



**Southern Cross Hospital,  
Newtown**

New Consulting Building

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**Transportation Assessment Report**

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April 2018

## Southern Cross Ltd

### New Consulting Building

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## Transportation Assessment Report Quality Assurance Statement

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Status                      Final Report

Date:                        26 April 2018



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## 1. Introduction

TDG has been commissioned to undertake an assessment of the traffic and transportation needs and effects of a proposal to develop a new consultation building at the existing Southern Cross Hospital site, on Hanson Street in Newtown.

The current proposal is similar in scale and nature to previous consents granted to expand the current Hospital's activities at the site (including approval for a Radiology Building<sup>1</sup> back in 2010, which was not pursued), including an equivalent consulting building development on the Hanson Street frontage. In this manner, the current application provides for a similar floor area and on-site parking ratio as the previous consented position.

This Transportation Assessment Report ("TAR") describes and evaluates the traffic and transport related features and relevant issues of the proposed development. The key elements covered in this report include:

- the safety and efficiency of the site layout including access, parking and circulatory provisions for vehicles;
- the ability of the site to accommodate servicing activities generated by the existing and proposed site activities; and
- the compliance of the development with the applicable traffic and transport-related provisions of the Wellington City District Plan ("District Plan").

By way of summary it is concluded that the proposed expansion of the current hospital activities can be developed in manner that ensures the traffic demands can be safely and efficiently accommodated on the surrounding road network, and that adequate parking can be included without any increase in parking utilisation of kerbside spaces.

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<sup>1</sup> Resource Consent SR2091303

## 2. Transport Network

### 2.1 Site Location

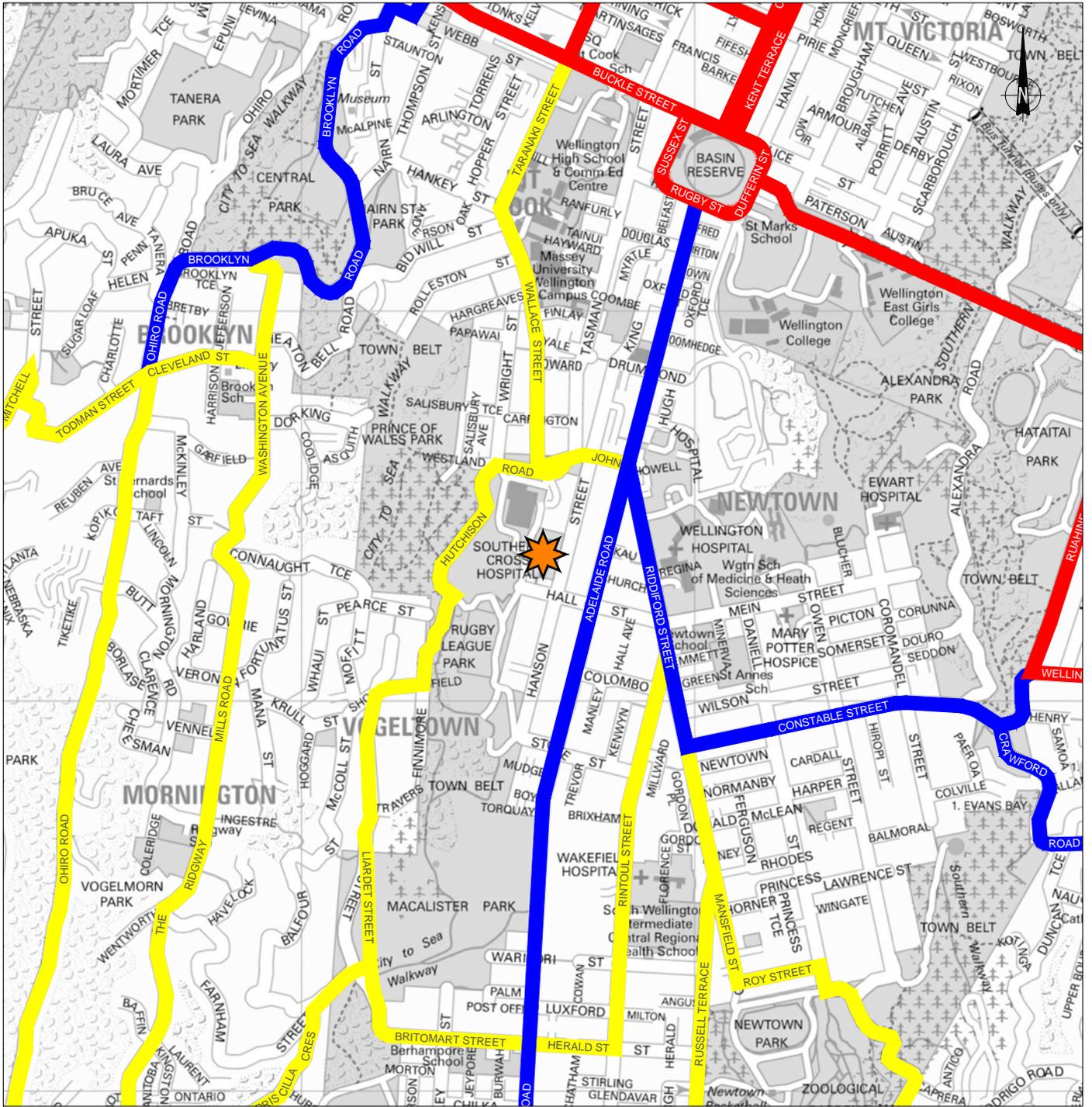
The site is located to the south of Wellington City, on the western side of Hanson Street, Newtown. The site has a single frontage with Hanson Street, from which vehicle access is provided; a second vehicle access driveway connects onto Hall Street, to the south of the site, and extends between two residential properties.

**Figure 1** shows the site location in the context of the surrounding road network hierarchy, as defined by the District Plan, whilst **Figure 2** below is an aerial photograph showing the existing hospital site and its surrounding environs.



**Figure 2: Aerial Photograph of Site**

Land use in the vicinity is characterised by a mixture of residential apartments and dwellings to the north, east and south. Land to the immediate west is occupied by the Wellington School of Dance; Indoor Sports Centre; and Te Whaea artificial hard courts, and beyond that the town belt (Prince of Wales Park).



