

Project Approval

Section 75J of the *Environmental Planning and Assessment Act 1979*

I, the Minister for Planning, approve the project referred to in Schedule 1, subject to the conditions in Schedule 2.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.



Tony Kelly MLC
Minister for Planning

Sydney

18 NOV 2010

2010

File No: 10/10017

SCHEDULE 1

Application No:	MP 10_0045
Proponent:	Transport Construction Authority
Approval Authority:	Minister for Planning
Land:	Land required for the construction and operation of the project, generally between Glenfield and East Rossmore, including land within and adjacent to the existing rail corridor.
Project:	The Stage B2 (remaining works) projects(s) of the South West Rail Link Concept Plan.
Concept Plan:	The project is a component of the approved concept plan for the South West Rail Link (06_0158).
Part 3A Project:	The proposal is a project to which Part 3A of the Act applies by virtue of an Order made by the then Minister for Planning on 9 August 2006.
Critical Infrastructure:	The proposal is a critical infrastructure project by virtue of an Order made by the Minister for Planning on 9 March 2010.

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SCHEDULE 2

Act, the	<i>Environmental Planning and Assessment Act 1979</i>
Ancillary Facility	Temporary facility for construction, including for example an office and amenities compound, construction compound, materials storage compound, maintenance workshop, testing laboratory or material stockpile areas.
Construction	Includes all work in respect of the project other than survey, acquisitions, fencing, investigative works, building/road dilapidation surveys, establishment and use of ancillary facilities (in accordance with the requirements of this project approval), or any minor clearing (for investigative works) or hazardous material removal, or other activities determined by the Environmental Representative to have minimal environmental impact such as minor access roads, and minor adjustments to services/utilities.
DECCW	NSW Department of Environment Climate Change and Water
Department, the	NSW Department of Planning
Director-General, the	Director-General of the NSW Department of Planning (or delegate)
Director-General's Approval	A written approval from the Director-General (or delegate). Where the Director-General's Approval is required by a condition the Director-General will endeavour to provide a response within one month of receiving an approval request. The Director-General may ask for additional information if the approval 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.
Environment Protection Licence	An Environment Protection Licence issued by DECCW pursuant to the <i>Protection of the Environment Operations Act 1997</i> .
Environmental Assessment	Environmental Assessment prepared for the project by Parsons Brinckerhoff, dated May 2010.
Existing Native Vegetation (ENV)	Existing native vegetation as defined by the Biodiversity Certification conferred on the <i>State Environmental Planning Policy (Sydney Region Growth Centres)</i> 2006, meaning: areas of indigenous trees (including any sapling) that: <ul style="list-style-type: none"> a) had 10% or greater over storey canopy cover present; b) were equal to or greater than 0.5 ha in area; and c) were identified as 'vegetation' on maps 4 and 5 of the draft Growth Centres Conservation Plan.
Growth Centres Biodiversity Certification	Refers the biodiversity certification conferred on the <i>State Environmental Planning Policy (Sydney Region Growth Centres)</i> 2006 under Schedule 7 of Part 7 to the <i>Threatened Species Conservation Act 1995</i> .
Minister, the	Minister for Planning
NoW	NSW Office of Water

Operation	Means the Operation of the Project, but does not include commissioning trials of equipment or temporary use of parts of the project during construction.
Proponent	Transport Construction Authority (TCA) formerly known as the Transport Infrastructure Development Corporation and its successors.
Publicly Available	Available for inspection by a member of the general public (for example available on an internet site or at a display centre).
Reasonable and Feasible	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, cost of mitigation versus benefits provided, community views and nature and extent of potential improvements.
Relevant Councils	Any or all of Camden Council, Campbelltown City Council and Liverpool City Council, as appropriate.
RTA	NSW Roads and Traffic Authority
Sensitive receiver	Residence, education institution (eg school, TAFE, college), health care facility (eg nursing home, hospital), religious facility (eg church), and children's day care facility.
TSF	Train Stabling Facility

1. ADMINISTRATIVE CONDITIONS

Terms of Approval

- 1.1 The Proponent shall carry out the project generally in accordance with the:
- a) Major Project Application 10_0045;
 - b) *South West Rail Link – Glenfield to Leppington rail line Environmental Assessment* (three volumes), prepared by Parsons Brinckerhoff for the Transport Infrastructure Development Corporation and dated May 2010;
 - c) *South West Rail Link – Glenfield to Leppington rail line Submissions and Preferred Project Report*, prepared by Parsons Brinckerhoff for the Transport Construction Authority and dated August 2010; and
 - d) the conditions of this approval.
- 1.2 In the event of an inconsistency between:
- a) the conditions of this approval and any document listed from condition 1.1a) to 1.1c) inclusive, the conditions of this approval shall prevail to the extent of the inconsistency; and
 - b) any of the documents listed from condition 1.1a) to 1.1c) inclusive, the most recent document shall prevail to the extent of the inconsistency.
- 1.3 The Proponent shall comply with the reasonable requirements of the Director-General arising from the Department's assessment of:
- a) any reports, plans or correspondence that are submitted in accordance with this approval; and
 - b) the implementation of any actions or measures contained in these reports, plans or correspondence.

Limits of Approval

- 1.4 This approval shall lapse ten years after the date on which it is granted, unless the works that are the subject of this approval are physically commenced on or before that time.

Statutory Requirements

- 1.5 The Proponent shall ensure that all necessary licences, permits and approvals are obtained and maintained as required by law with respect to the project. No condition of this approval removes an obligation for the Proponent to obtain, renew or comply with such necessary licences, permits or approvals.

