Infrastructure Approval

Section 115ZB of the *Environmental Planning and Assessment Act 1979*

I grant approval to the State significant infrastructure application referred to in schedule A, subject to the conditions in schedules B to E.

These conditions are required to:
- prevent, minimise, and/or offset adverse environmental impacts including economic and social impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.

Brad Hazzard

The Hon Brad Hazzard MP
Minister for Planning and Infrastructure

Sydney 25 Sept 2012

SCHEDULE A

Application no.:	SSI-5100
Proponent:	Transport for NSW
Consent Authority:	Minister for Planning and Infrastructure
Land:	Land required for the construction and operation of the proposal, generally between Epping and Rouse Hill
State significant infrastructure:	Major civil construction works for the North West Rail Link, including: a) two 15.5 kilometre rail tunnels between Epping and Bella Vista, linking directly into the Epping to Chatswood Rail Line tunnel; b) excavation works for underground railway station construction; and c) above ground construction, including 4.2 kilometre Skytrain viaduct structure between Bella Vista and Rouse Hill and a stabling facility.
Critical infrastructure	The Proposal is critical State significant infrastructure by virtue of Schedule 5, Clause 2 of the State and Regional Development SEPP.

DEFINITIONS

Act, the	*Environmental Planning and Assessment Act, 1979.*
Ancillary Facility	Temporary facility for construction not identified in the documents listed in condition B1 b) and c) of this approval, including for example an office and amenities compound, construction compound, batch plant (concrete or bitumen), materials storage compound, maintenance workshop, testing laboratory or material stockpile area.
Conditions of approval	The Minister's conditions of approval for the SSI.
Construction	Includes all work in respect of the SSI other than: a) survey, acquisitions, building/ road dilapidation surveys; b) investigative drilling/ excavation, c) minor clearing or translocation of native vegetation; d) establishing ancillary facilities/ construction work sites (in locations meeting the criteria identified in the Conditions of Approval); e) installation of environmental impact mitigation measures, fencing, enabling works; f) other activities determined by the Environmental Representative to have minimal environmental impact (e.g. minor access roads, minor adjustments to services/ utilities, etc). Work where heritage, threatened species, populations or endangered ecological communities would be affected, that work is classified as construction, unless otherwise approved by the Director General in consultation with the Office of Environment and Heritage and/ or the Heritage Council of NSW.
Department, the	Department of Planning and Infrastructure.
Director General, the	Director General of the Department of Planning and Infrastructure.
Director General's approval, agreement or satisfaction	A written approval from the Director General (or nominee). Where the Director General's approval, agreement or satisfaction is required under a condition of this approval, the Director General will endeavour to provide a response within one month of receiving an approval, agreement or satisfaction request. The Director General may ask for additional information if the approval, agreement or satisfaction request is considered incomplete. When further information is requested, the time taken for the Proponent to respond in writing will be added to the one month period.
DPI	Department of Primary Industries
EEC	Endangered ecological communities
EIS	Environmental Impact Statement
Enabling Works	Works which allow isolation of the site so that access for construction can be provided.
EPA	Environment Protection Authority.
EPL	Environment Protection Licence under the *Protection of the Environment Operations Act 1997.*

ENV	Existing native vegetation as defined by the Growth Centres Biodiversity Certification.
Feasible and Reasonable	Consideration of best practice taking into account the benefit of proposed measures and their technological and associated operational application in the NSW and Australian context. Feasible relates to engineering considerations and what is practical to build. Reasonable relates to the application of judgement in arriving at a decision, taking into account mitigation benefits and cost of mitigation versus benefits provided, community views and nature and extent of potential improvements. Where requested by the Director General, the Proponent shall provide evidence as to how feasible and reasonable measures were considered and taken into account.
Heritage	Encompasses both Aboriginal and historic heritage including sites that predate European settlement, and a shared history since European settlement such as a shared associations in pastoral landscapes as well as associations linked with the mission period.
Heritage Item	An item as defined under the *Heritage Act 1977*, and assessed as being of local, State and/ or National heritage significance, and/or an Aboriginal Object or Aboriginal Place as defined under the *National Parks and Wildlife Act 1974.*
Minister, the	Minister for Planning and Infrastructure
NOW	NSW Office of Water
OEH	Office of Environment and Heritage
Operation	Means the operation of the SSI, but does not include commissioning trials of equipment or temporary use of parts of the SSI during construction.
Proponent	Transport for NSW
Publicly available	Available for inspection by a member of the general public (for example available on an internet website).
Relevant council(s)	Blacktown City Council, and/ or The Hills Shire Council, and/ or Hornsby Shire Council, and/ or Parramatta City Council
RMS	Roads and Maritime Services
Sensitive receiver	Residence, education institution (e.g. school, university, TAFE college), health care facility (e.g. nursing home, hospital), religious facility (e.g. church), children's day care facility, community centres, and recreation areas.
SSI	Means the infrastructure approved under this approval and as generally described in Schedule A

SCHEDULE B

ADMINISTRATIVE CONDITIONS

TERMS OF APPROVAL

B1. The Proponent shall carry out the SSI generally in accordance with the:
- (a) SSI Application SSI-5100;
- (b) *North West Rail Link: Environmental Impact Statement – Stage 1-Major civil Construction Works*, dated 26 March 2012;
- (c) *Submissions Report, Stage 1 – Major Civil Construction Works, Incorporating Preferred Infrastructure Report*, dated July 2012; and
- (d) conditions of this approval.

B2. In the event of an inconsistency between:
- (a) the conditions of this approval and any document listed from condition B1(a) to B1(c) inclusive, the conditions of this approval shall prevail to the extent of the inconsistency; and
- (b) any document listed from condition B1(a) to B1(c) inclusive, and any other document listed from condition B1(a) to B1(c) inclusive, the most recent document shall prevail to the extent of the inconsistency.

B3. In the event of an inconsistency between the terms of this approval and the staged infrastructure approval granted in respect of the North West Rail Link on May 6 2008 (MP06_1057), as modified from time to time, the terms of this approval (including the documents listed in B1) shall prevail to the extent of the inconsistency.

B4. The Proponent shall comply with any reasonable requirement(s) of the Director General arising from the Department's assessment of:
- (a) any reports, plans or correspondence that are submitted in accordance with this approval; and
- (b) the implementation of any actions or measures contained within these reports, plans or correspondence.

B5. Subject to confidentiality, the Proponent shall make all documents required under this approval available for public inspection on request.

LIMITS OF APPROVAL

B6. This approval shall lapse 10 years after the date on which it is granted, unless the works the subject of this SSI approval are physically commenced on or before that date.

STATUTORY REQUIREMENTS

B7. The Proponent shall ensure that all licences, permits and approvals are obtained as required by law and maintained as required throughout the life of the SSI. No condition of this approval removes the obligation for the Proponent to obtain, renew or comply with such licences, permits or approvals.

B8. This approval does not apply to the operation of off-site spoil receival locations and facilities. The receipt of spoil at these locations shall be undertaken in accordance with approvals/or licences applying to these locations or facilities.

STAGING

B9. The Proponent may elect to construct and/ or operate the SSI in stages. Where staging is proposed, the Proponent shall submit a Staging Report to the Director General prior to the commencement of the first proposed stage. The Staging Report shall provide details of:

(a) how the SSI would be staged, including general details of work activities associated with each stage and the general timing of when each stage would commence; and
(b) details of the relevant conditions of approval, which would apply to each stage and how these shall be complied with across and between the stages of the SSI.