Tuesday, March 06, 2018

-  Motorway
-  Arterial Street
-  Principal Street
-  Golden Mile
-  Collector
-  Site Location

Southern Cross Hospital Expansion  
 Location in Road Network



1

SCALE: 1:50 @ A4

## 2.2 Road Hierarchy and Infrastructure

As shown in the detail of Figure 1, Hanson Street runs generally north-south adjacent to the site and is classified as a Local Road, having the predominant function of providing access to properties fronting the street. Hall Street, which intersections with Hanson Street to the south of the site via a four-way stop control intersection, is also categorised as a Local Road.

**Photographs 1, 2 and 3** below show the general carriageway environment for each of these streets, in the vicinity of the site.



**Photograph 1: Hanson Street to the south of the development site (view facing north)**



**Photograph 2: Hanson Street to the north of the development site (view facing south)**



**Photograph 3: Hall Street (view facing west from Hanson Street)**

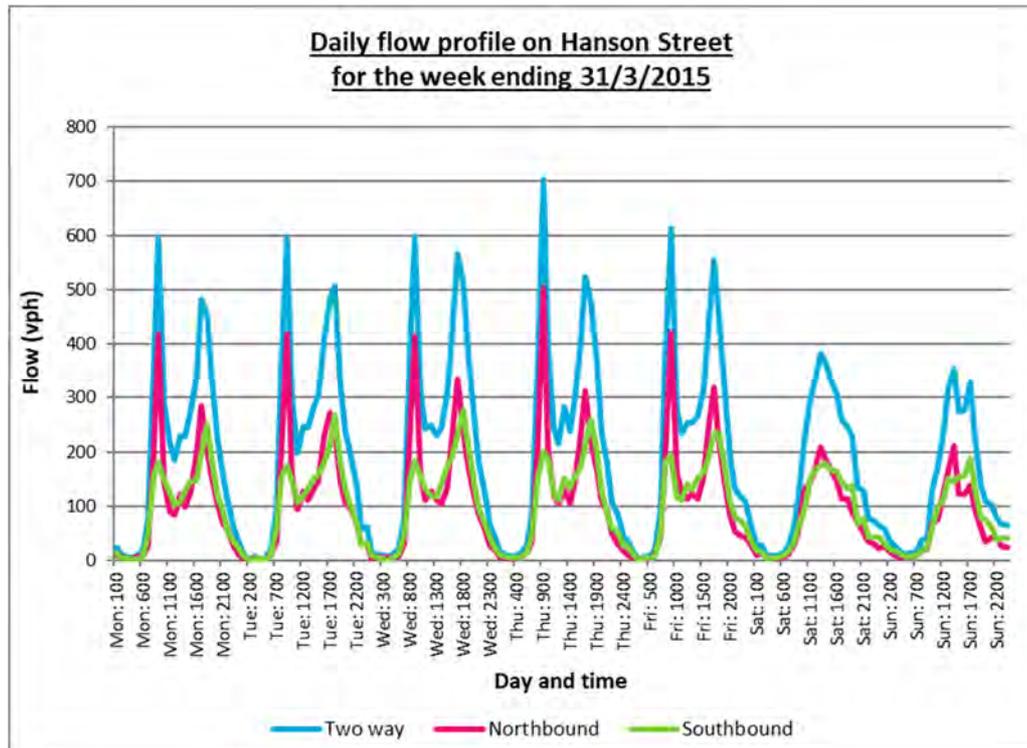
Both of these streets accommodate kerbside parallel parking on each side of the carriageway (between access driveways), which includes a mixture of ‘Resident’ only; Coupon; time restricted; and unrestricted parking spaces. The adjacent section of Hanson Street includes a number of existing speed tables (and associated 20km/h speed advisory signs - as shown in Photograph 1), to actively manage vehicle speeds through the area, commensurate with the property access function of the road environment. Indeed, data recorded by Council on Hanson Street just north of the development site indicates 85<sup>th</sup> percentile vehicle speeds of <40km/h.

Beyond the immediate site, Hanson Street to the north connects with the wider road network via John Street (Collector Road) at a signalised four-way intersection. This intersection includes provision for pedestrians to cross the carriageways under signal control. To the east of this intersection, John Street connects in turn with Adelaide Road, a Principal Road which provides a main north-south route between the City and suburbs to the south.

The existing roads around the site include generous footpaths on either side of the carriageway, which in turn connect with the established pedestrian routes through to Hutchison Road and the adjacent town belt beyond, to the west. To the east, pedestrians can access through to the Newtown central area via Hall Street, crossing both Adelaide Road and Riddiford Street under signal control.

## **2.3 Existing Traffic Volumes**

The most recent, available traffic count data has been obtained from Council for Hanson Street, at the sites northern boundary (outside #111 Hanson Street). **Figure 3** provides the daily traffic flow profiles for the most recent counts, recorded in March 2015.



**Figure 3: Daily Traffic Flow on Hanson Street (at sites northern boundary)**

The graph shows peak hour (two-way) volumes on Hanson Street in the vicinity of the site typically occur in the weekday evening commuter peak and midday on Saturday, when flows are generally around 600 vehicles per hour (“vph”), and total about 5,000 vehicles per day (“vpd”). Such flows reflect the function of Hanson Street providing access to key properties (including the existing Southern Cross site) and as a parallel route to Adelaide Road.

By comparison, traffic volumes on John Street to the north (recorded in 2011) show this carrying around 19,000vpd, reflecting the route’s key role in providing a link between the parallel routes of Taranaki Street and Adelaide Road – to and from the City.

## 2.4 Public Transport

The closest bus stops to the site are located some 200m away on Adelaide Road, to the northeast, and provide access to service numbers 4 and 32, which operate directional commuter period buses (i.e. 7am-9am, and 4pm-6pm) between Wellington and the southern suburbs. Further to the east (some 500m from the site), bus stops on Riddiford Street outside the main Wellington Hospital provide access to a number of bus key routes, including service number 1, which operates between the City and Island Bay every 10 minutes during the peak, and every 20-30 minutes in the off-peak.

In this manner, the site is accessible by regular bus connections to / from the residential catchments to the south, as well as the City centre and rail station interchange to the north, presenting a choice for staff and those visitors (who are able to) to travel by bus.

### 3. Road Safety

An examination of the NZTA’s national Crash Accident Database (“CAS”) for the locality, including Hall Street adjacent to the site, and Hanson Street between (and including) the two intersections with Hall Street and John Street to the north, has been undertaken with a view to identifying any pre-existing safety issues in the vicinity. The search captured any crashes that occurred for the period 2013-2017, being the most recent complete five-year period usually adopted for such safety reviews.

