

Ms Karen Jones
Director Infrastructure Projects
NSW Planning and Infrastructure
GPO Box 39, Sydney NSW 2001



Dear Ms Jones,

Thank you for the opportunity to comment on the Submissions Report (SR) and the Preferred Infrastructure Report (PIR) for the proposed CSELR project. The Council acknowledges and appreciates your time and effort spent on the light rail project to date to achieve a favourable outcome for all parties involved.

The Council would appreciate ongoing consultation prior to the determination of the project to ensure a thorough resolution of outstanding issues.

Please find attached the Council's draft submission and recommended conditions of consent. Due to the time constraints, the draft submission has not been viewed by Council yet. Any updates/changes required as per Council's requests will be forwarded later following the Council meeting. The format of this submission is consistent with our Environmental Impact Statement (EIS) submission for ease of reference/continuity.

Our comments on the SR and the PIR are structured as follows:

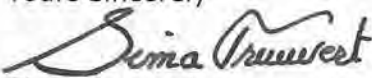
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The Council supports the project in principal, however maintains significant concerns regarding the proposal (refer to part 1 – Executive summary for an overview) and in many cases these issues and concerns are still embodied in the PIR.

Should the project proceed, the Council recommends the inclusion of our suggested conditions of consent in the determination. Council is committed to an ongoing role in the design development and implementation process as outlined in the draft conditions.

We are happy to discuss any of the concerns and issues raised in our comments and look forward to continuing to work with you to ensure the best design outcome is achieved for the benefit of the local and wider community. Should you wish to discuss any of our comments further please contact Alan Bright, Manager Strategic Planning, on 9399 0895.

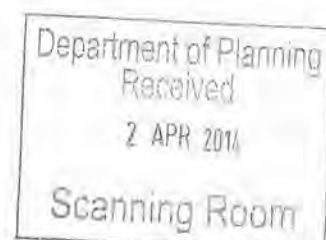
Yours sincerely



Sima Truuvert

Director – City Planning

28.3.14



<p>English</p> <p>If you need help to understand this letter, please come to Council's Customer Service Centre and ask for assistance in your language or you can contact the Telephone Interpreter Service (TIS) on 131 450 and ask them to contact Council on 9399 0999.</p>	<p>Greek</p> <p>Αν χρειάζεστε βοήθεια για να καταλάβετε αυτή την επιστολή, παρακαλούμε να έρθετε στο Κέντρο Εξυπηρέτησης Πελατών της Δημοτικής (Council Customer Service Centre) και να ζητήσετε βοήθεια στη γλώσσα σας ή τηλεφωνήστε στην Τηλεφωνική Υπηρεσία Διερμηνέων (Telephone Interpreter Service – TIS) τηλ. 131 450 και να ζητήσετε να επικοινωνήσουν με τη Δημοτική τηλ. 9399 0999.</p>	<p>Italian</p> <p>Se avete bisogno di aiuto per capire il contenuto di questa lettera, recatevi presso il Customer Service Centre del Municipio dove potrete chiedere di essere assistiti nella vostra lingua; oppure mettetevi in contatto con il Servizio Telefonico Interpreti (TIS) al 131 450 e chiedete loro di mettersi in contatto col Municipio al 9399 0999.</p>
<p>Croatian</p> <p>Ako vam je potrebna pomoć da biste razumjeli ovo pismo, molimo dodite u Općinski službeni centar za klijente (Council's Customer Service Centre) i zatražite pomoć na svom jeziku, ili možete nazvati Telefonsku službu tumača (TIS) na 131 450 i zamoliti njih da nazovu Općinu na 9399 0999.</p>	<p>Spanish</p> <p>A la persona que necesite ayuda para entender esta carta se le ruega venir al Centro de Servicios para Clientes [Customer Service Centre] de la Municipalidad y pedir asistencia en su propio idioma, o bien ponerse en contacto con el Servicio Telefónico de intérpretes ["TIS"], número 131 450, para pedir que le comuniquen con la Municipalidad, cuyo teléfono es 9399 0999.</p>	<p>Vietnamese</p> <p>Nếu quý vị không hiểu lá thư này và cần sự giúp đỡ, một quý vị đến Trung Tâm Dịch Vụ Hướng Dẫn Khách Hàng của Hội Đồng Thành Phố (Council's Customer Service Centre) để có người nói ngôn ngữ của quý vị giúp hay quý vị có thể liên lạc Dịch Vụ Thông Dịch qua Điện Thoại (TIS) ở số 131 450 và yêu cầu họ liên lạc với Hội Đồng Thành Phố (Council) ở số 9399 0999.</p>
<p>Polish</p> <p>Jeśli potrzebujesz pomocy w zrozumieniu treści tego pisma, przyjdź do punktu obsługi klientów (Customer Service Centre) przy Radzie Miejskiej i poproś o pomoc w języku polskim, albo zadzwoń do Telefonicznego Biura Tłumaczy (Telephone Interpreter Service – TIS) pod numer 131 450 i poproś o skontaktowanie się z Radą Miejską (Council) pod numerem 9399 0999.</p>	<p>Indonesian</p> <p>Jika Anda memerlukan bantuan untuk memahami surat ini, silakan datang ke Pusat Pelayanan Pelanggan (Customer Service Centre) Pemerintah Kotamadya (Council) dan mintalah untuk bantuan dalam bahasa Anda, atau Anda dapat menghubungi Jasa Juru Bahasa Telepon (Telephone Interpreter Service - TIS) pada nomor 131 450 dan meminta supaya mereka menghubungi Pemerintah Kotamadya pada nomor 9399 0999.</p>	<p>Turkish</p> <p>Bu mektubu anlamak için yardıma ihtiyacınız varsa, lütfen Belediye'nin Müşteri Hizmetleri Merkezi'ne gelip kendi dilinizde yardım isteyiniz veya 131 450'den Telefonla Tercüme Servisi'ni (TIS) arayarak onlardan 9399 0999 numaradan Belediye ile ilişkiye geçmelerini isteyiniz.</p>
<p>Hungarian</p> <p>Amennyiben a levél tartalmát nem érti és segítségre van szüksége, kérjük látogassa meg a Tanácsház Ügyfél Szolgálatát (Customer Service Centre), ahol magyar nyelven kaphat felvilágosítást, vagy hívja a Telefon Tölmács Szolgálatot (TIS) a 131 450 telefonszámon és kérje, hogy kapcsolják a Tanácsházat a 9399 0999 telefonszámon.</p>	<p>Czech</p> <p>Jestliže potřebujete pomoc při porozumění tohoto dopisu, navštivte prosím naše Středisko služeb pro veřejnost (Council's Customer Service Centre) a požádejte o poskytnutí pomoci ve vaší řeči anebo zavolejte Telefonní tlumočnickou službu (TIS) na tel. číslo 131 450 a požádejte je, aby oni zavolali Městský úřad Randwick na tel. číslo 9399 0999.</p>	<p>Arabic</p> <p>إذا أردت مساعدة لفهم هذه الرسالة، نرجوك الحضور إلى مركز خدمة عملاء المجلس واطلب المساعدة في لغتك، أو يُمكنك الاتصال بخدمة الترجمة الهاتفية (TIS) على هاتف رقم ١٣١ ٤٥٠ واطلب منهم الاتصال بالمجلس على رقم ٩٣٩٩ ٠٩٩٩.</p>
<p>Chinese</p> <p>如果你需要人幫助你了解這封信的內容，請來市政會顧客服務中心要求翻譯服務，或者與電話傳譯服務 (TIS) 聯係，號碼是 131 450。請他們幫助你打電話給市政會，號碼是 9399 0999。</p>	<p>Russian</p> <p>Если Вам требуется помощь, чтобы разобраться в этом письме, то, пожалуйста, обратитесь в Муниципальный Центр Обслуживания Клиентов и попросите оказать Вам помощь на Вашем языке или же Вы можете позвонить в Телефонную Службу Переводчиков (TIS) по номеру 131 450 и попросить их связаться с Муниципалитетом по номеру 9399 0999.</p>	<p>Serbian</p> <p>Ako vam treba pomoć da razumete ovo pismo, molimo vas da dođete do Centra za usluge mušterijama pri Opštini (Customer Service Centre) i zamolite ih da vam pomognu na vašem jeziku, ili možete nazvati Telefonsku prevodilačku službu (TIS) na 131 450 i zamolite ih da vas povežu sa Opštinom na 9399 0999.</p>



**CBD AND SOUTH EAST LIGHT RAIL PROJECT
SUBMISSIONS REPORT & PREFERRED
INFRASTRUCTURE REPORT**

**Randwick City Council Response
28 March 2014**

Contents

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7. Draft Recommended Conditions of Consent

1. Executive Summary

Randwick City Council has continued to work collaboratively with the TfNSW (TfNSW) in the development of the CBD and South East Light Rail (CSELR) project. This submission on the Submissions Report and accompanying Preferred Infrastructure Report (PIR) should be considered in this same spirit of collaboration and commitment to the delivery of a new high quality light rail service for Sydney. For these reasons, the Council is disappointed with the failure of discussions at the end of 2013 over the location of the CSELR Randwick terminus at High Street. A considerable amount of time and effort was contributed by both parties and a favourable outcome seemed possible, however the PIR has failed to capitalise on these endeavours. These outcomes were also strongly supported by Health Infrastructure and the University of New South Wales (UNSW).

Randwick City Council continues to express overall support for the project. However, Council would like to raise and in some cases reiterate issues and concerns with the CSELR project as outlined in the PIR. The following are the key major issues outlined in this submission:

- The High Cross Park Interchange
- The proposed Randwick Stabling Facility
- Undergrounding of power along Anzac Parade in line with the urban design objectives of the proposal
- Detailed design associated with the Alison Road corner Wansey Road Light Rail stop
- Location and design issues associated with the High Street Light Rail stop, near to the corner with Wansey Road and Council's preferred option being the relocation of the stop further east closer to Botany Street as well as the pedestrianisation of High Street from Wansey Road to Botany Street
- Detailed design associated with the Anzac Parade stop adjacent to UNSW to ensure it is safe and caters for the demand
- Loss of trees
- Loss of parking
- Construction issues
- Reconfiguration of bus access arrangements to Randwick Racecourse

There still remains a large body of work to be carried out during the detailed design stage, with many critical elements such as the stabling facility remaining as conceptual in nature with little information available to enable the environmental impacts to be properly and thoroughly assessed. This information is essential to determine the likely impacts and then to appropriately consider the mitigation measures available and suitable for the setting. Council considers that it is well placed to assist in this process and requests that any approval granted set out clear roles for Randwick City Council in the design refinement and approval process. This submission also contains a set of draft recommended conditions of consent to assist Planning and Infrastructure in finalising the approval.

As part of the aforementioned spirit of collaboration, Randwick City Council has prepared a detailed set of Urban Design Guidelines for the CSELR project (Randwick City Council Light Rail Urban Design Guidelines) as it applies to the Randwick local government area. These guidelines are based on existing Council policies, material palettes, technical specifications and individually address each of the LR stops and also the various individual circumstances as it passes through Randwick City. It is requested that these Urban Design Guidelines form an integral part of any CSELR consent granted to ensure Council policies and

standards are implemented at the detailed design level and also to ensure consistent and quality of design throughout the project.

Randwick City Council has worked closely with the TfNSW and will continue to do so through the detailed design and implementation stages of the CSELR project. The Urban Design Guidelines and Council's offer to be part of the design refinement and approval process is part of Council's commitment.

2. Introduction

This submission outlines comments on the Submissions Report and accompanying PIR. Section 3 of this submission outlines comments on the Submissions Report and Section 4 provides comment and detail on the various design changes outlined in the PIR.

Areas where additional investigations have been carried out by Council and in circumstances where it is considered that substantial areas of additional work area are still required is outlined in Section 5 of this document. This submission also provides some comment on where additional investigations have been carried out since exhibition of the original EIS.

Comment is also provided on revised mitigation measures developed since the exhibition of the EIS. Randwick City Council acknowledges the additional work carried out in this regard. However, Council has further suggestions where better environmental and social outcomes can be achieved through improved mitigation measure and these are outlined in Section 6 of this submission.

Randwick City Council has compiled a comprehensive set of recommended conditions of approval to assist Planning and Infrastructure in the final assessment and reporting process. These draft conditions have been formatted to conform to Planning and Infrastructure consent requirements and are outlined in Section 7 of this document.

3. Comments on Submissions Report (Appendix C – Response to Government Agency and Project Partner Submissions)

Issues:

A large number of significant issues have been identified in the Submissions Report that requires further design resolution and/or investigation during the detailed design stage. This is in response to Council's submission to the EIS made in December 2013. These key issues are listed below. Relevant responses are also included in the proposed mitigation measures outlined in section 6 of this document.

Key Points and Major Issues

Item 2.9 Kingsford interchange design

Item 2.12 Mitigation of parking impacts

Item 2.14 Impacts on traffic flows (via Network Management Plan)

Item 2.16 Mitigation of noise and vibration impacts

Item 2.18 Resolution and mitigation of tree impacts/opportunities for retention of more trees

Item 2.18 Traffic modelling and intersection performance

Items 2.19 & 3.4 Flood modelling for the proposal, including the Randwick Stabling facility site

Item 2.19 Impacts on drainage, utilities and infrastructure

Item 2.19 Urban and landscape design in general (via Urban Domain Reference Group)

Item 2.19 Mitigation of impacts to businesses during construction

Item 2.19 Design of specific elements of the proposal (including structures, buildings, and stabling facility)

Item 2.19 Relevant management plans to ensure agreed and appropriate standards are applied

Major Location Based Issues

Item 3.14 Design of LRV stabling area, including flooding, noise mitigation, visual impact, landscape and amenity

Item 3.5.2 Modelling of the pedestrian network

Item 3.5 Confirmation of footpath widths

Item 3.6 Design and visual impacts of construction compounds

Item 3.7 Design and location of substations at High Cross Park and Kingsford

Traffic Flows

Item 4.2.3 Design of the dedicated left-turn taper lane for southbound motorists at intersection of Anzac Parade and Meeks Street

Item 4.3.3 Road safety audit (including pedestrians)

Item 4.3.5 Consideration of capacity requirements for interchanges and future capacity needs

Item 4.4.2 Possible conflict between the CSELR and pedestrian networks

Item 4.4.3 Design of pedestrian and cycle paths

Item 4.4.4 Adjustment of shared path on Alison Road to the south of the shared busway/ light rail alignment

Item 4.4.6 Pedestrian and cycle safety at/around kerbside travel lanes

Item 4.5.1 Design and provision for cycle crossings and impact on cycle network generally

Item 4.5.2 Consideration of a bike/pedestrian facility to cross Wansey Road to Arthur Street

Item 4.6.3 Construction staging and options to minimise local impacts

Design and Operational Issues

Item 5.1.2 Consideration of use of multi-function poles

Item 5.1.12 Design of hoardings, fences and barriers including public art provision and project information

Item 5.1.14 Footpath restoration throughout the light rail alignment

Item 5.2.4 Possible relocation of mature trees affected by the CSELR alignment

Item 5.2.5 Opportunities for additional planting (eg: at Tay Reserve)

Item 5.2.6 Design of Wilson Place to address its historical qualities and relocation of the historic artefacts

Item 5.2.11 Landscape design and species selection, including tree replacement strategy

Item 5.5.1 Involvement of heritage specialists

Item 5.5.2 Investigations on reducing impacts on significant heritage/landscape features (eg: at racecourse)

Item 5.8.1 Development of various management plans (CEMP, Access Management, business Landowner and engagement plan)

Item 5.9 Selection of vibration-isolating track form

Item 5.11.1 Utility reference group to be established to advise on utility concerns

The matters listed above request a significant body of outstanding work, which are often critical to the success of the project. Council understands TfNSW will be in consultation with Council on these issues during the detailed design phase. The following specific comments are provided reiterating Council's preferred design outcomes in relation to the urban design issues and the Kingsford Interchange.

Urban design and public domain

To achieve the overall public domain objective and supporting principles of the CSELR proposal, Council requests that the following key urban design components be appropriately managed in accordance with Randwick City Council Light Rail Urban Design Guidelines during the detailed design phase.

It is critical to ensure the integrated design, planning and layout of urban elements, landscape and infrastructure and to be mindful of the need to minimise visual clutter. This can be achieved through the undergrounding of power lines and the use of multi-function poles for the support of catenary, lighting, banners and signage etc. The undergrounding of powerlines along Anzac Parade is critical given that the commercial/retail strips of Kensington and Kingsford along Anzac Parade is a mixed residential/commercial zone accommodating a large number of residents and businesses. Through integration of these various elements it will be possible to achieve significant street tree planting in most circumstances. These urban design elements are critical to achieve a successful outcome and it is requested that they be carefully considered and investigated, including incorporation of Council's Light Rail Urban Design Guidelines.