Where staging of the SSI is proposed, these conditions of approval are only required to be complied with at the relevant time and to the extent that they are relevant to the specific stage(s).

The Proponent shall ensure that an updated Staging Report (or advice that no changes to staging are proposed) is submitted to the Director General prior to the commencement of each stage, identifying any changes to the proposed staging or applicable conditions.

B10. The Proponent shall ensure that all plans, sub-plans and other management documents required by the conditions of this approval and relevant to each stage (as identified in the Staging Report) are submitted to the Director General no later than one month prior to the commencement of the relevant stages, unless otherwise agreed by the Director General.

Note: These conditions do not relate to staged infrastructure within the meaning of section 115ZD of the EP&A Act.

B11. With the approval of the Director General, the Applicant may:
(a) submit any strategy, plan, program (or the like) required by this approval on a progressive basis; and
(b) combine any strategy, plan, program (or the like) required by this approval.

Notes:
- *While any strategy, plan or program may be submitted on a progressive basis, the Applicant will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times; and*
- *If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.*

COMPLIANCE

B12. The Proponent shall ensure that any strategy, plan, program (or the like) incorporates mitigation measures identified in the documents listed in condition B1, as relevant, and as modified by this approval.

B13. The Proponent shall ensure that employees, contractors and sub-contractors are aware of, and the need to comply with, the conditions of this approval relevant to their respective activities.

B14. The Proponent shall be responsible for environmental impacts resulting from the actions of all persons that it invites onto the site, including contractors, sub-contractors and visitors.

SCHEDULE C

ENVIRONMENTAL PERFORMANCE

Ecological Monitoring

C1. An **Ecological Monitoring Program** shall be developed to monitor the effectiveness of the biodiversity mitigation measures implemented as part of construction of the SSI. The Program shall be developed by a suitably qualified and experienced ecologist in consultation with OEH and relevant Councils and shall include, but not necessarily be limited to:

(a) an adaptive monitoring program to assess the effectiveness of the mitigation measures. The monitoring program shall nominate performance parameters and criteria against which effectiveness of the mitigation measures will be measured;

(b) mechanisms for developing additional monitoring protocols to assess the effectiveness of any additional mitigation measures implemented to address additional impacts in the case of design amendments or unexpected threatened species finds during construction (where these additional impacts are generally consistent with the biodiversity impacts identified for the SSI);

(c) provision for the assessment of the data to identify changes to habitat usage and whether this can be directly attributed to construction of the SSI;

(d) details of contingency measures that would be implemented in the event of changes to habitat usage patterns directly attributable to the construction of the SSI; and

(e) provision for annual reporting of monitoring results to the Director General, OEH and relevant Councils, or as otherwise agreed by those agencies.

Monitoring shall be undertaken during construction and until such time as the effectiveness of mitigation measures can be demonstrated to have been achieved over a minimum of three successive monitoring periods, unless otherwise agreed by the Director General. The monitoring period may be reduced with the agreement of the Director General in consultation with OEH and relevant Councils depending on the outcomes of the monitoring.

The Program shall be submitted to the Director General for approval no later than one month prior to the commencement of construction that would result in the disturbance of ecological communities, unless otherwise agreed by the Director General.

Riparian and Aquatic Ecology

C2. Riparian Buffer Widths for waterways which are affected by the SSI are to be managed for a Total Riparian Buffer Width of between 10m to 50m where feasible and reasonable, dependant on the Category of Watercourse determined by the Riparian Assessment for the North West Rail Link (Ecological Australia, 2011)

C3. Watercourses affected by the proposal shall, where feasible and reasonable, be rehabilitated to emulate a natural stream system. The rehabilitation of watercourses shall be consistent with the *Guidelines for Controlled Activities* (DWE, 2008) and stream armouring should be minimised to the greatest extent practicable.

C4. Riparian vegetation in and around watercourses affected by the SSI shall be restored and rehabilitated in consultation with NOW and DPI (Fisheries) and with the relevant Council/s. Restoration and rehabilitation measures, including timeframes and reporting on completion of works, shall be included in the Construction Flora and Fauna Management Plan (condition E46(f)).

Biodiversity Offset Package

C5. Within twelve months of the commencement of construction, or as otherwise agreed to by the Director General, the Proponent shall develop and submit a Biodiversity Offset Package for the approval of the Director General. The Package shall detail how the ecological values lost as a result of the SSI will be offset. The Package shall be developed in consultation with OEH and the Department (Strategies and Land Release) and shall (unless otherwise agreed by the Director General) include, but not necessarily be limited to:

a) the identification of the extent, types and condition of habitat that shall be lost or degraded as a result of the SSI, including the consideration of indirect impacts on adjacent retained vegetation and impacts caused through weed incursion and other potential edge effects;
b) the objectives and outcomes necessary to address impacts on all native flora and fauna species and vegetation communities located in the North West Growth Centre, but not certified under the Biodiversity Certification Order, or located on land outside of the North West Growth Centre;
c) the final suite of the biodiversity offset measures selected and secured in accordance with the Biodiversity Offset Strategy;
d) the management and monitoring requirements for compensatory habitat works and other biodiversity offset measures proposed to ensure the outcomes of the package are achieved, including:
    i) the monitoring of the condition of species and ecological communities at offset locations;
    ii) the methodology for the monitoring program(s), including the number and location of offset monitoring sites, and the sampling frequency at these sites;
    iii) provisions for the annual reporting of the monitoring results for a set period of time as determined in consultation with the OEH; and
e) timing and responsibilities for the implementation of the provisions of the Package.

Land offsets shall be consistent with the *Principles for the use of Biodiversity Offsets in NSW*. Notwithstanding, in relation to areas of non-certified ENV within the North West Growth Centre, offset requirements must be consistent with the *Growth Centres Biodiversity Certification Order* (December, 2007). Any land offset shall be enduring and be secured by a conservation mechanism which protects and manages the land in perpetuity. Where land offsets cannot solely achieve compensation for the loss of habitat, additional measures shall be provided to collectively deliver an improved or maintained biodiversity outcome for the region.

Where possible, specific priority shall be given to securing offset sites as near to the location of the impact/loss as possible to assist with the preservation of the specific endemic community of the area and assure that the ecological and amenity benefits of retaining endemic vegetation remain within the Local Government Area.

Where monitoring referred to in condition C1 indicates biodiversity outcomes are not being achieved, remedial actions, (such as improved land management measures or changes to the size and/or location of the offset area), shall be developed in consultation with OEH and the Department (Strategies and Land Release). Such remedial actions shall be documented under an addendum to the Biodiversity Offset Package and the addendum be submitted for the approval of the Director-General, prior to the implementation of that addendum.

SOIL, WATER QUALITY AND HYDROLOGY

C6. 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.

Flooding

C7. The SSI shall be designed, to the extent that it is feasible and reasonable, to not worsen existing flood characteristics in the vicinity of the SSI. Not worsen is defined as:

(a) a maximum increase flood levels of 20mm in a 100 year Average Recurrence Interval (ARI) flood event; and
(b) a maximum increase in flood levels of 50mm in a probable maximum flood; and
(c) a maximum increase in time of inundation of one hour in a 100 year ARI flood event; and
(d) any increase in flow velocity in a 100 year ARI flood event should not increase the potential for soil erosion and scouring.