The search showed a total of 20 crashes, which can be summarised as follows:

Location in Road Network	Description/Cause	Severity	# Incidents
Hall Street / Hanson Street Intersection	NBD vehicle on Hanson St collided with parked vehicle; vehicle cutting corner/ driver misjudged speed	Non-injury	1
Hanson Street (btwn Hall St and John St)	SBD vehicle on Hanson St collided with parked vehicle; vehicle too far left/right, driver misjudged speed, loss of control (alcohol suspected)	Non-injury	4
	NBD vehicle on Hanson St collided with a second vehicle reversing into space; causal factor recorded as ‘driver attention diverted’	Non-injury	1
	NBD vehicle on Hanson St collided with the rear end of vehicle in front that had slowed; driver following too closely recorded as causal factor	Non-injury	1
Hanson Street / John Street Intersection	SBD vehicle on Hanson St collided with pedestrian (age 12); driver inattention was recorded as the causal factor	Minor Injury	1
	Vehicle collided with rear of vehicle in front; following too closely/failure to notice vehicle in front slowing recorded as contributing factors	Non-injury	3
	SBD vehicle on Hanson St collided with rear end of cyclist; following too closely	Non-injury	1
	WBD vehicle on John St lost control and collided with a post; objects under driver’s pedals recorded as causal factor	Minor Injury	1
	Vehicle turning right at signals and colliding with opposing vehicles; failed to give-way, inattentive/inexperience were listed as causal factors	3 x Non-injury 1 Minor Injury	4
	Two EBD vehicles on John St turning right collided; one vehicle turning from incorrect lane	Non-injury	1
	EBD vehicle on John St collided (head on) with another vehicle; ‘impaired ability due to old age’ and ‘drugs’ were recorded as contributing factors, respectively	1 x Non-injury 1 Minor Injury	2
<b>Total</b>			<b>20</b>

**Table 1: Summary of Accident Record**

The accident record shows a total of seven incidents occurred either at mid-block locations on Hanson Street, or at its intersection with Hall Street, over the last five years. None of these resulted in injury (i.e. all were vehicle damage only crashes), reflecting the low speed environment on this part of the network.

To the north, the Hanson Street intersection with John Street includes a total of 13 recorded incidents. In considering the primary road network function of John Street, an average of 2-3 crashes per year does not suggest any fundamental issues with the current signalised intersection arrangements, with driver error being the predominant causal factor recorded. It is noted this safety record marks an improvement over the previous situation which existed prior to the intersection being signalised (circa 2013).

Overall then, the crash history serves to indicate the local road environment is currently operating well and without any existing safety concerns, and in particular shows there have been no recorded crashes at the established vehicle driveways between the site and Hanson Street.

## 4. The Proposal

### 4.1 Existing Hospital

The current hospital activity includes two core components comprising the 'ward beds' (and associated operating theatres and staff), and a consultation clinic 'Specialist Centre'.

A total of 31 ward beds accommodate inpatients and outpatients visiting the site for various surgical procedures. The Specialist Centre includes 10 clinics running during the day (Monday to Friday), generally between the hours of 8am and 6pm, for patient consultations and some minor clinical procedures. For these combined activities, a total of up to 90 staff may be on-site at any one time.

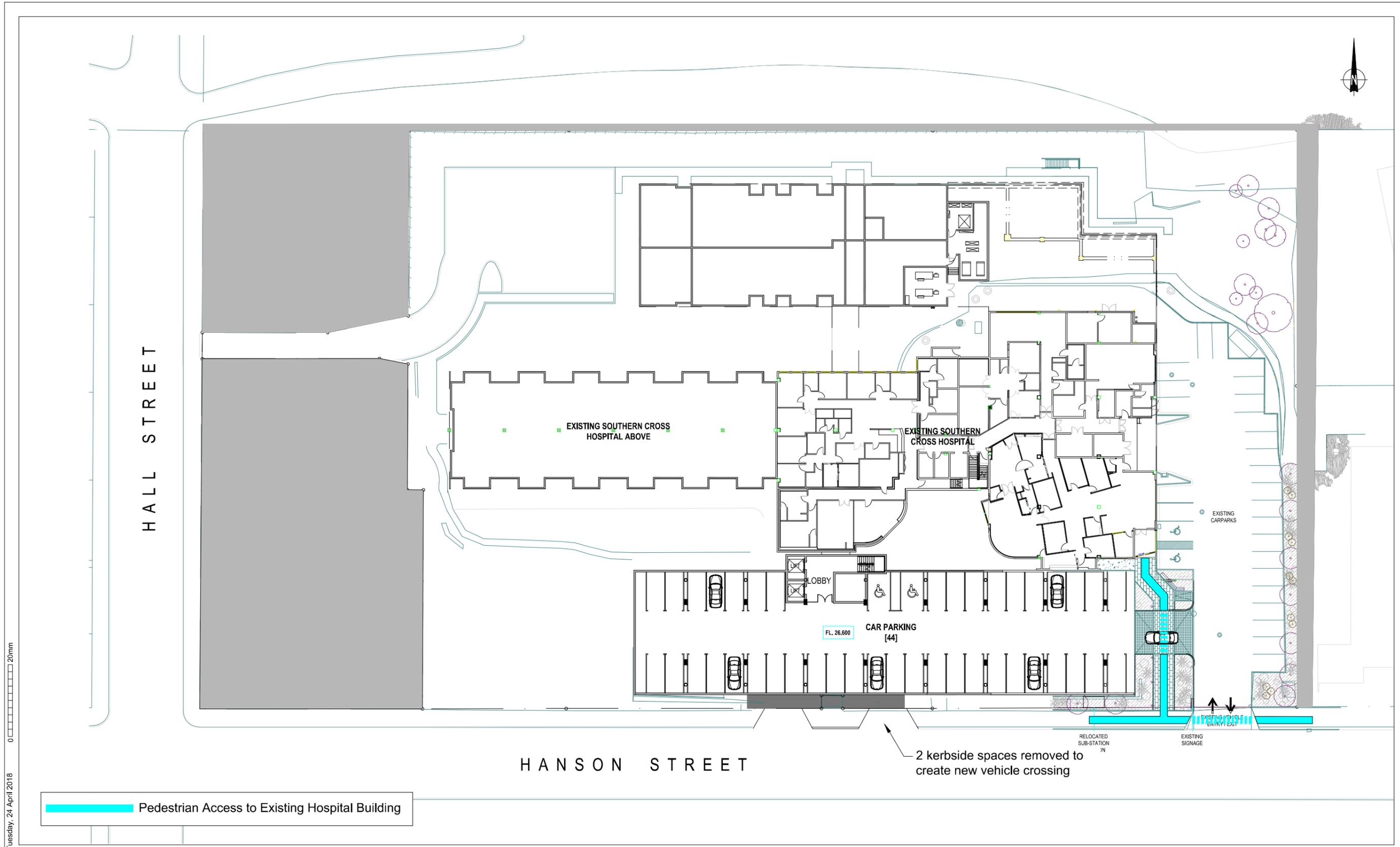
The current site includes a total of 72 on-site parking spaces, to accommodate staff and visitor demands. There are two established vehicle driveways located on the site's Hanson Street frontage; the southern driveway permits entry only movements, whilst the northern driveway accommodates both entry and exit. A dedicated staff carpark at the rear of the hospital is accessed via a single width driveway connecting onto Hall Street.