Council requested in its EIS submission that the design of the CSELR proposal be better integrated with the cycling network via a more holistic approach. TfNSW through their response to submissions clarified that bicycles would be allowed to be carried on the light rail vehicles. This approach is supported. Other connectivity/integration issues, such as incorporation of cycle crossing signals, minimising impacts on the cycle network and provision of bicycle parking/storage facilities, are required to be carefully addressed during the detailed design phase of the project. A recent study from the USA regarding 'cycle transit users' indicates significant positive benefits, and a greatly increased passenger catchment size, by designing well for easy cycle access on-board light rail vehicles and cycle storage areas at stops.

Council recommends that the CSELR design be closely coordinated with the future Randwick Urban Activation Precinct (UAP) proposal, to ensure consistencies between the two proposals in terms of delivery of infrastructure and upgrades of footpaths, streetscapes and public spaces. The CSELR design must also consider the demands of future increased population/activity generated by the UAP process.

Council and UNSW are willing to negotiate with TfNSW for the general provision and improvement of footpaths and public domain.

Recommendation

Council seeks to have more meaningful involvement in the detailed design of these critical aspects and is committed to work closely with TfNSW to formulate solutions and achieve better design outcomes, which align with the published CSELR objective of "Improving the overall amenity of public spaces in the CBD and suburbs to the South East".

It is also requested that the above issues, where relevant, be addressed in the Director General's Assessment Report and the recommended conditions of approval.

Kingsford Interchange

Introduction of the Kingsford Interchange will involve loss of existing car parking spaces within the Anzac Parade median between the intersection known as the 'Nine-Ways' Intersection and Sturt Street. To address this loss of parking, TfNSW is to provide a temporary car park at the southern end of the Kingsford Interchange to the south of the existing car park which currently exists to the south of Sturt Street as per the Randwick City Council Urban Design Guidelines Volume 1, Section 3 Study Area 16 Kingsford - Anzac Parade, Parking Area South of Interchange. See also Council's recommended condition in this regard.

Given the historic qualities of the Wilson Place at the intersection of Bunnerong Road and Anzac Parade, Council requests that the horse trough supports and historic plaque be suitably preserved or relocated in close consultation with Council during the detailed design phase of the Nine-Ways intersection.

Council is still concerned about pedestrian safety at this location and questions how pedestrians can safely access the platforms from the either side of Anzac Parade. There are also safety concerns regarding the likely behaviour of pedestrians if they are delayed, by multiple phases, as they cross the full width of Anzac Parade. This needs to be further investigated as part of the review of the overall detailed design of the Kingsford Interchange.

Council maintains its position that separating the interchange from the complex Nine-Ways intersection would be a simpler arrangement for motorists and pedestrians, which involves less loss of parking opposite the South Juniors. Council would prefer the option of extending the light rail to Maroubra Junction, or as a minimum, relocating the interchange further to the south near Botany Street. It is requested that the Kingsford Interchange be appropriately designed to allow for potential future extension of the light rail system to Maroubra Junction.

4. Comments on PIR

1. Amendment of the light rail alignment and stations around Alison Road and Wansey Road:

Issues - Wansey Road Light rail alignment:

This submission reiterates the Council's endorsed position that the light rail alignment in this location should be located within the Randwick Racecourse boundary. At a minimum, Council requests the placement of the shared pedestrian /bicycle path along the boundary of the racecourse. This arrangement would have less impact to the existing significant trees, as the height clearance for the shared path is significantly lower than the height clearance above the light rail tracks. Also, this eliminates two crossings of the light rail alignment by people walking or riding along the full length of this busy shared path (as the path remains on the 'inside' of the light rail alignment along the whole 1600 metre frontage of the Royal Randwick racecourse property. This proposed arrangement is identified in Randwick City Council Light Rail Urban Design Guidelines, Volume 1, Part 3

Study area 5 – Randwick, Wansey Road Midblock. The retention of one lane of kerbside parking on the eastern side of Wansey Road is supported.

Council notes that the six significant Hills Weeping Fig trees on the eastern side of Wansey Road (south of Alison Road) are to be retained, however there are concerns that the proposed provision of a short length of two-way flow for trucks and other vehicles to access Randwick Racecourse (via a proposed access driveway) could require the removal of these significant trees unless an adequate road width of three lanes is provided along this short section of Wansey Road (note that a kerbside travel lane adjacent to the kerb is not possible due to the spread of these six significant trees).

Recommendations:

Further investigation and design development is recommended to review the shared path and light rail alignment adjacent to the racecourse boundary to provide for the retention of the significant trees within Randwick Racecourse, and provision of a safe pedestrian and cycle path that connects key desire lines from the City of Sydney to UNSW and Randwick Junction.

The light rail design must retain a kerbside parking lane adjacent to George Dan reserve, and provide two-way (truck) access between the corner of Wansey Road/Alison Road and the proposed driveway access point to the Racecourse on Wansey Road.

2. Amendment of the light rail alignment and Relocation of LR stop to Alison Road:

Issues – light rail stop relocation from Wansey Road to Alison Road:

The relocation of the LR stop and the light rail realignment on Alison Road to reduce tree impact on Randwick Racecourse boundary is supported. The amendments will result in an overall reduction in tree loss in the Randwick precinct. The location also is more accessible to the community and better addresses safety and passive surveillance issues and has less impact on Wansey Road residents. This relocation is supported in principle, however Council requires a reconfiguration of the horizontal alignment of the light rail alignment so that it stays within the existing road reserve in order to avoid major impacts on existing mature trees.

Concern is raised about the safety and design of the Prince Street/Alison Road intersection, especially with regard to pedestrian movements.

Recommendations:

The horizontal alignment of the relocated Alison Road/Wansey Road stop is to be reconfigured so that it stays, as best as possible, within the existing road reserve.

Ensure that pedestrian signal facilities are provided on all 4 sides of the new signalised intersection at Alison Road/Wansey Road/Prince Street. The proposed slip lane from Prince Street to Alison Road (southbound) should not be provided (motorists turning left from Prince Street to Alison Road can do so through the signalised intersection – thus improving pedestrian safety).

Ensure the light rail alignment design for this section is to be in accordance with the Randwick City Council Light Rail Urban Design Guidelines, Volume 1 Part 3, Study Area 6 – Alison Road at Wansey Road Intersection.

3. Light rail stop relocation from Wansey Road to High Street:

Issues

Council's preferred location is that High Street, from Wansey Road to Botany Street be pedestrianised and, if this is achieved, that the stop be shifted further east away from Wansey Road closer to the Botany Street intersection and moved closer to the northern kerbline of High Street. This is also supported by UNSW. The main issues of concern are:

- Public domain quality – pedestrianisation/improvements
- Distance/access for residents
- Intersection performance
- EMF impact to the Lowy Cancer Research Institute
- Capacity of the limited sized (mid road) platform to cater for the significant volumes of students, residents and workers.
- Future development, proposed by UNSW, of the High/Wansey/Arthur/Botany Street block and the provision of a safe interconnected campus environment (i.e. future proofing the area).

To address the issues raised above, Council would prefer pedestrianising this area and moving the light rail stop to the east, near to the junction with Botany Street. This will improve levels of accessibility for local residents and move the stop closer to the Children's Hospital. It is also suggested that the light rail alignment and stop be located to the northern side of the street near to the junction with Botany Street. This will improve the separation distance between the stop and the Lowy Cancer Research Institute and potentially reduce the likely EMF effects upon UNSW facilities and improve pedestrian safety and the capacity of the stop.

Recommendations:

Pedestrianise High Street between Wansey Road and Botany Street and relocate the light rail stop to the east near to the corner with Botany Street and shift the alignment of the track and stop to the northern side of High Street in accordance with the Randwick City Council Light Rail Urban Design Guidelines, Volume 1 Part 3, Study Area 4.

4. Amendments to High Cross Park interchange

Issues

Council retains its position that the High Cross Park interchange will poorly service the hospital precinct while a terminus in High St will achieve better social and environmental outcomes.

Council maintains that the significance of High Cross Park should be recognised. There are a number of significant trees, including Norfolk Island pine trees, with a height of some 35 metres, which are a local landmark to the area. The Cenotaph in the Park is dedicated to the memory of those who served and died in the Great War and many other wars. This is a civic park which offers a gathering place and a spatial focus

for the important surrounding buildings in Avoca Street, Cuthill Street and Belmore Road. As the only open space adjacent to the POW Hospital, the park also serves as a place of reflection and rest for patients, their families and visitors.

The illustration of the High Cross Park LR stop and terminus is diagrammatic and in plan view only. No information is provided about the impact or design of any associated structures or buildings including substations, amenities/driver facilities, cycle lockers, etc. For example, it is noted that the bicycle storage facilities will be located to the end of the Randwick stop, however it is unclear if bicycle lockers will be provided on site. No sections or detailed drawings are provided to allow for a comprehensive assessment. Volumes of commuters and management of buses that will terminate at this new interchange is unclear.

Council considers that the concept of a "park-like" environment for High Cross Park would not be suitable if this location is approved as the final location for the interchange. This space would be transformed to an urban transport plaza and turf as a finish surface material is not suitable for high pedestrian trafficable areas which also do not comply with accessibility requirements.

Although the illustration in the PIR provides for the retention of the grassed areas in part of the park, these are mostly within the pedestrian 'desire lines' as people move between buses and the light rail. The heavy pedestrian usage is unlikely to allow for the survival of the grassed areas. Council presents two options should the High Cross Park terminus solution proceed.

Three additional existing trees are expected to be retained, but the report is not clear on whether any of these are significant. Council's internal analysis of the diagram on figure 6.14(b) suggests all 7 significant trees will still be lost. This is not a major improvement and still leaves concern about the reality of these trees being able to withstand impacts of the whole park being used as a construction compound for the duration of the project.

Council considers that it is better to have a good design that can take advantage of level changes etc to separate the spaces for people and spaces for movement, with new tree planting in locations appropriate to the overall design and use of the park. Illustration included in the PIR document does not represent a detailed and considered design response.

Recommendations

Council maintains its objection to the location of the interchange at High Cross Park and reiterates its position that the Randwick alignment should terminate in High Street, west of Avoca Street, incorporating a pedestrianised plaza.

Should the interchange be approved in High Cross Park the following recommendations apply in addition to those already covered in our previous submission/attachments:

At High Cross Park:

- Approval not be granted for any buildings or structures as inadequate information is provided about the design and associated environmental impact (eg: views, heritage, access/servicing,

form/character, bulk, safety etc). Council requests that it be provided with an opportunity to comment on the detailed design resolutions provided.

- Design and upgrades to High Cross Park should be implemented in accordance with the Randwick City Council Light Rail Urban Design Guidelines provided by Council, incorporating a functional design brief incorporating:
 - public art
 - lighting
 - high quality finishes
 - design excellence
 - capacity for people gathering at the location for events (e.g. Anzac Day etc.)
 - retention of the War Memorial
 - casual/quiet sitting space away from busy circulation zones
 - relationship to surrounding heritage buildings/items
 - recognition and reinforcement of the Avoca St ridge
 - ensure no fences/barriers to prevent crossing of the park.
- Provision of bicycle lockers as part of the overall layout design and these should be incorporated into the proposed amenity building where possible, given the large footprint of bicycle lockers generally.

Should the terminus be located at High Cross Park, the following matters need to be addressed to improve connection to the hospitals:

- An additional single sided platform is to be provided in on the southern side of High Street, close to the Prince of Wales Hospital to service the hospitals precinct. The concept design of this split platform to be based upon Option 1 - Sketch Plan 'Randwick Terminus –Split Platform' as presented by TfNSW on 30 October 2013.
- Include public domain improvements to surrounding footpaths and access to the hospital and Randwick Junction, such as the proposed pedestrianised plaza at High Street between Belmore Road and Clara Street and provision of pedestrian crossing points.
- Consideration of EMF impacts in relation to the new cancer treatment and research centre currently under construction within the hospitals' campus, fronting High Street
- Existing levels of access for the hospital and users of the hospitals should be maintained and improved where possible. Consideration needs to be given to access for taxis, access to hospital emergency facilities and the needs of people with mobility or sensory impairments, including children and the elderly who use the hospital facilities. The 24 hour nature of activities on the hospital site needs to be carefully considered.

5. Amendments to the UNSW stop on Anzac Parade

Issues

Council supports the relocation of the stop from the eastern side of Anzac Parade to a central median position and the lengthening of the central island pedestrian walkway/platform outside UNSW, provided that a

secondary crossing is provided to the north of the stop. This will increase accessibility to the platform and improve user safety and capacity. The central location will also bring this stop in line with all other Anzac Parade stops which are centrally located in Randwick local government area.

Council supports the increased retention of significant trees on UNSW site. However concerns are raised about the significance of new trees to be lost to make room for bus bays on the eastern side of Anzac Parade and Council reiterates its concerns about overall tree loss and impacts on character and amenity.

Council supports the retention of the right hand turn from Anzac Parade into Day Avenue (southbound) and recommends this be addressed as a condition (see Council recommended condition in Section 7).

However, Council notes that the following issues have not been adequately addressed:

- Road widening on both sides – impacts of traffic lanes closer to tree canopy– should ensure no adverse impact
- The capacity and design of the platform must remove the need for any marshalling of students
- The safety of students because of the need for marshalling. The use of marshalling of students is a sub-optimal solution. The width and length of the platform must cater for current and future demand.
- Visual impact of additional fencing and barriers needed to separate pedestrians from light rail tracks in the central island – detailed design investigations should consider alternatives and have regard to the Randwick City Council Light Rail Urban Design Guidelines.

Recommendations

- Ensure the stop design responds to the boulevard nature of Anzac Parade and does not dominate the streetscape. Recommend maintaining sight lines and avoiding need for physical barriers. If physical barriers cannot be avoided, pedestrian guardrails are to be in accordance with Randwick City Council Urban Design Guidelines Volume 1. Section 5 Materials and Furniture Palette.
- Support second signalised mid-block pedestrian crossing to the north of the stop (in line with the new east to west secondary access mall identified in the UNSW masterplan) to increase access and the effective capacity and safety of the movement of passengers to and from the light rail platform.
- Consider alternative treatments across the road at pedestrian crossing points – this is a well established technique for light rail installations to assist in pedestrian safety and quality of the public domain without being obstacles etc, as well as providing a visual cue to motorists.
- Support the undergrounding of power lines in Anzac Parade so as to achieve published CSELR objective of "Improving the overall amenity of public spaces in the CBD and suburbs to the South East". Council views the light rail proposal as an opportunity to achieve

this objective, and if this doesn't occur, such an opportunity may not arise for a considerable time. It is requested that a condition of consent be inserted on any consent granted that provides for the undergrounding of power lines along the length of Anzac Parade and the introduction of multi-function poles.

6. Randwick Stabling Facility

Issue

Council maintains concerns over the proposed Randwick stabling facility located to the rear of the properties fronting Doncaster Avenue. This location is burdened by susceptibility to flooding and any mitigation measures proposed are likely to have a significant and negative impact on the adjoining properties fronting Doncaster Avenue.

The heritage significance of the Doncaster Avenue properties and the Tramway Turnstiles Building require detailed consideration and assessment. The requested heritage impact assessment on the latter building still has yet to be provided. Council maintains concerns expressed previously regarding the loss of the Swab Building.

It is also noted that to overcome the flooding issue, there is a requirement to raise the floor level of the stabling facility, however the ability for light rail vehicles to transition from the Alison Road level to this higher level is not currently understood. It is also further noted that to mitigate the potential noise impacts of this facility, there could be a need to enclose the area completely. The visual impact to surrounding residents and the public domain along Alison Road will be extremely compromised.

Clarification is also required as to what level of maintenance work is to be carried out at the stabling facility. It is understood that only 'light maintenance' is planned to occur at the site, however it is unclear as to what activities are included in the definition of 'light maintenance'?

Recommendations

Council recommends that a detailed investigation be carried out on the potential impacts of the proposed stabling facility on the Doncaster Avenue properties prior to any consent being granted. In addition to the flooding and heritage impacts as outlined above, potential noise impacts need further assessment. Council would also need to ensure that a cycle path is incorporated into any detailed design. No detailed plans of the stabling facility have been provided to allow for any detailed assessment at this stage. It is requested that Council be given the opportunity to comment on any further design development provided by the proponent and that any further analysis on flooding and noise also be provided to Council for comment.

Council considers this location unsuitable due to the impacts outlined, and it is suggested the alternative location including another area of the Randwick racecourse land adjacent to Wansey Road corner High Street be explored.