Flood Risk Management Plan

C8. A **Stormwater and Flooding Management Plan(s)** shall be prepared in consultation with the Department (Strategies and Land Release), OEH, and relevant Councils during detailed design of the SSI and prior to relevant construction, or as otherwise agreed by the Director General. The Plan shall identify actions to ensure that the SSI addresses existing flooding characteristics within the vicinity of the SSI for a full range of flood sizes up to and including the probable maximum flood. The Plan(s) shall be prepared by appropriately qualified person(s) and facilitate a holistic approach to detailed hydrologic assessment and stormwater management, which gives consideration to the impacts associated with construction and operation, and shall include but not be limited to:

a) the design of temporary works and compensatory measures that would be implemented during construction to not worsen, to the to the extent that it is feasible and reasonable, existing and known future flooding characteristics;
b) the identification of flood risks to the SSI and adjoining areas, including the consideration of local drainage catchment assessments, and climate change implications on rainfall and drainage characteristics;
c) identification of design and mitigation measures that would be implemented to protect proposed construction activities and not worsen existing flooding characteristics during construction, including soil erosion and scouring;
d) identify flood risk, potential for inflows, potential consequences and required mitigation measures for each tunnel entrance; and
e) a flood / emergency response / management plan.

For surface components of the SSI located on floodplains, flood impacts shall be confirmed in accordance with the *Floodplain Development Manual* (2005), and other relevant NSW Government Guidelines.

Salinity

C9. A **Soil Salinity Report** detailing the outcomes of geotechnical investigations and groundwater monitoring, to determine the presence, extent and severity of soil salinity within the SSI area and impacts to groundwater resources and hydrology, shall be prepared and submitted to the Director General prior to the commencement of bulk earth activities, or as otherwise agreed by the Director General.

The report shall be prepared in consultation with OEH and NOW and detail, where relevant, that the SSI minimises, avoids and/or mitigates impacts on local/regional salinity processes, impacts on groundwater systems, and receiving environments.

The recommendations of the Soil Salinity Report shall be incorporated into the Construction Soil and Water Quality Management Plan (condition E46(d)).

Watercourse crossings

C10. Watercourse crossings (temporary and permanent) shall be designed in consultation with NOW, and where feasible and reasonable, be consistent with the *Guidelines for Controlled Activities*, *Policy and Guidelines for Fish Friendly Waterway Crossings* (NSW Fisheries, 2004) and *Policy and Guidelines for Design and Construction of Bridges, Roads, Causeways, Culverts and Similar Structures* (NSW Fisheries, 1999). Where multiple cell culverts are proposed for creek crossings, at least one cell shall be provided for fish passage, with an invert or bed level that mimics creek flows.

Water Quality Monitoring Program

C11. A **Water Quality Monitoring Program** shall be prepared and implemented to monitor impacts on surface and groundwater quality resources and wetlands. The Program shall be developed in consultation with the EPA, DPI (Fisheries) and NOW and shall include but not necessarily be limited to:

(a) identification of surface and groundwater quality monitoring locations which are representative of the potential extent of impacts from the SSI;
(b) identification of the water quality parameters to be monitored at each location;
(c) identification of works and activities during construction of the SSI, including emergencies and spill events, that have the potential to impact on surface water quality of potentially affected waterways;
(d) presentation of parameters and standards against which any changes to water quality will be assessed, having regard to the principles of the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000* (ANZECC, 2000), and identification of 'trigger points' for further investigation or action to be taken;
(e) representative background monitoring of surface and groundwater quality parameters, to establish baseline water conditions, unless otherwise agreed by the Director General;
(f) identification of the frequency of water sampling during background, and construction monitoring periods;
(g) a minimum monitoring period of three years following the completion of construction or until the affected waterways and/ or groundwater resources are certified by an independent expert as being rehabilitated to an acceptable condition;
(h) contingency and ameliorative measures in the event that adverse impacts to water quality relevant to the SSI are identified; and
(i) reporting of the monitoring results to the Department, EPA, DPI and NoW.

The Program shall be submitted to the Director General for approval prior to the commencement of construction of the SSI, or as otherwise agreed by the Director General. A copy of the Program shall be submitted to the EPA, DPI (Fishing and Aquaculture) and NOW prior to its implementation.

Groundwater

C12. The Proponent shall design and construct the SSI, as far as is feasible and reasonable, in a manner that minimises impacts to groundwater hydrology including capture, drawdown and quality.

C13. The management of groundwater and surface water ingress into the station boxes and tunnels, including the design of capture, treatment and discharge methods shall be undertaken in consultation with the EPA.

C14. The Proponent shall take all feasible and reasonable measures to limit operational groundwater inflows into the tunnels to no greater than 1 litre per second per kilometre.

Contamination

C15. The following documents shall be submitted to the Director General, within the identified timeframes, unless otherwise agreed by the Director General:

(a) reports detailing Stage 2 Contamination Site Investigations in areas identified as having a moderate to high risk of contamination, and a Site Auditor endorsed Remediation Action Plan (or similar), where required, prior to site preparation or construction; and

(b) Certification by a Site Auditor that any contaminated land and/or groundwater, identified in (a) has been remediated to a standard consistent with the intended land use, prior to the use of the land.

Note: Terms used in this condition have the same meaning as in the *Contaminated Land Management Act 1997.*

C16. Where the investigations identify that the site is suitable for the intended operations and that there is no need for a specific remediation strategy, measures to identify, handle and manage potential contaminated spoils, materials and groundwater shall be incorporated into the Construction Environmental Management Plan (condition E46).

Settlement

C17. A geotechnical model of representative geological and groundwater conditions shall be prepared prior to excavation and tunnelling in subject area(s) to identify geological structures and groundwater features. This model shall include details of proposed excavations and tunnels, construction staging, and identify surface and sub-surface structures and infrastructure which may be impacted by the SSI, including the specific attributes of those structures. The Proponent shall use this model to assess the predicted settlement, ground movement, stress redistribution and horizontal strain profiles caused by excavation and tunnelling on adjacent property and infrastructure.

C18. The Proponent shall undertake an assessment of property and infrastructure at risk from damage to determine appropriate settlement criteria to prevent damage.

C19. Should the geotechnical model in condition C17 indicate that exceedances of the criteria established in condition C20 or in Table 1 (which ever is the lower), the Proponent shall identify and implement mitigation measures such as appropriate support and stabilisation structures in consultation with the relevant land and/or infrastructure owners prior to the commencement of construction to ensure where possible that underground services, infrastructure and adjacent buildings will not experience settlements exceeding the criteria.

Table 1 - Settlement Criteria

Beneath Structure/Facility	Maximum Settlement	Maximum Angular Distortion
Buildings - Low or non sensitive properties (i.e. $\leq$ 2 levels and carparks)	30 mm	1 in 350
Buildings - High or sensitive properties (i.e. $\geq$ 3 levels and heritage items)	20 mm	1 in 500
Roads and Parking areas	40 mm	1 in 250
Parks	50 mm	1 in 250

The above criteria does not remove any responsibility from the Proponent for the protection of existing structures or for rectifying any damage resulting from the SSI.

C20. Settlement criteria for individual utility structures and infrastructure shall be determined in consultation with the relevant authorities prior to the commencement of construction.

