Australian Government
Department of the Environment

Approval

SIMTA Moorebank Intermodal Terminal Facility, Sydney, NSW (EBPC 2011/6229)

This decision is made under sections 130(1) and 133 of the *Environment Protection and Biodiversity Conservation Act 1999*.

Proposed action

person to whom the approval is granted	Sydney Intermodal Terminal Alliance comprising: Qube Holdings Limited (ACN: 149 723 053); and Aurizon Holdings Limited (ACN: 146 335 622)
proposed action	To construct and operate the SIMTA Moorebank Intermodal Terminal Facility and associated rail infrastructure, including a rail link to the Southern Sydney Freight Line, approximately 27 km south-west of Sydney's CBD [See EPBC Act referral 2011/6229 and 'Notification of variation of proposal to take action' dated 13 November 2012].

Approval decision

Controlling Provision	Decision
Listed threatened species and communities (sections 18 & 18A)	Approved
Commonwealth land (sections 26 & 27A)	Approved

conditions of approval

This approval is subject to the conditions specified below.

expiry date of approval

This approval has effect until 28 February 2040.

Decision-maker

name and position	The Hon Greg Hunt MP Minister for the Environment

signature

Conditions attached to the approval

Protection of EPBC flora and fauna & the environment on Commonwealth land

1. For the better protection of the ***GHFF***, the person taking the action must:

   a) not clear more than 11 hectares of ***GHFF foraging habitat***;

   b) engage a suitably qualified expert to undertake a pre-clearance survey(s) to confirm the absence of GHFF roosting camps within the rail easement, no more than 48 hours prior to the clearance of potential ***GHFF roosting habitat***; and

   c) notify ***the Department*** in writing of the results of pre-clearance surveys.

   If the ***GHFF*** is detected roosting on site, all ***native vegetation clearance*** activities must halt until the person taking the action has complied with any directions ***the Minister*** may wish to issue regarding timing of construction or methods for dispersal of the ***GHFF***.

2. For the better protection of the ***Macquarie Perch***, the person taking the action must:

   a) engage a ***suitably qualified expert*** to design (or provide input on the design of) all crossings which are proposed to be implemented across Macquarie Perch habitat. Any such crossings must be of a suitable design that provides for the passage requirements of ***Macquarie Perch***; and

   b) implement all feasible and practicable measures that ensure sedimentation and / or erosion (as a result of the proposed action) do not lead to any further reductions in the water quality, or degradation of, ***Macquarie Perch*** habitat.

3. For the better protection of ***Hibbertia sp. Bankstown***, the person taking the action must engage a ***suitably qualified expert*** to undertake a targeted search for individuals of ***Hibbertia sp. Bankstown*** within all areas of potential habitat during the species' flowering period.

4. For the better protection of ***Bynoe's Wattle***, the person taking the action must engage a ***suitably qualified expert*** to undertake a field habitat assessment that targets the ecological requirements of ***Bynoe's Wattle***, in all areas of Castlereagh Scribbly Gum Woodland likely to be cleared as a result of the proposed action. If the assessment determines there is potential for the species to occur on site, then a ***suitably qualified expert*** must undertake a targeted search for individuals of ***Bynoe's Wattle*** within all areas of potential habitat identified by the habitat assessment during the species' flowering period.

Flora and Fauna Management Plan

5. For the better protection of ***EPBC listed flora*** & the environment on Commonwealth land, the person taking the action must engage a ***suitably qualified expert*** to prepare a Flora and Fauna Management Plan (FFMP) for the approval of ***the Minister***. The FFMP must include (but need not be limited to):

a) details on the timing of ***native vegetation clearance*** works;

b) detailed maps of the rail link easement and construction zone showing:

i. permanent infrastructure and temporary works;

ii. no-go areas; and

iii. physical barriers used for the protection of native vegetation on Commonwealth land, and of EPBC Act listed ***Nodding Geebung*** and ***Small-flower Grevillea***.

c) measures to minimise the extent of native vegetation clearing upon Commonwealth land and the clearing of ***Nodding Geebung*** and ***Small-flower Grevillea***;

d) provisions to ensure no more than 17 individuals of ***Nodding Geebung*** and 634 ***stems*** of ***Small-flower Grevillea*** are cleared;

e) the results of targeted surveys for ***Hibbertia sp. Bankstown*** and ***Bynoe's Wattle*** (including the number of individuals recorded) and what measures will be implemented to avoid, mitigate and manage impacts to these species, if individuals are found on site;

f) measures which allow terrestrial fauna to disperse naturally ahead of clearing activities, and minimise the risk of injury to individuals;

g) actions to maintain or enhance the long-term viability of native vegetation adjoining the rail easement in particular, adjoining populations of ***Nodding Geebung*** and ***Small-flower Grevillea***;

h) measures to safeguard flora and fauna from the threat of weeds, fire, pathogens and unauthorised access, including (but not limited to) the commitments outlined in section 7.4.1 of the ***EIS*** (and summarised at Annexure A);

i) ongoing monitoring to inform the adaptive management of native vegetation adjoining the rail easement.

Native vegetation clearance must not occur until the FFMP has been approved. The FFMP must be implemented once approved.