7. Construction Issues associated and changes to the extent and location of construction compounds on Anzac Parade and High Cross Park

Issues

In relation to the relocation of UNSW construction compound from the lower campus to the western side of Anzac Parade, Council supports this design change in principle, given the new location will have less impact on significant trees. Council however recommends that the extent of the construction compound area be minimised and appropriately arranged through negotiation with UNSW (e.g. possibly reposition workers' car parking into UNSW carparks accessed from High Street). Further, noise impacts of the relocated compound on properties at the rear needs to be properly assessed.

Recommendations

A noise assessment study is required for properties surrounding the new proposed construction compound.

In order to protect the operation and amenity of the hospital, no construction zones should be established on High Street frontage of the hospitals. Existing two way entry/exit points on High Street must be maintained.

The use of High Cross Park as a construction compound needs to be cognisant of the importance of the site as a community gathering point and its regular use for events such as Anzac Day, Remembrance Day and the White Ribbon Walk. The construction compound therefore should be kept to the eastern side of the park so as to maintain public access to the War Memorial at all times.

The extent of the Anzac Parade construction compound area is to be minimised and appropriately arranged through negotiation with UNSW.

8. Introduction of a pedestrian bridge over Anzac Parade at Moore Park:

Issue

While not in Randwick City Council area, this proposed pedestrian bridge is relevant to the overall visual character of Anzac Parade and its important and strong boulevard qualities. This is also relevant due to Council's resolution on the previous EIS submission in support of a pedestrian and cycle tunnel under Anzac Parade.

The potential environmental impact of an overhead bridge is significant due to the generally uniform characteristics of the Anzac Parade boulevard and its important historic connections. For these reasons, it is recommended that should the bridge concept proposal be approved, a design excellence process be implemented for this unique component of the proposal and a design competition be pursued as outlined in City of Sydney competitive design policy.

It is also important to consider the design and visual impact of this bridge proposal along with the concurrent RMS proposal for a shared pedestrian/cycle bridge at Moore Park adjacent to Gregory Ave providing links to existing paths on both sides of Anzac Parade (Review of Environmental Factors of the RMS proposal is currently on exhibition until 13 April 2014).

Recommendation

Council supports a review of the pedestrian bridge proposal by the urban domain reference group. Should the pedestrian bridge proposal be

approved, a design excellence process including a design competition should be carried out to achieve the best possible design outcome.

9. Reconfiguration of bus access arrangements to Randwick Racecourse:

Issue

A slight reconfiguration is proposed as part of the PIR at the Alison Road and Darley Road intersection, to accommodate a new eastbound, bus-only slip lane from Alison Road onto King St. As outlined in the PIR, this design change aims to remove the need for buses using the Darley Road roundabout for U-turn manoeuvre and the need for special event bus staging in Darley Road during special events.

Recommendations

The proposed alteration to the Alison Road/King Street intersection for the manoeuvring of buses and coaches during special events/major race days is not supported as it will create pedestrian vs. bus/coach conflicts, will introduce new bus/coach traffic to a residential street and may invite illegal manoeuvres by other motorists on any day to 'short cut' into King Street.

5. Comments on the Additional Investigations/Clarification Provided

Council supports the additional investigations and further explanation on various matters, in particular, the supplementary parking assessment undertaken to refine the Project Parking Strategy developed as part of the EIS and clarification of certain inconsistencies between the EIS and the proposed design as well as numerous editorial errors.

Parking

Council supports the mitigation measure proposed for replacement of all impacted special kerbside uses (e.g. mobility parking and loading zones) on a 'like for like' basis along the CSELR corridor. The proponent should work closely with Council to provide the replacement parking.

Regarding the loss of all of the other parking spaces along the south eastern alignments, the Council commissioned GHD report (Randwick City Council Proposed Eastern Suburbs Light Rail Project On-Street Parking Appraisal) should be examined. TfNSW would need to fund the outcomes arising from the Council's consideration of this report.

Car Park South of Kingsford Interchange

Introduction of the Kingsford Interchange will involve loss of existing car parking spaces within the Anzac Parade median between the Nine-Way Intersection and Sturt Street. TfNSW is to provide a temporary car park at the southern end of the Kingsford Interchange to the south of the existing car park which currently exists to the south of Sturt Street as per the Randwick City Council Urban Design Guidelines Volume 1, Section 3 Study Area 16 Kingsford - Anzac Parade, Parking Area South of Interchange. See also Council's recommended condition in this regard. This facility is to provide for a minimum of 250 car parking spaces.

CSELR capacity

Council has been advised by Planning and Infrastructure that the Randwick UAP is expected to be on exhibition in April 2014. The draft Randwick UAP proposal suggests an uplift of around 7,500 dwellings, representing approximately 13,500 additional residents in the area (if based on 1.8 people per dwellings).

Employment growth is also anticipated to support the ongoing operation and growth of the Randwick Education and Health Specialised Centre (i.e. 6,000 as planned in the draft Metropolitan Strategy 2031). Throughout the discussions with TfNSW, Council has been advised that the UAPs were not considered in the preparation of this proposal. It is a matter of concern how the proposal would be able to cater for the additional future growth, particularly as it is envisioned (and is Council's preference) that the Kingsford alignment be extended to, or beyond, Maroubra Junction.

It is therefore recommended that the principle of future proofing this infrastructure be seriously taken on board. Thus the calculation of the CSELR capacity needs to take into consideration the additional transportation needs (i.e. additional residents and workers) to be generated by the Randwick Urban Activation Precinct (UAP) proposal and future growth of the Specialised Centre. This information is essential to planning an effective light rail service and may precipitate the introduction of a 60 metre light rail vehicle from the commencement of operations.

6. Comments on the Revised Mitigation Measures

Council notes that the environmental management measures have been revised to incorporate updates and additional mitigation measures in response to the issues raised in the submissions, design changes proposed and further investigations undertaken since the exhibition of the EIS.

Council generally supports the proposed additions, in particular:

Detailed design stage

- Review of the final design of the Belmore Road and Avoca Street intersection to further reduce the queuing on Belmore Road
- Determination of the location north of UNSW where express buses rejoin the general traffic lanes during detailed design
- Traffic signals/crossings along Anzac Parade between High St and UNSW Mall to be designed to ensure the light rail vehicle will not block traffic on the side streets (i.e. High Street and Day Avenue)
- Retention of the right turn bay into Day Ave from Anzac Parade
- Preparation of an Operational Noise and Vibration review to determine the final design of mitigation measures
- Further investigation of the relocated Wansey Road stop to reduce impacts on Wansey Cottage and significant trees in the racecourse and along Wansey Road
- Specific requirements proposed for monitoring EMF and EMI at the UNSW and the hospitals precinct prior to commencement of construction, during construction and also at commencement of CSELR operations on ongoing during the life of the project

- Development of protocols for CSELR operation and passenger safety in the event of flooding
- Qualified arboricultural review/advice to be sought during design and construction stages to identify appropriate mitigation measures for impacts on planted trees
- Enhanced stakeholder engagement strategy, including the establishment of the Local Business/Community Reference Groups, an Urban Domain Reference Group, and a Utilities Reference Group

Construction stage

- Clarified stakeholder engagement approaches during construction, such as place managers as a single point of contact and one to one stakeholder briefings and community info sessions when necessary
- Impact of the project on retail centres in Randwick City needs to be assessed, particularly during construction phase. Collection of sound base data is important to enable the measurement of impacts. TfNSW must be responsible for the collection of base information so that it and Council can respond to community concerns regarding the impacts of the light rail project, particularly during construction. There is a need for the preparation of Business Continuity Plans in consultation with Council and the various Chambers of Commerce.
- Construction techniques to be employed where practicable to minimise impacts to tree root zones

Operation stage

- CSELR alignment to be designed to not preclude the opportunity for on-street parking within the kerbside lane of the road where sufficient road space is present
- Street lighting along the route to be designed to minimise potential light spill into residential properties
- Specific parking measures to be developed together with Randwick Council (i.e. local area resident parking schemes and short-term timed parking for businesses) for replacement nearby of all impacted on-street kerbside uses along the CSELR corridor

However, the following clarification/changes are requested for better clarity and improved environmental and social outcomes:

- C.2 – Note that central pole catenary system is not to be used along Anzac Parade, as the central pole arrangement would require additional space for the poles and commensurate clearance width to light rail vehicles each side, resulting in significant reduction of footpaths widths at certain locations. Council requests the catenary poles be located on both kerb sides of Anzac Parade (from Alison Road to and including Kingsford Interchange) and be incorporated with the multi function poles along with the requested undergrounding of power lines for minimised visual clutter.
- C.13 – Note that the Randwick stabling facility should be designed in accordance with RCC design excellence guidelines and the EPA noise and vibration standards and not to cause overland flow on adjacent properties
- D.12 – Note that the war memorial at High Cross Park is to be retained and this should be kept as a separate point under D.12.
- T.3 – Request that the replacement plantings be maintained by the operator for a period of two years (instead of “a period no greater than two years” as proposed).
- Y.23 – Consider that avoiding works during rainfall is warranted to minimise vehicle disturbance to the topsoil (e.g. on the High Cross Park site). Otherwise, explanation should be provided, if this mitigation measure is to be removed.

- AB.7 – Request retention of AB.7, given that “vegetation” and “trees” refer to two different scopes. AB.7 should be kept separately from T.1, under the heading of Biodiversity.
- AH.25 - Recommend that the shared bus and light rail running lane be provided on Anzac Parade between the Kingsford Interchange and Alison Road. This shared running should also operate for the same extent in the opposite direction and be designed to the minimum width allowance to reduce any impact on footpath widths.

7. Draft Recommended Conditions of Consent

Randwick City Council has compiled a set of draft conditions of consent to address the various issues and concerns raised throughout this submission. The draft conditions have been formulated to replicate as much as possible the format and structure utilised by Planning and Infrastructure, including the use of various schedules.

These conditions are seen as an essential means of ensuring that the outstanding matters are appropriately addressed through the detailed phase of the project. These outstanding matters are crucial to the overall success of the project. Council has also included where appropriate, a mechanism within the condition to ensure further engagement with Council on important areas of concern and responsibility.

Council would greatly appreciate a further opportunity to review and comment on the final draft set of conditions prior to recommendation and determination.

SCHEDULE C

ENVIRONMENTAL PERFORMANCE

AIR QUALITY

The project shall be constructed and operated with the objective of meeting air quality goals for PM₁₀, CO, NO₂ and ambient SO₂ as prescribed in the *National Environment Protection Measure (NEPM) for Ambient Air Quality*.

BIODIVERSITY

Ecological Monitoring

An Ecological Monitoring Program shall be developed to monitor the effectiveness of the biodiversity mitigation measures implemented as part of the project. The Program shall be developed by a suitably qualified and experienced ecologist in consultation with Randwick City Council and the Office of Environment and Heritage and shall include, but not necessarily be limited to:

- i) an adaptive monitoring program to assess the effectiveness of the mitigation measures identified in conditions XXX. The monitoring program shall nominate performance parameters and criteria against which effectiveness of the mitigation measures will be measured;
- ii) mechanisms for developing additional monitoring protocols to assess the effectiveness of any additional mitigation measures implemented to address additional impacts in the case of design amendments or unexpected

threatened species finds during construction (where these additional impacts are generally consistent with the biodiversity impacts identified for the project);

- iii) provision for the assessment of the data to identify changes to habitat usage and whether this can be directly attributed to the project;
- iv) details of contingency measures that would be implemented in the event of changes to habitat usage patterns directly attributable to the construction or operation of the SSI; and
- v) provision for annual reporting of monitoring results to the Director General, Randwick City Council and the Office of Environment and Heritage or as otherwise agreed by those agencies.

Monitoring shall be undertaken during construction (for construction-related impacts) and during operation of the project (for operation/ ongoing impacts) until such time as the effectiveness of mitigation measures can be demonstrated to have been achieved over a minimum of three successive monitoring periods, unless otherwise agreed by the Director General. The monitoring period may be reduced with the agreement of the Director General in consultation with Randwick City Council and the Office of Environment and Heritage depending on the outcomes of the monitoring.

The Program shall be submitted to the Director General for approval no later than 1 month prior to the commencement of construction that would result in the disturbance of ecological communities, unless otherwise agreed by the Director General.

Biodiversity Offset Strategy

The Proponent shall develop a **Biodiversity Offset Strategy** to outline how the ecological values lost as a result of the project will be offset. The Strategy shall be developed in consultation with the OEH and shall include, but not necessarily be limited to:

- a) the objectives and outcomes that would be sought through a biodiversity offset package, including to achieve a neutral or net beneficial outcome for all threatened species and endangered ecological communities;
- b) details of the available offset measures that have been selected to compensate for the loss of existing native vegetation, threatened species and Endangered Ecological Communities,
- c) the consideration of contingency measures for offsets to address potential changes to impacted areas as a result of detail design changes; 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 disturbance of any existing ecological communities associated with the Strategy, unless otherwise agreed by the Director-General.

Biodiversity Offset Package

Within six months of approval of the Biodiversity Offset Strategy, or as otherwise agreed to by the Director-General, the Proponent shall develop and submit a Biodiversity Offset Package for the approval of the Director-General. The package shall detail how the ecological values lost as a result of the project will be offset. The Biodiversity Offset Package shall be developed in consultation with the Office of

Environment and Heritage and shall (unless otherwise agreed by the Director-General) include, but not necessarily be limited to:

- a) the identification of the extent and types of habitat that would be lost or degraded as a result of the final design of the SSI;
- b) the objectives and biodiversity outcomes to be achieved;
- c) the final suite of the biodiversity offset measures selected and secured in accordance with the Biodiversity Offset Strategy;
- d) the management and monitoring requirements for compensatory habitat works and other biodiversity offset measures proposed to ensure the outcomes of the package are achieved, including:
 - i. the monitoring of the condition of species and ecological communities at offset locations;
 - ii. the methodology for the monitoring program(s), including the number and location of offset monitoring sites, and the sampling frequency at these sites;
 - iii. provisions for the annual reporting of the monitoring results for a set period of time as determined in consultation with the Office of Environment and Heritage; and
- e) timing and responsibilities for the implementation of the provisions of the Package.

Land offsets shall be consistent with the Principles for the use of Biodiversity Offsets in NSW. Any land offset shall be enduring and be secured by a conservation mechanism which protects and manages the land in perpetuity. Where land offsets cannot solely achieve compensation for the loss of habitat, additional measures shall be provided to collectively deliver an improved or maintained biodiversity outcome for the region.

Where monitoring referred to in condition xxx indicates that biodiversity outcomes are not being achieved, remedial actions as approved by the Director General shall be undertaken to ensure that the objectives of the Biodiversity Offset Package are achieved.

Vegetation Clearing

The clearing of native vegetation shall be minimised with the objective of reducing impacts to any threatened species or Ecologically Endangered Communities to the greatest extent practicable.

Pre clearing surveys

Prior to construction, pre clearing surveys and inspections for endangered and threatened species shall be undertaken. The surveys and inspections, and any subsequent relocation of species, shall be undertaken under the guidance of a qualified ecologist and the methodology incorporated into the Construction Flora and Fauna Management Plan required by condition **XXX**.

Nest Box Plan

Prior to the commencement of construction work that would result in the disturbance of native vegetation (or as otherwise agreed by the Director General), a **Nest Box Plan** to provide replacement hollows for displaced fauna shall be prepared in consultation with the EPA, and approved by the Director General. The Plan shall detail the number and type of nest boxes to be installed, which shall be justified based on the number and type of hollows removed (based on pre clearing surveys), the density of hollows in the area to be cleared and in adjacent areas, and the

availability of adjacent food resources. The Plan shall also provide details of maintenance protocols for the nest boxes installed including responsibilities, timing and duration.

Control of dust

The project shall be constructed in a manner that minimises the movement of airborne dust, from whatever source, into the adjacent bushland.

(Note: this can be incorporated into the condition relating to air quality)

No night lighting into bushland

No temporary or permanent lighting shall be installed which may be directed into the bushland, either in the short or long term, so as to avoid disturbance to native fauna.

No change in the quantity of water

There shall be no change in the quantity of water entering the bushland, including, but not limited to run-off, stormwater and water used to control dust, either temporarily or permanently. All stormwater shall be directed into the stormwater system. All hard surfaces adjacent to the bushland shall be designed to fall away from the bushland.

No increase in shading

No items shall be installed or constructed which would result in any part of the bushland to be in shadow between 9am and 3pm on the winter solstice. Such items include, but are not limited to, trees or shrubs used in landscaping. The shadowing effect is to be assessed based on the size of plants at their maturity.

No planting into or adjacent to remnant bushland

No planting, transplanting, direct seeding or other introduction of plants or plant propagules shall occur within any remnant bushland or within 10 metres of the bushland. The bushland shall be allowed to survive via natural regeneration.

No planting of landscape species which may become weeds

No species, which may spread from where they are planted into the local environment at any time in the future, shall be used in landscaping. Turf species shall be restricted to *Stenotaphrum* spp. (Buffalo Grasses).

