Appendix A Submissions

The following submissions are attached to this report:

- **Office of Environment & Heritage submission**
  Received January 2016

- **NSW Environment Protection Authority submission**
  Received January 2016

- **NSW Road and Maritime Services submission**
  Received January & February 2016

- **Transport for New South Wales submission**
  Received January 2016

- **Parramatta City Council Traffic & Transport submission**
  Received January 2016

- **Public submission**
  Received January 2016

Heritage Council of New South Wales

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Parramatta NSW 2150

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File No. SF15/53233
Our Ref. DOC15/506884

Megan Fu
Senior Planner
Social and Other Infrastructure Assessments
Department of Planning & Environment
GPO Box 39 | Sydney NSW 2001

Dear Ms Fu

Re: Multi-storey Carpark at Westmead Hospital (SSD 7262) – Review of Environmental Impact Statement.

Thank you for referring the Multi-storey Carpark at Westmead Hospital Environmental Impact Statement (EIS) (herein referred to as the 'Project area') to the Heritage Council of NSW for comment and to identify appropriate conditions of consent to the Department of Planning and Environment. The Heritage Division received this request on 10 December 2015 which included the following information:

- 'Multi Storey Car Park Project, Westmead Hospital – Statement of Heritage Impact' prepared by RPS Australia East Pty Ltd dated November 2015 (the Assessment).

This report and supporting EIS were prepared based on Secretary's Environmental Assessment Requirements (SEARs) issued for the project on 1 October 2015

As Delegate of the Heritage Council of NSW I have reviewed the above information and provide the following comments and recommended conditions:

The Heritage Division notes the Project Area is located within three Archaeological Management Units (AMUs) identified in the Parramatta Historical Archaeological Landscape Management System (PHALMS), 2000. These AMUs include 2890, 2891 and 2893. These three AMUs relate to part of the former Government Domain (1810-1859) and to the Former Westmead Boys Home (1915-1985). The supporting information states there are likely to be minor impacts to the archaeological resources present within each AMU with some areas subject to more major disturbance.

It is considered the SOHI which supports this EIS does not adequately address the SEARs. This is due to the fact that the archaeological assessment was not prepared in accordance with the guidelines of the NSW Heritage Manual. In addition the SOHI does not include a detailed consideration of likely land disturbance activities relevant to the project area to inform this analysis of archaeological potential. This is necessary to adequately address the above named AMUs and their likely significance and archaeological potential.

Based on the above information the Heritage Division recommends the following conditions of approval.

1. A detailed historical archaeological assessment should be prepared by a suitably qualified historical archaeologist. This assessment should include relevant and

sufficiently detailed historical research of the project area to inform the archaeological potential and include a consideration of land use disturbance. Where harm will occur and cannot be avoided, appropriate mitigation measures should be identified, based on their assessed level of significance. This should be referred to the Heritage Council of NSW for review and approval prior to works commencing.

2. If the archaeological assessment identifies archaeological excavation is an appropriate mitigation measure, an Excavation Methodology and Research Design to guide this excavation must be prepared by a suitably qualified and experienced historical archaeology and referred for review and approval prior to commencing works as a condition of the approval.

Should you have any queries, please contact Chris Lewczak, Acting Archaeologist, at the Heritage Division, Office of Environment and Heritage on telephone (02) 9873 8500 or via email to.

Yours sincerely

Katrina Stankowski
Acting Manager, Conservation
Heritage Division
Office of Environment and Heritage

AS DELEGATE OF THE NSW HERITAGE COUNCIL OF NSW
17 December 2015

NSW EPA

Our reference: EF15/9530, DOC15/508402-01
Contact: John Goodwin

Ms Megan Fu
Department of Planning and Infrastructure
GPO BOX 39
SYDNEY 2001

Dear Ms Fu

SSD 7262 – WESTMEAD HOSPITAL – MULTI-STOREY CARPARK EIS

I am writing to you in reply to your invitation to the EPA to comment on the EIS for a new multi-storey parking structure and associated works, including demolition and road widening.

The EPA requests that these comments be read in conjunction with its letter and attachment dated 23 September 2015

The EPA has identified the following site specific concerns based on the information (including the draft SEARs) supplied to it by Department of Planning and Environment:

(a) the need for remedial action and engagement of an accredited site auditor;

(b) handling, transport and disposal of asbestos waste encountered on site;

(c) bulk earthworks, construction and construction-related noise and vibration impacts (including recommended standard construction hours and intra-day respite periods for highly intrusive noise generating work);

(d) bulk earthworks, construction and construction-related dust control and management;

(e) bulk earthworks, construction and construction-related erosion and sediment control and management;

(f) operational noise and vibration impacts on noise sensitive receivers (especially surrounding residences and schools) arising from operation of the carpark during day-time, evening and night-time;

(g) minimisation of operational water quality impacts on Toongabbie Creek; and

(h) identification and implementation of practical opportunities to conserve water and achieve energy efficiency and conservation.

PO Box 668 Parramatta NSW 2124
Level 13, 10 Valentine Avenue, Parramatta NSW 2150
Tel: (02) 9995 5000 Fax: (02) 9995 6900
ABN 43 692 285 758
www..epa.nsw.gov.au

The EPA expands on its concerns in Attachment A to this letter.

Should you require clarification of any of the above please contact John Goodwin on 9995 6838.

Yours sincerely

22-12-15

MIKE SHARPIN
A/Manager Metropolitan Infrastructure
Environment Protection Authority
Encl. Attachment A

ATTACHMENT A

- ENVIRONMENT PROTECTION AUTHORITY COMMENTS –

MULTI-STOREY CARPARK

1. General

The EPA considers that the project comprises two distinct phases (construction and operational) and has set out its comments on that basis.

2. Construction phase

The EPA anticipates a range of environmental impacts during the construction phase of the development. And, notes the proximity of schools, residences and Westmead private hospital.

The EPA anticipates that site preparation, bulk earthworks, construction and construction-related, and demolition activities will be undertaken in an environmentally responsible manner with particular emphasis on –

- detailed site contamination investigation and remediation, especially in regard to asbestos contaminated fill,
- compliance with recommended standard construction hours,
- waste management consistent with the hierarchy of re-use, recycle and then disposal as the last resort,
- feasible and reasonable noise and vibration minimisation and mitigation,
- intra-day respite periods from high noise generating construction activities (including jack hammering, rock breaking, pile boring or driving, saw cutting and vibratory rolling),
- effective dust control and management, and
- effective erosion and sediment control.

The EPA notes that the EIS Appendix T comprises a preliminary construction management plan. The EPA emphasises that it does not review or endorse environmental management plans or the like for reasons of maintaining regulatory 'arms length'.

2.1 Site investigation and remediation

EIS Appendix M (detailed site investigation) identified asbestos contamination of fill materials across the development site.

The Executive Summary to EIS Appendix N (JBSG, 23 October 2015) states on page vii "Upon completion of the remediation works, the Validation Report and LTEMP for materials retained beneath the marker and capping layer are required to be submitted by the Remediation Consultant to the Site Auditor for certification that the site is suitable for the proposed uses....".

Recommendation

The proponent be required to

(a) engage a site auditor accredited under the Contaminated Land Management Act 1997; and

(b) provide a Section A site audit statement for the whole of the development site by an EPA accredited site auditor determining site suitability for the proposed land uses prior to undertaking any construction.