Threatened Flora Offset Management Plan

6. For the better protection of ***Nodding Geebung***, ***Small-flower Grevillea*** (and potentially, ***Hibbertia sp. Bankstown*** and ***Bynoe's Wattle*** pending the outcome of conditions 3 and 4) the person taking the action must engage a ***suitably qualified expert*** to prepare a Threatened Flora Offset Management Plan (TFOMP) (or plans) for the approval of ***the Minister***. The TFOMP must include (but need not be limited to):

a) details of a ***direct offset*** that satisfies the requirements of ***the Department's*** offset policy, in accordance with the offset user guide (including timeframes for the delivery or acquisition of the ***direct offset***);

b) map(s) and ***shapefiles*** that identify the location and boundaries of the ***direct offset***;

c) details of the management actions and performance objectives which will maintain and enhance the ***Nodding Geebung*** and ***Small-flower Grevillea*** habitat and/or population covered by the TFOMP (including the duration, intensity, and timing of management actions);

d) an assessment of the baseline population and distribution for ***Nodding Geebung*** and ***Small-flower Grevillea*** within the ***direct offset***, including:

   i. the number of plants protected and their location; and

   ii. plant and habitat condition.

e) measures for regular monitoring of the status of individuals of ***Nodding Geebung*** and ***Small-flower Grevillea*** and their habitat as measured against the baseline population and distribution, including:

   i. fluctuations in population size and distribution; and

   ii. response to disturbances and/or management actions.

f) provisions to revise the approved TFOMP in response to monitoring associated with condition 6(e);

Native vegetation clearance must not occur until the TFOMP has been approved. The TFOMP must be implemented once approved.

Should the action result in, or be likely to result in, residual impacts to ***Hibbertia*** **sp. Bankstown** or **Bynoe's *Wattle*** (as determined by ***the Minister***), the TFOMP must also demonstrate how it meets the standards described in (a) to (f), for these two species.

Construction Environment Management Plan

7. For the better protection of Commonwealth land, the person taking the action must engage a ***suitably qualified expert(s)*** to prepare a Construction Environment Management Plan (CEMP), for the approval of ***the Minister***. The CEMP must include in relation to construction of the proposed facility:

a) details on the timing of construction works (accompanied by current and detailed maps);

b) identification and quantification of all potential impacts associated with noise, vibration, air quality, traffic, light spill, hydrological changes, contamination, and indigenous heritage (including cumulative impacts associated with the ***DoF***'s proposed intermodal) upon Commonwealth land. Consideration must be given to people and communities at ***SME***, ***DNSDC***, Defence housing, and the environment more generally in neighbouring bushland areas. Of note, the air quality assessment must quantify all emissions arising from air pollutant sources for which there are established national air quality standards;

c) the results of further investigations with regard to land contamination and indigenous heritage impacts (specifically, ***PAD***s two and three). If adverse impacts are identified, details on how such matters will be managed / mitigated must also be provided.

Evidence of ongoing consultation with ***RAP***s regarding further investigations for indigenous heritage objects/places must be provided;

d) refined details (including implementation timeframes) for the mitigation measures outlined in the ***EIS*** (sections 7.4.2, 7.4.3, 7.4.6, 7.4.7, 7.4.8 and 7.4.9) and summarised at Annexure A;

e) a commitment to ensure no lights are installed above the height of 40 metres or, the maximum approved height of the intermodal warehouse buildings (whichever is less);

f) identification of the trigger values and criteria for all matters mentioned in condition 7(b) (excluding light spill, land contamination and indigenous heritage) that will be adopted for monitoring and managing potential impacts to Commonwealth land;

g) details of a comprehensive monitoring program (including locations, frequency and duration) for:

   i. validating the anticipated impacts associated with condition 7(b); and

   ii. determining the effectiveness of proposed mitigation/management measures;

h) provisions to revise the approved CEMP in response to monitoring associated with condition 7(g) including, details of response / contingency mechanisms to address any exceedances of the relevant trigger values;

i) evidence of consultation with ***Defence*** regarding the adequacy of proposed mitigation measures in particular, those measures to mitigate potential light spill impacts upon residential dwellings within ***SME*** outside of ***standard construction hours***; and

j) details of a complaints handling procedure;

Commencement of the action may not occur until the CEMP has been approved. The CEMP must be implemented once approved.

Operation Environment Management Plan

8. For the better protection of Commonwealth land, the person taking the action must engage a ***suitably qualified expert(s)*** to prepare an Operation Environment Management Plan (OEMP) for the approval of ***the Minister***. The OEMP must include in relation to operation of the proposed facility:

a) identification and quantification of all potential impacts associated with noise, vibration, air quality, traffic and light spill (including cumulative impacts associated with the ***DoF***'s proposed intermodal) upon Commonwealth land. Consideration must be given to people and communities at ***SME***, ***DNSDC***, Defence housing, and the environment more generally in neighbouring bushland areas. Of note, the air quality assessment must quantify all emissions arising from air pollutant sources for which there are established national air quality standards;