### 4.2 Proposed Development

The proposal plans include development of a new three-level building on the site's Hanson Street frontage. The upper level will accommodate a 1,000sqm Gross Floor Area ("GFA") consultation area, with associated carparking provided on the two levels beneath this. With the addition of this new parking provision, the site as a whole will provide a total of 117 spaces (45 spaces more than at present). It is noted the proposed new development at the site is equivalent in scale and nature to the previously consented Radiology Building (granted approval in 2013), with comparable effects on parking demand and additional site traffic generation.

**Figures 4 and 5** provide details of the proposed new parking levels; the lower level having access off the existing Hanson Street driveway at the northern end of the site, and the upper level parking in the new building being accessed off the dedicated entry / exit driveways, mid-way along the site's Hanson Street frontage.

Accordingly, the vehicle access arrangements to the site off Hanson Street will retain the existing two-way driveway near the site's northern boundary. This access will continue to serve the at grade car parks to the north of the current hospital building, as well as the lower level parking within the proposed new building. To the south of this, the current entry only driveway located mid-way along the site frontage will be retained (but shifted approximately 1m to the south) and a new 'exit only' driveway will be established to the north of this (with a 9.5m separation between the two). These dedicated entry / exit driveways (each 5.2m wide at the boundary) will provide access to and from the upper level parking within the new building as well as accommodating occasional patient drop-off. Introduction of the new dedicated exit driveway is expected to result in the loss of two kerbside car parks. Pedestrian inter-visibility sightlines have been included at the exit driveway which comply with the design standards set out in AS/NZS 2890.1:2004 'Parking Facilities Part 1: Off-street Carparking' ("AS/NZS 2890.1").



Tuesday, 24 April 2018  
 0 20mm

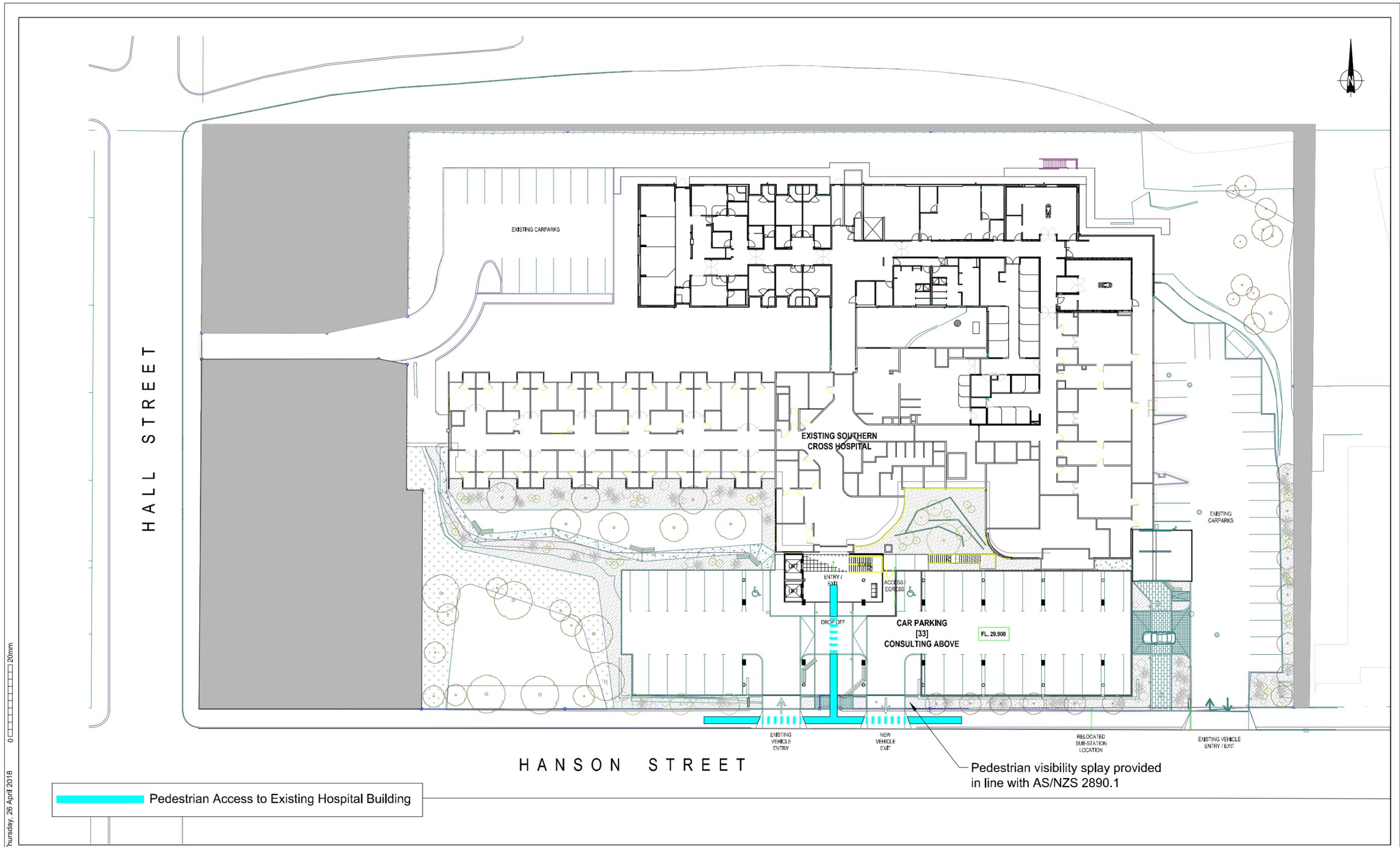
REVISION	DATE	DESCRIPTION
A	06/03/18	Base : A00-004-Proposed Site Plan-Level01
B	11/04/18	Amended base incorporating 5.2m wide drop-off area
C	24/04/18	Updated Base : A00-003 Level00 & Level01 (24/04/18)
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**Southern Cross Hospital Expansion**  
**Lower Level Parking Layout**