Asbestos

The EPA understands that the remediation strategy is to 'cap and contain' with the excavated material proposed to be re-buried on site.

The EIS indicates:

(a) asbestos contamination of fill material on the development site is widespread and extends across two lots, notably Lot 100 DP 1119583, and Lot 4 DP 1077852, both of which appear to be owned by NSW Health; and

(b) the project is proposed to be undertaken on Lot 100 DP 1119583.

However, the EPA is unclear whether asbestos impacted fill materials from Lot 4 DP 1077852 are proposed to be imported onto Lot 100 DP 1119583, or vice versa. Accordingly, the EPA is unable to determine at this time whether waste regulatory requirements may be triggered by the proposed remedial action.

Recommendation

The proponent be required to address the uncertainty as to whether fill material from Lot 4 DP 1077852 will be imported onto Lot 100 DP 1119583 or vice versa.

Recommendation

The proponent be required to satisfy the requirements of the Protection of the Environment Operations (Waste) Regulation 2014 with particular reference to Part 7 'asbestos wastes'.

Note: EPA guidance material concerning the handling, transport and disposal of asbestos wastes is available via the following link to its web-site

http://www.environment.nsw.gov.au/waste/asbestos/index.htm.

Recommendation

The proponent be required to consult with Safework NSW concerning the handling of any asbestos waste.

2.2 Waste control and management (general)

The proponent should manage waste in accordance with the waste management hierarchy. The waste hierarchy, established under the Waste Avoidance and Resource Recovery Act 2001, is one that ensures that resource management options are considered against the following priorities:

Avoidance including action to reduce the amount of waste generated by households, industry and all levels of government

Resource recovery including reuse, recycling, reprocessing and energy recovery, consistent with the most efficient use of the recovered resources

Disposal including management of all disposal options in the most environmentally responsible manner.

All wastes generated during the project must be properly assessed, classified and managed in accordance with the EPA's guidelines to ensure proper treatment, transport and disposal at a landfill legally able to accept those wastes.

The EPA further anticipates that, without proper site controls and management, mud and waste may be tracked off the site during the course of the project.

Recommendation

The proponent should commit to ensuring that:

(1) all waste generated during the project is assessed, classified and managed in accordance with the "*Waste Classification Guidelines Part 1: Classifying Waste*" (EPA 2014);

(2) the body of any vehicle or trailer, used to transport waste or excavation spoil from the premises, is covered before leaving the premises to prevent any spill or escape of any dust, waste, or spoil from the vehicle or trailer; and

(3) mud, splatter, dust and other material likely to fall from or be cast off the wheels, underside or body of any vehicle, trailer or motorised plant leaving the site, is removed before the vehicle, trailer or motorised plant leaves the premises.

2.4 Dust control and management

The EPA considers dust control and management to be an important air quality issue during site preparation and subsequent construction. Bulk earthworks, demolition, construction and construction-related activities inevitably generate dust as a result of –

(a) the excavation, processing and handling of excavation spoil,

(b) wind action on spoil stock piles, and

(c) wind action on and plant movement across areas bare of vegetation or other cover.

The proponent be required to take all such feasible and reasonable measures as may be necessary to:

(a) minimise dust emissions on the site, and

(b) prevent dust emissions from the site.

2.5 Erosion and sediment control

The EPA notes the proximity of Toongabbie Creek and considers that erosion and sediment controls should be designed and implemented to prevent pollution of the Creek during site preparation, bulk earthworks, construction and construction-related activities.

The Managing Urban Stormwater Soils and Construction, 4th Edition published by Landcom (the so-called 'Blue Book') provides guidance material for achieving effective erosion and sediment control on construction sites.

The EPA emphasises the importance of –

(a) not commencing earthmoving or vegetation removal until appropriate erosion and sediment controls are in place, and

(b) daily inspection of erosion and sediment controls which is fundamental to ensuring timely maintenance and repair of those controls.

2.6 Noise and vibration

The EPA notes the proximity of residences in Mons Road, Westmead private hospital and schools including Catherine McAuley Westmead.

The EPA considers that the project is likely to generate significant noise and potential vibration impacts on surrounding residences and other noise sensitive land uses during site preparation, bulk earthworks, construction and demolition.

The EPA provides the following guidance material for the assessment of noise and vibration impacts -

- Interim Construction Noise Guideline (2009) (ICNG), and
- Assessing Vibration: a technical guideline (2006).

The proponent may download a copy of the above mentioned guidance material via the following link –

http://www.epa.nsw.gov.au/noise/

2.6.1 construction hours (general)

The EIS Noise Impact Assessment does not:

(a) appear to assess construction noise impacts on either the private hospital or residences in Mons Street; and

(b) indicate proposed construction hours.

Site preparation, bulk earthworks, demolition, construction and construction-related activities should be undertaken during the recommended standard construction hours set out in ICNG Table 1.

The EPA accepts that certain emergency work may need to be undertaken urgently (other than during the standard recommended hours) in order to avoid –

- loss of life,
- damage to property, or
- environmental harm.

Recommendation

The proponent be required to comply with the standard construction hours as recommended in Table 1 Chapter 2 of the Interim Construction Noise Guideline, July 2009.

2.6.2 construction hours (intra-day respite periods)

The EPA notes the proximity of the project to various noise sensitive receivers as outlined above. The proponent should consult closely with residents and the management of other noise sensitive receivers (private hospital and schools) to appropriately schedule activities that generate highly intrusive noise.

ICNG section 4.5 specifies construction activities proven to be particularly annoying and intrusive to nearby residents and which are considered at least as annoying to the nearby private hospital and schools. The EPA anticipates that those activities generating noise with particularly annoying or intrusive characteristics would be subject to a regime of intra-day respite periods where –

(a) they are only undertaken over continuous periods not exceeding 3 hours with at least a 1 hour respite every three hours, and.

(b) 'continuous' means any period during which there is less than an uninterrupted 60 minute respite between temporarily halting and recommencing any of the work referred to in ICNG section 4.5

Recommendation

The proponent be required (in consultation with residents and the management of other surrounding noise sensitive receivers) to schedule intra-day 'respite periods' for construction activities identified in the Interim Construction Noise Guideline as being particularly annoying to surrounding residents and other noise sensitive receivers.

2.6.3 reversing and movement alarms

The EPA has identified the noise from 'beeper' type plant movement alarms to be particularly intrusive and is aware of feasible and reasonable alternatives. Transport for NSW, Barangaroo Delivery Authority/Lend Lease and Leighton Contractors (M2 Upgrade project) have undertaken safety risk assessments of alternatives to the traditional 'beeper' alarms. Each determined that adoption of 'quacker' type movement/reversing alarms instead of traditional beepers on all plant and vehicles would not only maintain a safe workplace but also deliver improved outcomes of reduced noise impacts on surrounding residents.

Interim Construction Noise Guideline Appendix C provides additional background material on this issue.

The proponent should commit to undertaking a safety risk assessment of construction activities to determine whether it is practicable to use audible movement alarms of a type that would minimise the noise impact on surrounding noise sensitive receivers, without compromising safety.

3. Operational phase

The Carpark will represent a significant long-term infrastructure investment with concomitantly long-term environmental impacts.

