

Construction Traffic and Pedestrian Management Plan



The Sutherland Hospital Operating Theatre Upgrade Project

Prepared for Health Infrastructure NSW

22 July 2021

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1 Preliminary Information

This preliminary Construction Traffic and Pedestrian Management Plan (CTPMP) addresses the proposed construction activities associated with construction of the proposed Operating Theatre Upgrade Project at the Sutherland Hospital. It discusses the management of local traffic and construction vehicles related to the project. A draft CTPMP is required to be developed for this site in accordance with the Secretary's Environmental Assessment Requirements (SEARs) for the development under SSD-11099584, detailed as follows:

- *Analysis of the impacts of the traffic generated during construction of the proposed development, including:*
 - *Construction vehicle routes, types and volumes*
 - *Construction program (duration and milestones)*
 - *On-site car parking and access arrangements for construction, emergency and construction worker vehicles*
 - *Cumulative impacts associated with other construction activities in the locality (if any)*
 - *Road safety at identified intersections near the site due to conflicts between construction vehicles and existing traffic in the locality*
 - *Measures to mitigate impacts, including to ensure the safety of pedestrian and cyclists during construction.*
- *A preliminary Construction Traffic and Pedestrian Management Plan.*

A detailed CTPMP cannot be developed without the involvement of a builder and consideration of all final design selections. This preliminary CTPMP is intended to provide a framework within which a future CTPMP can be developed and implemented, and to demonstrate the potential operation of the construction site.

A CTPMP is developed to satisfy the duties various Work Health and Safety legislation, regulations, and codes of practice regarding reducing risks to the health and safety of workers and other persons near a construction site.

Under the Safe Work NSW Construction work code of practice, a traffic management plan is considered an administrative control measure to minimise risk. As per the hierarchy of control measures, the preferred control is to eliminate risk (e.g. by using traffic lights instead of a traffic controller to control traffic at road works, to eliminate potential harm to the worker). This draft CTPMP aims to provide control measures which eliminate the risk where possible. As outlined in this code of practice, workplace specific induction should cover this document.

Traffic control plans (TCPs) will also need to be developed in association with the detailed CTPMP and will have been developed in accordance with the RMS Traffic Control at Work Sites manual, and Australian Standard AS1742.3 (Manual of uniform traffic control devices – Traffic control for works on roads) to which it refers.

In addition to the development of a detailed CTPMP the builder shall be responsible for acquiring and shall acquire the necessary certificates, licences, consents, permits, and approvals relevant to the construction on this site.

This report has been prepared by an engineer who holds the Transport for NSW Prepare a Work Zone Traffic Management Plan accreditation as below:

- Syed Ali – Card No. 0052212575, expiry 13/11/2022

2 Existing Conditions

2.1 Project Information

The Sutherland Hospital (TSH) is a 375-bed metropolitan hospital in the Sutherland Shire (Council) in Sydney, and part of the South East Sydney Local Health District (SESLHD).

In February 2019, the Minister for Health and Medical Research announced an investment of \$81.5 million to redevelop the Sutherland Hospital operating theatre complex.

As understood from the project's brief, the proposal seeks consent for the redevelopment of the operating theatre complex which would be a combination of new build and refurbishment, including the following:

- The number of operating theatres will increase from 5 to 8 as well as the endoscopy suits increasing from 1 to 2, resulting in a total of 10 spaces with associated clinic rooms.
- Supporting spaces including recovery, day surgery, storage, staff amenities and other clinical and non-clinical support spaces.
- A new Central Sterilising Service Department (CSSD) will be built immediately above the operating theatres.
- A new MRI suite will be built immediately below the operating theatres.

The project will increase operating theatre capacity to meet future demand driven by an increasing and ageing population with the associated increase in chronic and complex disease.

Taylor Thomson Whitting (TTW) has been engaged by CBRE Project Management for NSW Health Infrastructure (HI) to provide traffic engineering consultancy service for The Sutherland Hospital Operating Theatre Upgrade Project (TSHOTUP). This construction traffic management plan has been developed in response to the Secretary's Environmental Assessment Requirements for the site.