b) refined details (including implementation timeframes) for the mitigation measures outlined in the ***EIS*** (sections 7.4.2, 7.4.6, 7.4.7, 7.4.8 and 7.4.9) and summarised at Annexure A;

c) refined details of how heavy vehicles entering and exiting the site will be processed, including information on access and circulation both into, and within, the intermodal facility grounds;

d) measures to ensure no heavy vehicles entering or exiting the intermodal facility park, or wait, on Moorebank Avenue;

e) identification of the trigger values and criteria for all matters mentioned in condition 8(b) (excluding light spill) that will be adopted for monitoring and managing potential impacts to those Commonwealth land;

f) details of a comprehensive monitoring program (including locations, frequency and duration) for:

   i. validating the anticipated impacts associated with condition 8(b); and

   ii. determining the effectiveness of mitigation/management measures (including the success of public transport incentives);

g) provisions to revise the approved OEMP in response to monitoring associated with condition 8(f) including, details of response / contingency mechanisms to address any exceedances of the relevant trigger values;

h) evidence of consultation with ***Defence*** regarding the adequacy of proposed mitigation measures;

i) details of a complaints handling procedure;

Commencement of operations may not occur until the OEMP has been approved. The OEMP must be implemented once approved.

9. For the better protection of Commonwealth land, the person taking the action must enter into a written agreement with ***Defence*** that specifies the use and ongoing maintenance of Moorebank Avenue. Prior to ***commencement of the action*** the person taking the action must provide a copy of that agreement to ***the Department***.

Administrative conditions

10. Within one month after the ***commencement of the action***, the person taking the action must advise ***the Department*** in writing of the actual date of commencement.

11. The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement any management plan or agreement required by this approval, and make them available upon request to ***the Department***. Such records may be subject to audit by ***the Department*** or an independent auditor in accordance with section 458 of ***the EPBC Act***, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on ***the Department's*** website. The results of audits may also be publicised through the general media.

12. Within three months of every 12 month anniversary of the ***commencement of the action***, the person taking the action must publish a report (the Compliance Report) on their website addressing compliance with each of the conditions of this approval, including implementation of any management plans or agreements as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to ***the Department*** at the same time as the Compliance Report is published. The person taking the action must continue to annually publish the Compliance Report until such time as agreed in writing by ***the Minister***.

13. Upon the direction of ***the Minister***, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to ***the Minister***. The independent auditor must be approved by ***the Minister*** prior to the commencement of the audit. Audit criteria must be agreed to by ***the Minister*** and the audit report must address the criteria to the satisfaction ***of the Minister***.

14. If the person taking the action wishes to carry out any activity otherwise than in accordance with any management plan as specified in the conditions, the person taking the action must submit to ***the Department*** for ***the Minister's*** written approval a revised version of that management plan. The varied activity shall not commence until ***the Minister*** has approved the varied management plan in writing. ***The Minister*** will not approve a varied management plan unless the revised management plan would result in an equivalent or improved environmental outcome over time. If ***the Minister*** approves the revised management plan, then that management plan must be implemented in place of the management plan originally approved.

15. If ***the Minister*** believes that it is necessary or convenient for the better protection of Listed Threatened species or the environment on Commonwealth land to do so, ***the Minister*** may request that the person taking the action make specified revisions to any management plan, as specified in the conditions and submit the revised management plan for ***the Minister's*** written approval. The person taking the action must comply with any such request. The revised approved management plan must be implemented. Unless ***the Minister*** has approved the revised management plan, then the person taking the action must continue to implement the management plan originally approved, as specified in the conditions.

16. If, at any time after five years from the date of this approval, the person taking the action has not ***substantially commenced the action***, then the person taking the action must not ***substantially commence the action*** without the written agreement of ***the Minister***.

17. Unless otherwise agreed to in writing by ***the Minister***, the person taking the action must publish all management plans referred to in these conditions of approval on their website. Each management plan must be published on the website within one month of being approved.

Notes:

Management plans referred to in conditions 5 to 8 may be reorganised for administrative efficiency provided that all specified requirements are addressed and that each document is submitted with a clear description of the condition(s) it is intended to satisfy. For example, management plans may be further aggregated or disaggregated by construction stage, geographic area or management theme (including by 'species' in the case of condition 6). Where a plan is used to satisfy the requirements of both the State and the Commonwealth, that plan must clearly articulate where each of the Commonwealth's conditional criteria have been addressed within that plan.

Definitions:

Bynoe's Wattle means *Acacia bynoeana* as listed under ***the EPBC Act***.

Commencement of the action means the construction of any infrastructure (excluding fences and signage) associated with the proposed action.

Commencement of operations means the handling / transportation / distribution of any freight associated with the proposed action.

Defence means the Department of Defence.

Direct offset is an area of habitat, individuals of a species, or some other tangible asset, that is protected in compensation for the loss of a corresponding area of habitat or individuals of a species with identified conservation value.

DNSDC means the Defence National Storage Distribution Centre.

DoF means the Department of Finance (formerly known as the Department of Finance and Deregulation).

EPBC listed flora means any flora species listed as threatened under ***the EPBC Act***.

EIS means the Final Environmental Impact Statement for the action (dated October 2013).