Protection of genetic biodiversity

No species, which have been recorded as naturally occurring in the bushland, shall be used in landscape planting.

Provision of additional fauna habitat

New plantings shall be dense and include native groundcover, shrub and tree species, which provide habitat for local native fauna, particularly small birds species.

DESIGN

Randwick Interchange

The design, layout and construction of the Randwick Interchange at High Cross Park shall be in accordance with the Randwick City Council's Light Rail Urban Design Guidelines Volume 1, Section 3 Study Area 1B. Randwick – High Cross Park, Transport Plaza.

Should the Randwick Interchange location be moved to Randwick Councils' preferred location of the eastern end of High Street, corner Belmore Road, the proponent shall consider and implement Randwick Councils' preferred arrangement documented in

RCC Light Rail Urban Design Guidelines Volume 1, Section 3 Study Area 1A. Randwick – High Street, Transport Plaza.

The proposed above ground substation for the Randwick Interchange shall be relocated underground or outside and away from the High Cross Park Reserve to reduce the extent of the additional built infrastructure

The design of amenities building for the Randwick Interchange shall incorporate space for public cafe, information kiosk, public toilets and bicycle parking.

Kingsford Interchange

The design, layout and construction of the Kingsford Interchange shall be in accordance with the Randwick City Council's Light Rail Urban Design Guidelines Volume 1, Section 3 Study Area 15. Kingsford, 'Nine Way' Intersection and Study Area 16. Kingsford, Anzac Parade, Parking Area South of Interchange.

The design of the project must not preclude the potential future link of a Light Rail System to Maroubra Junction via Anzac Parade being achieved. Specifically, the design of the track alignment must allow for the installation of future switches and cross overs with minimal track reconstruction. The design of any future extension of the Light Rail system from Kingsford to Maroubra Junction will allow the retention of at least half the existing parking spots in the Anzac Parade median between the Kingsford 'nine-ways' intersection and Sturt Street.

The substation for the Kingsford Interchange shall be relocated to the site in corner of Bunnerong Road and Jacques Street being Lots 12 & 13, DP 1114019.

Alison Road at Wansey Road Stop

The design, layout and construction of the Alison Road at Wansey Road Stop will be in accordance with the Randwick Council's Light Rail Urban Design Guidelines Volume 1, Section 3, Study Area 6, Randwick – Alison Road at Wansey Road Stop.

A Light Rail Stop will be located in Alison Road near the intersection with Wansey Road. The Proponent shall use its best endeavours to retain the maximum possible trees along the Alison Road alignment adjacent to Royal Randwick Racecourse site between the Alison Road/Wansey Road stop and the Royal Randwick Racecourse stop. The Proponent shall consult with Randwick City Council on this matter.

Randwick High Street, UNSW Upper Campus Stop

The location of the Randwick High Street, UNSW Upper Campus Stop shall be relocated east towards the corner with Botany Street and on the northern side of High Street to improve accessibility for the Children's Hospital and local residents.

The design, layout and construction of the Randwick High Street, UNSW Upper Campus Stop in High Street between Wansey Road and Botany Road will be in accordance with the Randwick City Council's Light Rail Urban Design Guidelines Volume 1, Section 3, Study Area 3 Randwick – High Street, UNSW Upper Campus, Transport Plaza, Stop and Study Area 4. Randwick, High Street, UNSW Upper Campus, Transport Plaza, Midblock.

The design of the project must not preclude Randwick City Council's vision for the future potential pedestrianisation of High Street between Belmore Road and Clara Street and High Street between Wansey Road and Botany Street. The finish pavement for the track alignment for any pedestrianised area is to be in accordance

with Randwick City Council's Light Rail Urban Design Guidelines Volume 1, Section 5 Materials and Furniture Palette.

Kingsford Anzac Parade, UNSW Lower Campus Stop

The design, layout and construction of the Kingsford Anzac Parade, UNSW Lower Campus Stop will be in accordance with the Randwick Councils' preferred arrangement in RCC Light Rail Urban Design Guidelines Volume 1, Section 3 Study Area 12. Kingsford Anzac Parade, UNSW Lower Campus Stop.

Light Rail stop

No light rail stop shall be designed to accommodate any maintenance vehicle parking area(s).

Laneway widths

All trafficable vehicular lane way widths (for both motor and rail vehicles) shall be designed to a minimum compliant width to minimise impact on footpaths.

Randwick Light Rail Stabling Facility

The Proponent shall consult with Randwick City Council on the design of any buildings or structures within the Light Rail stabling facility. Any buildings and structures shall be of a high quality, and designed to minimise visual bulk and overshadowing of surrounding residential areas, and respect the location's heritage values, views, built form and landscape character.

Lighting and Poles

The Proponent shall design and install multi-function poles for the support of catenary which shall comprise of the catenary Smartpoles® from City of Sydney - General Use catenary Smartpole®, Type S3C (which does not include a beacon light) as per Randwick City Council Light Rail Urban Design Guidelines Volume 1, Section 5 Materials and Furniture Palette

The catenary Smartpoles® from City of Sydney must be used within the local government area administered by the Randwick City Council along Anzac Parade from Alison Road to Kingsford Interchange Terminus. Central running catenary poles must not be used along Anzac Parade.

Public Domain

Any public domain works undertaken by the Proponent within the local government area administered by Randwick City Council shall be in accordance with Randwick City Council's Light Rail Urban Design Guidelines

Utilities and Infrastructure

The Proponent shall consult with Randwick City Council to minimise impact on existing infrastructure and services potentially affected by the project and to minimise ongoing maintenance cost and maintenance of overall delivery of service to the community. The consultation shall include, but not necessarily be limited to:

- Clear definition of ownership and responsibility for assets at the infrastructure interfaces.
- Identification of and agreement to any new assets intended to be handed over to Council to maintain
- Identification of any shallow stormwater infrastructure which may be impacted by the works

- Identification of any stormwater infrastructure that may become inaccessible as a result of the light rail system, and agreement on a maintenance/replacement regime
- Identification of all services proposed to be relocated or where service access changed, and their impact on the public domain generally, and pedestrian accessibility.
- Consultation with and approval from Council on the location of Council's services along the alignment, and inclusion of conduits dedicated for Council services where relevant.

The arrangements and locations proposed for service relocation/ replacement must be discussed with Council and reviewed for acceptability in terms of maintenance access and consistency with Council specifications. All services must be permanently relocated (preferably in the footway avoiding the '*public domain elements zone*' next to the kerb as indicated in the Randwick City Council Urban Design Guidelines, Section 2.4) prior to commencement of the rail construction.

Electricity Infrastructure

At High Cross Park, single phase and 3 phase power outlets (1 x 32amp) are to be provided by the Proponent as part of the Project, preferably to be installed as part of any amenities building or agreed by RCC.

The overhead power lines along Anzac Parade between Alison Road, the Kingsford Interchange Terminus and High Cross Park shall be relocated and converted to underground power supplies.

The proponent shall meet the full cost of designing and relocating existing electrical infrastructure (including, but not limited to, overhead power lines and telecommunication cables) along Anzac Parade from Alison Road to the Kingsford 'nine-ways' interchange. These works will include the removal of the existing electrical street poles, connection to private properties, provision of smart poles (City of Sydney) that include on these poles, street lighting, catenary wire, banner infrastructure, signage and traffic signals etc., and the making good of the area. At the time of commissioning (start of operation) the smart poles will become the property of RCC with the associated on-going operational costs.

During construction, the Proponent shall provide conduits which are to be laid under and across the light rail corridor to facilitate future council managed services. The conduit specification shall consist of four (4) x 100mm diameter conduits. One (1) conduit is to cater for electricity and be configured as per Ausgrid specifications. The location of the conduits are to be at the locations listed below:

- Alison Road at Anzac Parade
- Alison Road at Doncaster Avenue
- Alison Road at Darley Road
- Alison Road at Wansey Road
- Wansey Road at High Street
- High Street at Botany Street
- High Street at Clara Street
- High Street at Avoca Street
- Anzac Parade at Abbotford Street
- Anzac Parade at Ascot Street
- Anzac Parade at Todman Avenue
- Anzac Parade at Doncaster Avenue

- Anzac Parade at High Street
- Anzac Parade at Day Avenue
- Anzac Parade at Stachan Street
- Anzac Parade at Rainbow Street
- Anzac Parade at Wallace Street

Public Art

Prior to the commencement of construction, the proponent shall prepare a public art plan for the project. The plan shall be prepared in consultation with Randwick City Council and shall be in accordance with the guidelines in Randwick Council Public Art Strategy 2010. The Plan shall include, but not necessarily be limited to:

- designated locations for new permanent public art;
- the use of temporary public art to improve the visual amenity around construction compounds
- design principles underlying the selection and use of public art in designated locations

All new permanent and temporary public art shall be commissioned and installed by the Proponent.

All existing public art works on Randwick City Council land which will be affected by the project shall be protected and maintained or removed (if required) by the proponent at no cost to Randwick City Council for the duration of potential impact by the Project. The proponent shall not commence any physical Works on an Occupied Works Site that could damage public art until the public art has been protected in accordance with the above requirements.

Existing public art that is removed temporarily by the Proponent shall be reinstated at the original location or at a new location agreed with Randwick City Council that is within the local government area administered by Randwick City Council.

Paving and Footpath

Should any road lane be impacted by the project works, the Proponent shall restore the pavement of that road lane, by mill and re-sheet, to the full width of the road lane (to the white line) and the full length of the road lane up to each end of the relevant block. This includes all associated works such as lane marking, service covers and traffic signal detectors.

The width of the surface of the concrete haunches surrounding the girder rail in a paved track installation shall be:

- (a) kept to a minimum to improve visual amenity; and
- (b) have colour(s) for the concrete that is/are designed to complement the final paving layout developed by the Proponent. Alternatively, the pavers may be laid over the concrete haunches so that they are not visible.

If works being undertaken as part of the Project in the local government area administered by RCC involve:

- (a) kerb lines being moved; and / or
- (b) levels of footpaths being altered,
- (c) installation of smart poles

Existing pavers in the footpaths affected are to be removed and replaced in accordance with Randwick City Council Urban Design Guidelines Volume 1, Section 5 Materials & Furniture Palette and Volume 2 Technical Specifications. If the Proponent does not wish to re-use the pavers, the Proponent shall return the pavers to Randwick City Council.

Any early works during the construction phase that require the relocation of utilities into any footpath or reserve, the entire width of the footpath to the nearest expansion joint (length) shall be re-instated to Randwick City Council's satisfaction. For avoidance of doubt, patch restorations will not be acceptable.

The Proponent shall make good any areas impacted by the project works for the extent of the route in the local government area administered by Randwick City Council, by undertaking all rectification works to produce a smooth transition to unaffected areas and a consistent quality, design, finish and appearance in accordance with Randwick City Council's Light Rail Urban Design Guidelines.

Where footpath widths are modified by the project, footpath widths the end/final state after construction shall be not less than the widths set out in Annexure H of the EIS unless agreed otherwise by Randwick City Council.

The paving material used by the Proponent at the Randwick Interchange, Kingsford Interchange, UNSW upper and lower campus Stops shall be Randwick's Civic Paver as specified in the RCC Light Rail Urban Design Guidelines Volume 1, Section 5 Materials & Furniture Palette.

All footpaths directly impacted by the Project within the local government area administered by Randwick City Council will be restored on a like for like basis in accordance with and Randwick City Council's Codes and Standards. Should Randwick City Council require a higher standard, the Proponent and Randwick City Council will consult together and agree on a contribution from Randwick City Council for the difference in standards. For avoidance of doubt, there will be no additional capital cost to the Proponent.

The light rail trackway along Anzac Parade from Alison Road to Kingsford Interchange, Alison Road between Anzac Pde and Doncaster Ave, and High Street between Botany Road and Clara Street is to be asphalt or concrete.

The light rail track in pedestrianised plazas (High Street from Belmore Road to Clara Street and High Street from Botany Road to Wansey Road) is to be in accordance with Randwick City Council's Light Rail Urban Design Guidelines Volume 1, Section 5 Materials and Furniture Palette,

The light rail track way along Alison Road adjacent to the Royal Randwick Racecourse from Darley Road and extending around the corner into Wansey Road and High Street is to be grass or soft landscape, as specified in the EIS and in consultation with the Australian Turf Club and Randwick City Council.

Public Domain

RCC will nominate all locations for new or relocated public domain furniture within the local government area administered by RCC outside of the Permanent Light Rail Corridor with such nomination to be given in a timely manner. The cost for any

relocation of existing public domain furniture shall be paid by the Proponent. The cost for any new furniture shall be covered by Council.

New public domain furniture shall be in accordance with Randwick City Council Light Rail Urban Design Guidelines, Volume 1 Section 5, Materials and Furniture Palette. (with the exception of High Cross Park Interchange which will require customised public domain elements and shall be subject to consultation with, and approval by, Randwick City Council).

No bus stop along Anzac Parade shall be relocated during the construction of the project.

Signage

Light Rail passenger information signage located at the Stops in the local government area administered by Randwick City Council is to be in accordance with any of the Proponent or State standards, or where there are no such standards, the Proponent shall work together with Randwick City Council to develop appropriate standards.

Light Rail wayfinding signs located in the local government area administered by Randwick City Council are to be in accordance with Randwick City Council Light Rail Urban Design Guidelines – Volume 1, Section 2.4 and Volume 2 Section 3, Signage or otherwise as agreed between the Proponent and Randwick City Council.

Signage and wayfinding provided as part of the Project shall be limited to that directly relevant to the Project and shall not include provision for information on other features or events.

RCC will require information on bus routes that are potentially outside the project eg Little Bay, Coogee. Randwick City Council commits to developing a mobile app with the Proponent to assist in this process.

The Proponent shall consult and work with Randwick City Council to develop and implement an interactive customer interface for way finding and local information. The IP product jointly developed by the Proponent and RCC shall be jointly owned by the Proponent and RCC.

Lighting

Lighting required to be installed by the Proponent along the Light Rail route in the local government area administered by Randwick City Council in relation to the road surface and any pedestrian walkway shall be in accordance CPTED principles.

Any street and pedestrian lighting installed along the Light Rail route for the Project in the local government area administered by Randwick City Council is to use Light Emitting Diodes in accordance with Randwick City Council requirements.

Lighting at stops shall be co-ordinated with lighting in the immediate surroundings and will be flooding rather than directional lighting. The lighting shall be in accordance with the lighting categories for Randwick City Council roads impacted by light rail and shall be the higher of the existing lighting category and the lighting categories nominated below.

Street	Section	Lighting Category (AS1158)
High Street	Wansey Road to Avoca Street	Higher of V3 or existing
Wansey Road	Alison Road to High Street	Higher of P2 or existing
Belmore Road	Avoca Street to Coogee Bay Rd	Higher of V3 or existing
Cuthill Street	Avoca Street to Coogee Bay Rd	Higher of V3 or existing
Arthur Street	Wansey Road to Belmore Road	Higher of P2 or existing
Anzac Parade	Alison Road to end of rail	Requires RMS sign off
Alison Road	Anzac Parade to Wansey Road	Requires RMS sign off

Sustainability

Any street furniture, multi-function poles (including banner poles along the centre median of Anzac Parade), signage and kerbing removed from the Works Site shall be re-used within the proposed works or carefully removed and returned to a location nominated by Randwick City Council which is within the local government area administered by Randwick City Council, to enable future reuse by Randwick City Council.

Light Rail design and operations shall be in accordance with the sustainability strategy objectives referred to in the EIS.

Reinstatement of fencing

The existing fencing in Alison Road adjacent to Randwick Racecourse in both the median and on the footpath is to be reinstated prior to commencement of the operation of the light rail.

Landscape

A Design and Landscape Plan shall be prepared and implemented for the project. The Plan shall be prepared by appropriately qualified persons(s) in consultation with the relevant council and community and shall present an integrated landscape and design for the project. The Plan shall include, but not necessarily be limited to:

- (a) identification of design principles and standards based on:
 - local environmental values,
 - urban design context,
 - sustainable design and maintenance,
 - community amenity and privacy,
 - relevant design standards and guidelines Randwick City Council's Light Rail Alignment Urban Design Guidelines Volumes 1 & 2 the urban design objectives outlined in Volume 1A Parts B, Chapter

4 – Definition design development , 4.1.2 Urban Design and Context of the CBD and SELR Project EIS;

- the use of a grass trackform along Alison Road alongside Wansey Road and High Street in line with the objective of "Improving the overall amenity of public spaces in the CBD and suburbs to the South East":
- (b) the location of existing vegetation and proposed landscaping. Details of species to be replanted/ revegetated shall be provided in accordance with the Randwick City Council Urban Design Guideline Volume 1, Section 4 Planting Palette. Any changes to the species listed in the guidelines including their appropriateness to the area and habitat for threatened species shall be discussed and approved by Randwick City Council.
- (c) a description of disturbed areas and details of the strategies to progressively rehabilitate or revegetate these areas;
- (d) design features, built elements, lighting and building materials;
- (e) an assessment of the visual screening effects of existing vegetation and the proposed landscaping and built elements. Where receivers have been identified as likely to experience high visual impact as a result of the project and high residual impacts are likely to remain, the Proponent shall, in consultation with affected receivers, identify opportunities for providing at-receiver landscaping to further screen views of the project. Where agreed to with the landowner, these measures shall be implemented during the construction of the project;
- (f) graphics such as sections, perspective views and sketches for key elements of the project, including, but not limited to built elements of the project;
- (g) monitoring and maintenance procedures for the built elements, rehabilitated vegetation and landscaping (including weed control) including performance indicators, responsibilities, timing and duration and contingencies where rehabilitation of vegetation and landscaping measures fail; and
- (h) evidence of consultation with Randwick City Council on proposed materials palette/planting palette and landscape measures prior to its finalisation.