A more detailed document will be prepared by the appointed builder, following planning approval and prior to commencement of construction.

2.2 Site Location

The subject site is located at 126 Kareena Road, Caringbah. The parcel of land is designated as Lot 1 in DP 119519 and DP 432283. The extent of these lots is illustrated in Figure 2.1.

The land is currently occupied by the existing Sutherland Hospital. Other land uses in the surrounding area are predominantly residential with following key land uses in the immediate vicinity of the site:

- Kareena Private Hospital
- Lavida Medical Centre
- Sutherland Nuclear Medicine and Bone Densitometry Facility.

The site is located to the south-east corner of the intersection of Kingsway, Kareena Road and Port Hacking Road within the LGA of Sutherland Shire Council. The site has vehicular access via Kingsway to the north and Kareena Road to the west.

The site location and surrounding environs are shown in Figure 2.1.



Figure 2.1: Site location and environs

Basemap source: SIX Maps

2.3 Road Network

The site has frontages with Kingsway to the north and Kareena Road to the west. Taren Point Road is located to the northeast of the site and forms intersection with Kingsway. The intersection of Port Hacking Road, Kingsway and Kareena Road serves as a major traffic distributor in the vicinity of the site.

Kingsway is a state road with three travelling lanes in each direction. A median is provided to separate the travelling lanes. The sign-posted speed limit is 70 km/h. The road is a major arterial road that intersects with Princes Highway to the west and Port Hacking road to the north-west. Kingsway provides direct vehicular access to the site, that serves the vehicles travelling in westbound direction only.

Kareena Road is a local road with one travelling lane in each direction. The sign-posted speed limit is 50 km/h. Parking is generally permitted on both sides of the road, however, adjacent to the site parking is only permitted on the western side of the road subject to various time restrictions. The road primarily serves the residential properties and the site and acts as a connection through to President Avenue to the south. The road provides two direct access to the site. The northern access via Kareena Road permits left turn only, whereas the southern access is via a roundabout controlled intersection generally used by ambulances and staff.

2.4 Site Access and Vehicle Circulation

There are three main access points to the site. General traffic can enter and exit the site via the Kingsway (westbound only), Kareena Road northern access (southbound only), and Kareena Road southern access (all directions). All loading activity occurs via the Kareena Road southern access, which is near the internal loading dock. Ambulances can approach the site from all access points, however, the emergency department is located closest to the Kareena Road northern access.

The ring road around the site allows vehicle access to all areas and facilitates movements such as ambulances between the emergency department and the ambulance station, and movements between parking modules. All movements within site can be facilitated without a return to the external road network.

Figure 2.2 shows the existing on-site vehicle circulation and access pattern to the site.