HAZARDS AND RISK

C21. 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 from (a) to (c) above, the most stringent requirement shall prevail to the extent of the inconsistency.

WASTE MANAGEMENT

C22. Waste generated outside the site shall not be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the *Protection of the Environment Operations Act 1997*, if such a licence is required in relation to that waste.

UTILITIES AND SERVICES

C23. Utilities, services and other infrastructure potentially affected by construction shall be identified prior to construction effecting the item, to determine requirements for access to, diversion, protection, and/or support. Consultation with the relevant owner and/or provider of services that are likely to be affected by the SSI shall be undertaken to make suitable arrangements for access to, diversion, protection, and/or support of the affected infrastructure as required. The Proponent shall ensure that disruption to any service is minimised and shall be responsible for advising local residents and businesses affected prior to any planned disruption of service.

C24. The Proponent shall prepare dilapidation surveys and reports (including movement prediction studies) on the condition of roads, footpaths, services and utilities affected by construction. The Proponent shall carry out rectification work at the Proponent's expense and to the reasonable requirements of the owners.

C25. All excavations adjacent to RMS road infrastructure shall meet the requirements of RMS Technical Direction GTD 2012/0001 "*Excavation adjacent to RMS infrastructure*".

C26. The Proponent shall consult with relevant Councils regarding the use of any weight restricted road by heavy construction vehicles if required.

TRANSPORT AND ACCESS

C27. The SSI shall be designed and constructed with the objective of minimising adverse changes to the efficiency, accessibility and safety of the road and associated transports networks, and where feasible and reasonable, facilitate an improved level of service, in relation to permanent changes. Detailed design and assessment of related traffic and accessibility impacts and changes shall be undertaken:
(a) in consultation with, and to the reasonable requirements of, the relevant road authority and transport operator;
(b) in consideration of existing and future demand (in relation to permanent changes), performance and safety requirements; and
(c) to meet relevant design, engineering and safety guidelines, including Austroads, Australian Standards, and RMS (RTA) requirements and the like.

Changes shall be certified by an appropriately qualified person(s) and certified copies of civil, structural and traffic signal design plans shall be submitted to the relevant road authority for consideration and acceptance prior to the commencement of the relevant works.

C28. A Traffic and Transport Liaison Group shall be established by the Proponent to inform the detail design of temporary and permanent traffic and transport measures and to inform ongoing management measures prior to and during construction of the SSI. The Group shall be chaired by the Proponent and shall comprise representatives from relevant road authorities (including the RMS and councils), transport operators, and emergency services. The Group shall be consulted on and shall inform the preparation of the Construction Traffic Management Plan (condition E46(c)) and associated plans.

C29. The Proponent shall undertake supplementary analyses as required by the Traffic and Transport Liaison Group and, where relevant, detailed modelling of traffic changes and impacts that have the potential to have a significant impact on traffic flow efficiency with the objective of informing and improving traffic management measures. The requirement for, and details of, the modelling shall be undertaken in consultation with the Traffic and Transport Liaison Group. The revised traffic management measures, including changes to the pedestrian, bicycle and public transport networks, shall be incorporated into the Construction Traffic Management Plan (condition E46(c)).

C30. Without limiting the outcomes of the Construction Traffic Management Plan for the SSI, construction traffic shall be scheduled, where feasible and reasonable, to outside of AM and PM peak traffic periods, and also during special events. Methods used to limit construction traffic outside of peak traffic periods shall be incorporated into the Construction Traffic Management Plan (condition E46(c)).

C31. Bridgeworks and other structures in the proximity of the road and associated transport networks shall be designed to ensure the efficient and safe operation of the networks.

C32. Permanent road works, including vehicular access, signalised intersection works, and works relating to pedestrians, cyclists, and public transport users will be subject to safety audits demonstrating consistency with relevant design, engineering and safety standards and guidelines. Safety audits shall be submitted to the Traffic and Transport Liaison Group prior to the use of the subject infrastructure and shall be made available to the Director General upon request.

URBAN DESIGN

C33. The Proponent shall design and construct the SSI in a manner that minimises the visual and heritage setting impacts of the viaduct and bridge structures, and other permanent hard landscaping elements, and shall have consideration of the *Bridge Aesthetics Design guidelines to improve the appearance of bridges in NSW* (RTA, 2003).

SCHEDULE D

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 (condition E44), the relevant council and community stakeholders (particularly adjoining landowners) on the construction environmental management of the SSI. The Strategy 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 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 enquires 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 Stakeholder and Community Involvement 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 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.

Provision of Electronic Information

D4. Prior to the commencement of construction, or as otherwise agreed by the Director General, the Proponent shall establish and maintain a new website, or dedicated pages within an existing website, for the provision of electronic information associated with the SSI, for the duration of construction and for 12 months following completion of the SSI. The Proponent shall, subject to confidentiality, publish and maintain up-to-date information on the website or dedicated pages including, but not necessarily limited to:

(a) information on the current implementation status of the SSI;
(b) a copy of the documents referred to under condition B1 of this approval, and any documentation supporting modifications to this approval that may be granted from time to time;
(c) a copy of this approval and any future modification to this approval;
(d) a copy of each relevant environmental approval, licence or permit required and obtained in relation to the SSI;
(e) a copy of each current strategy, plan, program or other document required under this approval;
(f) the outcomes of compliance tracking in accordance with condition D5 of this approval; and
(g) details of contact point(s) to which community complaints and enquiries may be directed, including a telephone number, a postal address and an email address.

COMPLIANCE MONITORING AND TRACKING

Compliance Tracking Program

D5. The Proponent shall develop and implement a **Compliance Tracking Program** to track compliance with the requirements of this approval. The Program shall be submitted to the Director General for approval prior to the commencement of construction and operate for a minimum of one year following commencement of operation. The Program shall include, but not necessarily be limited to:

(a) provisions for the notification of the Director General prior to the commencement of construction of the SSI (including prior to each stage, where works are being staged);
(b) provisions for periodic review of the compliance status of the SSI against the requirements of this approval;
(c) provisions for periodic reporting of compliance status to the Director General, including a Pre-Construction Compliance Report, during construction reporting, and a Post-Construction Compliance Report;
(d) a program for independent environmental auditing in accordance with ISO 19011:2003 - Guidelines for Quality and / or Environmental Management Systems Auditing;
(e) mechanisms for recording environmental incidents during construction and actions taken in response to those incidents;
(f) provisions for reporting environmental incidents to the Director General and relevant public authorities during construction;

(g) procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management; and
(h) provisions for ensuring all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities.

Incident Reporting

D6. The Proponent shall notify the Director General of an incident with significant off-site impacts on people or the biophysical environment as identified by the Environmental Representative within 48 hours of becoming aware of the incident. The Proponent shall provide full written details of the incident to the Director General within seven days of the date on which the incident occurred.

SCHEDULE E

CONSTRUCTION ENVIRONMENTAL MANAGEMENT

AIR QUALITY

E1. 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 all feasible and reasonable dust mitigation measures, including cessation of relevant works, as appropriate, such that emissions of visible dust cease.

VISUAL AMENITY

E2. The SSI shall be constructed in a manner that minimises visual impacts resulting from construction sites, including retaining, where feasible and reasonable, existing vegetation around the perimeter of construction sites, providing temporary landscaping where appropriate to soften views of the construction sites, minimising light spillage, and incorporating architectural treatment and finishes within key elements of temporary structures that reflect the context within which the construction sites are located.