The EPA considers that environmental impacts that arise once the carpark commences operation can largely be averted by responsible environmental management practices, particularly with regard to:

(a) feasible and reasonable noise avoidance and minimisation; and

(b) water quality (Toongabbie Creek); and

(c) energy and water conservation (including stormwater collection, treatment and re-use).

3.1 Noise and vibration impacts

The EPA anticipates that the proposed facilities are likely to change the nature and intensity of noise impacts on surrounding noise sensitive receivers (example: residences, private hospital and schools). The *NSW Industrial Noise Policy, January 2000* (INP) provides guidance material on noise impact assessment.

EIS Appendix Q indicates that the proposed car park will be 8 storeys high and operate 24 hours per day 7 days per week. The EPA notes the location of residences in Mons Road and the proximity of Westmead private hospital. However, the EIS does not appear to provide an assessment of the predicted operational noise impacts (especially sleep disturbance impacts) on the nearby residences in Mons Road or on Westmead private hospital.

Section 6.1.3 to EIS Appendix Q proposes a number of noise mitigation measures concerning surface finishes and drainage grates in the multi-storey carpark. The EPA considers that, given the proposed round the clock use of the carpark and its height relative to surrounding development, additional noise mitigation and management measures may be warranted.

Recommendation

The proponent be required to revise the noise impact assessment of operation of the multi-storey parking structure to include a detailed noise impact assessment of –

(a) potential sleep disturbance impacts on surrounding residents, private hospital patients and child care facilities (if any);

(b) the need to apply 'modifying factors' (see INP chapter 4) to noise monitoring data and associated noise impact assessment; and

(c) the need to provide noise shielding to minimise noise impacts of noise sensitive receivers; and

(d) the need to adopt management measures to minimise noise impacts, especially evening and night-time impacts on noise sensitive receivers.

Recommendation

The proponent should be required to commit to averting unacceptable noise impacts on surrounding noise sensitive receivers by undertaking a noise monitoring program to 'ground truth' noise impact predictions at set periods following commencement of operation of the new multi-storey parking structure.

3.2 Water Quality (Toongabbie Creek), Water Conservation and Energy Efficiency

The EPA considers the design stage of the project to be the optimum time to integrate measures to achieve -

- water conservation through stormwater collection, treatment and re-use for non potable purposes such as grounds maintenance, and
- water efficiency

The EPA notes the location of Toongabbie Creek along the western side of the hospital campus. And, emphasises the importance of preventing water pollution associated with runoff from the development.

EIS section 6.2.3 (3rd para.) states "Water quality treatment from stormwater will the requirements of Council and consider downstream impacts ...".

Appendix I *Hydraulic Services* indicates that the multi-storey carpark stormwater will be directed to an "On Site Detention Tank and stormwater treatment device ... " to be designed by others. However, Section 3.2 of EIS Appendix J *Civil Engineering Part 1* indicates that "OSD for the MSCP will be provided within the car park footprint, and as such will be designed and specified by the project's hydraulic engineer ..."

Section 3.1 of EIS Appendix J *Civil Engineering* acknowledges certain stormwater pollutant reduction targets. However, the EPA is unclear whether those targets will achieve water quality consistent with Sydney Harbour and Parramatta River Water Quality Objectives. Section 3.1 goes on to confirm that "...water quality modelling of the site has not been undertaken to confirm the specifications for the treatment device/s."

The EPA is unclear whether stormwater detained on site will be stored for re-use (examples: landscape and sports field irrigation, toilet flushing) as would be suggested by Water Sensitive Urban Design principles and objectives. The proponent does not appear to have investigated opportunities for stormwater re-use on the hospital campus.

Recommendation

The proponent be required to identify, evaluate and implement additional practical measures for the management of stormwater consistent with the principles and objectives of water sensitive urban design, including (where feasible) collection, treatment and re-use of stormwater for non-potable water uses on the hospital campus and nearby school and university campuses.

3.3 Energy Efficiency and Conservation

The EPA considers the design stage of the project to be the optimum time to integrate measures to achieve energy efficiency (with resultant running cost savings).

EIS section 6.23 indicates that all but the lower ground floor will be naturally ventilated whilst low energy lighting is to be installed throughout the multi-storey structure and at grade carparks.

However, the EIS does not assess practical opportunities to generate renewable energy to serve the energy demand of operating the carparks.

Recommendation

The proponent be required to identify, evaluate and implement additional practical measures for energy efficiency and conservation.

Transport
Roads & Maritime
Services

13 January 2016

RMS Reference: SYD15/01159/02 (A11337296)
DP&E Ref: SSD 7262

Director
Department of Planning and Environment
GPO Box 39
SYDNEY, NSW 2001

Attention: Megan Fu

Dear Sir/Madam,

DEMOLITION AND CONSTRUCTION OF A MULTI-STORY CARPARK AT WESTMEAD HOSPITAL PRECINCT, CORNER OF DARCY ROAD & INSTITUTE ROAD IN WESTMEAD

Reference is made to the Department of Planning's correspondence dated 10 December 2015 with regard to the abovementioned Environmental Assessment, which was referred to Roads and Maritime Services (Roads and Maritime) in accordance with Clause 104 and Column 2 of Schedule 3 of *State Environmental Planning Policy (Infrastructure) 2007.*

Roads and Maritime has reviewed the Environmental Assessment and advises that the issues that were of concern raised for inclusion in the Director General's Requirements have generally been adequately addressed. However, Roads and Maritime requires the Raw SIDRA 6 modelling files for review. In this regard, Roads and Maritime requires pre development modelling files and post development modelling files for assessment.

Upon receipt of these files Roads and Maritime would review and provide a response accordingly.

Any further enquiries in relation to this development application can be directed to Ahsanul Amin on 02-8849 2413 or development.sydney@rms.nsw.gov.au.

Yours sincerely,

Laura Van Putten
A/Senior Land Use Planner
Network and Safety Section

Transport
Roads & Maritime
Services

25 February 2016

Our Reference: SYD15/01159/03
DP&E Ref: SSD 7262

Team Leader
Social Infrastructure
Department of Planning & Environment
GPO Box 39
Sydney NSW 2001

Attention: Megan Fu

Dear Ms Fu

DEMOLITION AND CONSTRUCTION OF A MULTI-STOREY CARPARK AT WESTMEAD HOSPITAL PRECINCT, CORNER OF DARCY ROAD AND INSTITUTE ROAD, WESTMEAD

Reference is made to the Department of Planning and Environment's letter dated 10 December 2015, regarding the abovementioned Application referred to Roads and Maritime Services (Roads and Maritime) for comment in accordance with Clause 104 and Column 2 of Schedule 3 of the *State Environmental Planning Policy (Infrastructure) 2007* and also to the submitted SIDRA 6 modelling files on the 19 January 2016.

Further to our previous response dated 13 January 2016, Roads and Maritime has reviewed the submitted application and SIDRA modelling files and would like to continue to work with Health Infrastructure to resolve key issues associated with the proposal. Details of the key issues associated with the SIDRA traffic modelling are provided within **Annexure A**.