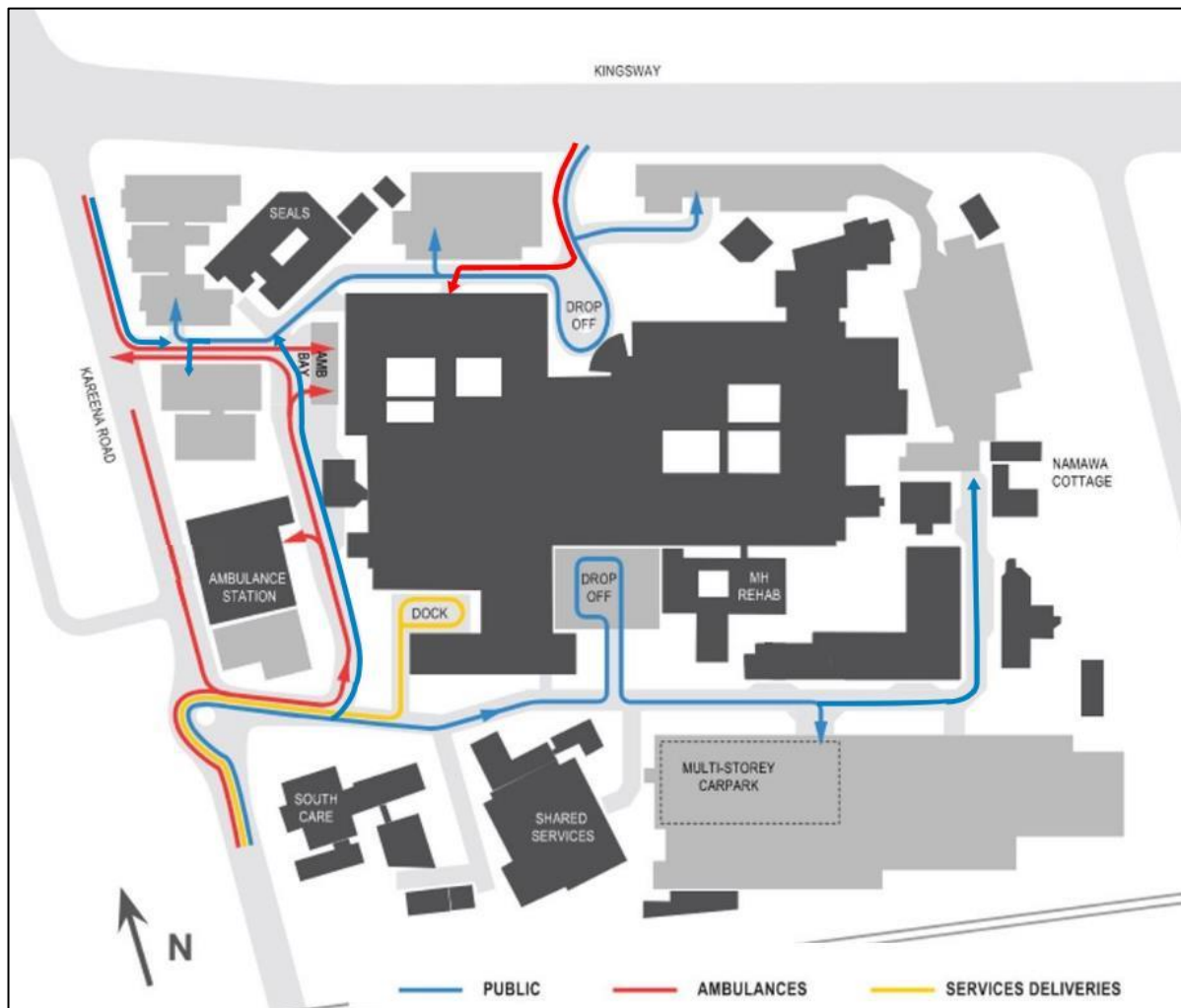


Figure 2.2: Existing on-site vehicle circulation

Base map source: Modified from Master Plan Report by HDR, January 2020

2.5 Public Transport

2.5.1 Buses

At least four major bus routes service the site. The nearest bus stops are located on Kingsway adjacent to the Hospital entrance and at Kareena Road approx. 50 metres south of the intersection approach.

Route 477 operates between Rockdale and Miranda train station with a frequency of approximately 30 minutes throughout the day.

Route 478 is an express route which operates between 9:00 am and 4:00 pm, with a frequency of one hour.

Routes 977 and 978 operate between Miranda and Caringbah train station with an approximate frequency of 45 minutes.

The bus routes stop at the bus stop on Kingsway directly opposite to the Hospital. The bus services also connect the site to Miranda station to the west and Caringbah station to the east. Figure 2.3 shows a map outlining the bus routes available in the vicinity of the site.



Figure 2.3: Bus routes map

Source: Transdev

2.5.2 Trains

The site is located approximately 500 metres west of the Caringbah train station and one kilometre east of Miranda train station. Both the stations are served by T4 train line which runs at 15-minute intervals during peak hours.

2.6 Active Transport

2.6.1 Pedestrian Facilities

The site is well connected with a broader network of pedestrian footpaths. Signalised pedestrian crossings are available on all approaches of the intersection at Kingsway/Kareena Road. The signalised crossing on the eastern and southern legs of the intersection provides direct pedestrian access to the site.