GHFF means the Grey-headed Flying-fox (*Pteropus poliocephalus*) as listed under ***the EPBC Act***.

GHFF foraging habitat includes *Corymbia maculate*, *Eucalyptus crebra*, and *Eucalyptus longifolia*.

GHFF roosting habitat includes Castlereagh Swamp Woodland.

Hibbertia sp. Bankstown means *Hibbertia puberula* subsp. *glabrescens* as listed under the ***EPBC Act***.

Macquarie Perch means *Macquaria australasica* as listed under ***the EPBC Act***.

Native vegetation clearance includes the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of any native vegetation.

Nodding Geebung means *Persoonia nutans*, as listed under ***the EPBC Act***.

PADs two and three mean the potential archaeological deposits as illustrated at Annexure B.

RAP means registered Aboriginal party.

Shapefiles mean an ESRI ArcGIS Shapefile, containing '.shp', '.shx.' and '.dbf' files and other files. Shapefiles must include appropriate metadata capturing attributes including but not limited to the EPBC reference number of the approved action and details of the EPBC protected matters present within the offset, covenant or legal protection details, including type and identification. ***The Department*** prefers shapefiles using the Geocentric Datum of Australia (GDA) 94.

Small-flower Grevillea means *Grevillea parviflora* subsp. *parviflora* as listed under ***the EPBC Act***.

SME means the School of Military Engineering.

Standard construction hours occur between 07:00 to 18:00 Monday to Friday and 08:00 to 13:00 Saturday.

Stems include however many stems are attached to an individual plant, or rhizome.

Substantially commence(d) the action means the erection of any permanent infrastructure excluding signage and fences, associated with the action.

Suitably qualified expert means any individual with tertiary qualifications and/or a minimum of five years demonstrated experience relevant to the task in question.

The Department means the Australian Government Department responsibility for administering ***the EPBC Act***.

The EPBC Act is the *Environment Protection and Biodiversity Conservation Act 1999*.

The Minister means the Minister administering the ***EPBC Act*** and includes a delegate of the Minister.

ANNEXURE A – Summary of Mitigation Measures

Issue	Proposed Mitigation
Flora and fauna	The Part 3A Guidelines for Threatened Species Assessment (DEC & DPI 2005) require the description and justification of measures to mitigate adverse effects arising from development proposals. Primary consideration should be given to measures to avoid or minimise impacts; where avoidance and mitigation are not possible, offset strategies may be considered as a last resort. The steps in the avoid, mitigate and offset approach are as follows: • Avoid areas of high biodiversity value wherever possible; • Mitigate actions and safeguard values identified for retention by prescribing appropriate controls; and • Compensate for or offset the removal of biodiversity values. Avoid • The identified ecological values should be avoided as far as practicable • The construction footprint of the SIMTA proposal and construction access requirements should be reduced as far as possible to minimise impacts. • Avoid Endangered Ecological communities where possible. • Avoid known locations of threatened flora species where possible. • Avoid important fauna habitat features such as large hollow bearing trees where possible. Mitigate • Install appropriate drainage infrastructure (e.g. sediment basins, diversion drains), sediment and erosion controls prior to the commencement of construction. • Clearing of vegetation is not to be undertaken during overland flow events. • Clearly identifying sensitive areas and areas for construction and managing clearing such that clearing activities are constrained to these approved areas only. • Locate soil or mulch stockpiles away from watercourses and key stormwater flow paths to limit potential transport of these substances into the watercourses via runoff. • Dust suppression activities to be undertaken where appropriate. • Stabilisation of disturbed areas, including revegetation in accordance with the VMP, is to be undertaken as soon as practicable after disturbance. • Emergency response protocols and procedures for implementation in the event of a contaminant spill or leak to be clearly articulated in the Construction Environmental Management Plan. • Spill kits to be located to allow for timely response to uncontained spills. Site inductions are to include a briefing on the use of spill kits. • Management of weeds in and adjacent to cleared areas will occur in accordance with a Weed Management Plan. This plan will include details relating to the monitoring, management and where necessary eradication of weeds, disposal of green waste, and vehicle/plant weed wash down protocols if required. • Management of noxious weeds are to be undertaken in accordance with the Noxious Weeds Act 1993. • Equipment used for treating weed infestation will be cleaned prior to moving to a new area within the project site to minimise the likelihood of transferring any plant material and soil. • Soil stripped and stockpiled from areas containing known weed infestations are to be stored separately and are not to be moved to areas free of weeds. • Fauna microhabitat such as logs should be removed from areas to be cleared and relocated to suitable nearby bushland areas in the presence of an ecologist. • Consider the installation of nest boxes in woodland vegetation in the rail corridor that may offer alternative nesting habitat to hollow dependent species recorded in the study area. • High visibility plastic fencing is to be installed to clearly define the limits of the works area to not further encroach on fauna habitat. • Undertake a pre-start up check for sheltering native fauna of all infrastructure, plant and equipment and/or during relocation of stored construction materials. • Undertake a two-stage approach to clearing: o Remove non-hollow bearing trees at least 48 hours before habitat trees are removed. o Hollow bearing trees are to be knocked with an excavator bucket or other