Staging

- 1.6 The Proponent may elect to construct and/ or operate the project in stages with commensurate staging of compliance with the conditions of this approval. Where the project is to be staged, the Proponent shall submit details of the staging to the Director-General, including details of how compliance with the conditions of this approval will be ensured across and between the stages of the project.

2. SPECIFIC ENVIRONMENTAL CONDITIONS

Noise and Vibration Impacts

Construction Hours

- 2.1 Construction activities associated with the project shall only be undertaken during the following hours:
- a) 7:00 am to 6:00 pm, Mondays to Fridays, inclusive;
 - b) 8:00 am to 1:00 pm on Saturdays;
 - c) at no time on Sundays or public holidays.
- except as expressly permitted by an Environmental Protection Licence issued for the project.

Activities resulting in noise with impulsive, tonal or low frequency characteristics (such as jack hammering, rock breaking, rock hammering, sheet piling, pile driving, vibratory rolling, cutting of pavement, concrete or steel) shall be limited to 8:00am to 6:00pm Monday to Friday, 8:00am to 1:00pm Saturday and shall not be undertaken for more than three continuous hours with a minimum one-hour respite period between each three hour block, except as expressly permitted by an Environmental Protection Licence issued for the project.

2.2 Construction outside the hours stipulated in condition 2.1 of this approval is permitted in the following circumstances:

- a) construction work that causes $L_{Aeq(15\text{minute})}$ noise levels that are:
 - i) no more than 5dB above rating background level at any residence in accordance with the *Interim Construction Noise Guideline* (DECC, 2009); and
 - ii) no more than the noise management levels specified in Table 3 of the *Interim Construction Noise Guideline* (DECC, 2009) at other sensitive land; or
- b) for the delivery of materials required outside these hours by the Police or other authorities for safety reasons; or
- c) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; or
- d) for out of hours works approved by DECCW in an Environment Protection Licence applying to the project; or
- e) for works outside the Environmental Protection Licence approved through the out of hours works protocol outlined in condition 4.1b).

2.3 The Proponent shall consult with affected educational institutions and take reasonable steps to ensure that noise generating construction works in the vicinity of affected buildings are not timetabled during examination periods where practicable, unless other reasonable arrangements acceptable to the affected institutions are made at no cost to the affected institutions.

Construction Noise and Vibration

2.4 The Proponent shall implement all reasonable and feasible noise mitigation measures with the aim of achieving the construction noise management levels as described in the *Interim Construction Noise Guideline* (DECC, 2009).

2.5 The Proponent shall implement all reasonable and feasible mitigation measures with the aim of achieving the following construction vibration goals:

- a) for structural damage vibration, the vibration limits set out in the German Standard *DIN 4150 Part 3-1999 Structural Vibration in Buildings - Effects on Structures*; or
- b) for human exposure, the acceptable vibration values set out in the *Environmental Noise Management Assessing Vibration: A Technical Guideline* (DEC 2006).

2.6 The Proponent shall conduct vibration testing and monitoring to identify minimum working distances to retained heritage items, including the Upper Canal and at Ingleburn Village, to prevent cosmetic damage to these items. In the event that the vibration testing and monitoring shows that the preferred values for vibration are likely to be exceeded, the Proponent shall review the construction methodology and, if necessary, implement additional reasonable and feasible mitigation measures, unless otherwise agreed to by the Director-General.

2.7 Wherever reasonable and feasible, piling activities shall be completed using bored piles in preference to pile driving.

2.8 If any blasting is proposed during construction it must be in accordance with an Environmental Protection Licence applying to the project.

Operational Noise and Vibration

- 2.9 The Proponent shall design and operate the rail line components of the project with the objective of not exceeding the airborne and ground-borne noise trigger levels at existing developments, at each stage of the project, as presented in the *Interim Guideline for the Assessment of Noise from Rail Infrastructure Projects* (DECC and DoP, 2007).

For the purpose of this condition, existing development includes all existing development (built and approved) adjacent to the rail corridor, and development (including subdivisions) approved prior to the determination of this project.

- 2.10 The Proponent shall, prior to the lodgement of the Operational Noise and Vibration Review (ONVR) required under condition 2.15, derive operational noise targets for fixed facilities (including the substations and the Leppington TSF) and associated activities (including train horn testing required to be undertaken at the TSF) and identify these noise targets in the ONVR.

The operational noise targets shall be derived based on the benchmark targets provided in Table 1 for existing residential receivers. The noise targets shall be confirmed in accordance with further updated assessment of the background noise environment prior to the construction of fixed facilities.

Table 1 – Benchmark noise targets for existing residential receivers:

Period	Intrusiveness LAeq(15min)dB(A)	Sleep disturbance LAmax (dB(A))
Daytime (7am to 6pm)	45	n/a
Evening (6pm to 10pm)	40	n/a
Night-time (10pm to 7am)	35	50

Note: the figures above have been based on the estimated background noise levels in the EA, and in accordance with the *NSW Industrial Noise Policy* (EPA, 2000).

For the purpose of this condition, existing development includes all existing development (built and approved) adjacent to the fixed facilities, and development (including subdivisions) approved prior to the determination of this project.

Operational noise targets shall be reviewed within 5 years of the date of any approval granted by the Director General for the ONVR under condition 2.15 and at any subsequent time as required by the Director General. The review shall have regard to the status of land use planning, any land use changes and the background noise environment within areas adjacent to the fixed facilities at the time of the relevant review. The proponent shall submit the results of the review to the Director General. Any proposed changes to the benchmark noise targets as a result of the review shall be included in a revised ONVR to be submitted for the approval of the Director General, in consultation with DECCW.