The bus stops on Kingsway adjacent to the Hospital access is provided with seats and accessible path.

2.6.2 Cycling Facilities

There are no dedicated cycleways available in the vicinity of the site. In the vicinity of the site, cyclists generally ride on roadways and footpaths throughout the local area.

The existing end-of-trip consists of a small amount of on-site bicycle parking provided adjacent to the main entrance and dialysis unit. The hospital provides staff male and female changing rooms including showers and lockers.

2.7 Car Parking

2.7.1 Off-Street Parking Supply

There are approximately 950 parking spaces within the existing Hospital campus. The capacity includes a combination of a multi-storey car park, at-grade car parks, fleet car park and on-street car parking within the overall campus. Out of 950 parking spaces, approximately 830 parking spaces are provided within the boom-gate controlled parking areas directly available to staff and visitors. The remaining parking supply is dedicated for other uses such as Southcare fleet cars, childcare and drop-off parking to the Sutherland Heart Clinic etc.

Figure 2.4 shows the distribution of existing parking areas included in the parking survey.



Figure 2.4: Existing parking layout

Basemap Source: Nearmap

3 Management of Construction Activities

3.1 Site Layout and Access

It is proposed that access for all the construction activities take place via the existing northern access off Kareena Road which is immediately adjacent to the works site and anticipated site area. This shall include demolition and removal of material, delivery of new material, and all provision of equipment and machinery.

Given consideration to the proposed footprint of the redevelopment works, a preliminary outline for the site shed zone and associated loading/unloading area is shown in Figure 3.1.

Based on the proposed site layout and loading/unloading area, the construction vehicles will enter the site via northern access off Kareena Road, travel east on the internal road and reverse into the loading/unloading zone located between the ambulance shed and car park 3. At any given time, the construction truck, while loading/unloading within the proposed loading area should not block the ambulance access to the ambulance.

The largest typical vehicle expected to service the site is a 12.5m Heavy Rigid Vehicle (HRV). Swept path analysis for these vehicle movements is provided at **Appendix A**. Larger vehicles may occasionally be required (such as for piling rig or crane installation), and these will be defined and analysed by the appointed Contractor in the final CTMP, which will be required as a condition of development consent.