BIODIVERSITY

E3. The clearing of native vegetation shall be minimised with the objective of reducing impacts to any threatened species or EECs to the greatest extent practicable. In particular, consideration of measures to reduce the impacts of clearing good condition vegetation at the Cheltenham Services Facility and associated access points, shall be undertaken.

E4. Where the clearing of bushland occurs within or in close proximity to areas currently subject to bushland restoration works, consultation shall be undertaken with the relevant council and other relevant stakeholders including bushcare groups, regarding the management of current restoration works areas. The re-routing of walking tracks and associated signage shall be implemented to reflect construction works within these bush regeneration and restoration areas.

Pre clearing surveys

E5. Prior to construction, pre clearing surveys and inspections for threatened flora and fauna species and habitat features shall be undertaken. The surveys and inspections, and any subsequent relocation of species, shall be undertaken under the guidance of a qualified ecologist and the methodology incorporated into the Construction Flora and Fauna Management Plan (condition E46(f)).

Nest Box Plan

E6. Prior to the commencement of construction work that would result in the disturbance of native vegetation (or as otherwise agreed by the Director General), a Nest Box Plan to provide replacement hollows for displaced fauna shall be prepared in consultation with the OEH and relevant Council(s). The Plan, to be incorporated into the Biodiversity Offset Package (condition C5), shall detail the number and type of nest boxes to be installed, which shall be justified based on the number and type of hollows removed (based on pre clearing surveys), the density of hollows in the area to be cleared and in adjacent areas, and the availability of adjacent food resources. The Plan shall also consider the relocation of any hollows removed from the site to provide for potential nesting habitat. The Plan shall also provide details of maintenance protocols for the nest boxes installed including responsibilities, timing and duration.

HERITAGE

E7. During detailed design and construction of the SSI, impacts to heritage items shall, where feasible and reasonable, be avoided and minimised, under the guidance of an appropriately qualified heritage specialist.

Where impacts are unavoidable, works shall be undertaken in accordance with the strategy outlined in the Construction Heritage Management Plan (condition E46(e)).

E8. Archival recording of affected heritage items shall be undertaken in accordance with the NSW Heritage Council guidelines.

E9. Prior to the commencement of pre-construction and/ or construction activities that will impact the Aboriginal archaeological sites identified in table 7.3 of the North West Rail Link EIS: Technical Paper 4 – Indigenous Heritage, dated March 2012, the Proponent shall undertake an archaeological salvage program using a methodology prepared in consultation with the registered Aboriginal stakeholders, and to the satisfaction of the Director-General. This work shall be undertaken by an appropriately qualified archaeological heritage consultant.

Within 2 years of completing the salvage, unless otherwise agreed by the Director General, the Proponent shall submit a report containing the findings of the salvage, including artefact analysis, and the identification of a final repository for any Aboriginal objects, prepared in consultation with the Aboriginal stakeholders and to the satisfaction of the Director-General.

E10. Prior to the commencement of pre-construction and/ or construction activities that will impact the historical archaeological sites identified in identified in table 4.2 of the North West Rail Link EIS: Technical Paper 3, – European Heritage, dated March 2012, the Proponent shall undertake an archaeological excavation program in accordance with the Heritage Council of NSW Archaeological Assessments Guideline (1996) using a methodology prepared in consultation with the Heritage Council of NSW, and to the satisfaction of the Director-General. This work shall be undertaken by an appropriately qualified archaeological heritage consultant.

Within 2 years of completing the above work, unless otherwise agreed by the Director General, the Proponent shall submit a report containing the findings of the excavations, including artefact analysis, and the identification of a final repository for any finds, prepared in consultation with the Heritage Council of NSW and to the satisfaction of the Director-General.

NOISE AND VIBRATION

Land Use Survey

E11. Prior to construction, a detailed land use survey to identify potentially critical areas that are sensitive to construction vibration and construction ground-borne noise impacts, shall be undertaken. The results of the survey shall be incorporated into the Construction Noise and Vibration Management Plan (condition E45 (b)).

Construction Hours

E12. 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.

E13. Notwithstanding condition E12, tunnelling and associated activities may be undertaken 24-hours, seven days per week. This condition does not relate to any other activities associated with the SSI, including works associated with the viaduct.

E14. Except as permitted by an EPL, activities resulting in impulsive or tonal noise emissions shall only be undertaken:

(a) between the hours of 8:00 am to 5:00 pm Monday to Friday;
(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 the subject of this condition.

E15. Notwithstanding conditions E12 to E14, construction activities outside of the prescribed construction hours may be undertaken in any of the following circumstances:

(a) construction works that generate air-borne noise that is:
    (i) no more that 5 dB(A) above rating background level at any residence in accordance with the *Interim Construction Noise Guideline* (DECC, 2009);
    (ii) no more than the noise management levels specified in Table 3 of the *Interim Construction Noise Guideline* (Department of Environment and Climate Change, 2009) at other sensitive receivers;
(b) 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);
(c) 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);
(d) where a negotiated agreement has been reached with affected receivers, where the prescribed noise and vibration levels can not be achieved;
(e) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons;
(f) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; and
(g) works approved through an EPL, including for works identified in an out of hours procedure.

E16. In relation to construction hours, including for standard and out of hours activities, the SSI shall be constructed to comply with an EPL applying to the SSI, including all relevant noise mitigation and management measures. In the event of a dispute between the Proponent (including its contractors) and the EPA, in relation to construction hours, either party may refer the matter to the Director-General for resolution.

E17. For any section of construction where blasting is proposed, a series of initial trials at reduced scale shall be conducted prior to production blasting to determine site-specific blast response characteristics and to define allowable blast sizes to meet the airblast overpressure and ground vibration limits in this approval.

Construction Noise and Vibration

E18. 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 E46 (b)).

Note: The *Interim Construction Noise Guideline* identifies 'particularly annoying' activities that require the addition of 5dB(A) to the predicted level before comparing to the construction Noise Management Levels.

E19. 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 4150-3: Structural Vibration - effects of vibration on structures*; and

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

E20. Airblast overpressure generated by blasting associated with the SSI shall not exceed the criteria specified in Table 2 when measured at the most affected residence or other sensitive receiver.

Table 2 - Airblast overpressure criteria

Airblast overpressure (dB(Lin Peak))	Allowable exceedance
115	5% of total number of blasts over a 12 month period
120	0%

E21. Ground vibration generated by blasting associated with the SSI shall not exceed the criteria specified in Table 3 when measured at the most affected residence or other sensitive receiver.

Table 3 – Peak particle velocity criteria

Receiver	Peak particle velocity (mm/s)	Allowable exceedance
Residence on privately owned land	**5**	5% of total number of blasts over a 12 month period
	10	0%
Historic heritage structures	**3**	0%

E22. 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.

E23. The Proponent shall consult with potentially-affected community, religious, educational institutions and vibration-sensitive businesses and critical working areas (such as theatres, laboratories and operating theatres) to ensure that noise generating construction works in the vicinity of the receivers are not timetabled during sensitive periods, unless appropriate other arrangements are made.

E24. During construction, Proponents of other 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.

PROPERTY AND BUSINESS IMPACTS

E25. The Proponent shall design and construct the SSI with the objective of minimising impacts to, and interference with, third party property and infrastructure, and that such infrastructure and property is protected during construction and operation.