- 2.11 The Proponent shall design and operate fixed facilities, including the substations and the Leppington TSF (including train horn testing at the facility), with the objective of not exceeding the noise targets derived under condition 2.10. The Proponent shall apply mitigation at existing receivers where the noise targets cannot be achieved.
- 2.12 For the purpose of assessment of noise targets specified under condition 2.10 of this consent, noise from the development shall be:
- measured at the most affected point on or within the site boundary at the most sensitive locations to determine compliance with $L_{Aeq(15-minute)}$ noise limits;
 - measured in the free field at least three to five metres from any vertical reflecting surface in line with the worst-affected dwelling façade to determine compliance with L_{Amax} noise limits; and
 - subject to the modification factors provided in Section 4 of the *New South Wales Industrial Noise Policy* (EPA, 2000), where applicable.

Notwithstanding, should direct measurement of noise from the development be impractical, the Proponent may employ an alternative noise assessment method deemed acceptable by the DECCW (refer to Section 11 of the *NSW Industrial Noise Policy* (EPA, 2000)). Details of such an alternative noise assessment method accepted by the DECCW shall be submitted to the Director-General prior to the implementation of the assessment method.

- 2.13 The Proponent shall design and operate the TSF to minimise noise impacts to nearby noise sensitive receivers. Mitigation measures may include, but are not limited to:
- a) noise barriers at a suitable height, consistent with the barrier described in the EA;
 - b) approved RailCorp operational procedures, including the use of quacker style warning signals;
 - c) use of buffer zones and appropriate land use planning; and
 - d) acoustic treatment of nearby dwellings.

In the event that the above mitigation measures are not reasonable and feasible, and do not achieve the noise targets derived under condition 2.10, the Proponent would provide an enclosure of the TSF prior to the commencement of operation.

- 2.14 The Proponent shall design and operate the project with the objective, where reasonable and feasible, of not exceeding the vibration goals for human exposure for existing receivers, as presented in *Assessing Vibration: A Technical Guideline* (DECC, 2006).

- 2.15 The Proponent shall prepare an **Operational Noise and Vibration Review (ONVR)** to confirm noise (air and ground-borne) and vibration control measures that would be implemented for the project. The Operational Noise and Vibration Review shall be prepared in consultation with the Department, the DECCW, relevant Councils, RailCorp and the community and shall:
- a) identify the appropriate operational noise and vibration objectives and levels for adjoining development, including existing sensitive receivers;
 - b) predict the operational noise and vibration impacts at adjoining development based on the final design of the project;
 - c) examine all reasonable and feasible noise and vibration mitigation measures;
 - d) identify specific physical and other mitigation measures for controlling noise and vibration at the source and at the receiver (if relevant) including location, type and timing for the erection of permanent noise barriers and/or other noise mitigation measures;
 - e) include a consultation strategy to seek feedback from directly affected property owners (including educational institutions) on the noise and vibration mitigation measures; and
 - f) 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 DECCW. 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 the Director-General for approval 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 and make the ONVR publicly available.

- 2.16 The Proponent shall consult with the Department and relevant Councils during detailed design of the project to facilitate appropriate rail infrastructure and land use planning responses to potential noise and vibration impacts within the South West Growth Centre and areas adjacent to the project.

Traffic and Transport Impacts

Construction

- 2.17 The Proponent shall ensure that construction vehicles associated with the project:
- a) minimise idling and queuing in local residential streets where reasonably practicable;
 - b) minimise the use of local roads (through residential streets and town centres) to gain access to construction sites and compounds;
 - c) adhere to the nominated haulage routes identified in the Construction Traffic Management Plan required in condition 4.1(a);
 - d) adhere to a Construction Vehicle Code of Conduct prepared to manage driver behaviour along the local road network to address traffic impacts (and associated noise) along the nominated haulage routes.
- 2.18 Where construction vehicle routes directly pass schools or childcare centres, the Proponent shall minimise heavy vehicle movements where reasonable and feasible between 8:00am and 9:30am, and between 2:30pm and 4:00pm Monday to Friday, during the school term.
- 2.19 The Proponent shall, in relation to the Hume Highway crossing, complete all tunnel excavation and permanent support during construction under one carriageway before commencing excavation under the other carriageway.

Operational Access Changes

- 2.20 The Proponent shall ensure that the detailed design of the project:
- a) does not preclude planned road enhancements;
 - b) is prepared in consultation with the relevant road authority and the Department;
 - c) is consistent with the relevant precinct planning; and
 - d) meets relevant road design, engineering and safety guidelines.
- 2.21 During the detailed design process the Proponent shall consult with the Department of Planning, RTA, Transport NSW, RailCorp, and relevant Councils to ensure that existing and future road, pedestrian and cycle crossings of the rail corridor are designed and capable of being constructed to be consistent with the transport network determined by the Austral and Leppington North Precinct Plan. Crossings that should be considered include but are not limited to:
- a) Dickson Road;
 - b) Eastwood Road;
 - c) Rickard Road;
 - d) a shared pedestrian and cycle way at Bonds Creek;
 - e) an additional vehicle crossing to connect Byron Road and Browns Road, Leppington; and
 - f) an additional crossing within the Leppington Town Centre, between Dickson Road and Rickard Road.

For the avoidance of doubt, nothing in this Condition requires the Proponent to construct any of the infrastructure listed in this Condition (where it is beyond the scope of the project as described in the EA and the Submissions and Preferred Project Report.)

- 2.22 At Campbelltown Road the Proponent shall work with the RTA to create a bridge that aims to provide a minimum vertical clearance of 5.4 metres, with spans long enough to provide the horizontal clearances required for the future upgraded Campbelltown Road, and one that satisfies the following urban design criteria:
- a) a bridge with a simple, robust form which sits as an element within the broader landscape context, consistent with the RTA publication 'Bridge Aesthetics';
 - b) as far as reasonably possible minimise the profile of the bridge to minimise impact on broader views;
 - c) lay batters back so that they are in keeping with surrounding topography; and
 - d) consider planting adjacent to the bridge to help integrate the bridge with surrounding landscape character.