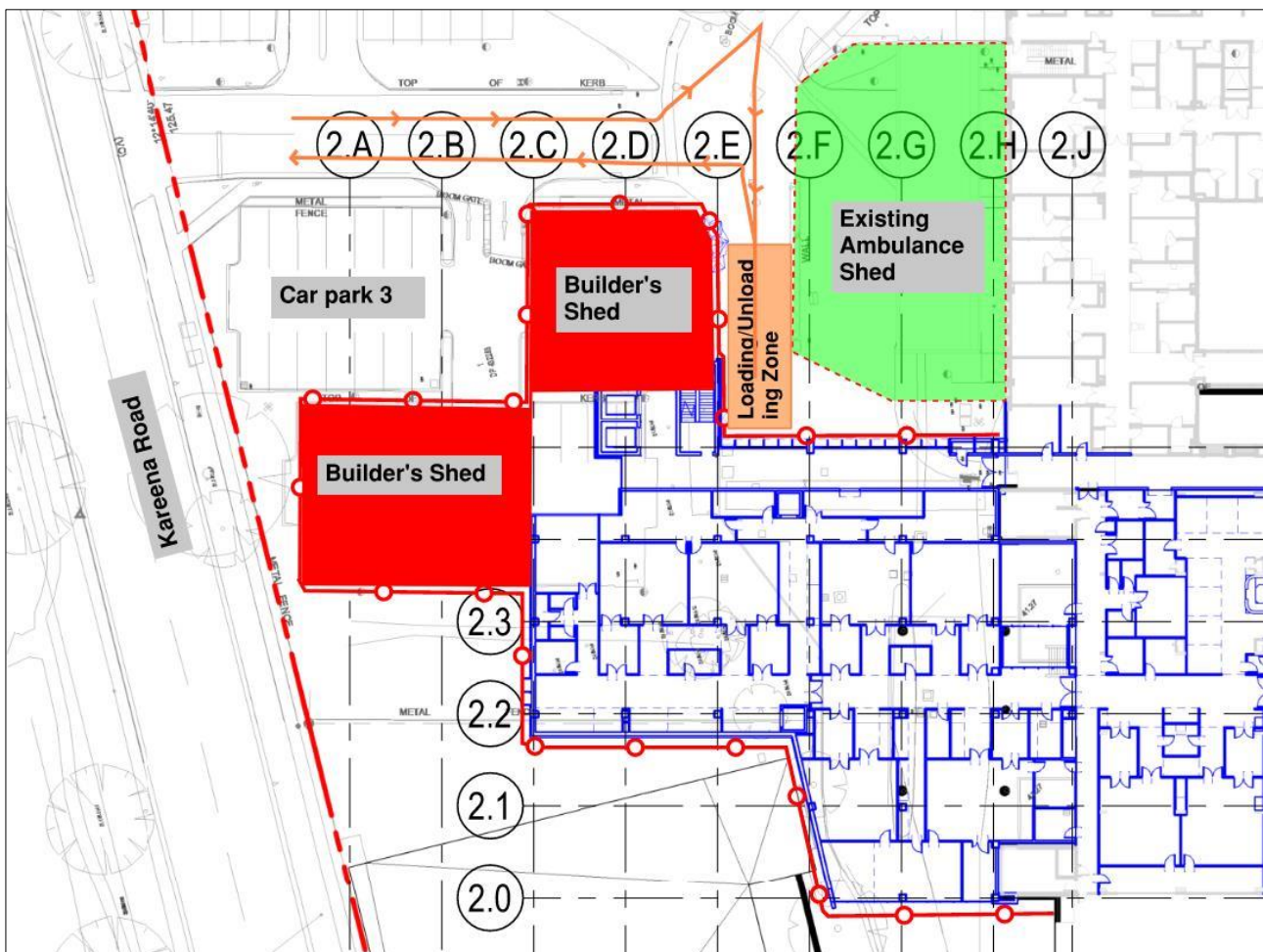


Figure 3.1: Preliminary site layout

3.2 Hours of Operation

Construction work hours are subject to planning approval. Typically, the hours of work at sites will be:

- Monday to Friday: 7am to 6pm

- Saturday: 8am to 1pm
- Sunday / public holidays: Nil

Works undertaken outside the approved hours may be required to take place and shall be subject to separate approval.

4 Construction Traffic Management

4.1 Construction Vehicle Routes

Incoming construction vehicles are expected to be travelling along Kingsway, Port Hacking Road and Kareena Road, as shown in Figure 3.1.

West Approach

- Approach from Princes Highway
- Turn right onto Kingsway or Port Hacking Road
- Turn right onto Kareena Road

East Approach

- Approach from Kingsway
- Turn left onto Kareena Road

South Approach

- Turn Right or Left from President Avenue onto Kareena Road

North Approach

- Turn Right or Left from Parraweena Road onto Kareena Road (only available for trucks under 4.5 tonne)

Outbound vehicles will exit the site from northern access, turn left onto Kareena Road, travel towards the southern roundabout and then turn left or go straight depending on their destination.