DRAWN: MP  
 DATE: 24/04/18  
 SCALE: 1:500 @ A3  
 DWG NO:10780N1C



**4**



Thursday, 26 April 2018 0 20mm

Pedestrian Access to Existing Hospital Building

Pedestrian visibility splay provided in line with AS/NZS 2890.1

REVISION	DATE	DESCRIPTION
A	06/03/18	Base : A00-004-Proposed Site Plan-Level01
B	11/04/18	Amended base incorporating 5.2m wide drop-off area
C	24/04/18	Updated Base : A00-003 Level00 & Level01 (24/04/18)

**Southern Cross Hospital Expansion**  
Upper Level Parking Layout

DRAWN: MP  
DATE: 24/04/18  
SCALE: 1:500 @ A3  
DWG NO:10780N1C

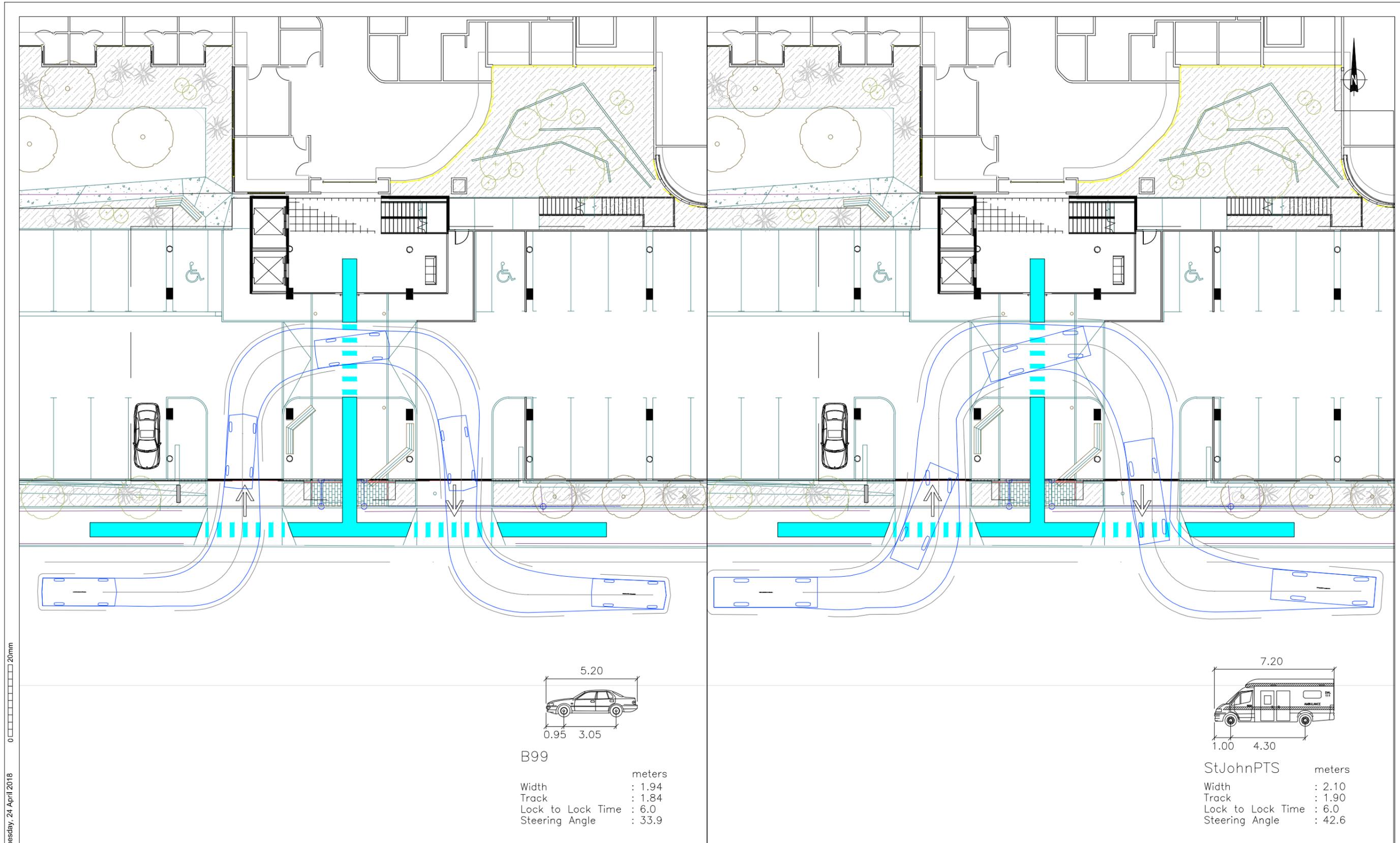


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Two separate pedestrian routes will provide access to the hospital from Hanson Street; the first route is adjacent to the northern site driveway, which in turn will connect (via a marked pedestrian crossing of the carpark aisle) with a new entrance to the established hospital building (as illustrated by the blue line in Figure 4). A second pedestrian route situated between the entry / exit driveways connecting with the upper parking level will connect to the new buildings entrance (as illustrated by the blue line in Figure 5); this will be specifically designed as a slow speed shared space environment, through the use of textured surface delineation and other design elements, to ensure safe sharing of the area by vehicles and pedestrians.

Tracking paths for a 99<sup>th</sup> percentile car and a patient transfer ambulance manoeuvring through the upper level parking entry / exit driveways, to complete an occasional patient drop-off, are shown within the detail of **Figure 6**.

Servicing of the site will continue to be handled in the same way it is today, via the existing loading area located on the current northern frontage, with service vehicles reversing into the basement loading zone from the carpark aisle.



REVISION	DATE	DESCRIPTION
A	06/03/18	Base : A00-004-Proposed Site Plan-Level01
B	11/04/18	Amended base incorporating 5.2m wide drop-off area
C	24/04/18	Updated Base : A00-003 Level00 & Level01 (24/04/18)
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## Southern Cross Hospital Expansion

### Drop-off Area Tracking Manoeuvres

DRAWN: MP  
DATE: 24/04/18  
SCALE: 1:250 @ A3  
DWG NO:10780N1C



6

## 5. District Plan Considerations

The site is zoned Inner Residential within the provisions of the District Plan, and as such the proposal has been evaluated against the zone’s relevant transport related Standards, in **Table 2** below.