The Plan shall be submitted for the approval of the Director General prior to the commencement of permanent built works and/ or landscaping, unless otherwise agreed by the Director General. The Plan may be submitted in stages to suit the staged construction program of the project.

Tree planting, maintenance and removal

Replacement plantings shall be maintained by the operator of the project or as otherwise agreed with any relevant stakeholder for a period of 24 months.

A Comprehensive Tree Report shall be prepared and implemented for the project. The report shall be prepared by a qualified arborist that assesses the impact of the proposed development on trees and vegetation both within the construction zone itself and on adjoining land.

Any such report must contain a Tree Protection Plan as well as recommendations for mitigating any adverse impacts on trees specified for retention. This report must provide site specific details of both the Structural Root Zone (SRZ) and Tree Protection Zone (TPZ) areas surrounding any trees to be retained.

The Tree Report must also contain a Tree Management Plan detailing measures to ensure the health and stability of protected trees, including any proposed canopy or root pruning, excavation works, site controls on waste disposal, vehicular access, storage of materials and protection of public utilities.

The Comprehensive Tree Report shall be prepared in accordance with Randwick City Council Light Rail Urban Design Guidelines, Volume 2 Section 1, Tree Management Specification, Randwick City Council's Tree Management Technical Manual, Australian Standard AS 4373 – 2007 – Pruning of amenity trees and Australian Standard AS 4970 – 2009 – Protection of trees on development sites.

The removal of any trees on either public land or private property within the Randwick LGA must comply with the relevant sections of *Australian Standard AS 4373 – 2007 – Pruning of amenity trees* and *Australian Standard AS 4970 – 2009 – Protection of trees on development sites*.

All work shall be carried out in accordance with the provisions of Randwick City Council Light Rail Urban Design Guidelines, Volume 2 Section 1, Tree Management Specification, Randwick City Council's *Tree Management Technical Manual*, *WorkCover NSW – Code of Practice for the amenity tree industry 1998* and the *NSW Work Health and Safety Act 2011 (WHS Act)*.

Prior to the commencement of any tree removal/stump grinding activities, it is a requirement that whoever is carrying out those works undertakes a search for underground services. Information on locating underground pipes, cables and other services can be obtained by telephoning Dial Before You Dig on 1100 or by logging onto www.dialbeforeyoudig.com.au

The pruning of any trees within the Randwick LGA must comply with the relevant provisions of Australian Standard AS 4373 – 2007 – Pruning of amenity trees and Australian Standard AS 4970 – 2009 – Protection of trees on development sites.

All pruning work shall be carried out in accordance with Randwick City Council's *Tree Management Technical Manual*, *WorkCover NSW – Code of Practice for the amenity tree industry 1998* and the *NSW Work Health and Safety Act 2011 (WHS Act)*.

Advertising

No advertising shall be permitted on light rail structures, urban elements or stops.

Randwick Light Rail Vehicle Stabling Facility

Should the project be approved with the Light Rail Vehicle Stabling facility at 66A Doncaster Avenue, the Proponent shall prepare a Light Rail Vehicle Stabling Plan to address potential design and amenity issues. The Plan shall be submitted to the Director General and Randwick City Council. The Plan shall include, but not necessarily be limited to:

- a review of spatial needs, including consideration of potential alternative stabling locations and capacity needs if the light rail network is extended in the future;
- details of all building(s) and structures showing, among other things, that the facility would be completely housed within building(s) to minimise noise impacts;
- investigation and liaison into the design of any buildings or structures, including flooding, visual, landscape and amenity impacts;
- the overland flow path within the site be maintained, and the design should not cause an increase in flood levels
- coordination of the layout with a safe and well-designed cycle path connecting through the Racecourse to UNSW.

The Operational noise and vibration levels of the proposed Randwick stabling facility (including roof top mechanical plant and equipment from the facilities building) shall be in accordance with the 'NSW Industrial Noise Policy (INP, DECCW 2000)', specifically the intrusive noise criteria and sleep disturbance criteria (Night time criteria 10pm – 7am), Environmental Noise Control Manual (NSW EPA) and acceptable vibration levels presented in the publication 'Assessing Vibration: a technical guideline (DECCW, 2006).

HERITAGE

General Measures

Heritage specialists (for built and landscape heritage and Aboriginal and historical archaeology) shall be engaged, and be involved, in the detailed design and documentation phase. They are also to liaise with the construction teams selected to carry out the construction works, to ensure that the recommended mitigation measures are implemented and impacts on heritage items and sites are minimised. Heritage specialists would also be able to assist by identifying opportunities to reveal, and where possible interpret, the significance of heritage items and archaeological sites.

Works within or adjacent to built and landscape heritage items and heritage conservation areas shall be subject to careful detailed design to ensure adverse impacts are avoided or minimised. For example, the placements of poles or catenary wires are to be carefully planned and detailed so that impacts to heritage awnings are avoided or minimised.

Appropriate protection of the physical fabric of heritage items shall be provided during construction of the project. This may involve temporary hoardings to sensitive areas, or variations to the construction methodology to avoid unnecessary impacts.

New services shall be grouped to reduce the amount of excavation and new structures required, to minimise impacts on potential archaeological resources and to reduce visual impacts on heritage items and conservation areas caused by increased visual clutter. Where possible, services shall be installed in existing service trenches to minimise disturbance to areas of historical and/or Aboriginal archaeological potential.

The light rail stops shall be designed to minimise impacts on heritage items in terms of form, scale, materials and any landscaping. For example, open, lightweight and low profile structures of contemporary design that minimise visual impacts on key views to heritage buildings and spaces are to be developed.

Where above ground substations are proposed, they shall be designed to minimise impacts on heritage items in the vicinity in terms of form, scale and materials. Landscaping is to be used to lessen the visual impact where appropriate. For example, low profile structures utilising contemporary materials and details, of contemporary design that minimise visual impacts on key views to built and landscape heritage items.

All contractors working on the CSELR project shall receive a heritage induction that identifies potential Aboriginal and historical issues. The induction shall provide appropriate procedures in the event that Aboriginal or historical archaeological material is uncovered during the works and to reduce the risks of physical impacts on built and landscape heritage items.

Photographic archival recording of heritage items/areas (as per the recommended mitigation measures) shall be undertaken in accordance with the relevant NSW Heritage Division guidelines.

Subsequent stages of interpretation development shall develop the concepts identified in the Heritage Interpretation Strategy report, and shall address the interpretation of any significant archaeology investigated during the course of the CSELR project.

Archaeology

Although permits for archaeological impact and excavation under the National parks and Wildlife Act 1974 (NSW) and the Heritage Act 1977 (NSW) are not required for projects designated as State Significant Infrastructure under the Environmental Planning and Assessment Act 1979 (NSW), all archaeological mitigation measures including archaeological monitoring, test excavation and salvage excavation, as required, are to undertaken in accordance with standards and processes stipulated by the Office of Environment and Heritage and the NSW Heritage Division with respect to the archaeological resource.

Potential impacts to Aboriginal objects are to be mitigated in accordance with the methodologies to be set out in the Archaeological Research Design (ARD), Archaeological Technical Report (ATR) and Aboriginal Cultural Heritage Assessment Report (ACHAR) as required by the OEH Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (2012). The ATR and ACHAR are to respond to the detailed design. The mitigation of impacts to Aboriginal objects include community consultation archaeological investigation, post-excavation analysis of artefacts (as required), and the development of a Care and Control Agreement for any Aboriginal objects salvaged.

Aboriginal archaeological investigation is to be undertaken in key locations along the CSLER route to further refine the area of archaeological potential and the extent of impact on potential archaeological deposits, where possible. Any archaeological investigation would involve registered Aboriginal stakeholders (discussed below) where required.

Consultation with local Aboriginal stakeholders is to be undertaken prior to the commencement of any ground works, to ensure that impacts to Aboriginal cultural heritage is appropriately mitigated.

Historical archaeological testing, monitoring and/or salvage excavation is to be undertaken to mitigate the impacts of the CSELR project, where warranted by the significance of the potential resource. Post excavation reporting, including artefact analysis and additional historical research where necessary, is required for any historical archaeological investigations undertaken.

Physical impacts to historical archaeological sites of State significance are to be avoided where possible. Design modifications to avoid unidentified archaeological sites of State significance are to be undertaken where possible.

Further, more detailed, targeted mitigation methodologies for the management of impacts on significant Aboriginal and historical archaeological resources are to be undertaken at the detailed design stage, once key ground disturbance impacts have been finalised (in terms of exact depth, width, extent and type of impact). This is to ensure that the archaeological mitigation strategies are streamlined and reduced in scope to target the key areas of unavoidable impact on significant archaeological resources.

If human remains were to be discovered during any phase of works associated with the CSELR project, works are to cease immediately in the surrounding area. The finding is to be reported immediately to the New South Wales Coroner's Office and/or the New South Wales Police. If the remains are suspected to be Aboriginal, OEH are to be contacted and the relevant Aboriginal Elders consulted. A specialist forensic anthropologist with relevant qualifications is to be consulted to determine the nature of the remains. Any investigation is to be undertaken in accordance with the relevant guidelines as issued by the Heritage Division and the Office of Environment and Heritage.

If significant archaeological resources are found during the works program, relevant public dissemination of information is to occur during the works program (eg-through media releases, public open days, website, brochures and/or long term interpretation measures).

All archaeological mitigation measures including archaeological monitoring, test excavation, salvage excavation and post-excavation management are to be undertaken in accordance with the requirements of the relevant heritage legislation.

A strategy is to be developed for conservation and curation of any Aboriginal or historical artefacts recovered during works. A care and control agreement for the custodianship of any Aboriginal cultural material recovered during works is to be designed with the RAPs and implemented.

Aboriginal Archaeology

Aboriginal objects are to be managed in accordance with an Archaeological Research Design (ARD), Archaeological Technical Report (ATR) and Aboriginal

Cultural Heritage Assessment Report (ACHAR) as required by the OEH Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (2012). These reports are to be prepared by a qualified archaeologist with demonstrated experience in Aboriginal archaeology in consultation with Aboriginal stakeholders. Management of Aboriginal objects is to include archaeological investigation, salvage, post-excavation analysis, community consultation and a post-excavation Care and Control Agreement.

Aboriginal archaeological test excavation is to be undertaken in key locations along the CSLER route in accordance with the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (2012), including involving registered Aboriginal stakeholders.

Any Aboriginal archaeological works undertaken along the CSLER route would include the involvement of and consultation with local Aboriginal stakeholders.

The Aboriginal archaeological potential and impact within the Kensington/Kingsford precinct has been identified as Zone 1 and Zone 2. Zone 1 and 2 mitigation measures are to be employed in the Kensington/Kingsford precinct.

The Aboriginal archaeological potential and impact within the Randwick precinct has been identified as Zone 1 and Zone 2. Zone 1 and 2 mitigation measures are to be employed in the Randwick precinct.

Works in Zone 1 are to be mitigated by employing the following strategies:

- Aboriginal archaeological investigation (which may include testing, monitoring and/or salvage excavation) is to occur during the onsite works program in accordance with OEH guidelines to mitigate any potential impacts on Aboriginal objects.
- An Archaeological Technical Report (ATR) and Aboriginal Cultural Heritage Assessment Report (ACHAR) are to be prepared by a qualified archaeologist with demonstrated expertise in Aboriginal archaeology, in accordance with the *OEH Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (2012). The ATR and ACHAR are to be prepared in consultation with Aboriginal stakeholders. The ATR and ACHAR are to be provided to the Aboriginal stakeholders involved in the project for review, comment and endorsement prior to the commencement of onsite works.
- The ATR and ACHAR are to be prepared in consultation with the Aboriginal stakeholders. The ATR and ACHAR are to be provided to the Aboriginal stakeholders involved in the project for review, comment and endorsement prior to the commencement of onsite works.
- Any Aboriginal archaeological deposits or objects identified during CSLER works are to be registered with Aboriginal Heritage Information Management System (AHIMS).

Works in Zone 2 are to be mitigated by employing the following strategies:

- Aboriginal archaeological investigation (which may include testing, monitoring and/or salvage excavation) is to occur during the onsite works program in accordance with OEH guidelines to mitigate any potential impacts on Aboriginal objects.

- An Archaeological Technical Report (ATR) and Aboriginal Cultural Heritage Assessment Report (ACHAR) are to be prepared by a qualified archaeologist with demonstrated expertise in Aboriginal archaeology, in accordance with the OEH Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (2012). The ATR and ACHAR are to be prepared in consultation with Aboriginal stakeholders. The ATR and ACHAR are to respond to the detailed design and are to present methodologies for the conservation, management, investigation and long-term care and control of potential Zone 2 Aboriginal archaeology to be impacted upon within the CSELR construction boundary.
- The ATR and ACHAR are to be prepared in consultation with the Aboriginal stakeholders. The ATR and ACHAR are to be provided to the Aboriginal stakeholders involved in the project for review, comment and endorsement prior to the commencement of onsite works.

In areas within Zone 2 where impacts on Aboriginal archaeology are not anticipated, and archaeological watching brief is to be implemented. As part of this brief, and archaeologist would be on call to investigate archaeological remains identified during ground works, where an archaeologist is not on site.

Historical Archaeology

Physical impacts to historical archaeological sites of State significance are to be avoided, where possible. Design modifications to avoid identified archaeological sites of State significance is to be undertaken.

Historical archaeological test excavation and additional research is to be undertaken in Zone 1 Areas (as identified in Section 4 of the Heritage Impact Assessment Final Draft Report dated September 2013 prepared by Godden Mackay Logan Heritage Consultants) along the CSELR route in order to determine the exact location, extent, nature and integrity of potential State significant archaeological resources.

Historical archaeological monitoring and/or salvage excavation is to be undertaken to mitigate the impacts of the CSELR project, in Zone 1 and Zone 2, as identified in Section 4 of the Heritage Impact Assessment Final Draft Report dated September 2013 prepared by Godden Mackay Logan Heritage Consultants).

Tay Reserve HAMU in the Kensington/Kingsford precinct has been identified as Zone 1. Zone 1 mitigation/management measures are to be employed for Tay Reserve.

Mitigation measures for Historical Archaeologically Management Units (HAMUs) identified and Zone 1- State Significant Historical Archaeology: known or potential, are to be managed in accordance with the following strategies:

- Impact and/or removal is generally unacceptable for archaeological resources listed on the State Heritage Register and/or identified as being highly intact.
- An Excavation Director who meets the Heritage Division requirements for directing State significant archaeological investigations must monitor the works.

- In situ retention of the archaeological resource is likely to be required, unless it is highly disturbed and/or of fragmentary nature- or if the impacts are assessed by the Excavation Director to be of a minor nature.
- A Work Method Statement or Archaeological Research Design is to be prepared by a qualified historical archaeologist in accordance with Heritage Division requirements prior to the commencement of works. The Work Method Statement or Archaeological Research Design will outline methodology for the investigation, salvage and/or conservation of archaeological resources.
- An archaeological testing program is to be implemented in this HAMU to test the location, extent, integrity and nature of State significant (Zone 1) archaeological resources. The testing program is to be undertaken in accordance with an approved Work Method Statement or Archaeological Research Design.
- The results of the testing program would further refine the Work Method Statement or Archaeological Research Design for the investigation, salvage and/or conservation of archaeological resources.
- Works which may impact, disturb or destroy relics within Zone 1 HAMUs are to be monitored by the Excavation Director to ensure unacceptable impacts do not occur.
- The NSW Heritage Division and Transport for NSW are to be notified when intact State significant relics are discovered.
- Public engagement such as media releases, public open days during the works program; and/or post-works heritage interpretation may be warranted.

Post-excavation reporting, artefact analysis and conservation of relics are required if relics are found.