Roads and Maritime has reviewed the submitted application and raise no objection to the State Significant Development provided the following conditions are included in the Consent:

Prior to the issue of a Construction Certificate:

1. Updated SIDRA Network analysis must be submitted to Roads and Maritime (along with the electronic SIDRA files) for further review and comment in conjunction with a revised Transport Impact Assessment report which identifies any potential intersection enhancements / upgrades which are required to generally maintain the existing Average Delay at intersections adjacent to the site.

2. An "in-principle" agreement should be reached between TfNSW, Roads and Maritme, and the applicant on the details and scope of road / transport infrastructure requirements that would be necessary to support this development. This agreement must be provided to the Secretary.

3. The design of the carpark accesses including the implementation of appropriate measures must be in place to ensure that queueing at the access points do not affect traffic and buses on the road network and the T-way. These measures should be incorporated into a Car Park Management Plan which is agreed to by TfNSW and Roads and Maritime.

Prior to Occupation / Operations:

4. The design of any modified traffic signals (identified within the "in-principle" agreement) shall be designed to meet Roads and Maritime Services requirements, be in accordance with Austroads Guide to Road Design in association with relevant Roads and Maritime supplements (available on www.rms.nsw.gov.au). The certified copies of the signal / civil design plans shall be submitted to Roads and Maritime for consideration and approval prior to the release of an occupation certificate by the Certifying Authority and provided to the Secretary for information.

   The applicant may be required to enter into a Works Authorisation Deed (WAD) for the abovementioned works. Please note that the WAD will need to be executed prior to Roads and Maritime assessment of the detailed signal / civil design plans, a copy of the WADPack is available on www.rms.nsw.gov.au.

5. Any civil / modified traffic signal works (as identified within the "in-principle" agreement) must be completed prior to the occupation / operation of the multi-storey carpark.

6. The applicant shall be responsible for all public utility adjustment/relocation works, necessitated by the above work and as required by the various public utility authorities and/or their agents.

General Comments:

7. The layout of the proposed car parking areas associated with the subject development (including, driveways, grades, turn paths, sight distance requirements, aisle widths, aisle lengths, and parking bay dimensions) should be in accordance with AS 2890.1- 2004 and AS2890.6-2009.

8. The proposed development will generate additional pedestrian movements in the area. Pedestrian safety is to be considered in the vicinity.

9. All vehicles are to enter and leave the site in a forward direction.

10. All works associated with the proposed development shall be at no cost to the Roads and Maritime.

Any further enquiries in relation to this matter can be directed to the Senior Land Use Planner – Andrew Popoff on telephone 8849 2180 or via email to: Andrew.Popoff@rms.nsw.gov.au

Yours sincerely,

Greg Flynn
Manager, Strategic Land Use
Network & Safety, Sydney

ANNEXURE A

The SIDRA traffic modelling must be updated by the applicant to satisfactorily address the following issues listed below:

a) The "Existing" and "Base Case" AM / PM SIDRA modelling scenarios for the Darcy Road / Mons Road / Institute Road – TCS# 2393 intersection has potentially modelled the "Bus" Phase incorrectly (ie. the modelling ranged from 3 – 8 seconds green + 0 seconds for amber + red).

   The applicant is advised that the current operation of this demand responsive "Bus" C-Phase is a default 15 seconds (ie. 9 seconds of green + 4 seconds amber + 2 seconds red) with a repeat 15 second "Bus" F-Phase also called up based on bus demand. Therefore the SIDRA modelling should be subsequently amended to more accurately reflect the operation of the bus phasing in all scenarios.

b) Any proposed phasing upgrades / changes to traffic signal sites must not involve the provision of low - double cycle phasing arrangements.

c) The SIDRA modelling for the future (with Multi-storey carpark scenarios) for the AM / PM peaks should take into consideration the 'cumulative' traffic impacts of this site in conjunction with recently approved development / planning proposal(s) in close proximity to the site (ie. UWS Westmead Precinct).

d) The SIDRA modelling for the future (with Multi-storey carpark scenarios) for the AM / PM peaks should be conducted based on a re-distribution of traffic utilising the proposed Multi-storey carpark.

e) The SIDRA traffic modelling conducted for the future (with Multi-story carpark scenarios) for the AM / PM peak for the intersection of Darcy Road / Hospital Entrance – TCS# 3281 should be modelled based on the layout and phasing arrangements within the attached TCS Plan.

f) Address all related issues raised within the attached Transport for NSW (TfNSW) correspondence, such as:

   - Maintaining the current operation of bus services and movements at the Darcy Road / Mons Road / Institute Road intersection within future scenarios;
   - Future scenario modelling must also consider maintaining the existing right turn movement from Darcy Road into Institute Road;
   - Verify (validate) the results of the base modelling particularly for the intersection of Darcy Road / Mons Road / Institute Road;

g) To adequately examine the overall network performance such as queue spill back and overall delay along the corridor the SIDRA modelling must be updated and modelled as a linked "Network Model" (modelled with a 130 sec cycle time) which includes (as a minimum) the following intersections.

   - Darcy Road / Mons Road / Institute Road – TCS# 2393;
   - Darcy Road / Dental Hospital Access – TCS# 3282;
   - Darcy Road / Hospital Entrance – TCS# 3281;
   - Darcy Road / Hawkesbury Road – TCS# 1631;

And preferably the following additional intersections below as all listed signal intersections form part of co-ordinated (Subsystem 41):

- Darcy Road / Bridge Road / Shopping Centre Access – TCS# 1630;
- Hawkesbury Road / Alexandra Avenue / Railway Parade – TCS# 1571.

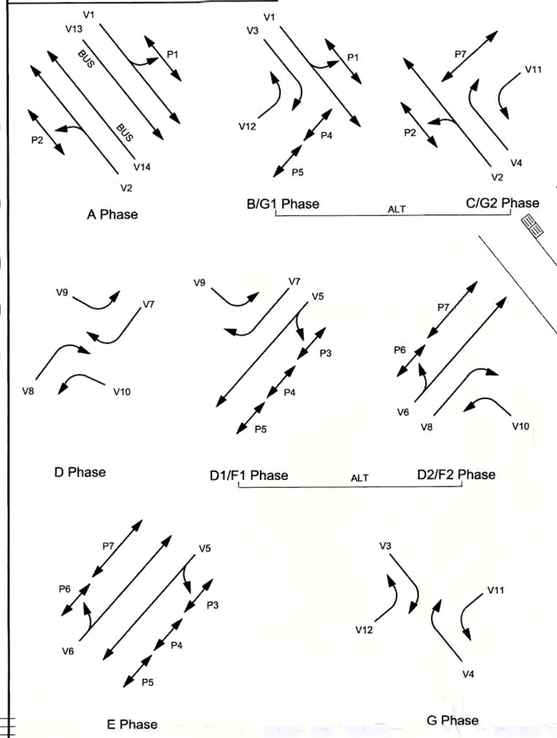
f) The updated SIDRA Network analysis listed in Points a) – g) above should provide detailed results (ie. queuing, phasing, intersection layout diagrams, etc) and also demonstrate that bus services / travel times on the adjacent North West T-way would not be detrimentally impacted as a result of the traffic associated with the proposal.