Rules / Standards	Assessment of Compliance
<p><b>5.6.1.3</b></p>	<p><b>Vehicle Parking</b></p> <p><i>On-site parking shall be provided as follows:</i></p> <ul style="list-style-type: none"> <li>• <i>Residential activities: minimum 1 space per household unit</i></li> <li>• ...</li> </ul> <p>There are no specific parking requirements identified for non-residential activities such as that proposed here. As will be described in more detail in Chapter 7, an assessment of the parking demand generated by the proposed site activities has been undertaken, with a view to accommodating an equivalent proportion of parking demand within the site, as compared to the previously consented hospital expansion.</p> <ul style="list-style-type: none"> <li>• <i>All parking must be provided and maintained in accordance with sections 1, 2 and 5 of the joint Australian and New Zealand Standard 2890.1 – 2004, Parking Facilities, Part 1: Off-Street Car Parking.</i></li> </ul> <p>The on-site parking has been designed to align with the parking space and aisle width dimensions set out in AS/NZS2890.1 2004.</p>
<p><b>5.6.1.4</b></p>	<p><b>Site Access</b></p> <p><b>5.6.1.4.2</b> <i>Sites with two or more road frontages may have one vehicle access per frontage, subject to 5.6.1.4.3 – 5.6.1.4.5</i></p> <p>The current site access arrangements onto Hanson Street include two separate driveways. The development proposes retention of the existing northern driveway, and establishment of an entry / exit pair of driveways serving the upper level.</p> <p><b>5.6.1.4.3</b> <i>Sites with road frontages to:</i></p> <ul style="list-style-type: none"> <li>• <i>A State highway or an Arterial, Principal or Collector Road; and</i></li> <li>• <i>One or more local roads or sub-collector roads (that do not have restricted road frontages) may only have vehicle access to the local or sub-collector roads.</i></li> </ul> <p>Both Hanson Street and Hall Street, from which the site is accessed, are classified as Local Roads.</p> <p><b>5.6.1.4.5</b> <i>No vehicle access is permitted to a site across any restricted road frontage</i></p> <p>Neither Hanson Street nor Hall Street are identified as restricted road frontages.</p> <p><b>5.6.1.4.6</b> <i>Site access for vehicles must be formalised by a legal right of way instrument where not directly provided from a public road, and must be provided and maintained in accordance with Section 3 of the joint Australian and New Zealand Standard 2890.1-2004, Parking Facilities, Part 1: Off-Street Car parking.</i></p> <p>The new vehicle crossing, providing exit only from the upper level parking off Hanson Street, will be formed to the required Council standard, noting that due to height restrictions, only light vehicles will be able to access the parking structure.</p> <p><b>5.6.1.4.7</b> <i>The maximum width of any vehicular access is:</i></p> <ul style="list-style-type: none"> <li>• <i>3.7 metres in the Inner Residential Area and within the Residential Coastal Area</i></li> </ul> <p>The existing driveways off Hanson Street measure some 5.7m and 7.5m, for the entry only and two-</p>

way vehicle crossings, respectively. The proposed arrangements retain the same two-way vehicle crossing dimension, whilst the relocated entry driveway and new exit driveway will each be developed to a width of 5.2m. The proposed one-way vehicle crossings have been specifically designed to this width so as to enable vehicles turning left/right to and from the site, to do so wholly from their own traffic lane, and to additionally achieve the required width for pedestrian inter-visibility splays at the exit driveway interface with the footpath.

Whilst these driveway widths are wider than that expected by the District Plan for the Inner Residential Zone (which typically anticipates single width vehicle crossings serving individual residential dwellings), the current driveways operate safely, and it is considered that with the new access arrangements in place, as proposed, the site can continue to provide safe and efficient vehicle access, without adversely effecting pedestrian amenity on the adjacent footpath.

**Table 2: District Plan Compliance**

Whilst the proposal generally complies with the relevant transport related Standards of the District Plan, it is noted that under **Rule 5.4.1** development of a new non-residential building within the Residential zone is considered to be a Discretionary Activity (Unrestricted), and as such requires assessment against the relevant Residential Area Policies. Those relevant to the proposal are set out below.

**4.2.12.2** *Manage the road network to avoid, remedy or mitigate the adverse effects of road traffic within Residential Areas*

*Traffic on roads, whether active or stationary, can have major impacts on the amenities of Residential Areas. Council will continue to use traffic management to control congestion and parking....*

An assessment of traffic generation associated with the proposed new building activities has been undertaken and is described at Chapter 6. The modest number of additional vehicle movements expected to be generated to and from the site is not likely to significantly impact on the safety or performance of the adjacent road network, and will for most existing users be indistinguishable from the present-day traffic patterns.

**4.2.12.4** *Require appropriate parking, loading and site access for activities in Residential Areas.*

*Street congestion occurs in certain residential neighbourhoods. To minimise or reduce street congestion, all new developments must be reasonably self-sufficient with regard to parking. Rules therefore require on-site parking appropriate to the use or activity. The parking and access conditions are aimed at maintaining site access and safety on suburban streets but parking is not required for every person on a site who may own a vehicle.*

As will be described in more detail in Chapter 7, the parking outcome associated with the proposal includes an uplift of some 45 on-site carparks. Even with the additional demand generated by the new building activity, the proposed development represents an improvement over the current parking arrangements at the site.

*Efficient and safe servicing of premises is necessary to avoid blocking streets and the [sic] disrupting traffic and pedestrians ....*

All site servicing activities can be accommodated wholly within the site itself, at the established dedicated loading area.

*Well designed and safe access to sites is required to help prevent traffic congestion or conflict between street users...*

The access arrangements, for both vehicles and pedestrians have been designed to provide convenient and safe access, egress and internal circulation, for both vehicles and pedestrians, in a manner that will mitigate effects on other street users.

## 6. Traffic Generation

### 6.1 Existing Site Traffic Generation

As described previously, the site currently accommodates 31 surgical ward beds and a Specialist Centre comprising 10 consultation clinics.

Trip generation rates for medical centres / private hospitals have been estimated using industry standards, in the form of the NZTA Research Report 453 'Trips and Parking Related to Land Use', 2001 ("RR453"), and the RTA 'Guide to Traffic Generating Developments' October 2002 ("RTA Guide"). These sources usefully provide trip generation rates for Health Centres (based on the number of health professionals on site), and private hospitals (on the basis of ward beds and staff), respectively. The relevant peak hour trip rates are set out in **Table 3**, below.