- 2.23 At Camden Valley Way the Proponent shall work with the RTA to create a bridge that provides a minimum vertical clearance of 5.4 metres with spans long enough to provide the horizontal clearances required for the planned upgrade to Camden Valley Way, and one that satisfies the following urban design criteria:
- a) a bridge with a simple, robust form which sits as an element within the broader landscape context, consistent with the RTA publication 'Bridge Aesthetics';
 - b) as far as reasonably possible minimise the profile of the bridge to minimise impact on broader views;
 - c) lay batters back so that they are in keeping with surrounding topography; and
 - d) incorporate planting adjacent to the bridge to help integrate the bridge with surrounding landscape character.
- 2.24 At Cowpasture Road the Proponent shall work with the RTA to create a bridge that aims to provide a minimum vertical clearance of 5.4 metres, with spans long enough to provide the horizontal clearances required for the future upgraded Cowpasture Road, and one that satisfies the following urban design criteria:
- a) a bridge with a simple, robust form which sits as an element within the broader landscape context, consistent with the RTA publication 'Bridge Aesthetics';
 - b) as far as reasonably possible minimise the profile of the bridge to minimise impact on broader views;
 - c) lay batters back so that they are in keeping with surrounding topography; and
 - d) consider planting adjacent to the bridge to help integrate the bridge with surrounding landscape character.
- 2.25 The Proponent shall, in consultation with the Department, RTA, Transport NSW, RailCorp, Landcom and relevant Councils, undertake a **Pedestrian and Cycle Accessibility Study** to identify potential pedestrian and cycle crossings and east west corridor connections to ensure and enhance connectivity, urban function and centre legibility in areas along the rail corridor, other than those areas within the Austral and Leppington North Precinct Plan. The study shall consider the need for, and identify crossing locations and east west connections at Edmondson Park town centre, and between future development and adjoining parklands, including the Western Sydney Parklands, Cabramatta Creek Riparian Park, the Ingleburn Conservation Area, Edmondson Park, Leppington and Glenfield.

The Study shall identify preferred crossing locations, east west connections, and associated infrastructure requirements. The findings of the study shall be considered in the detailed design of the project to ensure the works will not be precluded and shall be integrated with the Urban Design and Corridor Landscape Plan required under condition 2.33.

The Report shall be submitted to the Director-General within six months of the commencement of construction, unless otherwise agreed by the Director-General.

- 2.26 The Proponent shall:
- a) retain access to all properties during construction and operation, unless otherwise agreed by the relevant property owner or occupier; and
 - b) reinstate any access physically affected by the project to at least an equivalent standard, unless otherwise agreed with the property owner.

Dilapidation Reports

- 2.27 Road dilapidation reports shall be prepared prior to commencement of construction for all roads likely to be used by construction traffic or as otherwise agreed by the relevant roads authority. A copy of the relevant report shall be provided to the relevant roads authority. Any damage directly attributable to construction of the project, aside from that resulting from normal wear and tear, shall be repaired at the cost of the Proponent, unless otherwise agreed with the relevant road authority.

Ecological Impacts

- 2.28 The Proponent shall limit the clearing of native vegetation to the greatest extent practicable.
- 2.29 Landscaping and plantings shall maximise the use of endemic, drought tolerant species through seed collection, where practicable.
- 2.30 The Proponent shall develop a **Biodiversity Offset Strategy** to outline how the areas of Existing Native Vegetation in the 'non-subject land areas' of the South West Growth Centre and ecological values of threatened species and EECs lost as a result of the project in areas outside of the South West Growth Centre will be offset.

The Strategy shall be prepared in consultation with the DECCW and the Department, and be consistent with the relevant biodiversity measures of the biodiversity certification of the *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* under the *Threatened Species Conservation Act 1995* for 'non-subject land' (specifically relevant biodiversity measures No. 8 and 11) and the *Principles for the use of Biodiversity Offsets in NSW (2008)* in areas outside of the South West Growth Centre. The Strategy shall include, but not necessarily be limited to:

- a) the objectives and outcomes that would be sought through the biodiversity offset package;
- b) details of the available offset measures that have been selected to compensate for the loss of existing native vegetation, including the identification of potential offset areas within the Growth Centres (in accordance with relevant biodiversity measure No. 8 of the Biodiversity Certification), and the consideration of contingency measures for offsets to address potential changes to impacted areas as a result of detail design changes;
- c) measures for the protection of the offsets in accordance with the relevant biodiversity measures; and
- d) the decision-making framework that would be used to select the final suite of offset measures to achieve the objectives and outcomes established within the Strategy, including the ranking of offset measures.

The Biodiversity Offset Strategy shall be submitted to and approved by the Director-General prior to the commencement of any construction work that would result in the clearing of existing native vegetation associated with the Strategy, unless otherwise agreed by the Director-General.

Note: The Strategy, in relation to 'non-subject land' areas, shall be consistent with the Biodiversity Certification conferred on *State Environmental Planning Policy (Sydney Region Growth Centres) 2006*.