DRAWN BY CADD
DO NOT AMEND MANUALLY

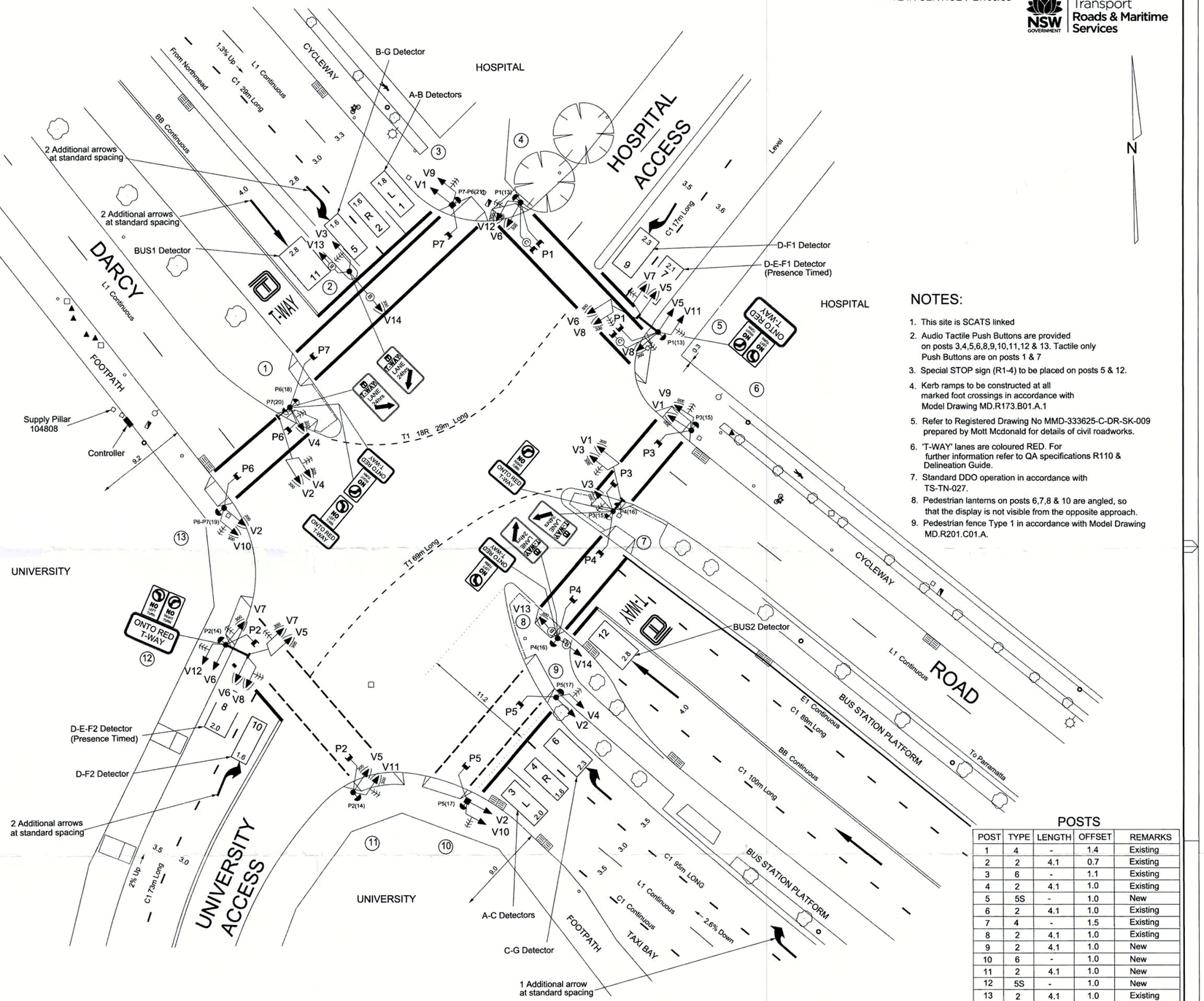
DATE IN SERVICE : 27/05/98

Transport Roads & Maritime Services

TCS 3281



MOVEMENTS



SIGNAL GROUP / PHASE CHART

SIGNAL GROUP	PHASE DURING WHICH GREEN DISPLAYED											OVERLAPS PERMITTED	OVERLAP CONDITIONS	STANDARD TABLE
	A	B	C	D	D1	D2	E	F1	F2	G	G1	G2			
V1	X	X									X		G1/A/B, B/A. A/G1		TS-TN-027
V2	X		X									X	G2/A/C, C/A. A/G2		TS-TN-027
V3		X								X	X		G/G1, B/G		TS-TN-027
V4			X							X		X	G/G2, C/G		TS-TN-027
V5						X		X	X				D1/E/F1		TS-TN-027
V6							X	X		X			D2/E/F2		TS-TN-027
V7				X	X				X				D/D1		TS-TN-027
V8				X		X			X				D/D2		TS-TN-027
V9				X	X				X						130
V10				X		X			X						130
V11			X							X		X			130
V12		X								X	X				130
V13	X														1
V14	X														1
P1	X	X									X		G1/A/B		108
P2	X		X									X	G2/A/C		108
P3						X		X	X						112
P4		X				X		X	X		X				-
P5		X				X		X	X		X				-
P6							X	X		X					112
P7			X				X	X		X		X			-

NOTES:

1. This site is SCATS linked
2. Audio Tactile Push Buttons are provided on posts 3,4,5,6,8,9,10,11,12 & 13. Tactile only Push Buttons are on posts 1 & 7
3. Special STOP sign (R1-4) to be placed on posts 5 & 12.
4. Kerb ramps to be constructed at all marked foot crossings in accordance with Model Drawing MD.R173.B01.A.1
5. Refer to Registered Drawing No MMD-333625-C-DR-SK-009 prepared by Mott Mcdonald for details of civil roadworks.
6. 'T-WAY' lanes are coloured RED. For further information refer to QA specifications R110 & Delineation Guide.
7. Standard DDO operation in accordance with TS-TN-027.
8. Pedestrian lanterns on posts 6,7,8 & 10 are angled, so that the display is not visible from the opposite approach.
9. Pedestrian fence Type 1 in accordance with Model Drawing MD.R201.C01.A.

POSTS

POST	TYPE	LENGTH	OFFSET	REMARKS
1	4	-	1.4	Existing
2	2	4.1	0.7	Existing
3	6	-	1.1	Existing
4	2	4.1	1.0	Existing
5	5S	-	1.0	New
6	2	4.1	1.0	Existing
7	4	-	1.5	Existing
8	2	4.1	1.0	Existing
9	2	4.1	1.0	New
10	6	-	1.0	New
11	2	4.1	1.0	New
12	5S	-	1.0	New
13	2	4.1	1.0	Existing

A ORIGINAL ISSUE

PUBLIC UTILITY LEGEND		REFERENCE PLANS	
HYDRANT		SYMBOLS/ABBS.	VD003-6
STOP VALVE		STD POSIT	VD001-5
GAS VALVE		PRES. DETECT	VC005-17
SEWER MANHOLE		VEH. GROUP OP	TS-TN-019
TELECOM PIT		DET. LOGIC OP	TS-TN-020
ELECT LIGHT POLE		PED. MOVEMNT OP	TS-TN-021
POWER POLE			
STAY POLE			
TELEPHONE BOX		SURVEYOR : INSITES	
TELECOM PILLAR		DATE : 2007	