Tay Reserve

Works in the Tay Reserve HAMU are likely to require some open excavation and archival recording during site works, as well as post-excavation analysis and reporting. The nature and intactness of the archaeological resource may warrant interpretation. If archaeological evidence relating to use/occupation of the site by Aboriginal people in the historical period is identified, the Office of Environment and Heritage and local Aboriginal stakeholders are to be notified.

Anzac Parade

Anzac Parade (Kensington) University of New South Wales and Anzac Parade (Kingsford) HAMUs within the Kensington/Kingsford Precinct has been identified as Zone 2. Zone 2 mitigation/management measures are to be employed for these HAMUs.

Historical Archaeological Management Units

Mitigation measures for Historical Archaeological Management Units (HAMUs) identified and Zone 2- Locally Significant Historical Archaeology: known or potential, are to be managed in accordance with the following strategies:

- Impact and/or removal is likely to be acceptable if appropriate mitigation measures are followed.
- A Work Method Statement or Archaeological Research Design is to be prepared by a qualified historical archaeologist in accordance with Heritage Division requirements prior to the commencement of works. The Work Method Statement or Archaeological Research Design will outline methodology for the investigation, monitoring and/or salvage of archaeological resources.
- Archaeological monitoring can be led by the State significant Excavation Director/local excavation director for works within Zone 2 areas, followed by open area excavation as required (which depends on the nature, extent and integrity of the archaeological resource to be impacted, and the level of impact proposed).
- If unexpected State significant relics are discovered in Zone 2 areas, such relics may need to be managed in accordance with Zone 1 requirements. The Excavation Director is to determine if the unexpected relics are likely to be reassessed as State significant, and then determine appropriate mitigation (ie- manage as Zone 1 or Zone 2).
- The NSW Heritage Division and Transport for NSW are to be notified when intact State significant relics are discovered.
- Public engagement such as media releases, public open days may be warranted, depending on the nature and significance of the archaeological resource.

Post-excavation reporting, artefact analysis and conservation is required if relics are found.

Centennial Park, Randwick Stabling Yard, Royal Randwick Racecourse, High Street, Prince of Wales Hospital and High Cross Park within the Randwick Precinct have been identified as Zone 2. Zone 2 mitigation/management measures are to be employed for these HAMUs.

Built Heritage and Landscape

Works within or adjacent to heritage items or heritage conservation areas are to be subject to careful detailed design to enhance the compatibility of the new elements within their heritage context to ensure adverse impacts are avoided or minimised.

Appropriate and effective measures are to be implemented to protect the physical fabric heritage items during construction of the CSLER.

Light rail stops are to be designed to be compatible with their heritage context, in terms of form, scale materials and any landscaping.

Photographic archival recording of built and landscape heritage items that would be subject to adverse impacts resulting from the construction of the CSLER (as per the recommended mitigation measures below) is to be undertaken in accordance with the relevant NSW Heritage Division guidelines.

Subsequent stages of interpretation development are to develop the concepts identified in the Heritage Interpretation Strategy report, and are also to address the interpretation of the history of road, neighbourhoods and heritage items along the CSLEP route.

Additional measures for Anzac Parade Kensington are as follows:

- Works in this HAMU (particularly in the location of the proposed substations) are likely to require some open excavation and archival recording during site works, as well as post-excavation analysis and reporting. The nature and intactness of the archaeological resource may warrant interpretation.

Additional measures for the University of New South Wales are as follows:

- Works in this HAMU are likely to require some open excavation (particularly in the area of the UNSW Anzac parade stop) and archival recording during site works, as well as post-excavation analysis and reporting. The nature and intactness of the archaeological resource may warrant interpretation.

Additional measures for the Prince of Wales Hospital are as follows:

- In the unlikely event that skeletal remains are identified, they are to be managed in accordance with Zone 1 strategies and, at a minimum, managed in accordance with the Heritage Division guidelines *Skeletal Remains: Guidelines for Management of Human Skeletal Remains*, and exhumed and reinterred at an appropriate location. If identified, consultation with the Heritage Division would be required.

High Cross Reserve

Specific mitigation measures for High Cross Reserve and significant trees, the High Cross heritage conservation area are as follows:

- Detailed design of the proposed stop, especially the large scale elevated canopy and associated infrastructure, is to be carried out to seek to minimise the area of the associated infrastructure. The detailed design is to seek to retain significant trees, where possible, and the cenotaph area.
- The proposed above ground substation is to be changed to a below ground facility or the substation is to be relocated outside and away from the Reserve to reduce the extent of the additional built infrastructure.
- Reinstatement of the remnant reserve landscaping is to be subject to a management plan or other approval document.

A photographic archival recording of the reserve is to be undertaken prior to the commencement of works.

Tay Reserve

Specific mitigation measures for Tay Reserve are as follows:

- Detailed design of the alignment is to be carried out to minimise the area of Tay Reserve to be removed for the cross over at Anzac Parade.

A photographic archival recording of Tay Reserve is to be undertaken prior to the commencement of works.

UNSW

Specific mitigation measures for the University of New South Wales significant trees are as follows:

- Detailed design of the CSELR and the UNSW stop is to be carried out to seek to retain, if possible the two significant Moreton Bay figs and eight significant Port Jackson figs along the Anzac Parade boundary of the UNSW.
- Where significant trees must be removed, suitable replacements are to be made where possible.

A photographic archival recording of the significant trees is to be undertaken prior to the commencement of works.

Racecourse precinct

Specific mitigation measures for the Racecourse Precinct heritage conservation area are as follows:

- Detailed design of the CSELR alignment and the Royal Randwick Racecourse stop would seek to retain if possible, and/or avoid/minimise impact on the significant built elements (such as the brick boundary wall and the Swab Building) and landscaping of the Racecourse Precinct heritage conservation area.
- Reconstruction of significant built and landscape elements, which are not able to be retained, would be considered to mitigate the impact of their demolition on the significance of the precinct.
- A photographic archival recording of the Alison Road and Wansey Road boundaries, the north western area and the Swab building is to be undertaken prior to the commencement of works. Significant trees and structures to be removed, demolished or altered are to be recorded.

Specific mitigation measures for Royal Randwick Racecourse significant trees are as follows:

- Detailed design of the Wansey Road stop and the stabling yard is to be carried out to seek to retain, as many as possible of the significant trees at the Royal Randwick Racecourse.
- Where significant trees must be removed, suitable replacements are to be made where possible.

George Dan reserve

Specific mitigation measures for George Dan Reserve are as follows:

- Detailed design of the Wansey Road stop is to be carried out to seek to retain, as many as possible of the significant trees.

TRAFFIC, TRANSPORT AND PARKING

Kingsford Interchange

The Kingsford Interchange shall be located within the central median of Anzac Parade south of the existing roundabout at the intersections of Anzac Parade, Rainbow Street and Gardeners Road. The Proponent shall :

- (i) undertake a safety audit of the interchange, including pedestrian safety, and analysis of traffic light phasing and effects this may have on the behaviour on the safety of pedestrians (incorporating safety by design principles, customer experience and acceptable delays modelling);
- (ii) undertake modelling of pedestrian and vehicular traffic flows around the interchange and the multi-road intersection known as the Nine Ways

- intersection; and the surrounding precinct (extent to be agreed with the Proponent);
- (iii) investigate replacement of the proposed slip lane from Anzac Parade southbound into Rainbow Street with a deceleration lane to increase the size of the adjacent landscaped area;
- (iv) will consult with RCC on the above matters; and will ensure the design, layout and construction of the Kingsford Interchange will be in accordance with the Randwick Councils' preferred arrangement in RCC Light Rail Urban Design Guidelines Volume 1, Section 3, Study Area 15. Kingsford, 'Nine Way' Intersection and Study Area 16. Kingsford, Anzac Parade, Parking Area South of Interchange.

Randwick Interchange

The Randwick Terminus shall not be located in High Cross Park but that the western end of High Street shall be pedestrianised with the terminus being located in a closed road section of High Street, from Avoca Street westerly as indicated in the Transport for NSW (TfNSW) design documents numbered " X-AUH-SLR-CR-CON-RAND-UD-S-RAN-TERM-HIGH ST-A1L" , " X-AUH-CSELR-CR-CON-RAND-UD-P-RAND TERM-OPT2-ISL-A1L (2)" and " X-AUH-CSELR-CR-CON-RAND-UD-P-RAND TERM-OPT2-ISL-A1L (3)" attached.

If the condition No XXX above is not deemed acceptable, the Proponent shall implement a modified alignment arrangement (based, in part, upon the TfNSW Randwick Terminus - Split Platform - Sketch Plan - Option 1 - as attached) which will provide a single sided "inbound" light rail platform on the southern side of High Street, west of Avoca Street, so as to provide a hospital stop which less mobile passengers could use, for both an 'inbound' or 'outbound' trip (outbound requiring a short wait at the High Cross terminus, prior to LRV returning on its inbound trip and stopping at the High Street platform).

Randwick High Street, UNSW Upper Campus Stop

The Randwick High Street, UNSW Upper Campus Stop in High Street between Wansey Road and Botany Road A Light Rail Stop will be located in High Street near the intersection with Wansey Road to serve as the stop for UNSW upper campus and the Randwick community. The Proponent shall:

- (i) investigate the effects of the stop on the Arthur St / Botany St intersection and will provide traffic modelling results to RCC.
- (ii) provide traffic signals at the intersections of Belmore Road/Arthur Street and Botany Road/Arthur Street.
- (iii) investigate the requirement for traffic signals at the intersection of Wansey Road, Arthur Street.
- (iv) use its best endeavours with the RMS in consultation with RCC, UNSW & NSW Health Infrastructure to pedestrianise High Street between Belmore Road and Clara Street and High Street between Wansey Road & Botany Road. This proposed pedestrianised area shall be accessible for Emergency vehicles.
- (v) ensure the track form and other mitigation measures comply with the noise, vibration & EMF standards (refer to the EPA noise and vibration standards).
- (vi) identify the location of noise and vibration sensitive receivers shall include locations within the Randwick Education and Health Specialised Centre identified for future intensification of health, medical and research facilities. To clarify, these locations include the light rail alignment from the corner of Wansey Road/Arthur Street, the length of High Street, to its termination in

- High Cross Park. Sensitive receivers are also included along the full frontage of UNSW on Anzac Parade.
- (vii) ensure that the stop will have the capacity to cater for the passenger at the 15 minute interval as detailed by UNSW and maintain a level of service satisfactory to meet safety, crowd crush and passenger comfort standards acceptable to the UNSW.
 - (viii) ensure that the design, layout and construction of the Randwick High Street , UNSW Upper Campus Stop in High Street between Wansey Road and Botany Road will be in accordance with the Randwick Councils' preferred arrangement in RCC Light Rail Urban Design Guidelines Volume 1, Section3. Study Area 3 Randwick – High Street, UNSW Upper Campus, Transport Plaza, Stop and Study Area 4. Randwick, High Street, UNSW Upper Campus, Transport Plaza, Midblock.

Alison Road at Wansey Road Stop

The Alison Road at Wansey Road Stop shall be located in Alison Road near the intersection with Wansey Road. The Proponent shall:

- (i) use its best endeavours to retain the maximum possible trees along the Alison Road alignment adjacent to Royal Randwick Racecourse between the Alison Road/Wansey Road stop and the Royal Randwick Racecourse stop. The Proponent shall consult with RCC on these matters.
- (ii) ensure that the design, layout and construction of the Alison Road at Wansey Road Stop will be in accordance with the Randwick City Council's RCC Light Rail Urban Design Guidelines Volume 1, Section 3, Study Area 6. Randwick – Alison Road at Wansey Road Stop.
- (iii) design and construct the relevant section of Wansey Road adjacent to the future truck access from Wansey Road into Royal Randwick Racecourse land (south of Alison Road) to contain a two-way traffic and a single parking lane to allow for any future truck access into the RRR site to occur with minimum impact on the existing trees on the eastern side of Wansey Road. Details shall be provided to

Kingsford Anzac Parade, UNSW Lower Campus Stop

The Kingsford Anzac Parade, UNSW Lower Campus Stop shall be located in Anzac Parade near the University of NSW to serve as the UNSW lower campus stop. The Proponent shall:

- (i) investigate concerns about pedestrian crowding, safety and daily management of pedestrian flows.
- (ii) ensure that the stop will have the capacity to cater for the passenger at the 15 minute interval as detailed by UNSW and maintain a level of service satisfactory to meet safety, crowd crush and passenger comfort standards acceptable to the UNSW.
- (iii) ensure that the design, layout and construction of the Kingsford Anzac Parade, UNSW Lower Campus Stop will be in accordance with the Randwick Councils' preferred arrangement in RCC Light Rail Urban Design Guidelines Volume 1, Section 3 Study Area 12. Kingsford Anzac Parade, UNSW Lower Campus Stop.

Alison Road bus loop

The proponent shall, in consultation with Randwick City Council and the Australian Turf Club investigate the merits of the proposed alteration to the Alison Road / King Street intersection for the manoeuvring of buses and coaches during special events / major race days. The proponent shall implement necessary changes, if any, to the

street layout arising from negotiations between Randwick City Council and Australian Turf Club regarding this issue.

Day Avenue

As detailed within section 6.13.2 of the Preferred Infrastructure Report (at the top of page 6-72) a right hand turn from Anzac Parade (southbound) into Day Avenue, shall be maintained.

The proponent shall work with Randwick City Council in assessing any proposed design changes and any associated traffic impacts along the light rail alignment and on local roads in the local government area administered by Randwick City Council.

The proponent shall, in consultation with Randwick City Council, undertake further traffic modelling as part of the detailed design to address intersection performance in the wider street network.

Given that the Proponent states that the Proponent will "Replace 100 per cent of special kerbside uses impacted", all impacted parking special kerbside uses along the CSELR corridor shall be replaced on a 'like for like' basis within the local vicinity of existing provision. The detailed implementation of this replacement would be undertaken in consultation with each local council (City of Sydney and Randwick City Council).

Any footpath element design shall meet the requirements of the stated CSELR objective to "Improve the overall amenity of public spaces in the CBD and suburbs to the South East".

Given that the Proponent states that "Pedestrian and cycle paths impacted by the proposal along the alignment would be designed to appropriate safety standards. Crime prevention through environmental design (CPTED) principles would be utilised. This would be resolved during detailed design", the proponent shall address CPTED concerns raised by the Council in relation to the Alison Road shared path between Anzac Parade and Doncaster Avenue, with a view to swapping the shared path alignment with the light rail / bus way alignment.

Given that the Centennial and Moore Parks Trust (CP&MPT) have plans to significantly upgrade the Alison Road pedestrian access to Centennial Park (including reconstruction of existing footbridge, creation of firm pavement pathways, etc), opposite Doncaster Avenue, the proponent shall work closely with the CP&MPT to ensure pedestrian access is safely managed so as to create strong direct pedestrian linkages.

Given that the Proponent states that "The detailed design would seek to resolve potential pedestrian and cyclist risks where kerbside travel lanes are introduced. Council would be consulted on this matter", the proponent shall work with RCC to concurrently introduce a separated bike lane facility along Doncaster Avenue, from Alison Road to Day Avenue.

Given that the Council is considering to seek a swapping of the shared path alignment with the light rail alignment along Wansey Road (that is, to have people walking and riding bicycles travel next to the racecourse fence with light rail next to the traffic lane on Wansey Road) and given that the level of the light rail track form in the vicinity of Arthur Street is lower than the road level by approximately 1.2m, the proponent shall incorporate a cycle / pedestrian crossing across the light rail tracks north of Arthur Street to maintain and strengthen pedestrian / cycle filtration.

The proponent shall consider engaging a single Traffic Management contractor to manage the whole project (or one for the CBD project and one for the SE area part of the project) to ensure proper and appropriate project traffic control impact oversight and implementation (given that overseas experience has shown disastrous outcome when a mix of traffic control companies implement differing aspects of such an extensive project over long periods).

The proponent shall provide a place by place description on how it is meeting the stated CSELR Objective of "Improving the overall amenity of public spaces in the CBD and suburbs to the South East" so as to ensure that this objective is met.

Parking

TfNSW will implement the option of travel in the Light Rail Alignment ("shared running") from Kingsford 'nine-ways' to Alison Road, along the length of Anzac Parade by the buses listed in Annexure X, together with off-peak parking opportunities:

- (a) north of Strachan Street; and
- (b) between the Nine Ways intersection and Strachan Street.

The Proponent shall consult with RCC before a final decision is taken. No other shared running will be permitted along Anzac Parade except emergency vehicles.

The Proponent shall provide the following options for replacement of existing parking spaces which will become unavailable due to the Kingsford Interchange:

- (a) during construction, by provision of a temporary asphalt surfaced area for approximately 250 cars, south of the interchange in the area of south of Sturt Street in the Anzac Parade median; and
- (b) during operation, by sale of land at Rainbow Street to RCC on reasonable commercial terms. For clarity, the Proponent shall be responsible only for sale of the land to RCC. As between the Proponent and Randwick City Council, all other activities in connection with development, construction and operation of the car park will be the responsibility of Randwick City Council.