Impacts to Third Party Property and Structures

E26. The Proponent shall, prior to the commencement of construction (including demolition and excavation works), or each part of the SSI that may impact on surrounding properties at risk from damage:

(a) where agreed with the property owner, undertake independent inspections of these properties prior to construction in accordance with *AS 4349.1 'Inspection of Buildings'*. This inspection shall be undertaken by appropriately qualified and experienced geotechnical and construction engineering experts, and report on property features that may be affected by construction;

(b) contact the owners of all buildings on which property inspections are to be conducted before the inspection, or as otherwise agreed by the affected property owner, and advise of the scope and methodology for the inspection, and of the process for making a property damage claim;

(c) provide a copy of the property inspection report to the owner of each property inspected prior to construction that could affect the property;

(d) determine an appropriate property vibration criteria and management and protection measures to ensure that property damage (including cosmetic damage) will be avoided; and

(e) maintain a register of all properties inspected by the Proponent, indicating whether the owner accepted or refused the property inspection offer, and provide a copy of the register to the Director General upon request.

Reports from the geotechnical engineer advising on the risk of damage to properties shall be made available upon request to the Director General and the Independent Property Impact Assessment Panel (condition E29).

E27. For the purpose of condition E26 properties at risk from damage include, but are not necessarily limited to:

(a) buildings and structures determined following geotechnical and vibration analysis as certified by a qualified geotechnical engineer; and

(b) other sensitive structures within 60 metres from the edge of the works unless otherwise determined following geotechnical and vibration analysis as certified by a qualified geotechnical engineer as not likely to be adversely affected.

E28. The Proponent shall install appropriate equipment to monitor construction sites and the tunnel route during construction and for a period of not less than six months after settlement has stabilised with particular reference to risk areas identified in the building and infrastructure condition surveys required by condition E26 and/or the geotechnical analysis required by condition C17. If monitoring during construction indicates exceedance of the criteria then all work affecting settlement shall cease immediately and shall not resume until fully rectified or a revised method of work has been established that will ensure protection of affected structures.

E29. The Proponent shall establish an Independent Property Impact Assessment Panel prior to relevant construction or demolition works commencing. The Panel shall be approved by the Director General and comprise geotechnical and engineering experts independent of the design and construction team, unless otherwise agreed by the Director General. The Panel shall be responsible for independently verifying assessments undertaken under conditions C17 and E26, the resolution of property damage disputes and the establishment of ongoing settlement monitoring requirements.

Either the affected property owner or the Proponent may refer unresolved disputes arising from potential and/or actual property impacts to the Panel for resolution. All costs incurred in establishing and implementing the Panel shall be borne by the Proponent.

E30. Notwithstanding the requirements of condition E27, the Proponent shall monitor settlement for any period as may be specified through the Independent Property Impact Assessment Panel referred to in condition E28. The results of this monitoring shall be made available to the Director General upon request.

E31. Any damage caused to property as a result of the SSI shall be rectified or the property owner compensated, within a reasonable timeframe, with the costs borne by the Proponent. This condition is not intended to limit any claims that the property owner may have against the Proponent.

Business Impacts

E32. The Proponent shall prepare and implement a **Business Management Plan** to minimise impacts on business adjacent to major construction sites and activities during construction of the SSI. The Plan shall include measures to minimise business related impacts, maintain vehicular and pedestrian access during business hours, and maintenance of visibility of the business appropriate to its reliance on such. The Plan shall include, but not necessarily be limited to:

(a) a Business Consultation forum linked with the Community Construction Strategy as required by condition D1;

(b) Business Management Strategies for each construction site (and/ or activity), identifying affected businesses and associated management strategies, including the employment of place managers and specific measures to be put in place to assist small business owners adversely impacted by the construction of the SSI;

(c) a monitoring program to assess the effectiveness of the measures including the nomination of performance parameters and criteria against which effectiveness of the measures will be measured; and

(d) provision for reporting of monitoring results to the Director General, as part of the Compliance Tracking Program (condition D5).

SOIL, WATER QUALITY AND HYDROLOGY

Construction Soil and Water Management

E33. 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.

E34. Where available, and of appropriate chemical and biological quality, subject to a health risk assessment, stormwater, recycled water, groundwater inflows to tunnels or other water sources shall be used in preference to potable water for construction activities, including concrete mixing and dust control.

TRANSPORT AND ACCESS

E35. Where construction will physically affect or likely impact the efficiency and safety of road and related transport networks (including traffic flow, access, parking and user safety), the Proponent shall develop, assess, and implement appropriate management measures in consultation with the relevant road authority, transport operator(s), and emergency services, as relevant. Such measures shall be addressed in the Construction Traffic Management Plan (condition E46(c)) and shall include but not be limited to:

- (a) construction site access, including the efficient and safe egress and ingress of vehicles;
- (b) parking management, including on and off street and remote parking and access;
- (c) haulage management, including works to facilitate haulage vehicles, the restriction of haulage vehicles on certain routes (for example T-Ways and past education facilities) and the minimisation of haulage in peak traffic periods;
- (d) full and partial road closures and associated restrictions, detours and the like;
- (e) the retention and reinstatement of emergency and property access;
- (f) the retention of user and passenger safety, including pedestrians, cyclists, public transport users, including at stops and related facilities; and
- (g) incident response planning.

E36. Access to private property shall be maintained during construction unless otherwise agreed with the property owner in advance. A landowner's access that is physically affected by the SSI shall be reinstated to at least an equivalent standard, in consultation with the property owner.

E37. Impacts to existing parking (on and off street) should be minimised, including the amount of spaces reduced and the time associated with this reduction. Where parking is impacted, particularly for periods greater than four weeks, the proponent shall identify and implement, where feasible and reasonable, alternate parking arrangements. Displaced vehicles must not be accommodated on the state road network.

Road Dilapidation

E38. Upon determining the haulage route(s) for construction vehicles associated with the SSI, and prior to use of the haulage route(s) by heavy vehicles, an independent and qualified person or team shall undertake a **Road Dilapidation Report** on local roads from the construction access/ egress point(s) to the arterial road network. The report shall assess the current condition of the road and describe mechanisms to restore any damage that may result due to traffic and transport related to the construction of the SSI, during construction. The Report shall be submitted to the relevant road authority for review prior to use of the haulage routes(s).

Following completion of construction, a subsequent report shall be prepared to assess any damage that may have resulted from the construction of the SSI.

Measures undertaken to restore or reinstate roads affected by the SSI shall be undertaken in a timely manner, in accordance with the reasonable requirements of the relevant road authority, and at the full expense of the Proponent.

Access

E39. Safe pedestrian and cyclist access through or around worksites shall be maintained during construction. In circumstances where pedestrian and cyclist access is restricted due to construction activities, a feasible and reasonable alternate route shall be provided and signposted.

E40. Construction vehicles (including staff vehicles) associated with the SSI shall be managed to:
- (a) minimise parking or queuing on public roads;
- (b) minimise the use of local roads (through residential streets and town centres) to gain access to construction sites and compounds;
- (c) minimise traffic past schools and child care centres, particularly during opening and closing periods; and
- (d) adhere to the nominated haulage routes identified in the Construction Traffic Management Plan (condition E46(c)).