U.B.D. Ref. Map 190 M15
I.S.G. CO-ORDS E: 298 704 N: 1 257 927

DESIGNED J. SINGH
CHECKED C. TOMA
B. LO
SITE CHECKED
B. LO
RECOMMENDED

DESIGN APPROVAL
APPROVED
R. NETTLE
POSITION DIRECTOR
DATE 11.12.2015
DESIGN PREPARED BY
TRANSPORT AND TRAFFIC PLANNING ASSOCIATES

RMS ACCEPTANCE
RECOMMENDED
POSITION N.O.T.L.
DATE 3.2.16
ACCEPTED
POSITION MANAGER SERVICES
DATE 10.02.16

ROADS AND MARITIME SERVICES
PARRAMATTA COUNCIL AREA
TRAFFIC SIGNALS AT THE INTERSECTION OF DARCY ROAD, HOSPITAL ACCESS, UNIVERSITY ACCESS AND NORTH WEST T-WAY
WESTMEAD
DESIGN LAYOUT TCS No 3281

EXISTING ☐ PROPOSED ☒
CADD FILE: VV3281_10A.dgn
SCALE 5 0 (1:200) 5 10
ISSUE A
FILE SF2014/012768
SUPERSEDES SHEET/ISSUE 7B
REG No. DS2014/003668
TCS No. 3281
SHEET 10

Revision 1 - August 2014

$FILE$

NSW GOVERNMENT | Transport for NSW

Mr David Gibson
Team Leader
Social Infrastructure
Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

Attention: Megan Fu

Dear Mr Gibson

Multi-storey Carpark at Westmead Hospital (SSD 7262)
Notice of Exhibition

Thank you for your letter dated 10 December 2015 requesting Transport for NSW (TfNSW) comment on the above proposal for an eight-storey, 1254 space carpark.

TfNSW supports the overall proposal but would like to continue to work with Health Infrastructure to resolve key issues as highlighted below. Detail of key comments and remaining issues is provided at **TAB A**.

- The proposed modification to the T-Way operation at the intersection of Darcy Road/Mons Road/Institute Road and the proposal to allow construction and staff access on to the northern end of Mons Road T-Way is not supported due to the impact on the operation of existing and future bus services.

- TfNSW supports the need for Health Infrastructure to develop, implement and monitor a travel plan. This is due to the increase in the number of trips associated with the proposal and the full Westmead Redevelopment Project, the demand for public transport is also expected to significantly increase.

- A comprehensive transport assessment should be developed to assess the transport impact of the full Westmead Redevelopment Project and develop an access strategy to facilitate future cumulative growth including surrounding developments. This assessment should be prepared as part of the next stage of the project in consultation with TfNSW and Roads & Maritime Services.

TfNSW requests that the identified issues should be resolved in close consultation with TfNSW and Roads and Maritime Services during the preparation of Response to Submissions. TfNSW would be pleased to consider any further material forwarded from the applicant.

18 Lee Street Chippendale NSW 2008
PO Box K659 Haymarket NSW 1240
T 8202 2200 **F** 8202 2209
www.transport.nsw.gov.au
ABN 18 804 239 602

Thank you again for the opportunity to provide advice for the above development application. If you require clarification of any issue raised, please don't hesitate to contact Mark Ozinga, Principal Manager, Land Use Planning and Development on 8202 2198.

Yours sincerely

Simon Hunter
Executive Director, Transport Strategy
Freight, Strategy and Planning

CD15/21809

TAB A – Request for Further Information/Clarification

Impacts on T-Way Bus Services

Issue

Westmead precinct is proposed for major growth and development. The provision of public transport services is a key requirement to facilitate this growth. Implementing bus priority measures are generally challenging and complex. Any impact on existing and future public transport infrastructure and services would not be appropriate.

T-way buses currently operate on Mons Road, Darcy Road and Hawkesbury Road. Bus movements run separately to general traffic under traffic signal control. Traffic modelling was undertaken using SIDRA to assess the impact of the proposed development at key intersections. Considering the importance of the operation of buses on the T-way, it is considered that the modelling should assess the impacts of the operation of T-way buses separately.

Section 8.4 of Transport Impact Assessment (TIA) outlines a number of suggested changes to the intersection of Darcy Road/Mons Road/Institute Road. The proposed left turn ban from the Darcy Road T-Way west approach in Darcy Road south approach is inappropriate. It is currently not possible or safe for several routes and school buses to join the general traffic lanes to turn left due to conflict with general traffic and the median creating an unsafe blind spot for drivers. In addition, if the routes were to merge with general traffic they would no longer be able to service Westmead Hospital T-way station, a vital patronage point for these services and a connection point between the two corridors.

The proposed right turn ban from Darcy Road into Institute Road requires further review. Although there are currently no bus services using this route, it may be required to access the Children's Hospital in the future particularly during the construction of the Parramatta Light Rail.

Recommendation

It is requested that the applicant:

- Update the SIDRA traffic modelling in consultation with Roads and Maritime Services. The operation of T-Way buses needs to be assessed separately;
- Identify appropriate measures to maintain the operation of bus services in the future scenarios; and
- Investigate alternate measures and models accordingly as the proposed removal of left turn ban for buses on Darcy Road T-Way south approach into Darcy Road west approach is not supported.

General Vehicular Access onto dedicated T-Way (Mons Road Bridge)

Issue

Section 4.7 of the Preliminary Construction Management Plan (PCTMP) and separate correspondence from GTA Consultants suggested that construction vehicles be permitted on the existing dedicated T-Way (Mons Road Bridge).

The route is a Rapid Bus Route Corridor between Hurstville and Rouse Hill under Sydney's Bus Future and is planned to undergo enhancements to service frequency and span of hours and running time reliability. Shared use of the T-Way at this location has the potential to affect the reliability of bus services. Further, TfNSW would like to maintain the exclusive use of the T-Way to ensure it could introduce additional bus routes along this part of the T-Way without conflicting with general traffic and reducing the occurrence of incidence and disruptions.

Recommendation

The shared use of the existing dedicated T-Way (Mons Road Bridge), Westmead by construction vehicles or hospital staff vehicles is not supported. It is requested that:

- An alternative access arrangement for the wider Westmead Hospital precinct be investigated in a regional context; and
- An access strategy be delivered that would facilitate development growth and support the delivery of future regional transport infrastructure. Further details are provided below under wider Regional Transport Impacts.

Travel Demand

Issue

Westmead Precinct is proposed for significant development and growth. It is identified as a growing specialised health and educational precinct in *A Plan for Growing Sydney*. In order to accommodate the future growth and development within Westmead, there needs to be a shift away from private vehicles to public and active transport. Regional studies discussed in Section 3.2 of the TIA indicate that mode share of 35% would be necessary to accommodate the growth within the precinct. Recent staff survey data indicate over 85% of staff use private vehicles.

It is important that the reasons for the high private vehicle use should be identified in order to tailor travel plan that would be effective in achieving the required shift to public and active transport. Section 9 of the TIA provides a comprehensive list of travel plan measures suggested for implementation.

Recommendation

It is requested that the applicant:

- Undertake consultation with the hospital staff and visitors to obtain their views on existing and future public transport services to the hospital during the preparation of the travel plan;

- Implement the travel measures based on the outcome of the consultation to increase public transport patronage; and

- Monitor the effectiveness of the travel plan measures using the appropriate reporting then identify any further improvements to achieve the required modal shift targets.