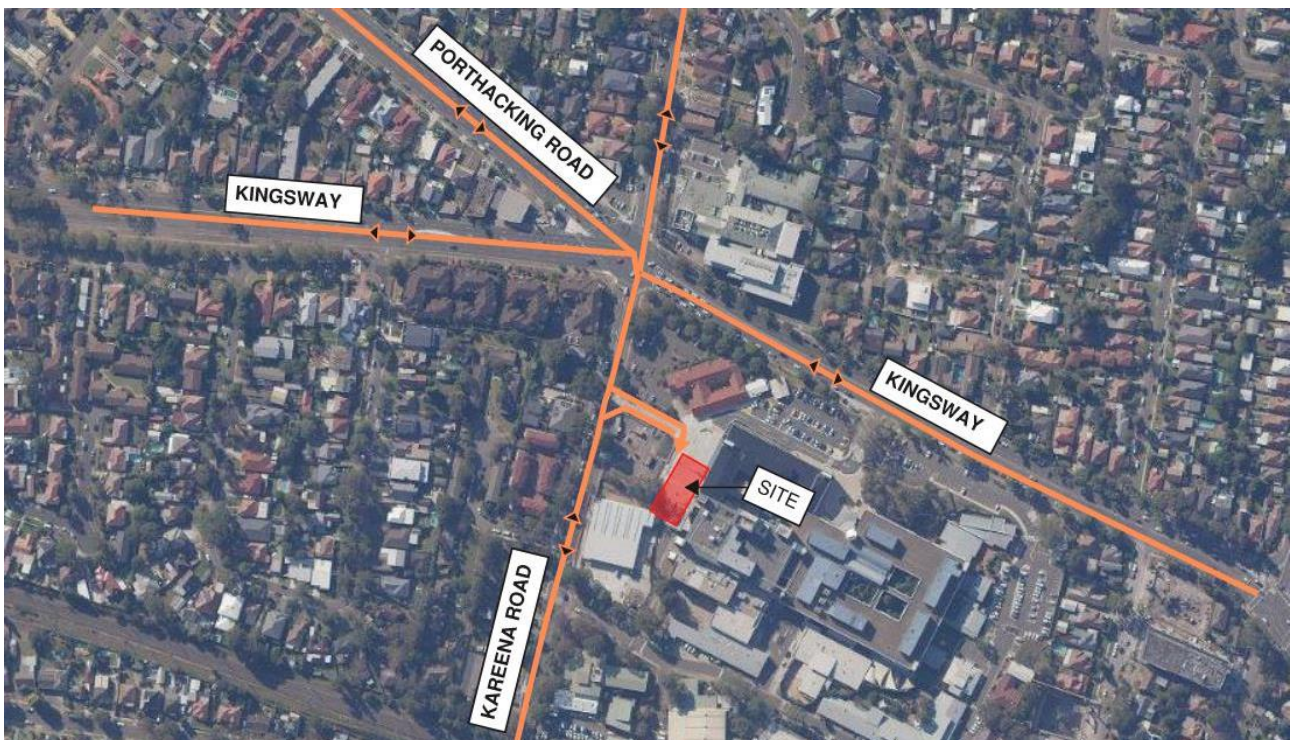


Figure 4.1: Construction vehicle routes

4.2 Construction Traffic Management

During days of high estimated vehicle movements, communication between the site, concrete batching plant and/or vehicles will be maintained to stagger the arrival of vehicles, in order for them to be accommodated within the worksite and to minimise traffic disruptions.

It is anticipated that truck loading and unloading will occur wholly within site. All deliveries are to be made within the approved work hours. Truck movements to and from the site will be scheduled outside peak hours where possible to reduce impacts to the local road network, which includes busy town-centre areas and high pedestrian volumes.

A Traffic Control Plan (TCP) showing appropriate warning signages addressing all the construction stages shall be developed as part of the contractor's detailed CTMP for the CC stage.

4.3 Construction Workers Parking

To minimise disruption to hospital and ambulance services, reduce interaction between hospital visitors and construction works and to prioritise patient, visitor and staff access to parking spaces at the Hospital, there will be no on-site parking created for construction workers. To minimise the impact to surrounding on-street parking and neighbouring properties, construction workers will be prohibited from parking within a 200m distance from the site. This restriction will be incorporated in the Principal Contractor's contractual obligations to ensure that the Contractor is required to enforce the restriction on all workers.

On-street parking will be incorporated in the agendas of weekly meetings, monthly meetings and recurring project performance reviews to ensure compliance. Ongoing Council project updates will ensure that the project team are made aware of any complaints regarding on-street parking by construction workers, made to Council.

The Contractor will encourage all the construction workforce to use public transport. The restrictions relating to on-street parking will be communicated to the workforce at the site induction and through regular and ongoing toolbox talks. All schemes and proposals would be subject to a future finalised CTMP to be prepared by the builder and approved where relevant with DPIE, Local Council and TfNSW.