- 2.31 Prior to the commencement of construction (comprising the construction of the rail corridor, two new stations and a train stabling facility), other than the Glenfield Junction Southern Flyover, unless otherwise agreed by the Director-General, the Proponent shall prepare and submit the **Biodiversity Offset Package** for the approval of the Director-General. The Package shall be developed in consultation with DECCW and the Department and shall include, but not necessarily be limited to:
- a) the final suite of the biodiversity offset measures selected and secured in accordance with the Biodiversity Offset Strategy;
 - b) the management and monitoring requirements for offsets and other ecological amelioration measures proposed under the Biodiversity Offsets Package to ensure the outcomes of the Package are achieved;
 - c) the protection mechanism for the offsets in accordance with the relevant biodiversity measures of the biodiversity certification; and
 - d) timing and responsibilities for the implementation of the provisions of the Package over time.

The biodiversity offsets shall be secured by the responsible parties as identified in the approved Biodiversity Offset Package prior to the commencement of significant works (comprising the construction of the rail corridor, two new stations and a train stabling facility).

- 2.32 The Proponent shall ensure the final detailed design for the project (including the final development footprint) is consistent with the Edmondson Park Conservation Agreement (dated 20 August 2009).

Urban Design and Landscaping

- 2.33 The Proponent shall, prior to the commencement of permanent built works and/or landscaping, unless otherwise agreed by the Director-General, prepare and implement an **Urban Design and Corridor Landscape Plan**.

In preparing the Plan, the Proponent shall consult with the Department, Transport NSW, RTA, Landcom, RailCorp, relevant Councils, the Forest Lawn Memorial Gardens Cemetery and the community.

The Plan shall be prepared by appropriately qualified person(s) and detail the urban and station design initiatives to integrate stations into the proposed Edmondson Park and Leppington town centres and landscaping measures to minimise, mitigate and/or offset the impacts of the project (including acoustic barriers and embankments/cuttings) on property and other land uses (such as open space), visual amenity and local vistas and heritage values. The Plan shall include, but not necessarily be limited to:

- a) identification of design objectives and standards based on local environmental values, future land release form and function, sustainable design and maintenance, transport and land use integration, passenger and community safety and security, and relevant design standards and guidelines;
- b) details on the plans to provide, mitigate and/or augment landscaped areas and elements, with landscaping works to enhance ecological values, including riparian areas and fauna corridors and mitigate impacts to heritage landscapes;
- c) design details of the built elements of the project, including retaining walls, embankments, the Southern Flyover, culverts, bridges and underpasses, noise barriers, train stabling facility, and substations, and the measures to minimise the impact of these elements, particularly with respect to the impacts on adjoining residences, educational facilities, open space areas and heritage items and landscapes;
- d) specific plans for station precincts to provide high quality sustainable stations that enhance the public domain and provide for active uses, ensure intermodal integration and equitable and safe access, including connectivity of the stations to surrounding precincts and integration into strategic planning directions for these areas;
- e) details on pedestrian and cycle access elements and fixtures, including crossings, secure cycle facilities, and other fixtures such as seating, lighting, fencing and signs etc, to enhance connectivity and the provision of a safe and secure environment;
- f) details on how commuter parking areas at stations shall be designed so as not to preclude or prejudice the future functionality of town centres;
- g) details on public art and heritage (indigenous and non-indigenous) interpretation installations;
- h) implementation, management and monitoring strategies to ensure the establishment and ongoing maintenance of built elements and landscaped areas, including performance standards; and
- i) consideration of relevant design standards, such as the *Guidelines for the Development of Public Transport Interchange Facilities* (2008) and *Crime Prevention Through Environmental Design Principles*, and relevant Agency and Council design standards.

The Proponent shall submit the Plan to the Director-General for approval and make the Plan publicly available.

Soil and Water Impacts

Soils

- 2.34 All waste and fill materials removed off site shall be assessed, classified, managed and disposed of in accordance with the *Waste Classification Guidelines* (DECC, 2008). All waste materials removed from the site shall only be directed to a waste management facility lawfully permitted to accept the materials unless the reuse of the waste materials complies with the requirements of resource recovery exemptions established by DECCW.

Note: This condition excludes materials sourced on site and moved to an alternate location within the project corridor.

- 2.35 The Proponent shall, prior to the commencement of bulk earth activities or construction in potentially contaminated areas, undertake a Phase 2 Contamination Report which would be submitted to the Director-General.

The recommendations of the Phase 2 Contamination Report shall be suitably incorporated into the Construction Soil and Water Management Plan prepared in accordance with condition 4.1c) of this approval.

Waterways

- 2.36 The Proponent shall design and construct the project, in consultation with the Sydney Catchment Authority, with the aim of minimising adverse impacts on the fabric, structure, access to or performance of the Upper Canal.
- 2.37 The Proponent shall prepare and implement a **Riparian Corridor Assessment Report** for watercourses traversed by the Project. The report shall be prepared prior to the commencement of construction of watercourse crossings, in consultation with the NoW, with the objective of achieving a natural functioning watercourse and stabilised bed and bank for riparian areas affected by the project. Where reasonable and feasible, watercourse crossings, drainage structures, and the rehabilitation of adjoining areas shall be designed and constructed to minimise physical impacts to ecological values, promote fish and fauna passage, and riparian connectivity. The report shall consider:
- a) detailed analysis of current and potential future ecological and wildlife connectivity values and wildlife connectivity objectives;
 - b) identification of target ecological and wildlife connectivity objectives;
 - c) identification of appropriate riparian setback widths (from top of bank) for bridge abutments based on the values and objectives identified in a) and b) above;
 - d) identification of proposed timing of consultation with NoW, determination of appropriate riparian corridor widths, and implementation of identified riparian corridor rehabilitation works throughout the design and construction process;
 - e) bridge span lengths across Kemps Creek, Bonds Creek, Cabramatta Creek, and Scalabrini Creek, that account for riparian corridor widths and facilitate fauna connectivity along riparian corridors;
 - f) the location of permanent sediment basins outside of riparian areas;
 - g) the location of bridge pylons outside of the beds and banks of water crossings;
 - h) progressive and staged rehabilitation of riparian areas, including bank stabilisation to protect the adjoining environment; and
 - i) revegetation with endemic plant species that emulate the local flora community.
- 2.38 Watercourse crossings shall be designed by qualified professionals and in consultation with NoW and Industry & Investment NSW and, where reasonable and feasible, be consistent with the *Guidelines for Controlled Activities Watercourse Crossings* (DWE, 2008) and *Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings* (NSW Fisheries, 2003).