machinery to encourage fauna to evacuate the tree immediately prior to felling.
    - Felled trees must be left for a short period of time on the ground to give any fauna trapped in the trees an opportunity to escape before further processing of the trees.
    - Felled hollow bearing trees must be inspected by an ecologist as soon as possible (not longer than 2 hours after felling).
- Site inductions are to include a briefing regarding the local fauna of the site and identification of protocols to be undertaken if fauna are encountered.
- If any pits/trenches are to remain open overnight, they are to be securely covered, if possible. Alternatively, fauna ramps (logs or wooden planks) are to be installed to provide an escape for trapped fauna.
- Clearance of native vegetation should be minimised as far as is practicable.
- Consider retention of some, or all, of the remnant scattered *E. sclerophylla* over patches of shrub and grass cover in the cleared grassland immediately south of the SIMTA site, in landscaping works.
- The extent of, and limitations to, vegetation clearing would be clearly identified on construction plans.
- Any additional construction areas, such as site offices, construction stockpile locations and machinery/equipment laydown areas are to be located, where possible, within existing cleared or disturbed areas.
- Extent of clearing should be fenced with highly visible temporary fencing to minimise any extension of clearing beyond the area necessary.
- A VMP should be prepared prior to construction, detailing restoration, regeneration and rehabilitation of areas of native vegetation in study area. The VMP should also detail appropriate management for the potential habitat of threatened plant species in the study area, including monitoring during and after construction works to ensure impacts are minimised.
- As soon as possible rehabilitation will commence where possible. Management of land disturbed as a result of construction works will occur in accordance with a VMP.
- High visibility plastic fencing is to be installed to clearly define the limits of the works area as to not further encroach on EEC and locations of threatened flora species.
- Fencing is to be installed delineating threatened species habitat to be retained. Appropriate warning signage is to be installed along this fencing at regular intervals. Site inductions are to include a briefing on the presence of threatened species and its habitat, its significance and locations and extents of no-go zones.
- Design and construction of rail crossings over Anzac Creek and Georges River to be in accordance with Fish Passage Requirements for Waterway Crossings (Fairfull and Witheridge 2003).
- Minimise clearing and disturbance to the riparian zone where possible.
- Install appropriate drainage infrastructure (e.g. sediment basins, diversion drains), sediment and erosion controls prior to the commencement of construction.
- Construction disturbance areas will be clearly demarcated to avoid accidental clearing or stockpiling in riparian vegetation.
- Landscaped zones to capture gross pollutants and oil and grits from pavement. These areas can be regularly maintained to remove rubbish and can be renewed on a regular basis.
- Bio-retention installed in base of channels and swales proposed to capture and store stormwater. This will consist of bio-filtration layers, planting and subsoil collection and drainage.
- Hot work not to be undertaken on declared total fire ban days.
- Vehicles and plant should not block fire trails.
- Bushfire awareness included in staff induction and in toolbox talks pre-commencement.
- Directional lighting will be used where lighting is required in construction areas.
- Frequent maintenance of construction machinery and plant will be undertaken to minimise unnecessary noise.
- Dust suppression activities to be undertaken where appropriate.
- Speed limits will be developed so as to minimise the potential for fauna to be struck by a vehicle within the SIMTA site. All vehicles and plant in operation on the SIMTA site are to adhere to site rules relating to speed limits.

	• If an animal is injured, contact one of the following local wildlife rescue agency (e.g. WIRES) and/or veterinary surgery immediately • Until the animal can be cared for by a suitably qualified animal handler, if possible minimise stress to the animal and reduce the risk of further injury by: o Handling fauna with care and as little as possible. o Covering larger animals with a towel or blanket and o placing in a large cardboard box. o Placing small animals in a cotton bag, tied at the top. • Keeping the animal in a quiet, warm, ventilated and dark • Weed infestations that are identified during the operation of the SIMTA proposal are to be managed in accordance with the removal methods outlined in the Weed Management Plan.
Noise	**Construction** A Construction Noise and Vibration Management Plan would be developed to implement best practice mitigation and management measures to minimise noise impacts on surrounding land uses and sensitive receivers, including Commonwealth Land during construction. The Construction Noise and Vibration Management plan would address the following noise issues: • Construction hours. All construction activities would have regard to the standard hours of 07:00 am to 18:00 pm Monday to Friday, and 08:00am to 13:00 pm Saturday (with approval from relevant authorities). Works outside these hours that may be permitted would include (Wilkinson Murray 2013): o Any works which do not cause noise emissions to be audible at any nearby sensitive receptors. o The delivery of materials which is required outside of these hours as requested by Police or other authorities for safety reasons. Local residents would be informed of the timing and duration of approved works in accordance with the SIMTA's notification provisions. o Emergency work to avoid the loss of lives, property and/or to prevent environmental harm. • Any other work as approved through the Construction Noise and Vibration Management Plan Process. • Training and awareness, which would include the following: o Site awareness training/environmental inductions to provide instruction on noise mitigation techniques/measures to be implemented during construction of the SIMTA proposal. o Working within approved hours. o Working with noisy equipment away from sensitive receivers. o Using noise screens and temporary barriers o Maintaining plant and equipment. o Turning off machinery when not in use. o Limiting the "clustering" of noisy plant / processes. o Communication, including a notification process to inform residents of respite times. o Incident and emergency response. o Non-conformance, preventative and corrective action procedures. • Selection of quiet plant and processes wherever feasible and retrofitting reversing alarms that are quieter and display less annoying characteristics. Such alarms could include "smart alarms" and "squawker alarms". Where appropriate, specific mitigation measures that may be considered would include: • Portable temporary screens to mitigate specific noise sources. • Respite periods (e.g. for extended periods of driven piling and use of rock breakers). • Consideration of offset distances, orientation and position of noisy plant away from sensitive receivers, including the SME and DNSDC operations. • Completion of loading and unloading activities away from sensitive receivers. • Use of spotters, closed circuit television monitors, "smart" reversing alarms, or "squawker" type reversing alarms in place of traditional reversing alarms. • The anticipated effectiveness of some noise mitigation techniques in reducing construction noise impacts are presented in Table 84. Ground borne vibration levels would be measured and monitored to establish the minimum