LANDUSE AND COMMUNITY FACILITIES

E41. Where community and council facilities are impacted during construction works through temporary or permanent land acquisition, reduced amenity, reduced access, reduced functionality or other impact, the Proponent shall, in consultation with the relevant council, community groups and key stakeholders, address construction impacts and agree on feasible and reasonable mitigation and management measures. Where appropriate, the Proponent shall determine viable alternative options for community facilities during the construction phase. Mitigation and management measures shall be implemented, prior to impacts occurring.

ANCILLARY FACILITIES

E42. Unless otherwise approved by the Director General, the location of Ancillary Facilities shall:
- (a) be located more than 50 metres from a waterway;
- (b) be located within or adjacent to land where the SSI is being carried out;
- (c) have ready access to the road network;
- (d) be located to minimise the need for heavy vehicles to travel through residential areas;
- (e) be sited on relatively level land;
- (f) be separated from nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant);
- (g) not require vegetation clearing beyond that already required by the SSI;
- (h) not impact on heritage items (including areas of archaeological sensitivity) beyond those already impacted by the SSI;
- (i) not unreasonably affect the land use of adjacent properties;
- (j) be above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented; and
- (k) provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours.

The location of the ancillary facilities shall be identified in the Construction Environmental Management Plan (condition E46) and include consideration of the above criteria. Where the above criteria cannot be met for any proposed ancillary facility, the Proponent shall demonstrate to the satisfaction of the Director General that there will be no significant adverse impact from that facility's construction or operation. Such assessment(s) can be submitted separately or as part of the Construction Environmental Management Plan.

E43. All Ancillary Facilities shall be rehabilitated to at least their pre-construction condition, unless otherwise agreed by the landowner where relevant.

ENVIRONMENTAL REPRESENTATIVE

E44. Prior to the commencement of construction of the SSI, or as otherwise agreed by the Director General, the Proponent shall nominate for the approval of the Director General a suitably qualified and experienced Environment Representative(s) that is independent of the design and construction personnel. The Proponent shall employ the Environmental Representative(s) for the duration of construction, or as otherwise agreed by the Director General. The Environment Representative(s) shall:

(a) be the principal point of advice in relation to the environmental performance of the SSI;
(b) monitor the implementation of environmental management plans and monitoring programs required under this approval and advise the Proponent upon the achievement of these plans/ programs;
(c) have responsibility for considering and advising the Proponent on matters specified in the conditions of this approval, and other licences and approvals related to the environmental performance and impacts of the SSI;
(d) ensure that environmental auditing is undertaken in accordance with the Proponent's Environmental Management System(s);
(e) be given the authority to approve/ reject minor amendments to the Construction Environment Management Plan. What constitutes a "minor" amendment shall be clearly explained in the Construction Environment Management Plan (condition E46);
(f) be given the authority and independence to advise on reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts; and
(g) be consulted in responding to the community concerning the environmental performance of the SSI where the resolution of points of conflict between the Proponent and the community is required.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

E45. Prior to the commencement of construction, or as otherwise agreed by the Director General, the Proponent shall prepare and implement (following approval) a **Construction Environmental Management Plan** for the SSI. The Plan shall outline the environmental management practices and procedures that are to be followed during construction, and shall be prepared in consultation with the relevant government agencies and in accordance with the *Guideline for the Preparation of Environmental Management Plans* (DIPNR, 2004). The Plan shall include, but not necessarily be limited to:

(a) a description of activities to be undertaken during construction of the SSI (including staging and scheduling);
(b) statutory and other obligations that the Proponent is required to fulfil during construction, including approvals, consultations and agreements required from authorities and other stakeholders under key legislation and policies;
(c) a description of the roles and responsibilities for relevant employees involved in the construction of the SSI, including relevant training and induction provisions for ensuring that employees, including contractors and sub-contractors are aware of their environmental and compliance obligations under these conditions of approval;
(d) an environmental risk analysis to identify the key environmental performance issues associated with the construction phase; and
(e) details of how environmental performance would be managed and monitored to meet acceptable outcomes, including what actions will be taken to address identified potential adverse environmental impacts (including any impacts arising

from the staging of the construction of the SSI). In particular, the following environmental performance issues shall be addressed in the Plan:

(i) Ancillary Facilities management;
(ii) noise and vibration;
(iii) traffic and access;
(iv) soil and water quality and spoil management;
(v) groundwater management and discharge;
(vi) air quality and dust management;
(vii) visual amenity;
(viii) management of Aboriginal and historic heritage;
(ix) soil contamination, groundwater contamination, hazardous material and waste management;
(x) management of ecological impacts; and
(xi) hazard and risk management.

The Plan shall be submitted for the approval of the Director General no later than one month prior to the commencement of construction, or as otherwise agreed by the Director General. The Plan may be prepared in stages, however, construction works shall not commence until written approval has been received from the Director General.

Note: The approval of a Construction Environmental Management Plan does not relieve the Proponent of any requirement associated with this SSI approval. If there is an inconsistency with an approved Construction Environmental Management Plan and the conditions of this SSI approval, the requirements of this SSI approval prevail.

E46. As part of the Construction Environmental Management Plan for the SSI required under condition E45 the Proponent shall prepare and implement:

(a) a **Construction Compound and Ancillary Facilities Management Plan** to detail the management of Ancillary Facilities associated with the SSI. The Plan shall include but not be limited to:

i) a description of the facility, its components and the surrounding environment;
ii) details of the activities to be carried out at each facility, including the hours of use and the storage of dangerous and hazardous goods;
iii) an assessment against the locational criteria outlined in condition E42;
iv) details of the mitigation and management procedures specific to the facility that would be implemented to minimise environmental and amenity impacts and an assessment of the adequacy of the mitigation or offsetting measures;
v) identification of the timing for the completion of activities at the facility and how the site will be decommissioned (including any necessary rehabilitation); and
vi) mechanisms for the monitoring, review and amendment of this Plan.

(b) 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), including, but not limited to, acoustic enclosures, erection of noise walls (hoardings), respite periods and the limiting of truck movements during night periods;

(iv) identification of feasible and reasonable procedures and mitigation measures to ensure relevant vibration and blasting criteria are achieved, including a suitable blast program, 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 blasting and/ or vibration is likely to result in damage to buildings and structures (including surveys being undertaken immediately following a monitored exceedance of the criteria);

(v) detailing tunnelling and associated activities described in condition E13, including associated impacts, management and mitigation measures;

(vi) if blasting is required, an assessment of the potential noise and vibration impacts, and a strategy to minimise and manage those impacts, including preparation of an appropriate community information program;

(vii) 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 non-compliance would be rectified; and

(viii) mechanisms for the monitoring, review and amendment of this plan.

(c) A **Construction Traffic Management Plan** to manage construction traffic and transport access impacts of the SSI. The plan shall be developed in consultation with and meet the reasonable requirements of the relevant road authority, and/or transport operator ,and shall include but not be necessarily limited to:

(i) a traffic route and haulage management plan that identifies:

   i. traffic generation from other major infrastructure developments;
   ii. construction traffic and haulage routes and associated traffic impacts,
   iii. types and volumes of construction vehicles and associated route and time restrictions, including details of oversized load movements,
   iv. potential traffic disruptions and temporary and permanent detours,
   v. management, mitigation and restoration measures;

(ii) a parking management plan that identifies:

   i. parking requirements and on and offsite parking arrangements and associated impacts,
   ii. remote parking arrangements and associated access between sites and public transport nodes,
   iii. alternate parking arrangements for displaced parking,
   iv. communication and parking management measures;

(iii) site traffic and access management plans that detail:

   i. site access and associated route and turning movements and the design and signalisation of intersections,
   ii. potential activities that could result in the disruption to traffic and transport networks, including pedestrian, cyclist and public transport networks and during special events,
   iii. the timing of works to limit disruptions to the road and transport networks,
   iv. the maintenance of access to and safety of transport networks, parking and property,

v. service facilities and station sites, and other locations identified by the relevant road authority or transport operator,

(iv) an incident response plan detailing responses to the management of an event that directly involves or impacts on traffic and transport networks; and

(v) mechanisms for the monitoring, review and amendment of this plan.