Flooding

- 2.39 The Proponent shall undertake a **Flood Management Study** in consultation with the Department, DECCW, RailCorp, Landcom, and relevant Councils during detailed design of the project and prior to construction, or as otherwise agreed by the Director-General. The Flood Management Study shall be prepared by appropriately qualified person(s) and facilitate a holistic approach to detailed hydrological assessment and stormwater management for the project, which gives consideration to the impacts and changes to the hydrology associated with the proposed development of the South West Growth Centre and adjoining areas, and include:
- a) the design of infrastructure (including culvert, bridge and drainage designs) and compensatory measures that would be implemented as part of the Project to not worsen, to the greatest extent practicable, existing and known future flooding characteristics;
 - b) the identification of design measures for the project which are consistent with the proposed development of the South West Growth Centre and adjoining areas;
 - c) modelling results of detailed designs for all crossings, for a range of flood events, including the PMF and consideration of Climate Change and blockages;
 - d) a Flood Risk Management Plan to manage flood risks and resulting damage from flood events associated with the project in excess of the 100 year ARI, including at Edmondson Park Station.
- 2.40 Where flooding characteristics are altered and affect access, property or infrastructure, the Proponent shall, in consultation with the property owner, identify and implement further reasonable and feasible mitigation measures.

Groundwater and Salinity

- 2.41 The Proponent shall, prior to the commencement of bulk earth activities, or as otherwise agreed by the Director-General, develop a Salinity Assessment of the site, in accordance with the Growth Centres Development Code, and that the recommendations be integrated into a Groundwater and Soil Salinity Report.
- 2.42 The Proponent shall, prior to the commencement of bulk earth activities, or as otherwise agreed by the Director-General, submit to the Director-General, a **Groundwater and Soil Salinity Report** detailing the outcomes of geotechnical investigations to determine the presence, extent and severity of soil salinity within the project area and impacts to groundwater resources and hydrology.

The report shall be prepared in consultation with DECCW and NoW and detail, where relevant, that the project minimises adverse impacts on saline groundwater and avoids or mitigates impacts on local and regional salinity processes and will minimise impact on groundwater systems. The Report shall consider relevant policy and guidelines, including the *Growth Centres Development Code* and the *Western Sydney Salinity Code of Practice* (WSROC, 2002).

The recommendations of the Groundwater and Soil Salinity Report shall be suitably incorporated into the Construction Groundwater Management Plan prepared in accordance with condition 4.1d) of this approval.

Mineral Resources

- 2.43 The Proponent shall design and construct the project in consultation with Industry & Investment NSW, to minimise impacts associated with future underground mining, including mining induced subsidence.

Hazards and Risk

- 2.44 The Proponent shall store and handle all dangerous goods, as defined by the Australian Dangerous Goods Code, 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 DECC's Environment Protection Manual Technical Bulletin *Bunding and Spill Management*.

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.

- 2.45 The Proponent shall prepare a Construction Safety Study in accordance with the Department of Planning's *Construction Safety Study Guideline – Hazardous Industry Planning Advisory Paper No. 7*. The Construction Safety Study shall be submitted to, and approved by, the Director-General prior to the commencement of construction work that would cross any utility services, unless otherwise agreed by the Director-General.
- 2.46 The Proponent shall design the project in consultation with the NSW Rural Fire Service, in consideration of the aims and objectives of *Planning for Bush Fire Protection 2006*, and shall address the following matters:
- a) the risk of ignition from rail sources increasing the likelihood of wildfire;
 - b) the need for fuel control in areas adjacent to rail infrastructure;
 - c) the need for asset protection zones around infrastructure such as stations and ancillary facilities;
 - d) the provision of an adequate water supply and hydrants at strategic points such as stations and service points; and
 - e) the need for adequate access for emergency vehicles to service or defend rail infrastructure.

Heritage Impacts

Non Indigenous Heritage

- 2.47 The Proponent shall implement the recommendations prescribed in Chapter 6 of the *South West Rail Link – Glenfield to Leppington Rail Line: Historic Heritage Impact Assessment*, prepared by Australian Museum Business Services for Parsons Brinkerhoff Australia Pty Ltd, dated May 2010.
- 2.48 The Proponent shall prepare a **Non Indigenous Heritage Management Plan**, including an Archaeological Strategy, in consultation with the Department and relevant Councils and in accordance with NSW Heritage Council guidelines. A copy of the Heritage Management Plan shall be provided to the Department prior to any construction works commencing, including excavation, that have an impact on heritage items and landscapes.
- 2.49 Archaeological monitoring shall occur during excavation and construction by a suitably qualified excavation director in areas of non indigenous heritage value as identified in the documents in condition 1.1. The scope of the excavation director's engagement is to be developed by the Proponent, and the excavation director's name and qualification shall be submitted to the Department prior to excavation and construction.
- 2.50 Best practice archival recording (photographic), monitoring during works (especially during excavation) and conservation interpretation shall be undertaken, including at key crossings such as Cowpasture Road, Campbelltown Road and Camden Valley Way. Copies of archival recordings of directly or indirectly impacted heritage items shall be lodged with relevant Councils and the Department. This shall include archival recordings prepared to record the pre-construction landscape of significant historical elements, particularly the Macquarie Fields House Estate home paddocks, the Upper Canal, Ingleburn Army Camp and historic road alignments shall be provided to the Department.