	working separation between the equipment and nearby vibration sensitive receivers and buildings that have the potential to be impacted when vibration-generating equipment is used during construction of the SIMTA proposal. **Operation** To reduce noise and vibration impacts of the SIMTA proposal during operation, the following recommendations as presented within Wilkinson Murray (2013) would be implemented: • SIMTA would make provisions for a potential noise barrier along the western boundary of the SIMTA site. The requirement for the barrier will be confirmed during detailed assessments at each development application stage for approval under the NSW State planning approval process. • Facilities such as administration buildings and employee carparks would be placed in locations to provide an increased buffer distance between the SIMTA site operations and sensitive receptors, i.e. the north-eastern corner and eastern portions of the site. • Buildings or structures with acoustic shielding potential will be placed near the north-east and south-east boundaries of the site to assist in noise attenuation of the SIMTA proposal.
Air	**Construction** A Construction Environmental Management Plan will be prepared prior to construction. This document will include provisions covering air quality management and mitigation, and will be implemented through good site environmental practice. <u>Dust Management</u> • Increasing the moisture content of the soil/surface to reduce emissions from site clearing, particularly during dry and windy conditions. • Modifying work practices during periods of adverse weather. • Limiting and staging clearing of designated footprint required for construction. • Completing rehabilitation as quickly as possible. • Minimising the number of stockpiles on-site and number of work faces on stockpiles. • Modifying work practices during periods of high winds. • Limiting and staging clearing of designated footprint required for construction. • Completing rehabilitation as quickly as possible. • Minimising the number of stockpiles on-site and number of work faces on stockpiles. • Use of water sprays for dusty activities such as ballast dumping and compacting. • Modify or cease demolition activities during periods of adverse • weather (hot, dry and windy conditions). • Using water sprays with earthmoving equipment during road construction • Modifying work practices during periods of high winds and/or dry conditions by limiting scraper/grader activity. • Confining all on-site vehicles to a designated route and enforcing speed limits. • Modifying work practices during periods of high winds and/or dry conditions by engaging a water truck to spray travel routes. • Controlling and reducing trip frequency and distance by coordinating delivery and removal of materials to avoid unnecessary trips, where possible. • Cleaning dirt that has been tracked onto sealed roads as soon as practicable. Dirt track-out should be managed using shaker grids and/or wheel cleaning. **Operation** The following mitigations and compensatory measures will be undertaken, where feasible, to minimise potential impacts on local and regional air quality during operation of the SIMTA proposal: • Upgrade of rolling stock servicing the SIMTA site. • Use of electrically powered container handling equipment in lieu of diesel equipment. • Use of LPG forklifts in lieu of diesel forklifts. • Minimise truck movements through the efficient management of deliveries and dispatches. • Minimise truck idling and queuing on-site.