Randwick City Council shall be responsible for the implementation of any changes to the function and management of on-street kerbside activity outside the Light Rail alignment but within the area of influence of the Project. The Proponent shall will investigate the provision of on-street parking on Anzac Parade between the Kingsford 'nine-ways' and Strachan Street and also Kensington, in the out of peak periods from 10am to 2pm, in accordance with the revised AECOM report the Proponent shall provide at their cost the traffic model and data for the Randwick Local Government Area used for the light rail project including any future works or update undertaken by the Proponent or the OpCo for the life of the project. Randwick City Council shall use this data for its own purposes including the investigation of mitigation measures for the local traffic and parking arrangements associated with the light rail project. The Proponent shall explore opportunities to mitigate loss of car parking in the local government area administered by Randwick City Council as a result of the project, without affecting the Public Domain in the local government area administered by Randwick City Council. The Proponent shall use its best endeavours to assist Randwick City Council with the conversion of parallel parking to angle parking in the local streets adjacent to the light rail alignment. The Proponent shall be fully responsible for the costs of any works.

Bus Movement on Anzac Parade

The Proponent shall use its best endeavours to allow the buses to utilise the light rail corridor along Anzac Parade.

Station Names

The Proponent shall consult with RCC regarding the naming rights for the light rail stations. RCC preferred stop names are:

Stop Locations	RCC preferred stop names
High Cross Park	High Cross Park
High Street between Wansey Road and Botany Street	UNSW High Street
Alison Road nearest corner Wansey Road	Alison Road
Alison Road, Royal Randwick Racecourse	Royal Randwick Racecourse
Anzac Parade nearest corner Carlton Street	Carlton Street
Anzac Parade nearest corner Todman Avenue	Todman Avenue
Anzac Parade, UNSW	UNSW Anzac Parade
Anzac Parade nearest corner Middle St / Strachan St	Meeks Plaza
Anzac Parade south of 9-way intersection, interchange terminus	Kingsford

NOISE AND VIBRATION

Operational Noise and Vibration

Rail line components of the project shall be designed and operated with the objective of not exceeding the airborne and ground-borne noise trigger levels at existing development, at each stage of the project as presented in RING. For the purpose of this condition, existing development includes all development that at the date of this approval, has been carried out in the vicinity of the rail corridor and any such development approved prior to the determination of this SSI, but only to the extent that the location of the development is known.

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

- Randwick Train Stabling Facility
- CBD and South East Light Rail stations: Carlton Street, Todman Avenue, UNSW Anzac Parade, Strachan Street, Kingsford, Royal Randwick Racecourse, Wansey Road, UNSW High Street and Randwick; and
- CBD electrical substations.

Prior to operational commissioning of the above facilities, the proponent shall submit an Operational Noise and Vibration Review (ONVR, see also condition C8) based on detailed design to, and have approved by, the Director General. The ONVR shall identify the PSNL and acceptable vibration levels applicable to each facility and the means by which the noise and vibration levels will be satisfied. Where the noise and vibration levels cannot be achieved, the assessment shall present an analysis of feasible and reasonable noise and vibration mitigation measures, and the 'best practice' achievable noise and vibration outcome for each facility.

NOTE: this condition does not extend to noise from patrons, nor the operation of light rail vehicles on track.

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

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

1. L_{Amax} refers to the maximum noise level not to be exceeded for 95% of rail pass-by events over any 24hr period.
2. Airborne noise levels are to be assessed at 1m from the façade of sensitive receiver locations.
3. Ground borne noise levels are to be assessed close to the centre of the most affected habitable room at receiver locations. Ground borne noise criteria only apply at locations where the ground borne noise is higher than the airborne noise.
4. Noise sensitive receiver locations include residences, schools (and other educational institutions), hospitals, places of worship, passive recreational areas. However, where schools, hospitals and places of worship are passively ventilated (openable windows) in the façade being impacted by noise, the external airborne noise criteria shall be adjusted by minus 10dB.

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

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

1. Vibration velocity criterion apply at exposed facades of sensitive receiver locations. L_{max} refers to the maximum noise level not to be exceeded for 95% of rail pass-by events over any 24hr period.

2. Vibration dose criterion apply inside sensitive receiver locations at the point of concern. Nominally this would be at the centre of the most affected habitable room.
 3. Commercial receiver locations include offices, schools, educational institutions and places of worship.
- Where there is any inconsistency between vibration velocity and vibration dose criterion, the more stringent provision shall apply.

Operational noise and vibration levels of the proposed Randwick Light Rail Stabling Facility (including roof top mechanical plant and equipment from the facilities building) shall be in accordance with the 'NSW Industrial Noise Policy (INP, DECCW 2000)', specifically the intrusive noise criteria and sleep disturbance criteria (Night time criteria 10pm – 7am) , Environmental Noise Control Manual (NSW EPA) and acceptable vibration levels presented in the publication 'Assessing Vibration: a technical guideline (DECCW, 2006).

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

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

The use and operation of the public addressing system shall be inaudible from any residential premises habitable room during the hours of 10pm – 7am and not give rise to a public nuisance or result in an offence under the Protection of the Environment Operations Act 1997 and Regulations.

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

The activity of light rail vehicles operating on track, shall be well maintained to prevent other noise sources (for example wheel-squeal from flange noise, longitudinal stick-slip and lateral stick-slip, and not give rise to an 'offensive noise' as defined in the Protection of the Environment Operations Act 1997 and Regulations.

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

The section of the track along High Street and Anzac Parade adjacent to educational, research and/or health properties and the University of New South Wales shall be constructed of high resilience and/or high attenuation track material to minimise vibration impacts on sensitive equipment within these properties.

Where the Light Rail passes sensitive noise receivers in the local government area administered by RCC (as defined in the approval for the Project), The Proponent shall take practicable measures to minimise noise and isolate vibration.

Construction/operational noise and vibration management plans shall be reviewed and updated on a regular basis, in consultation with the community and key stakeholders.

No emissions or discharges which will give rise to a public nuisance or result in an offence under the Protection of the Environment Operations Act 1997 and Regulations.

Operational Noise and Vibration Compliance

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

- a) identify the appropriate operational noise and vibration objectives and levels for receiving existing development, including all sensitive receivers;
- b) predict the operational noise and vibration impacts at receiving existing development based on the final design and operation of the project;
- c) assess all feasible and reasonable noise and vibration mitigation measures, with a preferential focus on source control and design consistent with RING. The feasible and reasonable analysis shall be transparent and fully justified and shall include, but not be limited to, the consideration of subjective noise factors, such as the number of noisy events, the duration of noisy events and the characteristics of the noise and consideration of mitigation measures;
- d) include a mitigation plan for each catchment showing all sensitive receivers where RING triggers are exceeded and a strategy to mitigate the noise, including the identification of specific physical and other mitigation measures for controlling noise and vibration at the source and at the receiver including location, type and timing for the implementation of mitigation measures;
- e) include a consultation strategy to seek feedback from directly affected property owners on the noise and vibration mitigation measures; and
- f) include procedures for operational noise and vibration complaints management, including investigation and monitoring (subject to complainant agreement).

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

Vibration and Electromagnetic Fields

Prior to construction the Proponent shall undertake pre-operational magnetic field and vibration monitoring, in consultation with Health Infrastructure and UNSW, to establish existing vibration and magnetic field levels at the NSW Health Cancer Treatment Centre at High Street, Randwick and the Lowy Cancer Research Centre

at UNSW High Street, Randwick. Results from these studies shall be documented in the Magnetic Field Management Plan at condition XX.

Prior to operation of the Project the Proponent shall prepare and implement a detailed Magnetic Field and Vibration Management Plan in consultation with Health Infrastructure and UNSW, to the satisfaction of the Director-General. The Plan shall identify how pre-operational magnetic field and vibration levels shall be maintained throughout the life of the project. This Plan shall include but not be limited to:

- (a) Identification sensitive receivers;
- (b) Identification of all reasonable and feasible magnetic field reduction strategies, technologies and design measures that will be implemented;
- (c) establish existing and predicted magnetic field levels at the monitored sites resulting from the Project following application of measures identified in b);
- (d) identify appropriate limits/criteria to ensure minimal interference to sensitive receivers;
- (e) internal audits of compliance of magnetic field and vibration limits/criteria;
- (f) details of the magnetic field and vibration monitoring program including results of pre-operational magnetic field and vibration monitoring.

HYDROLOGY

Drainage in areas covered by existing flood study

The Proponent shall consult with Randwick City Council in relation to all aspects of drainage in the local government area administered by Randwick City Council and which is impacted by the Project, especially in the pedestrianised areas of High Street, if this is to occur, the Proponent shall develop solutions for overland flow control where existing kerbs will be lost as a direct result of the project, and with such solution to have a minimal visual impact.

For areas within the local government area administered by Randwick City Council and impacted by the Project, the Project shall be designed and constructed so as not to increase flooding impacts on private property during all rainfall / storm events up to the critical 1%AEP event. The Council endorsed "Kensington – Centennial Park Flood Study" is to form the base model / floodstudy when assessing the impact of the Project on flood levels upstream, downstream and within the vicinity of the project works.

All drainage access pits, other than those required to drain the track slab of the Light Rail, shall be located outside of the Permanent Light Rail Corridor.

Drainage pits directly affected by the Project shall be provided at the following locations:

- every corner;
- changes in direction of the drainage line; and/or
- every 100m on straight runs.

All pits are to be cycle safe.

Any subsurface drainage (including inlet structures) below the light rail corridor or affected by the Project shall be designed and constructed to a minimum of the critical 1 in 10 year storm event (10%AEP). For the avoidance of doubt, the project shall incorporate the following:

- no elements of the existing stormwater drainage network are to be downsized, even if their capacity exceeds the 1 in 10 year event;
- This requirement does not extend to drainage infrastructure downstream of the Works Site or drainage infrastructure within the Works Site that is not directly impacted by the Project.
- For the purpose of establishing the size/ capacity of the drainage infrastructure the Council endorsed "Kensington – Centennial Park Flood Study" must be used to determine flows and catchments.
- Engineering drawings of drainage upgrades resulting from this clause shall be developed in consultation with Randwick City Council and submitted to Randwick City Council for approval.

Drainage Conditions Within Areas Currently Not Covered by a Council Endorsed Floodstudy.

The Proponent shall consult with Randwick City Council in relation to all aspects of drainage in the local government area administered by Randwick City Council and which is impacted by the Project, especially in the pedestrianised areas of High Street, if this is to occur. The Proponent shall develop solutions for overland flow control where existing kerbs will be lost as a direct result of the project, and with such solution to have a minimal visual impact.

For areas within the local government area administered by Randwick City Council and impacted by the Project, the Project shall be designed and constructed so as not to increase flooding impacts on private property during all rainfall / storm events up to the critical 1%AEP event. The proponent must meet the full cost for Randwick City Council to undertake a detailed flood study / analysis of the existing, predeveloped area. Assessment of the flooding impacts of the proposed development shall be undertaken using the Randwick City Council endorsed flood study.

All drainage access pits, other than those required to drain the track slab of the Light Rail, shall be located outside of the Permanent Light Rail Corridor.

Drainage pits directly affected by the Project shall be provided at the following locations:

- every corner;
- changes in direction of the drainage line; and/or
- every 100m on straight runs.

All pits are to be cycle safe.

Any subsurface drainage (including inlet structures) below the light rail corridor or affected by the Project is to be designed and constructed to a minimum of the critical 1 in 10 year storm event (10%AEP). For the avoidance of doubt, the project shall incorporate the following:

- no elements of the existing stormwater drainage network are to be downsized, even if their capacity exceeds the 1 in 10 year event; and
- This requirement does not extend to drainage infrastructure downstream of the Works Site or drainage infrastructure within the Works Site that is not directly impacted by the Project.
- For the purpose of establishing the size/ capacity of the drainage infrastructure a Council endorsed Flood Study must be used to determine flows and catchments.
- Engineering drawings of drainage upgrades resulting from this clause shall be developed in consultation with Randwick City Council and submitted to RCC for approval.

Randwick Light Rail Vehicle Stabling Facility

The Light Rail stabling facility must be designed to cater for the critical 1% AEP storm event. Overland flowpaths / overland flow through the proposed Stabling Yard site must be maintained and there must be no increase in flood levels for all storm events up to the critical 1%AEP storm event. There shall be no loss of flood storage volumes as a result of the proposed development. The Proponent shall ensure that no stormwater overland flow is directed onto adjacent properties as a result of the location of the light rail stabling facility (at No. 66A Doncaster Avenue). For avoidance of doubt, the surrounding properties and No. 66A Doncaster Avenue shall be no worse off in relation to flood levels and overland flow for all storms up to the critical 1% AEP storm event. All modelling of the impact of the proposed stabling yards on overland flowpaths, flood plain storage and flood levels shall utilize the Council endorsed "Kensington – Centennial Park Flood Study" as the base reference document.

Using the Council endorsed "Kensington – Centennial Park Flood Study" as the base reference document, the Proponent shall undertake a detailed analysis of the existing flowpath regime through/surrounding and downstream of the development site and compare that with proposed flowpaths post development. The Proponent shall provide sufficient documentation/evidence to Council to indicate that the proposed development will not increase the depth of overland flow in areas outside the development site and that no property downstream of the development site will be adversely affected as a result of the proposed development for all storm events up to the critical 1%AEP event.

Using the Council endorsed "Kensington – Centennial Park Flood Study" as the base reference document, the Proponent shall undertake a detailed analysis of existing flood levels within and adjacent to the development site. The Proponent shall provide sufficient documentation/evidence to Council to indicate that the proposed development will not increase the frequency, extent or depth of flooding in areas outside the development site for all storm events up to the critical 1% AEP event.

SCHEDULE D

COMMUNITY INFORMATION, REPORTING AND AUDITING COMMUNITY INFORMATION, CONSULTATION AND INVOLVEMENT

The Proponent shall be responsible for stakeholder and community engagement during the construction phase of the Works. The stakeholder and community communication and consultation strategy will be agreed between The Proponent and Randwick City Council prior to commencement of the works for the local government area administered by RCC. The Proponent shall provide a dedicated community liaison personnel with clearly defined responsibilities linked to the implementation of the engagement and communications plans in consultation with RCC

D2. A **Community Communication Strategy** shall be prepared and implemented to provide mechanisms to facilitate communication between the Proponent (and its contractor(s)), the Environmental Representative (see condition XXX), the relevant council and community stakeholders (particularly adjoining landowners) on the construction environmental management of the project. The Strategy shall include, but not be limited to:

- (a) identification of stakeholders to be consulted as part of the Strategy, including affected and adjoining landowners;
- (b) procedures and mechanisms for the regular distribution of information to community stakeholders on construction progress and matters associated with environmental management;
- (c) the formation of community-based forums that focus on key environmental management issues for the project. The Strategy shall provide detail on the structure, scope, objectives and frequency of the community-based forums;
- (d) procedures and mechanisms through which the community stakeholders can discuss or provide feedback to the Proponent and/or Environmental Representative in relation to the environmental management and delivery of the project;
- (e) procedures and mechanisms through which the Proponent can respond to enquires or feedback from the community stakeholders in relation to the environmental management and delivery of the project; and
- (f) procedures and mechanisms that would be implemented to resolve issues/ disputes that may arise between parties on the matters relating to environmental management and the delivery of the project. This may include the use of an appropriately qualified and experienced independent mediator.

Issues that shall be addressed through the Community Communication Strategy include (but are not necessarily limited to): xxxxxxxxxxxxxxxxxxxxxxxxx

The Proponent shall maintain and implement the Strategy throughout construction of the project. The Strategy shall be approved by the Director General prior to the commencement of construction, or as otherwise agreed by the Director General.

Complaints and Enquiries Procedure

D3. Prior to the commencement of construction, or as otherwise agreed by the Director General, the Proponent shall ensure that the following are available for community enquiries and complaints for the duration of construction:

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

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

D4. Prior to the commencement of construction, or as otherwise agreed by the Director General, the Proponent shall prepare and implement a **Construction Complaints Management System** consistent with *AS 4269: Complaints Handling* and maintain the System for the duration of construction and up to 12 months following completion of the SSI.

