordinate works to minimise impacts on, and maximise respite for affected sensitive receivers.

AIR QUALITY

E13. The SSI shall be constructed in a manner that minimises dust emissions from the site, including wind-blown and traffic-generated dust and tracking of material onto public roads. All activities on the site shall be undertaken with the objective of minimising visible emissions of dust from the site. Should such visible dust emissions occur at any time, the Proponent shall identify and implement feasible and reasonable dust mitigation measures, including cessation of relevant works, as appropriate, such that emissions of visible dust cease.

SOIL, WATER QUALITY AND HYDROLOGY

Construction Soil and Water Management

E14. Soil and water management measures consistent with *Managing Urban Stormwater - Soils and Construction Vols 1 and 2, 4th Edition* (Landcom, 2004) shall be employed during the construction of the SSI to minimise soil erosion and the discharge of sediment and other pollutants to land and/or waters.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

E15. As part of the Construction Environmental Management Plan for the SSI required under condition E33 the Proponent shall prepare and implement:

(a) a **Construction Noise and Vibration Management Plan** to detail how construction noise and vibration impacts will be minimised and managed. The Plan shall be consistent with the guidelines contained in the *Interim Construction Noise Guidelines* (DECC, 2009). The Plan shall be developed in consultation with the EPA and shall include, but not be limited to:

(i) identification of sensitive receivers and relevant construction noise and vibration goals applicable to the SSI stipulated in this approval;

(ii) details of construction activities and an indicative schedule for construction works, including the identification of key noise and/or vibration generating construction activities (based on representative construction scenarios, including at ancillary facilities) that have the potential to generate noise and/or vibration impacts on surrounding sensitive receivers, particularly residential areas;

(iii) identification of feasible and reasonable measures proposed to be implemented to minimise and manage construction noise impacts (including construction traffic noise impacts);

(iv) identification of feasible and reasonable procedures and mitigation measures to ensure relevant vibration criteria are achieved, including applicable buffer distances for vibration intensive works, use of low-vibration generating equipment/ vibration dampeners or alternative construction methodology, and pre- and post- construction dilapidation surveys of sensitive structures where vibration is likely to result in damage to buildings and structures (including surveys being undertaken immediately following a monitored exceedance of the criteria);

(v) a description of how the effectiveness of mitigation and management measures would be monitored during the proposed works, clearly indicating how often this monitoring would be conducted, the locations where monitoring would take place, how the results of this monitoring would be recorded and reported, and, if any exceedance is detected, how any noncompliance would be rectified; and

(vi) mechanisms for the monitoring, review and amendment of this Plan.

(b) **Environmental Noise Construction Method Statements**

Environmental Noise Construction Methods Statements (ENCMS), based on the detailed design and finalised work methods, shall be prepared for each of the following distinct work sites to detail noise mitigation and management measures:

- Randwick Train Stabling Facility and Rozelle Maintenance Facility;

- CBD and South East Light Rail stations: Circular Quay, Grosvenor Street, Wynyard, Queen Victoria Building, Town Hall, World Square, Chinatown, Rawson Place, Central Station, Surry Hills, Moore Park, Carlton Street, Todman Avenue, UNSW Anzac Parade, Strachan Street, Kingsford, Royal Randwick Racecourse, Wansey Road, UNSW High Street and Randwick; and
- electrical substations;
- construction compounds; and
- construction works along the linear extent of the project.

The ENCMS shall include, but not be necessarily limited to:
i) identification of sensitive noise receivers likely to be impacted by construction noise and vibration;
ii) identification of applicable Construction Noise Management Levels (CNML), vibration criteria and ground-borne noise levels, as relevant;
iii) details of construction activities and a schedule for construction works for each work site;
iv) identification of construction activities that have the potential to generate noise and/or vibration levels exceeding the relevant criteria;
iv) a detailed description of what feasible and reasonable actions and measures would be implemented to ensure, to the greatest extent practicable, that these works would comply with the relevant noise and vibration criteria/ guidelines or impacts mitigated by other means;
vi) procedures for notifying residents of construction activities that are likely to affect their noise and vibration amenity, as well as procedures for dealing with and responding to noise complaints; and
vii) a description of how the effectiveness of these actions and measures would be monitored during the proposed works, clearly indicating how often this monitoring would be conducted, how the results of this monitoring would be recorded; and, corrective preventative actions if any non-compliance is detected.

OPERATIONAL ENVIRONMENTAL MANAGEMENT

OPERATIONAL NOISE

Operational Noise and Vibration Compliance Monitoring and Assessment

F1. The Proponent shall undertake noise and vibration compliance monitoring and assessments to confirm the predictions of the noise assessment and mitigations referred to in the ONVR (condition C4). The noise and vibration compliance assessment shall be developed in consultation with the EPA and be undertaken at twelve months, 5 years and 10 years of the commencement of operation of the SSI, or as otherwise agreed by the Director-General. The assessment shall include, but not necessarily be limited to:

a) noise and vibration monitoring and compliance assessment, to assess compliance with conditions C1 to C3 of this approval and the ONVR;

b) details of any complaints received relating to operational noise and vibration impacts;

c) an assessment of the performance and effectiveness of the applied noise and vibration mitigation measures;

d) any required recalibration of the noise and vibration model; and

e) identification, if required, of further noise and vibration mitigation measures to meet the requirements of C1 to C4 of this approval and the objectives identified in the ONVR.

An Operational Noise and Vibration Compliance Assessment Report providing the results of the assessment shall be submitted to the Director-General and the EPA within 60 days of its completion and made publicly available. If the assessment indicates an exceedance of the noise and vibration objectives and predictions identified in the ONVR, the Proponent shall implement further feasible and reasonable measures to mitigate these exceedances in consultation with affected property owners (where required).