Regional Transport Impacts

Issue

The Early Works Project and proposed Multi-storey Carpark project are the initial stages of the Westmead Redevelopment project. The TIA indicates that the Westmead Redevelopment Project would result in approximately 40% growth in number of staff and beds by end of 2020 as follows:

- Staff – from 9,987 to 13,873

- Beds – from 743 to 1,052

It is expected that this level of growth would have a regional transport impact. It would require the preparation of a comprehensive transport assessment. TfNSW and Roads and Maritime Services would like to work with Health Infrastructure during the investigations and associated transport modelling for the next stage of the project. The assessment would review the cumulative impact of the projects and surrounding developments with consideration of regional transport infrastructure.

Recommendation

It is requested that a comprehensive transport assessment be developed, in consultation with TfNSW and Roads and Maritime Services, for the next stage of the Westmead Redevelopment project. This assessment should include the wider network, cumulative development and regional transport infrastructure to develop access and transport strategy to facilitate development growth in Westmead.

Intersection Modelling

Issue

Section 4.1 provides an assessment of the nearby intersection operations. Table 4.5 provides base case operating conditions which indicate that Darcy Road/Mons Road/Institute Road are operating well below capacity with minimal delays and queues. On site observation indicate extensive delays and queuing experienced during the AM and PM peak.

Several local intersections known to experience delays and congestion have not been modelled including Hawkesbury Road/Alexandra Avenue, Darcy Road/Briens Road, Darcy Road/Bridge Road and Alexandra Road/Bridge Road.

Recommendation

It is requested that the applicant:

- Verify the results of the base modelling particularly for the intersection of Darcy Road/Mons Road/Institute Road; and

- Model surrounding local intersections experiencing congestion to the satisfaction of Council and Roads and Maritime Services. As previously noted the operation of bus services on the T-way should be assessed separately.

Car Park Access

Issue

It is important that the carpark access is designed with entry capacity to ensure that queuing does not block through traffic on Darcy Road and Institute Road as this would have a significant impact on the operation of Darcy Road and the T-Way.

The car park access proposed includes two Entry lanes from Darcy Road, one Entry lane from Institute Road and two Exit lanes onto Institute Road. The TIA indicates that the number of access points has been reduced due to the implementation of Automatic Number Plate Recognition (ANPR) system. As a result the service rate of 550 veh/h/lane has been used for assessment, which is close to free flow (i.e 600 veh/h/lane). It is unclear how such a high service rate can be achieved considering the system seems to indicate boom gates would still be required as shown in Figures 7.5 and 7.6.

Recommendation

It is requested that:

- The operation of the ANPR system be further clarified with the claimed service rate justified by empirical data; and

- Appropriate measures be put in place aimed at ensuring queueing at the access point during peak events do not affect traffic and buses on the road network and the T-Way. The measures should be incorporated into a carpark management plan.

Pedestrian and Cyclist Access

Issue

The Environmental Impact Statement (EIS) for the proposed car park includes provision for bicycle and motorcycle parking. The exact numbers are yet to be determined.

Measures to improve bicycle and pedestrian access and facilities require further assessment in the Traffic Impact Assessment.

It should be noted that the entrance to this development from Darcy Road crosses the T-Way separated cycleway. It appears that the documentation presented, does not include measures to reduce potential conflict between car park users and cyclists traveling along the cycleway.

The provision of accessible car-parking spaces of 1% as outlined in Section 5.1 of the TIA is low.

Recommendation

The proposed development presents an opportunity to take advantage of the pedestrian and cycleway link. It is requested that:

- Bicycle parking and end of trip facilities for pedestrian and bicycle riders be provided in accordance with relevant standards and guidelines. Details of locations and number of spaces should be shown on the plans;

- The connectivity, safety (including security, covered lighting and walkway) and accessibility for pedestrians and bicycle riders to pedestrian and bicycle networks be provided within the hospital and public transport particularly during late night or early morning periods;

- The provision of pedestrian crossings on all legs of the intersection of Darcy Road/Mons Road/Institute Road and Darcy Road/Dental Building Access be investigated;

- Wayfinding signs be provided to increase the awareness of the walking and cycling routes;

- The potential for cars queuing to access the car park, which could block the cycleway should be investigated and suitable measures implemented to appropriately manage the issue; and

- The provision of accessible car parking spaces be reviewed in accordance with relevant standards and guidelines.

Early Works Package

Issue

The TIA refers to the Early Works Package that includes additional parking, which has been approved separate to the Multi-Storey Car Park development. Section 2.4 indicates that the Early Works Package would only result minor net increase in on-site parking supply. However, Figure 2.10 indicates that it will be in the order of 2,000 additional car parking spaces.

Recommendation

It is requested that the number of car parking spaces proposed in the Early Works Package be clarified including the impact in terms of cumulative traffic and transport.

Parramatta Light Rail

Issue

Parramatta Light Rail project has recently been announced and it includes a connection to Westmead Hospital.

Recommendation

It is recommended that Health Infrastructure communicates with TfNSW's Parramatta Light Rail project team to ensure the impacts of the current project (and future stages) on the light rail project are appropriately considered.

Construction Traffic Management Plan

Issue

The proposed development has the potential to impact on traffic and transport operation in the vicinity of the hospital including pedestrian safety within and adjacent to the hospital during construction.

Recommendation

Prior to the commencement of any works on the site, a Construction Traffic Management Plan (CTMP) should be prepared by a suitably qualified person. It should be submitted to the Principal Certifying Authority (PCA). The Plan must be prepared in consultation with Parramatta City Council, Roads and Maritime Services and TfNSW. The CTMP should specify any potential impacts to traffic, pedestrian, cyclists and bus services within the vicinity of the proposed site from construction vehicles during construction. Any potential impacts to pedestrian access or public transport infrastructure including bus stops should also be specified in the CTMP.

The CTMP should include the cumulative construction impacts of all the projects adjacent to the site. The applicant should submit a copy of the CTMP to Parramatta City Council, prior to the commencement of work.

Minor Issues on the Transport Impact Assessment

Issue

Further clarifications on the following minor issues relating to the Traffic Impact Assessment report:

- Section 2.3 Paragraph 4 indicates the extent of works is illustrated in Figure 2.9 which may not be correct.

- Section 7.9 states 'A footpath along the northern side of Institute Road is also included as part of the Stage 1 Early Works scope. This is not clear from the drawings provided. This footpath would be important for establishing the pedestrian connection from the northern car park (at-grade) to the proposed multi-level car park and further on to the main buildings.

Recommendation

TfNSW requests that the issues above are addressed and the Traffic Impact Assessment is updated accordingly.

Jane Anderson

From: Myfanwy McNally <MMcNally@parracity.nsw.gov.au>
Sent: Wednesday, 23 December 2015 4:05 PM
To: Megan.Fu@planning.nsw.gov.au
Subject: FW: SSD 7262 Darcy Road Car Park and Associated Works
Attachments: DarcyRdCumberlandRd.pdf

Dear Megan,

As discussed we have no specific issues to raise in relation to the car park proposal. However, we would appreciate the opportunity to further discuss the associated road works that are being proposed.