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

Provision of Electronic Information

D5. Prior to the commencement of construction, or as otherwise agreed by the Director General, the Proponent shall establish and maintain a new website, or dedicated pages within an existing website, for the provision of electronic information associated with the SSI, for the duration of construction and for 12 months following completion of the SSI. The Proponent shall, subject to confidentiality, publish and maintain up-to-date information on the website or dedicated pages including, but not necessarily limited to:

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

COMPLIANCE MONITORING AND TRACKING

Compliance Tracking Program

D6. The Proponent shall develop and implement a **Compliance Tracking Program** to track compliance with the requirements of this approval. The Program shall be submitted to the Director General for approval prior to the commencement of

construction and operate for a minimum of one year following commencement of operation, subject to the Director General's review of the outcomes of the Operational Performance Audit Report referred to in condition XXX. The Program shall include, but not necessarily be limited to:

- (a) provisions for the notification of the Director-General prior to the commencement of construction and prior to the commencement of operation of the SSI (including prior to each stage, where works are being staged);
- (b) provisions for periodic review of the compliance status of the project against the requirements of this approval;
- (c) provisions for periodic reporting of compliance status to the Director-General, including a Pre-Construction Compliance Report, during construction reporting, and a Pre-Operation Compliance Report;
- (d) a program for independent environmental auditing in accordance with ISO 19011:2003 - Guidelines for Quality and/ or Environmental Management Systems Auditing;
- (e) mechanisms for recording environmental incidents during construction and actions taken in response to those incidents;
- (f) provisions for reporting environmental incidents to the Director-General and relevant public authorities during construction;
- (g) procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management; and
- (h) provisions for ensuring all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities.

Incident Reporting

D7. The Proponent shall notify the Director General of any incident with actual or potential significant off-site impacts on people or the biophysical environment within 24 hours of becoming aware of the incident. The Proponent shall provide full written details of the incident to the Director-General within seven days of the date on which the incident occurred.

D8. The Proponent shall meet the requirements of the Director General to address the cause or impact of any incident, as it relates to this approval, reported in accordance with condition XXX of this approval, within such period as the Director General may require.

SCHEDULE E

CONSTRUCTION ENVIRONMENTAL MANAGEMENT

CONSTRUCTION MANAGEMENT

Prior to the commencement of construction, the Proponent shall prepare and implement (following approval) a **Construction Environmental Management Plan**. The Plan shall outline the environmental management practices and procedures that are to be followed during construction, and shall be prepared in consultation with the relevant government agencies and in accordance with the *Guideline for the Preparation of Environmental Management Plans* (Department of Infrastructure, Planning and Natural Resources, 2004). The Plan shall include, but not necessarily be limited to:

- (a) a description of activities to be undertaken during construction of the project (including staging and scheduling);
- (b) a process for ensuring all relevant stakeholders, including Health Infrastructure and the hospitals, are advised on any work that will impact on the delivery of its service, including electrical, water and other such works;
- (c) statutory and other obligations that the Proponent is required to fulfil during construction, including approvals, consultations and agreements required from authorities and other stakeholders under key legislation and policies;
- (d) a description of the roles and responsibilities for relevant employees involved in the construction of the project including relevant training and induction provisions for ensuring that employees, including contractors and sub-contractors are aware of their environmental and compliance obligations under these conditions of approval;
- (e) details of the measures to be installed to separate construction areas from publicly accessible areas
- (f) an environmental risk analysis to identify the key environmental performance issues associated with the construction phase; and
- (g) details of how environmental performance would be managed and monitored to meet acceptable outcomes, including what actions will be taken to address identified potential adverse environmental impacts (including any impacts arising from the staging of the construction). In particular, the following environmental performance issues shall be addressed in the Plan:
 - (i) compounds and Ancillary Facilities management;
 - (ii) noise and vibration;
 - (iii) traffic and access;
 - (iv) soil and water quality and spoil management;
 - (v) air quality and dust management;
 - (vi) management of Aboriginal and non-Aboriginal heritage;
 - (vii) soil contamination, hazardous material and waste management;
 - (viii) management of ecological impacts; and
 - (ix) hazard and risk management

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

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

As part of the Construction Environmental Management Plan for the project, the Proponent shall prepare and implement:

- (a) a **Construction Compound and Ancillary Facilities Management Plan** to detail the management of Ancillary Facilities associated with the project. The Plan shall include but not be limited to:
 - i) a description of the facility, its components and the surrounding environment;
 - ii) details of the activities to be carried out at each facility, including the hours of use and the storage of dangerous and hazardous goods;
 - iii) an assessment against the locational criteria outlined in condition xxx
 - iv) details of the mitigation and management procedures specific to the facility that would be implemented to minimise environmental and amenity impacts and an assessment of the adequacy of the mitigation or offsetting measures;
 - v) identification of the timing for the completion of activities at the facility and how the site will be decommissioned (including any necessary rehabilitation); and
 - vi) mechanisms for the monitoring, review and amendment of this plan.
- (b) a **Construction Noise and Vibration Management Plan** to detail how construction noise and vibration impacts will be minimised and managed. The Plan shall be consistent with the guidelines contained in the *Interim Construction Noise Guidelines* (DECC, 2009) and shall include, but not be limited to:
 - (i) identification of sensitive receivers and relevant construction noise and vibration goals applicable to the SSI stipulated in this approval;
 - (ii) details of construction activities and an indicative schedule for construction works; including the identification of key noise and/or vibration generating construction activities (based on representative construction scenarios, including at ancillary facilities) that have the potential to generate noise and/or vibration impacts on surrounding sensitive receivers, particularly residential areas;
 - (iii) identification of feasible and reasonable measures proposed to be implemented to minimise and manage construction noise and vibration impacts (including construction traffic noise impacts);
 - (iv) procedures and mitigation measures to ensure relevant vibration and blasting criteria are achieved, including a suitable blast program, applicable buffer distances for vibration intensive works, use of low-vibration generating equipment/ vibration dampeners or alternative construction methodology, and pre- and post- construction dilapidation surveys of sensitive structures where blasting and/ or vibration is likely to result in damage to buildings and structures (including surveys being undertaken immediately following a monitored exceedance of the criteria); and
 - (v) 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;
- (vi) an out-of-hours work (OOHW) protocol for the assessment, management and approval of works outside of standard construction hours as defined in condition xx, including a risk assessment process under which an Environmental Representative may approve out-of-hour construction activities deemed to be of low environmental risk and refer high risk works for the Director General's approval. The OOHW protocol shall detail standard assessment, mitigation and notification requirements for high and low risk out-of-hour works, and detail a standard protocol for referring applications to the Director General; and
 - (vii) mechanisms for the monitoring, review and amendment of this plan.
- (c) a **Construction Traffic and Access Management Plan** to manage construction traffic and access impacts of the project. The plan which shall be managed by a single contactor (to coordinate and minimise overall, project wide, impacts) shall be developed in consultation with the relevant road authority and shall include, but not necessarily be limited:
- (i) identification of construction traffic routes and construction traffic volumes (including heavy vehicle/ spoil haulage) on these routes;
 - (ii) details of vehicle movements for construction sites and site compounds including parking, dedicated vehicle turning areas, and ingress and egress points;
 - (iii) identification of construction impacts that could result in disruption of traffic, public transport, pedestrian and cycle access, property access, including details of oversize load movements;
 - (iv) details of management measures to minimise traffic impacts, including temporary road work traffic control measures, onsite vehicle queuing and parking areas and management measures to minimise peak time congestion and measures to ensure safe pedestrian and cycle access;
 - (v) a response plan which sets out a proposed response to any traffic, construction or other incident; and
 - (vi) mechanisms for the monitoring, review and amendment of this plan.
- (d) a **Construction Soil and Water Quality Management Plan** to manage surface and groundwater impacts during construction of the project. The plan shall be developed in consultation with DECCW and include, but not necessarily be limited to:
- (i) details of construction activities and their locations, which have the potential to impact on water courses, storage facilities, stormwater flows, and groundwater;
 - (ii) surface water and ground water impact assessment criteria consistent with Australian and New Zealand Environment Conservation Council (ANZECC) guidelines;
 - (iii) management measures to be used to minimise surface and groundwater impacts, including details of how spoil and fill material required by the SSI will be sourced, handled, stockpiled, reused and managed; erosion and sediment control measures; salinity control measures and the consideration of flood events;
 - (iv) a contingency plan, consistent with the *Acid Sulfate Soils Manual*, to deal with the unexpected discovery of actual or potential acid sulfate soils, including procedures for the investigation, handling, treatment and management of such soils and water seepage;

- (v) management measures for contaminated material and a contingency plan to be implemented in the case of unanticipated discovery of contaminated material during construction;
 - (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 undertaken, the locations where monitoring would take place, how the results of the monitoring would be recorded and reported, and, if any exceedance of the criteria is detected how any non-compliance can be rectified; and
 - (vii) mechanisms for the monitoring, review and amendment of this plan.
- (e) a **Construction Heritage Management Plan** to detail how construction impacts on Aboriginal and Historic heritage will be minimised and managed. The plan shall be developed in consultation with the OEH and registered Aboriginal stakeholders (for Aboriginal heritage), and include, but not necessarily be limited to:
- i) The identification of known heritage items within the vicinity of the project;
 - ii) The recommendations arising from the cultural heritage assessment reports and the requirements of this approval (including Conditions xx to xx under Schedule C of this consent)
 - iii) Management measures to ensure minimal construction impact and to outline practical methods that reduce, minimise and avoid impacts to heritage items and an auditing program to ensure that there is no impact on heritage items additional to that already permitted;
 - iv) A site induction program for construction workers on Aboriginal and non-Aboriginal heritage;
 - v) The identification of a suitably qualified heritage consultant to oversee the design of the works, induction program and the management and protection of heritage items
 - vi) Procedures to be implemented if previously unidentified Aboriginal objects and / or non-Aboriginal heritage items are discovered during construction; and
 - vii) Appropriate monitoring, review and amendments mechanisms
- (f) a **Construction Flora and Fauna Management Plan** to detail how construction impacts on ecology will be minimised and managed. The Plan shall be developed in consultation with the DECCW and shall include, but not necessarily be limited to:
- i. plans for impacted and adjoining areas showing vegetation communities; important flora and fauna habitat areas; locations where threatened species, populations or ecological communities have been recorded; including pre-clearing surveys to confirm the location of threatened flora and fauna species and associated habitat features;
 - ii. the identification of areas to be cleared and details of management measures (such as fencing, clearing procedures, removal and relocation of fauna during clearing, habitat tree management and construction worker education) to avoid any residual habitat damage or loss and to minimise or eliminate time lags between the removal and subsequent replacement of habitat;
 - iii. rehabilitation details, including identification of flora species and sources, and measures for the management and maintenance of rehabilitated areas;
 - iv. weed management measures focusing on early identification of invasive weeds and effective management controls;
 - v. a description of how the effectiveness of these management measures would be monitored and linked to the Ecological Monitoring Program required under condition xx.;

- vi. a procedure for dealing with unexpected EEC/ threatened species identified during construction, including cessation of work and notification of the OEH, determination of appropriate mitigation measures in consultation with the OEH (including relevant re-location measures) and updating of ecological monitoring and/ or biodiversity offset requirements and
 - vii. mechanisms for the monitoring, review and amendment of this plan.
- (g) a **Construction Air Quality Management Plan** to detail how construction impacts on air quality will be minimised and managed. The Plan shall be developed in consultation with the DECCW and shall include, but not necessarily be limited to:
- i. the identification of potential sources of dust;
 - ii. dust management objectives;
 - iii. mitigation measures to be implemented, including measures during weather conditions where high level dust episodes are probable (such as strong winds in dry weather);
 - iv. a monitoring program to assess compliance with the identified objectives
- v. mechanisms for the monitoring, review and amendment of this plan.

Road Closures

The Proponent shall discuss in advance with Randwick City Council and Roads and Maritime Services any temporary road closures.

Construction Compounds

Except as required under Section 1.4, Randwick City Council land required for use as amenities and materials compounds for Project construction activities will be fully reinstated on completion of the works related to each compound to the previous existing condition in accordance with Randwick City Council Light Rail Alignment Urban Design Guidelines or as otherwise agreed between The Proponent and Randwick City Council. For avoidance of doubt, the Urban Design Guidelines will take precedent.

The Proponent shall provide Randwick City Council with a photographic survey and dilapidation report prior to construction.

A construction compound will be required in High Cross Park for the Randwick stop and interchange and shall be limited in use to the eastern section of High Cross Park. There will be no additional significant tree loss above that required for the design footprint of the stop and interchange for the purposes of establishing a construction compound in High Cross Park.

Storage of materials removed from site including urban elements that need to be re installed are to be stored at the construction compounds.

Hoardings

Hoardings erected as part of the Project are to meet TfNSW standards developed in consultation with Randwick City Council, including in relation to project information, project promotional material and organisational branding. Hoardings will be designed to ensure safety, security and community amenity, including in relation to transparency.

Survey Marks

Permanent survey marks shall be preserved during the works. If any permanent survey mark located within the works site is to be destroyed due to the works,

Randwick City Council shall be notified two weeks in advance. Before the works are concluded on a works site, the box containing the survey pin shall be to be reinstated by a registered surveyor at the expense of the Proponent.

NOISE AND VIBRATION

Construction hours

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

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

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

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

E3 For the purposes of this condition 'continuous' includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work that is the subject of this condition.

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

- (a) (i) construction works that generate air-borne noise that is no more than 5 dB(A) above rating background level at any residence in accordance with the *Interim Construction Noise Guideline* (DECC, 2009); and
- (ii) construction works that generate air-borne noise that is no more than the noise management levels specified in Table 3 of the *Interim Construction Noise Guideline* (DECC, 2009) at other sensitive receivers; and
- (iii) construction works that generate continuous or impulsive vibration values, measured at the most affected residence, that are no more than those for human exposure to vibration, specified for residences in Table 2.2 of *Assessing Vibration: a technical guideline* (DEC, 2006); and
- (iv) works that generate intermittent vibration values, measured at the most affected residence, that are no more than those for human exposure to vibration, specified for residences in Table 2.4 of *Assessing Vibration: a technical guideline* (DEC, 2006);
- (b) where a negotiated agreement has been reached with affected receivers, where the prescribed noise and vibration levels cannot be achieved;
- (c) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons;
- (d) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; and
- (e) works approved through an EPL, including for works identified in an out of hours procedure.

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

E4. The hours of construction activities specified under condition E1 of this approval may be varied with the prior written approval of the Director-General. Any request to alter the hours of construction shall be:

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

Construction noise and vibration criteria

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

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

- a) for structural damage, the vibration limits set out in the German Standard *DIN 4150-3: Structural Vibration - effects of vibration on structures*; and
- b) for human exposure, the acceptable vibration values set out in the *Environmental Noise Management Assessing Vibration: A Technical Guideline* (Department of Environment and Conservation, 2006).

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

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

E8. Prior to commencement of works, the proponent shall undertake a detailed land use survey to identify potentially critical working areas (e.g. hospital operating theatres, precision laboratories etc) that are sensitive to vibration and ground-borne noise impacts. A specific plan of management, where relevant, shall be submitted to,

and approved by, the Director General outlining the proposed mitigation for both construction and operational impacts. The outcomes of specific consultation with affected receivers shall be reported.

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

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

Demolition, excavation and construction equipment shall be selected with consideration for low noise emissions with such equipment to be fitted with noise control kits to reduce the noise emitted by the machines (for example utilising quakers versus reverse beeping). In most cases noise control kits shall be fitted to drive motors and gears. For diesel powered vehicles noise controls, kits can take the form of high-performance exhaust muffles, engine enclosures, sound absorptive panels and special acoustic louvers to minimise the potential for impact on sensitive receptors. All equipment shall be maintained in accordance with the manufacturer's recommendations.

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

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

AIR QUALITY

Dust control measures are to be in place or are to be undertaken for the duration of the works to prevent dust from affecting the amenity of the immediate area during construction. The proponent is to carry out works generally in accordance with the Construction Environmental Management Plan, and controls are to be maintained at design level throughout the duration of the works and are to be inspected for this purpose at frequent intervals. Any deficiencies are to be immediately made good.

PROPERTY AND BUSINESS IMPACTS

In developing the program and access requirements for the Project, the Proponent shall consider existing approved developments in the City of Randwick.

The Proponent shall be responsible for liaising with the developer(s) and managing all interface and co-ordination issues in relation to relevant approved developments that will be undertaken during the construction phase of the Project.

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

Any damage caused to property as a result of the project shall be rectified or the property owner compensated, within a reasonable time-frame, with the costs borne

by the Proponent. This condition is not intended to limit any claims that the property owner may have against the proponent.

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

- (a) Business Consultation forum linked with the Community Construction Strategy as required by condition D1;
- (b) Business Management Strategies for each construction site (and or activity), identifying affected businesses and associated management strategies, including the employment of place managers and specific measures to be put in place to assist small business owners adversely impacted by the construction of the SSI;
- (c) a monitoring program to assess the effectiveness of the measures including the nomination of performance parameters and criteria against which effectiveness of the measures will be measured; and
- (d) provision for reporting of monitoring results to the Director General, as part of the Compliance Tracking Program (condition D5).