Visual Amenity	The visual amenity impact of the SIMTA proposal to the nearby residential receptors is anticipated to be low, however, the visual amenity impacts would be improved through implementing the following mitigation measures: • Optimising visual buffers within the land use layout of the SIMTA site. • Establishing high quality landscaping to reinforce the surrounding natural context and ecological qualities. • Installation of an 18 metre-wide screening vegetation corridor and bio-retention swale along the Moorebank Avenue, which will combine a selection of native tree species with dense tree canopy and low screen planting. • Punctuation of nodal points along Moorebank Avenue with appropriate landscaping. • Installation of a 'boundary treatment' or 'buffer zone' along the other site boundaries (from Moorebank Avenue), consisting of existing local species in the area and providing an essential scale of planting to complement the built form, including: o A southern boundary landscape corridor (between 10 and o 20 metres wide) and bio-retention basin. o An eastern boundary buffer zone of 13.5 metres o comprising a 2.5 metre landscape corridor, sic metre internal light vehicle access road and five metre wide bioretention o swale. o Tall (20 metres at maturity) trees planted along the o cleared railway alignment, interspersed with medium o trees. <u>Light spill</u> Further light spill assessment would be undertaken as part of subsequent stages of the development as well as ongoing monitoring of operational performance to analyse and describe the contribution and impacts of the development at the local scale and determine any potential impacts upon sensitive receptors. This performance analysis would build upon results of modelling undertaken as part of this and the Concept Plan assessment enabling results and refinements to be included for the construction of each stage. This modelling would include the use of reduced impact lighting poles that are anticipated to be much lower than modelled and not exceed the height of warehouses. Lighting of the SIMTA proposal will be designed to meet the requirements of the Australian Standards: • AS4282 1997 Control of the Obtrusive Effect of Outdoor Lighting. • AS1158.3.1 Lighting for roads and public spaces - Pedestrian area (Category P) lighting - Performance and design requirements.
Hydrology	The following mitigation measures will be adopted for the SIMTA proposal to mitigate potential impacts on hydrology, water quality and flooding resulting from construction and operation of the SIMTA proposal. • Rainwater tanks will be installed to collect roof water from the warehouses on the SIMTA site, and will be used for non-potable water demands such as toilet flushing and outdoor use. • Pre-treatment measures will be incorporated into the site stormwater design, including buffer strips and gross pollutant traps where deemed appropriate. • Bio-retention systems will be incorporated into the site stormwater design, including rain gardens and bioswales, where deemed appropriate. These structures will also act as on-site detention basins, minimising the velocity and volume of flows leaving the site during storm events. Bio-retention systems will be designed to achieve the pollution reduction targets set out in the Liverpool DCP. • On-site stormwater detention will be designed to achieve flood management in accordance with the flood modelling results outlined in the Flood Study and Stormwater Management report prepared by Hyder Consulting (Hyder Consulting, 2012a) and as updated within the Stormwater and Flooding Assessment (Hyder Consulting, 2012b). • The following design principles will be adopted during the design phase of the Georges River bridge: Bridge design will comply with the requirements of Australian Standard 5100:2004 - Bridge Design and RailCorp Engineering Standard ESC 310 - Underbridges. o Bridge piers will be located and orientated to align with the piers of the existing East Hills Railway Line bridge. o The bridge deck height will match the height of the existing East Hills Railway Line bridge o Bridge piers will be designed and orientated to avoid the formation of large-

scale turbulence or the erosion of the bed and banks of the waterway.
    - Light penetration under bridges to encourage fish passage will be maximised.
    - Use and extent of those bed and bank erosion control measures that may reduce aquatic habitat values or inhibit the regrowth of natural in-stream and bank vegetation will be minimised.
- During construction of the Georges River bridge the following management approaches will be adopted:
    - Works across the bed of the Georges River will be staged to minimise the total disturbance at any given time and to allow the full bypassing of stream flows around the works to maintain fish passage.
    - The management principles outlined in Managing Urban Stormwater (Landcom 2004) for sites with high erosion potential will be implemented.
- The following design principles will be adopted for design and sizing of the culverts across Anzac Creek: Fish passage requirements will be considered when selecting the type of culvert.
    - Where practical, culverts will be aligned with the downstream channel to minimise bank erosion.
    - A multi-cell culvert design will be considered with a combination of elevated "dry" cells to encourage terrestrial movement, and recessed "wet" cells to facilitate fish passage.
    - Altering the channel's natural flow, width, roughness and base-flow water depth through the culvert's wet cells will be avoided where possible. Wet cells will aim to have a minimum water depth of 0.2-0.5 metres to facilitate fish passage.
    - The culvert will be designed to maximise the geometric similarities of the natural channel profile from the bed of the culvert up to a flow depth of 0.5 metres ("Low Flow Design") as a minimum.
    - Where conditions allow, the construction of pools will be considered at both the inlet and outlet of the culvert to assist in the dissipation of flow energy and to act as resting areas for migrating fish.
    - If a low-flow channel is constructed within the base slab of the culvert, the channel will extend across the inlet and outlet aprons.
    - Debris deflector walls may be used to reduce the impact of debris blockages on fish passage.
    - Rock protection and/or the formation of a stabilised energy dissipation pool at the outlet will be considered if necessary to assist in minimising erosion to avoid the formation of a perched culvert and damage to the stream bed and banks.
    - The design of the crossing will refer to the detailed engineering guidelines provided in Fairfull and Witheridge (2002).
- The following management measures will be implemented during works in and adjacent to Anzac Creek to mitigated potential impacts on water quality during construction:
    - All reasonable efforts will be taken to program construction activities during those periods when flood flows and fish passage is not likely to occur. As a minimum requirement, fish migrations and breeding periods, as advised by NSW DPI, will be avoided.
    - Temporary sidetrack crossings will be constructed from clean fill (free of fines) using pipe or box culvert cells to carry flows, or a temporary bridge structure.
    - All temporary works, flow diversion barriers and in-stream sediment control barriers will be removed as soon as practicable and in a manner that does not promote future channel erosion.
    - The construction site will be left in a condition that promotes native revegetation and shading of habitat pools.
    - The management principles outlined in Managing Urban Stormwater (Landcom 2004) for sites with high erosion potential will be implemented.
- A flood emergency response plan would be prepared and updated as necessary to address the staged development of the site.
- A Soil and Water Management Plan (SWMP) and Erosion and Sediment Control Plan (ESCP) will be implemented for the construction and operation phases of the development, with monitoring and review performance of sediment and water control structures during construction and operation phases. The SWMP and ESCPs will be developed in accordance with the principles and requirements of Managing Urban Stormwater (Landcom, 2004).