An email from our Service Manager- traffic and Transport is shown below that highlights this issue.

Many thanks

Myfanwy

Myfanwy McNally
Manager City Significant Development
Parramatta City Council
PO Box 32, Parramatta NSW 2124
☎ (02) 9806 5447

From: Richard Searle
Sent: Tuesday, 22 December 2015 10:30 AM
To: Myfanwy McNally
Subject: SSD 7262 Darcy Road Car Park and Associated Works

Hi Myf,

I have no objection to the proposed car park, however, some of the associated work has matters to be addressed.

Institute Road, near Darcy Road is proposed to be narrowed, although maintaining its 2 lane westbound configuration. However, Institute Road could be widened to 3 lanes for approximately 40m on its westbound approach to Darcy Road with little effect on the landscaped area. This work is recommended. Note that the forecast increase in the afternoon peak westbound volume at this location is from 113 vehicles to 499 vehicles.

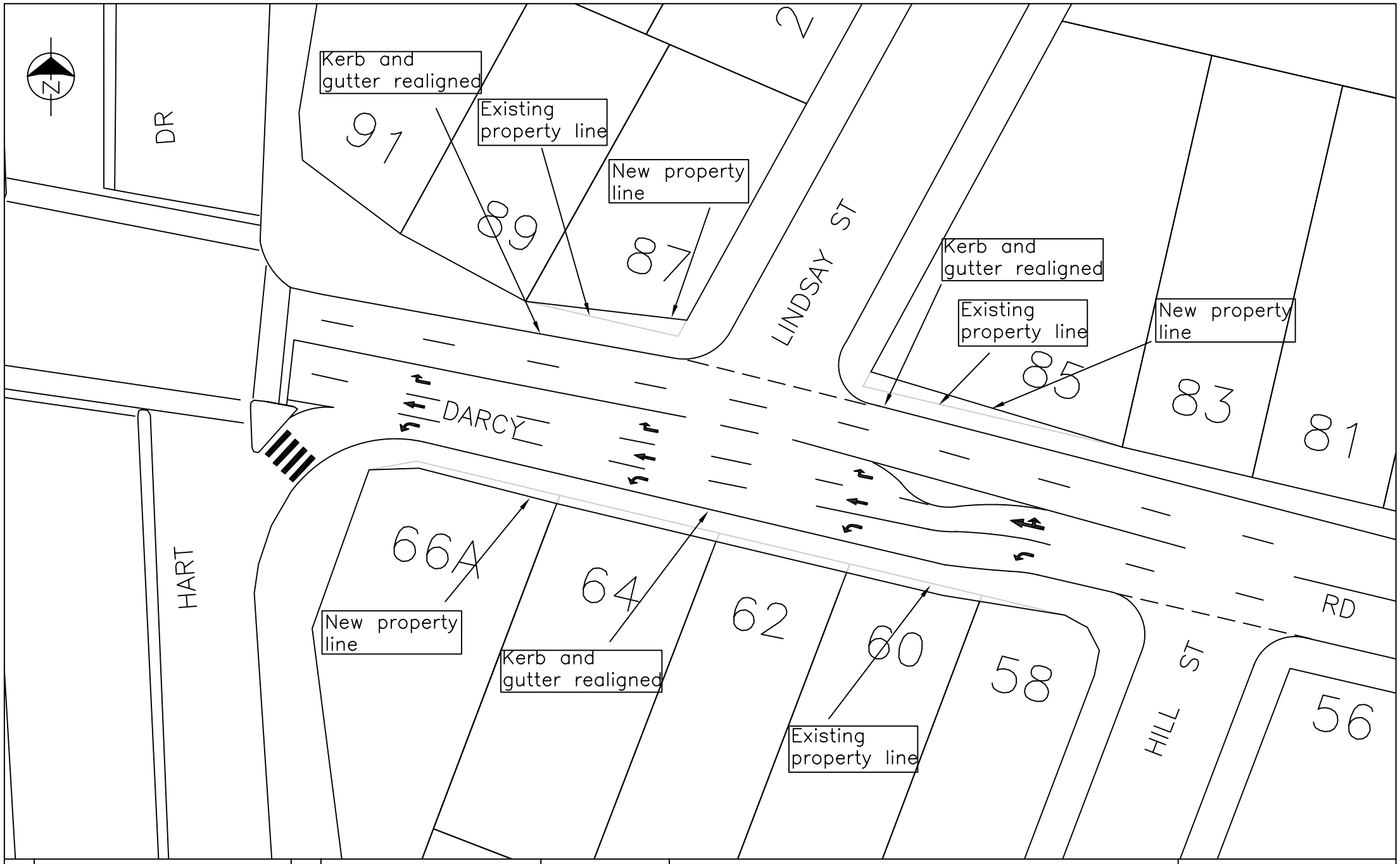
I am not sure of how the subsequent approvals, if any, are staged (eg Construction Certificate). Normally we would ask for design plans of proposed road works to our satisfaction before the CC is issued. It can get a bit complex when RMS approval is also required, as is the case for this DA due to the traffic signals. In any case the intersection upgrades would need to be completed prior to the car park being open.

The EIS for this project does not provide the overall information regarding total increase in the amount of parking as a result of the other additional parking that is currently under construction or is planned for the near future. The EIS also does not consider intersections that are substantially effected by the increase in parking and traffic, but are not immediately adjacent to the site. In particular, it does not consider the intersections of Redbank Road and Briens Road, not does it consider the intersection of Cumberland Highway and Darcy Road. There are currently delays at both these intersections in the peak periods, primarily due to the Medical Precinct. This will increase as a result of the increased parking. This information has been provided to Westmead Hospital and GTA previously, although it is noted that it has not been included in the consultation comments in the EIS.

Council has identified works that can undertaken at these intersections. It is considered that the project that is most directly related to the Medical Precinct, and would give the greatest benefit, is the widening of Darcy Road to the east of Cumberland Highway, to provide a westbound left turn lane. A plan of this proposal is attached. It is

recommended that the design, land acquisition and construction for this project be undertaken as part of the increase in parking that is being undertaken by Health NSW.

Richard Searle
Service Manager - Traffic and Transport
Parramatta City Council
Ph 98065642
rsearle@parracity.nsw.gov.au



DATE	AMENDMENT	INIT.

NOTES

ALL SIGN POSTING TO BE IN ACCORDANCE WITH AS.1742
ALL DIMENSIONS ARE IN METRES
CAUTION: SERVICES TO BE LOCATED PRIOR TO EXCAVATION

SCALE	N.T.S.
DESIGNED	ZA
DRAWN	17–04–2013
CHECKED	
APPROVED	

PARRAMATTA CITY COUNCIL

TRAFFIC AND TRANSPORT SERVICES

STD DWG

DARCYRD1

(Name withheld) , of Merrylands NSW, made the following submission on the project:

Westmead Hospital Multi-storey Carpark

Comments on this project

I have a limited 100 metres walking range that barely gets me from the University Clinic Front Door to the Reception Counter for regular appointments for Diabetes and Obesity. Parking near that access is extremely limited and almost impossible if self-driving. The proposed Car Park is far beyond my walking range, so my question is: What provision will be made for those like myself who need some form of transport between the Car Park and distant parts of Westmead Hospital? Also, will pensioners get free use of the car park?