Activity / Size	Trip Rate	Trips
Ward Beds / 31 beds	0.2-0.45vph/bed	6-15vph
Consulting Rooms / 10 Health Professionals	3-6vph/health professional	30-60vph
Total		36-75vph

**Table 3: Trip Generation**

As shown, adopting the upper thresholds for each of the component activities indicates a site peak hour trip generation of some 75vph. It is noted that the values in Table 3 above relate to the peak vehicle trips for the site, which generally occurs between 10am to midday and 3-4pm, when patient and visitor arrivals and departures are at their highest. As such, the site peak period traffic generation occurs outside of the usual network commuter peaks, when volumes on the surrounding streets will be lower. Traffic generation to / from the site during the commuter peaks will therefore be less than the 75vph, and will involve predominantly staff vehicles.

### 6.2 Forecast New Development Trips

The addition of another 1,000m<sup>2</sup> GFA of consulting space will, adopting the figures from the RR453 Report above (Table 3), generate an additional 45vph to and from the site during the site's peak periods (before midday and during mid-afternoon). Such additions, which translate to around 1 extra vehicle every 1-1.5 minutes, are not of a quantum that would significantly affect the performance of the adjacent road network, and indeed the change is unlikely to be distinguishable to existing road users.

## 7. Parking

It is noted that parking demand associated with the hospital site has been subject to surveys and reviews on several occasions in the past. However, for the purposes of informing the current proposed expansion at the site, it is considered appropriate to take a fresh look at the demand currently generated by the hospital.

### 7.1 Existing Parking Demand

#### 7.1.1 Parking Survey

A comprehensive parking occupancy survey was undertaken on Tuesday 21 November 2017, every hour for the full 12 hours between 7am and 7pm. The survey included all on-site parking provision, some nearby off-street parking spaces currently leased by the hospital (for staff), along with the on-street kerbside parking areas on Hanson Street and Hall Street in the vicinity of the hospital.

It is noted that in order to provide more availability of on-site spaces to hospital patients and visitors, 35 car parks are currently being leased at the nearby sports ground, for site staff. It is further noted that at the time of the survey, 11 on-site carparks were unavailable due to a section of the carpark being fenced off to accommodate equipment and works vehicles associated with recladding of the hospital building, which were off-set by an equivalent increase in the leased parks.

**Table 4** below sets out the available parking provision, including on-site; leased spaces at the adjacent sports ground; and on-street, along with the surveyed peak demand (which occurred at 11am).

AREA	PROVISION	SPACES AVAILABLE DURING SURVEY	PEAK OCCUPANCY
Hospital On-site	72	61 <sup>2</sup>	53
Leased Spaces (at Sports Ground)	35	35	30
On-street Kerbside	78	78	51
<i>Total</i>		<i>174</i>	<i>134</i>

**Table 4: Parking Provision and Surveyed Demand**

As show, there were some 27 (78-51) available on-street car parks in the vicinity of the site during the survey peak. Further interrogation of the survey data (which included recording numberplates) provides an indication of the number of vehicles utilising on-street parking that are associated with the hospital<sup>3</sup>. This analysis indicates that some 15 vehicles (at 11am) associated with the hospital were using on-street spaces nearby. Accordingly, the total recorded hospital demand during the peak is shown to be 98 vehicles (53+30+15).

<sup>2</sup> 11 Car parks unavailable due to works site and works vehicle parking

<sup>3</sup> Discounting those using residents allocated carparks; those parked for the entire survey duration; or those vehicles appearing in the morning, and then reappearing again in the evening (i.e. residents leaving for/returning from work).

## 7.1.2 Current Hospital Activity and Parking Rates

As described earlier, the current hospital activities include the following components:

- Specialist Centre (10 consulting rooms); and
- 31 ward beds.

With respect to industry standard parking rates, both the RTA Guide and RR453 note that parking demand at 'hospitals' (ward beds) and 'medical centres' (consulting rooms) vary somewhat depending on location and size of the activity, and recommend specific site studies be undertaken to underpin the parking rationale. Notwithstanding this, indicative parking demand rates are given as 1.5-2.2 spaces per bed, for ward activities; and around 4 spaces per 100m<sup>2</sup> GFA for medical consulting rooms.

Previous assessments of parking demand undertaken by TDG at comparable medical consulting room sites around Wellington, indicate parking rates of 3.6 car parks per 100m<sup>2</sup> GFA are appropriate. It is noted that this rate was adopted for the parking assessment in support of the previous (new Radiology Building<sup>4</sup>) resource consent application for expansion of the hospital, which was subsequently accepted by Council and granted approval. Applying this previously accepted rate to the site's current consulting rooms 'Specialist Centre' (approx. 1,000m<sup>2</sup> GFA), provides a parking demand associated with staff and patients of the consulting rooms of 36 spaces, during the peak (which aligns closely with the industry standard rate calculation of 40 spaces).

Based on the floor area occupation, hospital ward beds typically have a lower associated parking demand than consulting rooms, as patients are generally on-site either for most of the day, or for several days (as opposed to consulting rooms, where 2 or 3 patients would typically be arriving for consultations each hour, thus generating a higher and overlapping parking demand). In this manner, and taking account of the total surveyed hospital parking demand set out earlier (98 spaces), and deducting the parking generated by the consulting rooms (36 parks), the balance of parking (62 parks) can be attributed to staff, patient and visitor demands associated with the 31 ward beds. This gives an associated parking rate of 2 spaces per ward bed, which lies at the upper end of the above industry rates of 1.5-2.2 spaces per bed.

As such, and having been informed by the survey data collected for the site, the resultant component parking rates calculated for the ward beds and consulting rooms align well with the industry standards described earlier, giving confidence to the parking rationale methodology adopted in this instance.

## 7.2 New Development Parking Demand

Drawing from the surveyed demand described above, the associated parking demand rates for the existing and proposed development, by activity, is set out in **Table 5** below.