- 2.51 Should construction works encounter or unearth items of historical archaeological potential, unanticipated structural fabric or cultural deposits, works in that vicinity shall immediately cease to allow an archaeologist to make an assessment of the finds. Construction shall only continue following consultation with the Department and the implementation of required actions and approvals.
- 2.52 A Heritage Interpretation Plan shall be prepared in consultation with the Department and relevant Councils and in accordance with NSW Heritage Council guidelines and incorporate the results of archaeological investigations, and be submitted to the Director-General prior to completion of detailed design of relevant areas.

Aboriginal Heritage

- 2.53 The Proponent shall implement the recommendations prescribed in Chapter 7 of the *South West Rail Link – Glenfield to Leppington Rail Line: Aboriginal Heritage Assessment*, prepared by Australian Museum Business Services for Parsons Brinkerhoff Australia Pty Ltd, dated April 2010 and in Chapter 5 of the *Additional Areas, South West Rail Link – Glenfield to Leppington Rail Line: Aboriginal Heritage Assessment*, prepared by Australian Museum Business Services for Parsons Brinkerhoff Australia Pty Ltd, dated July 2010.
- 2.54 The Proponent shall prepare an **Aboriginal Heritage Management Plan** and consult with existing registered Aboriginal stakeholders regarding Aboriginal heritage assessment management and methodology for further archaeological subsurface excavation and resultant salvage work, prior to construction works commencing, unless otherwise agreed by the Director-General.
- 2.55 The Proponent shall manage artefacts found during salvage in consultation with existing registered Aboriginal stakeholders and the Australian Museum.
- 2.56 If any previously unidentified Aboriginal heritage items are discovered prior to or during construction, they shall be registered with DECCW in accordance with s91 of the *National Parks and Wildlife Act 1974*.

Air Quality Impacts

- 2.57 The Proponent shall prepare and implement a **Construction Air Quality and Dust Management Plan** incorporating the management measures identified in section 15.1.5 of the EA, with the objective of constructing the project in a manner that minimises dust impacts generated by construction works, including wind-blown and traffic-generated dust, and impacts on the receiving environment.

Property Impacts

- 2.58 The Proponent shall identify utilities, services and other infrastructure potentially affected by construction to determine requirements for diversion, protection and/or support. Alterations shall be determined by negotiation with the owner. The Proponent in consultation with the owner and/or occupier shall minimise potential disruption to services resulting from the activity are minimised and advised to customers.
- 2.59 The Proponent shall, subject to being granted access by the owner and/or occupiers, prior to the commencement of construction of each stage of the project that may impact on surrounding properties:
- a) arrange for a risk assessment by appropriately qualified geotechnical and construction engineering experts, and undertake inspections of properties at risk from damage, in accordance with AS 4349.1 'Inspection of Buildings';
 - b) contact the owners of all properties on which property inspections are to be conducted at least two weeks 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 at least one week prior to construction that could affect the property;
- d) 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; and
- e) develop a **Property Management Plan** detailing management of the property inspection process, including procedures for capturing responses to property inspection offers, responding to disagreements with property inspection report findings and responding to property damage complaints.

The Proponent shall rectify or compensate a property owner for any property damage caused directly or indirectly by the construction or operation of the project.

Construction Ancillary Facilities

- 2.60 The establishment and use of ancillary facilities for construction in the vicinity of James Meehan Estate shall, to the greatest extent practicable, avoid or minimise impacts on the rural land forming the landscape setting of Macquarie Field House estate (including physical damage of elements like historic fence lines, plantings etc) and Quarter Sessions Road.
- 2.61 The location of construction site compounds shall be identified in the Construction Environmental Management Plan and include a risk assessment of each site, and details of the mitigation, monitoring and management procedures specific to the site compounds that would be implemented. Where a site compound has been identified as having a high risk category, an assessment of the adequacy of the mitigation measures shall be submitted to the Director-General demonstrating that there will be no significant adverse impact from that facility's construction or operation.
- 2.62 Prior to the establishment of ancillary facilities for construction not identified in the documents listed in condition 1.1, the Proponent shall obtain the Director-General's approval for the management of the facilities. In obtaining this approval, the Proponent shall submit an assessment of the facilities, which provides:
 - a) details of the surrounding environment and potential environmental impacts associated with the facilities, including but not limited to noise, vibration, air quality, traffic, heritage, hazards and hydrological impacts;
 - b) details of the mitigation, monitoring and management procedures specific to the facilities that would be implemented and an assessment of the adequacy of the mitigation measures. This shall include restrictions on the hours of use or exclusion of certain activities; and
 - c) identification of the timing for the completion of activities and how the facilities will be decommissioned (including any necessary rehabilitation).
- 2.63 All construction ancillary facility sites shall be rehabilitated to at least their pre-construction condition, unless otherwise agreed by the landowner.

3. ENVIRONMENTAL MONITORING AND AUDITING

Noise and Vibration Auditing

- 3.1 The Proponent shall undertake a noise and vibration compliance assessment to confirm the predictions of the noise assessment referred to in the Operational Noise and Vibration Review (condition 2.15 of this approval). This shall be developed in consultation with DECCW and undertaken within three months of the commencement of operation of the project, or as otherwise agreed by the Director-General. If the assessment indicates an exceedance of the noise and vibration targets identified in the ONVR, the Proponent shall implement further reasonable and feasible measures (where required) to mitigate these exceedances in consultation with affected property owners and the Department.