5 Project Impact

5.1 Local Traffic

Local traffic patterns during construction are expected to remain consistent with the existing conditions. All public roads will remain in operation at full capacity. Traffic impacts from the construction works are expected to be limited to the volume of construction vehicles only, with minimal contractor traffic during peak hours only.

The number of daily vehicles is expected to be minimal in comparison to the total volumes of traffic on local roads. Truck movements to and from the site will be scheduled outside the network peak hours where possible to reduce impacts to the area.

All deliveries and construction works are to take place within the site with no impacts to passing traffic. Existing travel lanes along all local roads will remain in operation at full capacity.

If the relevant loading area is found to be full at the time of vehicle arrival, vehicles are not to queue on the roadway. In this instance, vehicles shall store appropriately within other areas of the site (and shall not reverse out of the site) or be turned away and rescheduled if necessary. If recirculating to the site, vehicles shall only park legally in designated parking zones and in accordance with any relevant road rules, and only for as long as necessary.

5.2 Parking

Construction workers would be encouraged to use public transport or shuttle service provided by the builder, and construction workers will be prohibited from parking within a 200m distance from the site. Based on the above, the proposed works would not generate any significant impact on the surrounding streets.

5.3 Pedestrians

The footpath at all the adjoining roads to the Hospital will remain operational, and construction traffic movements are unlikely to interrupt any pedestrian facility in the vicinity of the site. The site is to remain secured from pedestrian access with site fencing.

Therefore, the proposed construction works would not impact on any pedestrian activity in the surrounding.

5.1 Cyclists

There are no changes to dedicated cycleways in the area. Cyclists on public roads will be required to follow direction from traffic controllers as per standard vehicles.

5.2 Public Infrastructure

On infrequent occasions when particularly large vehicles are required to access the site, some mounting or crossing of public kerbs and medians may be necessary. The builder shall repair any damage to this infrastructure if large vehicles are required to mount the devices. Any other road markings damaged as a result of vehicles associated with the construction shall be repaired as a responsibility of the builder.

It is also noted that the existing median strip in Kareena Road has been removed as part of the Kareena Road upgrade works, and will include a right turn lane into the site.

5.3 Emergency Services

Emergency vehicles accessing the operational hospital emergency department and other critical areas will be unimpeded by construction works. Where works are operating across internal roadways, movements will be under full traffic control with the ability to give priority to emergency vehicles as required.

Emergency access to the construction site itself shall be operated as necessary. In the event of an emergency, the Site Manager is to coordinate access with emergency services as required.

Emergency services access to local properties will be retained, with no road closures or major lane changes required for these works.

5.4 Site Safety

All construction work and operations are to be contained within site. Fencing with an A-class hoarding is to be implemented on all site boundaries. Safety for passing traffic, including pedestrians, shall be maintained at all times.

5.5 Cumulative Local Impacts

No nearby construction sites are anticipated to create a cumulative impact on local traffic. The volume of construction traffic generated by the site is within normal daily traffic variations and can be catered for within the capacity of the local network.

6 Additional Information

6.1 Construction Traffic Management

A detailed Construction Traffic and Pedestrian Management Plan must be completed prior to occupation of the site or any site works taking place.

6.2 Communication of Works

Prior to any site works taking place, notification of commencement of the works shall be distributed to the neighbourhood. Notification is to include information or comment. Community notifications will be undertaken as per the Construction Management Plan prepared by the Contractor.