(d) A **Construction Soil and Water Management Plan** to manage surface and groundwater impacts during construction of the SSI. The plan shall be developed in consultation with the EPA and NOW and include, but not necessarily be limited to:

(i) details of construction activities and their locations, which have the potential to impact on water courses, storage facilities, stormwater flows, and groundwater;

(ii) details of proposed extraction, use and disposal of groundwater, and measures to mitigate potential impacts to groundwater sources, incorporating monitoring, impact trigger definition and response actions for all groundwater sources potentially impacted by the SSI;

(iii) surface water and ground water impact assessment criteria consistent with the principles of the Australian and New Zealand Environment Conservation Council (ANZECC) guidelines;

(iv) management measures to be used to minimise surface and groundwater impacts, including identification of water treatment measures and discharge points, details of how spoil and fill material required by the SSI will be sourced, handled, stockpiled, reused and managed; erosion and sediment control measures; salinity control measures and the consideration of flood events;

(v) a contingency plan, consistent with the *Acid Sulfate Soils Manual*, to deal with the unexpected discovery of actual or potential acid sulfate soils, including procedures for the investigation, handling, treatment and management of such soils and water seepage;

(vi) management measures for contaminated material and a contingency plan to be implemented in the case of unanticipated discovery of contaminated material during construction;

(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 undertaken, the locations where monitoring would take place, how the results of the monitoring would be recorded and reported, and, if any exceedance of the criteria is detected how any non-compliance can be rectified; and

(viii) mechanisms for the monitoring, review and amendment of this plan.

(e) a **Construction Heritage Management Plan** to detail how construction impacts on Aboriginal and Historic heritage will be minimised and managed. The plan shall include, but not necessarily be limited to:

(i) In relation to Aboriginal Heritage:

I. developed in consultation with registered Aboriginal stakeholders;

II. details of further investigation and identification of Aboriginal cultural heritage sites impacted by and within the construction areas except where the requirements of condition E9 have been met;

III. details of management measures to be carried out in relation to Aboriginal heritage, including a detailed methodology and strategies for protection, monitoring, salvage, and conservation, of sites and items associated with the SSI and the long term storage and curation of any Aboriginal objects recovered in accordance the section 85A of the *National Parks and Wildlife Act;*

IV. procedures for dealing with previously unidentified Aboriginal objects (excluding human remains) including cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence by a suitably qualified archaeologist in consultation with the Department, OEH and registered Aboriginal stakeholders and assessment of the consistency of any new Aboriginal heritage impacts against the approved impacts of the SSI, and registering of the new site in the OEH's Aboriginal Heritage Information Management System (AHIMS) register; and

V. procedures for ongoing Aboriginal consultation and involvement for the duration of the SSI; and

(ii) In relation to Historic Heritage:

I. developed in consultation with the NSW Heritage Council;

II. identification of Heritage Items directly and indirectly affected by the SSI;

III. details of management measures to be implemented to prevent and minimise impacts on heritage items (including further heritage investigations, archival recordings and/ or measures to protect unaffected sites during construction works in the vicinity);

IV. details on how the recommendations identified in the North West Rail Link EIS: Technical Paper 3 – European Heritage, prepared by Godden Mackay Logan, dated March 2012, and Technical Paper 4 – Indigenous Heritage, prepared by Godden Mackay Logan, dated March 2012 will be implemented, including archaeological research designs for all archaeological sites except where the requirements of condition E10 have been met;

V. a detailed plan for the implementation of any measures resulting from further investigations associated with potentially affected heritage items, including Glenhope, Inala School, Windsor Road and Old Windsor Road, and Mungerie House;

VI. details of monitoring and reporting requirements for impacts on heritage items; and

VII. procedures for dealing with previously unidentified relics, (including cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence by a suitably qualified and experienced archaeologist in consultation with the OEH and the Department, and assessment of the consistency of any new heritage impacts against the approved impacts of the SSI..

(iii) heritage training and induction processes for construction personnel (including procedures for keeping records of inductions) and obligations under the conditions of this approval including site identification, protection and conservation of Aboriginal and historic heritage;

(iv) procedures for dealing with human remains, including cessation of works in the vicinity and notification of the Department, NSW Police Force, OEH and registered Aboriginal stakeholders and not recommencing any works in the area unless authorised by the NSW Police Force and/ or the Department; and

(v) mechanisms for the monitoring, review and amendment of this plan.

(f) a **Construction Flora and Fauna Management Plan** to detail how construction impacts on ecology will be minimised and managed. The Plan shall be developed in consultation with the OEH and relevant Councils and shall include, but not necessarily be limited to:

i. plans for impacted and adjoining areas showing vegetation communities; important flora and fauna habitat areas; locations where threatened species, populations or ecological communities have been recorded; including pre-clearing surveys to confirm the location of threatened flora and fauna species and associated habitat features;

ii. the identification of areas to be cleared and details of management measures (such as fencing, clearing procedures, removal and relocation of fauna during clearing, habitat tree management and construction worker education) to avoid any residual habitat damage or loss and to minimise or eliminate time lags between the removal and subsequent replacement of habitat;
iii. vegetation management plan(s) for sites where vegetation is proposed to be retained and for reaches of riparian zones which intersect with the construction footprint;
iv. identification of measures to reduce disturbance to bats and nocturnal birds (and other sensitive fauna);
v. rehabilitation details, including identification of flora species and sources, and measures for the management and maintenance of rehabilitated areas (including duration of the implementation of such measures);
vi. weed management measures focusing on early identification of invasive weeds and effective management controls;
vii. a description of how the effectiveness of these management measures would be monitored and linked to the Ecological Monitoring Program required under condition C1;
viii. a procedure for dealing with unexpected EEC/ threatened species identified during construction, including cessation of work and notification of the Department, determination of appropriate mitigation measures in consultation with the OEH (including relevant re-location measures) and updating of ecological monitoring and/ or biodiversity offset requirements; and
ix. mechanisms for the monitoring, review and amendment of this plan.

(g) a **Construction Air Quality Management Plan** to detail how construction impacts on air quality will be minimised and managed. The Plan shall include, but not necessarily be limited to:
i. the identification of potential sources of air pollutants of concern, in particular dust and PM_{10};
ii. air quality management objectives;
iii. mitigation measures to be implemented, including measures during adverse weather conditions (such as strong winds in dry weather);
iv. a monitoring program to assess compliance with the identified objectives;
v. mechanisms for the monitoring, review and amendment of this plan.

E47. Following the finalisation of construction activities, or as otherwise agreed by the Director General, the Proponent shall ensure that relevant measures identified within the **Construction Environmental Management Plan** (conditions E46) continue to be implemented, as required, to manage ongoing environmental impacts.