The assessment shall meet the requirements of the DECCW, and shall include, but not necessarily be limited to:

- a) noise and vibration compliance assessment, to assess compliance with condition 2.9 and 2.10 of this approval;
- b) methodology for the assessment; and
- c) details of any complaints received relating to operational noise and vibration impacts.

A report providing the results of the assessment shall be submitted to the Director-General and the DECCW within 28 days of its completion.

4. ENVIRONMENTAL MANAGEMENT

Construction Environmental Management

4.1 The Proponent shall prepare and implement the following Construction Management Plans. The Plans shall be approved by the Director-General prior to Construction, unless otherwise agreed by the Director General:

- a) a **Construction Traffic Management Plan** prior to construction to detail how construction traffic will be safely managed to minimise impacts on transport networks and minimise impacts to adjoining properties. The Plan shall be developed in consultation with the RTA, RailCorp, relevant Councils and emergency services to manage the construction traffic impacts of the project, including but not limited to:
 - i) identifying haulage routes and access points from construction sites to local and arterial roads detailing measures to minimise potential access and land use conflicts;
 - ii) identifying haulage and construction vehicle volumes and detailing measures to minimise peak time congestion and intersection impacts at local and arterial roads;
 - iii) identifying construction activities that would require disruption of traffic, such as bridge and lane closures, and measures to minimise impacts;
 - iv) detailing a Construction Vehicle Code of Conduct to set driver behaviour controls to minimise impacts on the land uses along haulage routes (including noise minimisation measures);
 - v) identifying designated construction personnel parking areas;
 - vi) detailing measures to minimise impacts to existing access provisions along the project corridor;
 - vii) detailing measures to ensure that the intersection of Camden Valley Way and Rynan Avenue is not utilised for construction purposes, until the intersection is upgraded, following consultation with the relevant road authority;
 - viii) detailing measures to minimise the period of time during which full or partial road closures occur and as soon as practicable, remove local traffic detours and reinstate pre-existing road network restrictions and access arrangements to the satisfaction of the relevant road authority.
- b) a **Construction Noise and Vibration Management Plan** prior to construction to detail how construction noise and vibration impacts would be minimised and managed. The Plan shall be developed in consultation with the DECCW and shall include, but not necessarily be limited to:
 - i) details of construction activities and an indicative schedule for construction works;
 - ii) identification of construction activities that have the potential to generate noise and/ or vibration impacts on surrounding land uses, particularly residential areas;
 - iii) detail the requirements for Noise and Vibration Impact Statement(s) for discrete work areas, including stations and ancillary facilities;
 - iv) detail what reasonable and feasible actions and measures would be implemented to minimise noise and vibration impacts;
 - v) procedures for notifying sensitive receivers of construction activities that are likely to affect their noise and vibration amenity, as well as procedures for dealing with and responding to noise and vibration complaints;

- vi) 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, 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
 - vii) preparation of an out-of-hours work protocol for works not otherwise subject to an Environmental Protection Licence, for the assessment, management and approval of works outside of the standard construction hours as defined in condition 2.1 of this approval, to be approved by the nominated Environmental Representative for the project.
- c) a **Construction Soil and Water Quality Management Plan** prior to the commencement of any construction works to detail how excavated and imported materials will be managed and watercourses protected through construction. The Plan shall be developed in consultation with the DECCW, NoW and Industry & Investment NSW and shall include, but not necessarily be limited to:
- i) how spoil and fill material generated by the project will be sought, handled, stockpiled, reused and disposed, including the identification of spoil and stockpile volumes and locations;
 - ii) how soil erosion, discharge of sediment or water pollutants from the site, including at site compounds and water crossings will be managed and monitored, including the consideration of flood events;
 - iii) detail how the construction activities and structures within or in proximity to riparian areas would be appropriately designed and managed to ensure the integrity, function and condition of these areas are maintained and/or suitably rehabilitated;
 - iv) details of contaminated soil and appropriate management, remediation, disposal and monitoring measures as identified in the Phase 2 Contamination Report required by condition 2.35; and
 - v) a contingency plan to be implemented in the case of unanticipated discovery of contaminated material during construction.
- d) a **Construction Groundwater Management Plan** prior to bulk earthworks to detail groundwater and salinity investigations and assessment in order to assess the likely impacts of the Project on groundwater and infrastructure adjoining the rail corridor. The Plan shall be developed in consultation with the NoW and shall include, but not necessarily be limited to:
- i) geological investigations at representative locations along the project route to establish existing ground water levels and to evaluate water quality;
 - ii) how the construction and operation related changes to groundwater would affect the hydrological regime, including groundwater resources, dependent ecosystems and species, and infrastructure adjoining the rail corridor;
 - iii) incorporate the results of the Groundwater and Soil Salinity Report required under condition 2.41; and
 - iv) identify measures that would be implemented to minimise, manage, mitigate, monitor and/ or offset groundwater and salinity impacts during construction and operation.
- e) a **Construction Flora and Fauna Management Plan** prior to construction to detail how construction impacts on terrestrial and aquatic ecology will be minimised and managed. The Plan shall be developed by a suitably qualified consultant and shall include, but not necessarily be limited to:
- i) pre clearing surveys to confirm the location of threatened flora and fauna species and associated habitat features;
 - ii) details of work practices (such as fencing, clearing procedures, and construction worker education) to minimise the potential for damage to native vegetation and native fauna during construction;

- iii) weed management measures focusing on early identification of invasive weeds and determining effectiveness of management controls;
 - iv) details of how riparian zones affected by the project will be rehabilitated in order to restore a natural functioning watercourse; and
 - v) details of the mitigation measures that would be implemented and the associated procedures for the installation and monitoring of these measures; and if any non-compliance is detected how any non-compliance would be rectified.
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