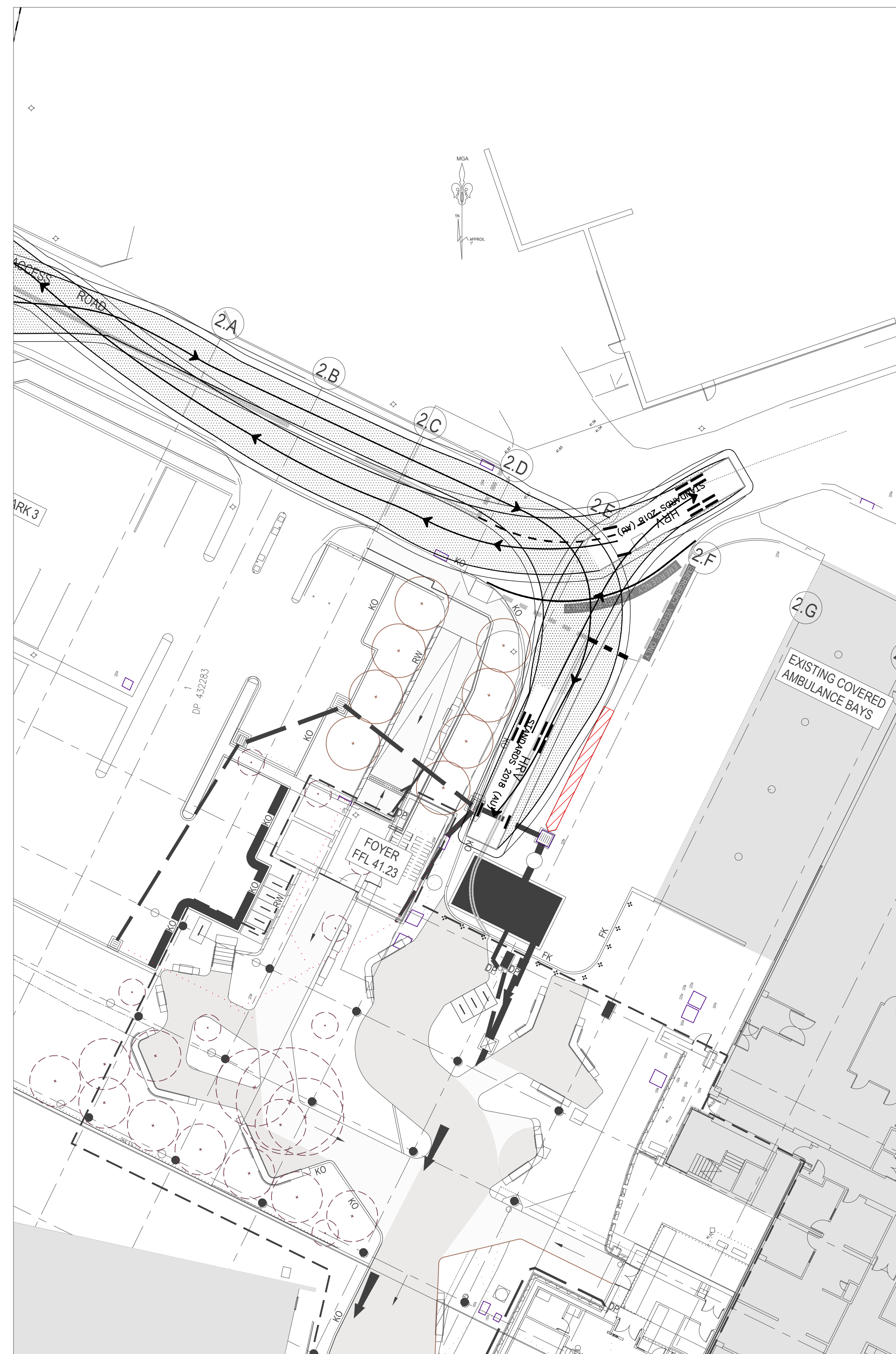
Traffic control advance-warning signage in accordance with TfNSW Services guidelines and Australian Standards is to be in place to notify motorists of roadwork and when traffic controllers are present. The sign size is to be size “A” and is to be monitored throughout the works to ensure they are clearly visible.

As part of the site induction procedures, all contractors will be made aware of this Construction Traffic Management Plan, the relevant Traffic Control Plans, and their responsibility to adhere to these plans.

Appendix A – Swept Path Analysis



	metre
Width	: 2.5
Track	: 2.5
Lock to Lock Time	: 6.0
Steering Angle	: 36.



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