Stage 1A

- The DRAINS and TUFLOW modelling of Stage 1A indicate that the proposed

	drainage and OSD will provide adequate capacity to mitigate potential flood impacts of the Stage 1A development.
Traffic	**Construction** A Construction Traffic Management Plan (CTMP) will be implemented prior to and during construction of the SIMTA proposal. Construction material will be sourced from within metropolitan Sydney and delivered to the SIMTA site primarily via the M5 Motorway, Hume Highway, M7 Motorway and Moorebank Avenue. Site access and egress for all construction traffic will be via Moorebank Avenue. Construction site entry is proposed just south of the existing signalised intersection, south of Anzac Avenue to minimise construction traffic impacts upon DNSDC. During later stages of construction, a separate egress point would likely be established to the south of the SIMTA site. **Operation** Operation of the SIMTA proposal would be subject to an approved Traffic Management Plan which would include a Vehicle Booking System to regulate and manage truck arrivals to the SIMTA site and to prevent trucks queuing and waiting on Moorebank Avenue. The Traffic Management Plan will be developed to manage traffic flows in and around the SIMTA proposal and will include the following: • Management measures to control entry to the SIMTA site for the security of freight, and staff. This would include strategies to minimise unauthorised access to the SIMTA site. • Traffic management measures (e.g. a Vehicle Booking System) to control the arrival of authorized vehicles so that queuing is minimised and vehicles are directed to the correct location within the terminal. • Measures to control access of staff and visitors so as to maintain safety and appropriate security, particularly for bonded or quarantined material. • Measures such as short-range radios, GPS and wireless communications would be recommended to maximise the efficiency of access and circulation of vehicles, goods and staff within the SIMTA site. In addition to the stated Traffic Management Plan, all reasonable steps would be taken to encourage staff to use public transport, walk and cycle to reduce the dependence on travel to / from the SIMTA site by private motor vehicle. SIMTA would assess the feasibility of the provision of a peak-hour express shuttle bus service to and from Liverpool Station via Moorebank Avenue and Newbridge Roads, with a potential expansion to this route over time to include Holsworthy Railway Station. The combined impact of the bus and rail focused measures would be to achieve specific public transport usage increases as a result of the SIMTA proposal, above those applying across the Liverpool LGA at the present time. If a reasonable proportion of employees live within the region, then substantial trip reduction benefits could be achieved. A SIMTA employee public transport mode share of about 30 per cent is currently considered feasible, with a significant proportion of employees living locally. This would manifest through a 2-3 per cent increase in the walk mode share. In summary, measures to reduce private motor vehicle trips would include: • Development and implementation of a travel behaviour change program. • Reduce on-site car parking supply over-time (dependant on proportion of employees living locally and accessibility of public transport). • Consideration of the establishment of Holsworthy Station Express bus services. • Consideration of the establishment of Glenfield Station to Liverpool Station express bus. • Installation of a bus interchange and waiting area. • Bus priority works (establishment of designated bus lanes). • Design and construction of walking and cycleways. • Consideration of the extension of Bus Route 901. • Promote the establishment of Route 870, 871, and 872 bus <u>Road network upgrades</u> The broader sub-regional road network will need to be upgraded progressively over the period to 2031 to cater for the forecast increase in traffic volumes which will result from

	both the SIMTA proposal and the general growth in population and employment traffic passing through the south-west of Sydney. Capacity improvements are currently proposed by the NSW Roads and Maritime Service on the M5 South West Motorway (widening to three lanes each way between Camden Valley Way at Casula and King Georges Road at Beverley Hills with an upgrade of the M5 Southcurrently ongoing. Traffic studies conducted as part of the Concept Plan EA (Hyder Consulting, 2013c) identified some road capacity improvements that would be required to cater for the traffic demands from both background and additional traffic generated by the SIMTA proposal as a result of findings presented within Table 42. The study identified the following road network improvements that would be required by 2031 when the SIMTA proposal is operating at full capacity: • Widening of Moorebank Avenue to four lanes between the M5 Motorway/Moorebank Avenue grade separated interchange and the northern access point to the SIMTA site. • Some localized improvements would be required around the central and southern access points to the SIMTA site. • Concurrent with four lane widening of Moorebank Avenue, the Moorebank Avenue/Anzac Road signal will require some widening at the approach roads. • A new traffic signal at the northern access from the SIMTA site to Moorebank Avenue. • The central access currently being used by DNSDC will be retained for SIMTA access. • Potential upgrades at the M5 Motorway/Moorebank Avenue grade interchange to cater for both background and additional SIMTA traffic growth. • Widening at the following ramp locations including: o M5 westbound off-ramp. o M5 westbound on-ramp. o M5 eastbound off-ramp. o Moorebank Avenue northern approach. • These road network upgrades would be discussed and negotiated with RMS, potentially impacted stakeholders. Input from the community will also be sought.

ANNEXURE B – Potential Archaeological Deposits