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<sup>4</sup> Which has not been enacted/constructed

ACTIVITY	EXISTING			PROPOSED		
	Area/Unit	Rate	Demand	Area/Unit	Rate	Demand
Consulting Rooms	1,000m <sup>2</sup>	3.6/100m <sup>2</sup>	36 parks	2,081m <sup>2</sup>	3.6/100m <sup>2</sup>	75 parks
Ward Beds	31	2/bed	62 parks	31 beds	2/bed	62 parks
<i>Total</i>			<i>98 parks</i>			<i>137 parks</i>

**Table 5: Parking Provision and Surveyed Demand**

As shown, with the proposed consulting rooms expansion in place the site is expected to generate a total demand for around 137 car parks. Noting that the proposed new building includes an increase to the site’s parking capacity (up to a total of 117 on-site car parks), it is assessed that on occasion the hospital may generate demand for up to 20 kerbside carparks, during peak activity (assuming no leased off-site carparking). This aligns with the previously consented (Radiology Building) proposal, which also assumed use of up to 20 kerbside spaces (by hospital staff / visitors) at peak times, and does not differ significantly from the present hospital use of adjacent on-street parking.

### 7.3 Parking Layout

The proposed carparking areas provided within the upper and lower levels of the new building involve a simple configuration of two rows of 90-degree parking spaces accessed via a central two-way aisle. This layout has been designed to align with the dimension requirements set out in the industry recognised AS/NZS 2890.1:2004, which describes specific classifications and associated parking space dimensions based on the type of activity the parking will serve. Hospitals and medical centres are given a ‘User Class 3’ category, for which 90-degree parking spaces are anticipated to be provided at the following minimum dimensions:

- 2.6m wide;
- 5.4m deep; and
- 5.8m aisle.

The carparking spaces have been designed to be 5.4m long and 2.6m wide, with a minimum aisle width of 6.0m, which satisfies the dimension requirements.

In addition, AS/NZS 2890.1 requires a minimum 1.0m blind aisle extension and 300m clearance beyond the standard parking space envelope where it abuts a wall or column, for example to allow for the opening of car doors<sup>5</sup>. The proposed parking layouts satisfy these requirements.

The height clearance within the lower parking level is 2.4m whilst the upper level parking has a clear height of 3.0m; these satisfy the minimum height requirements (of 2.3m for access to mobility parks within a building) set out in AS/NZS 2890.1.

<sup>5</sup> As per AS/NZS 2890.1 Figure 5.2

It is noted those parking spaces located furthest from the vehicle entry/exit points would typically be allocated as staff parks, given the lower turnover rates more generally associated with such users.

A total of four mobility spaces are provided within the site's parking areas, all of which are positioned close to the various building entrances. These spaces will be marked in accordance with the dimensions given in the AS/NZS 2890.6 'design for Access and Mobility'.

## 8. Servicing

Servicing activities will continue to be handled in the same manner as happens at present, with service vehicle access and egress to / from the site accommodated at the two-way driveway at the northern end of the site, off Hanson Street. All servicing will be managed within the existing indoor facility within the basement of the established hospital.

The new consulting building is not expected to increase the service vehicle visits significantly, with efficiencies gained through the sharing of services within the existing hospital activity. Overall then, it is expected that servicing of the site can continue to be handled safely and efficiently, as it has to date.

By way of demonstrating service vehicle access and manoeuvring at the site, **Figure 7** shows tracking paths for an 8m rubbish truck (the largest vehicle expected to be visiting the hospital), accessing the existing loading bay and then exiting onto Hanson Street; such manoeuvres can be accomplished without encroaching into the adjacent carparks.



REVISION	DATE	DESCRIPTION
A	06/03/18	Base : A00-004-Proposed Site Plan-Level01
B	11/04/18	Amended base incorporating 5.2m wide drop-off area
C	24/04/18	Updated Base : A00-003 Level00 & Level01 (24/04/18)
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**Southern Cross Hospital Expansion**  
**Service Vehicle Tracking - 8m Truck**

DRAWN: MP  
 DATE: 24/04/18  
 SCALE: 1:500 @ A3  
 DWG NO:10780N1C



## 9. Construction Traffic

A detailed Construction Management Plan (“CMP”) addressing the construction phasing of the proposed development will be prepared and submitted to Council in due course (a draft of this plan is included with this application).

In this respect, it is noted that the ground conditions at the site will require significant earthworks prior to construction; such design details and construction scheduling will be better confirmed once a contractor has been appointed. As a component part of the CMP, it is recommended that a Construction Traffic Management Plan (“CTMP”) be delivered to Council for approval that sets out the details of the work phases and associated forecast construction traffic volumes for each phase, prior to any site works beginning.

Traffic movements associated with the operation of the construction site will be managed in order to avoid conflicts with peak traffic periods. It is anticipated that vehicle access to the construction site would be handled by the existing or new temporary vehicle crossings onto Hanson Street. Further details of the specific routes for construction traffic will be specified in the CTMP, once the landfill and quarry sites associated with the groundworks have been determined.

The site itself will be laid out to allow all vehicles to access and egress the site in a forward gear, without requiring any reverse manoeuvres on the adjacent road network. On occasion, it may be necessary to require some Temporary Traffic Management (“TTM”) measures, which will be undertaken in a manner that is satisfactory to Council.

These and other specific details will be documented in the CTMP to be prepared in due course, that will be submitted to Council for approval prior to site works commencing. The actual content of the plan will include:

- the timing of specific work phases;
- key activities during each work phase;
- anticipated traffic levels and access arrangements for each work phase;
- provision for maintaining safe pedestrian access and movements in the vicinity of the site;
- provision for signage;
- wheel washing requirements for site vehicles;
- route restrictions;
- arrangements for TTM, including with regard to public transport, pedestrians, parking and servicing; and
- contact telephone number for key site staff.

The CTMP is expected to be a live document with amendments made according to construction progress.

It is pertinent to note that the needs and effects of the construction activities related to the proposed development are comparable to those associated with the previously consented Radiology Building development.

## 10. Conclusion

The proposed expansion of the current Southern Cross Hospital, on Hanson Street in Newtown, has been assessed with respect to traffic generation, parking and compliance with the District Plan.

Traffic generations will vary somewhat on a daily basis, subject to the patient scheduling, but assessment of associated vehicle trips during the site's peak activity periods (which typically lie outside of the peak commuter periods on the adjacent network) shows the additional vehicle movements are modest (less than one vehicle per minute).

The proposed on-site parking provision has been subject to a detailed demand-based assessment, to determine the relative increase in site parking demand that can be attributed to the proposed activity expansion. This shows that with the new building in place, and taking account of the additional carparking that will be provided on-site, the level of kerbside parking use in the vicinity of the hospital by visitors / staff, will not be substantially different to that which occurs at present, and is equivalent to that associated with a previous consented expansion of the hospital site (that has not materialised).

Overall, the assessment has concluded that the proposed access, carparking and servicing arrangements are suitable and adequate to enable the effective development of the proposed new building, within the existing hospital site in the manner proposed.

TDG