

Appendix B1

Construction Traffic, Transport and Access Management Sub-Plan

Western Harbour Tunnel and Warringah Freeway Upgrade

Stage 1B Early and enabling works – Cammeray Golf Course adjustment works

June 2022

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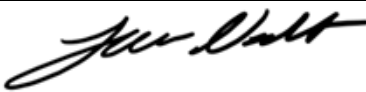
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Glossary / Abbreviations

Abbreviation	Expanded text
CCS	Community Communication Strategy
CEMP	Construction Environmental Management Plan
CGC	Cammeray Golf Course
CoA	Condition of Approval
DPE	Department of Planning and Environment
EIS	Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement (January 2020)
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
FAS	Flashing Arrow Signs
NSC	North Sydney Council
Project, the	Western Harbour Tunnel and Warringah Freeway Upgrade
REMM	Revised Environmental Management Measures
ROL	Road Occupancy Licence
RtS	Western Harbour Tunnel and Warringah Freeway Upgrade Response to Submissions (September 2020)
SCO	Sydney Coordination Office
SEARS	Secretary's Environmental Assessment Requirements
SSI	State Significant Infrastructure
SZA	Speed Zone Authorisation
TCP	Traffic Control Plan
TfNSW	Transport for New South Wales
TTLG	Traffic and Transport Liaison Group
TMC	Transport Management Centre
TMP	Traffic Management Plan
TTAMP	Traffic, Transport and Access Management Sub-Plan (this document)
VMP	Vehicle Movement Plan

Abbreviation	Expanded text
CCS	Community Communication Strategy
VMS	Variable Message Sign

1 Introduction

1.1 Context and scope

This Traffic, Transport and Access Management Sub-plan (TTAMP or Plan) forms part of the Construction Environmental Management Plan (CEMP) for the Stage 1B Early and Enabling Works – Cammeray Golf Course adjustment works (refer to herein as “the Cammeray Golf Course works” or CGC). This TTAMP will support the delivery program of the Main Works of the Western Harbour Tunnel and Warringah Freeway Upgrade (the Project). Sydney Program Alliance (SPA) has been appointed by Transport for New South Wales (TfNSW) to deliver the Cammeray Golf Course works.

This TTAMP has been prepared to address the requirements of the Minister’s Conditions of Approval (CoA), Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement (EIS), the revised environmental management measures (REMMs) listed in the Western Harbour Tunnel and Warringah Freeway Upgrade Response to Submissions Report (RtS) and all applicable legislation.

This TTAMP describes how SPA proposes to manage potential traffic impacts during the Stage 1B Early and Enabling Works – Cammeray Golf Course adjustment works stage of the Project. Other construction stages of the Project, including operational traffic and transport impacts and operation mitigation measures do not fall within the scope of this TTAMP and therefore are not included within the processes contained within this TTAMP.

1.2 Background and project description

The Western Harbour Tunnel and Warringah Freeway Upgrade EIS (January 2020) assessed potential traffic impacts from construction of the Western Harbour Tunnel and Warringah Freeway Upgrade.

As part of the EIS development, a detailed construction traffic and transport assessment was prepared to address the Secretary’s Environmental Assessment Requirements (SEARS) issued by the Department of Planning and Environment (DPE). The traffic and transport assessment were included in Chapter 8 of the EIS, and the Traffic and Transport Technical Paper (Appendix F of the EIS).

The project description is outlined in Sections 1.1 to 1.3 of the CEMP.

1.3 Environmental management systems overview

The environmental management system overview is described in Section 1.6 of the CEMP. This sub-plan forms part of a suite of sub-plans and procedures which sit under the CEMP, as summarised in Figure 1-1.

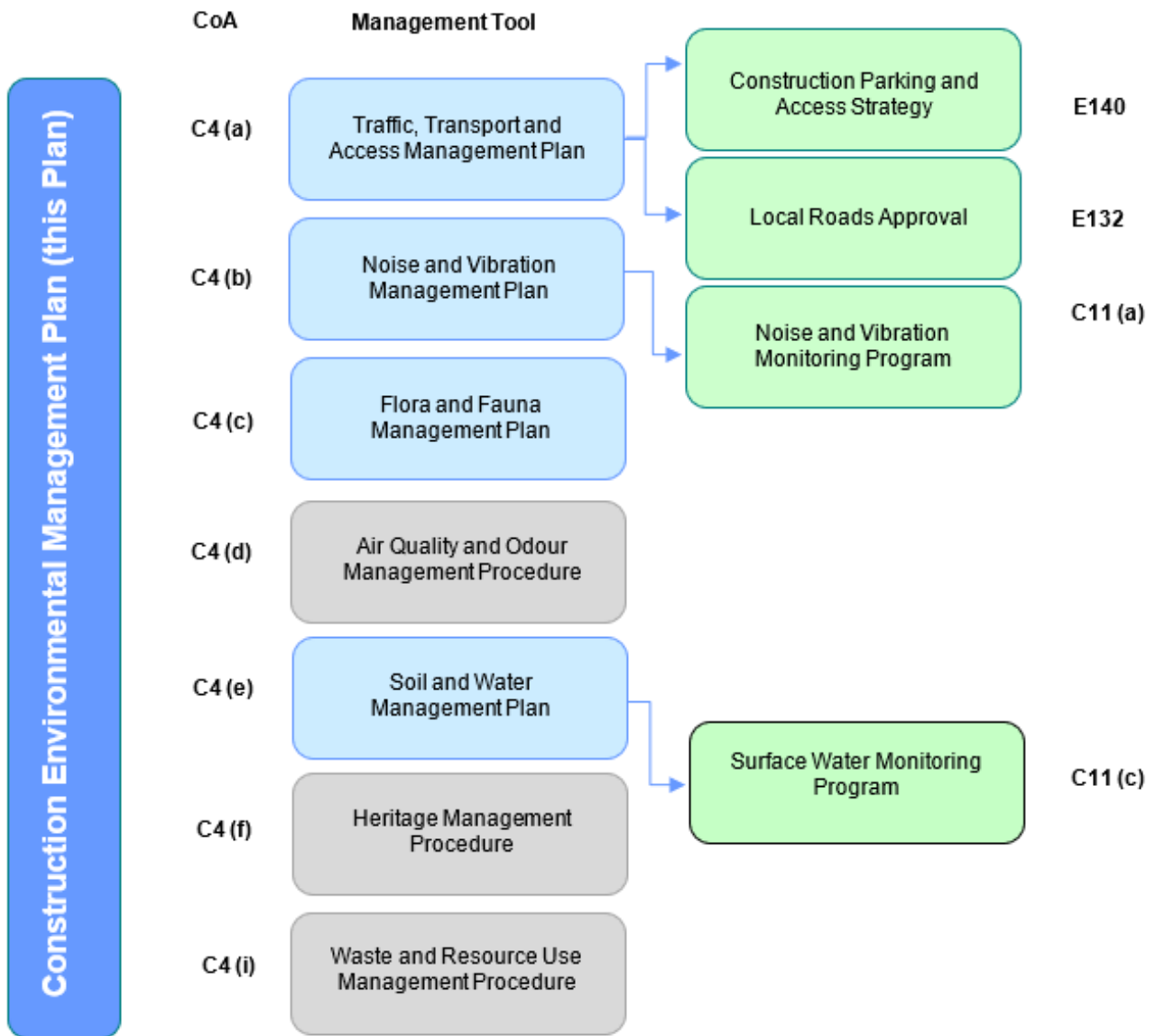


Figure 1-1 Structure of CEMP, Sub-plans and procedures

2 Purpose and objectives

2.1 Purpose

The purpose of this Plan is to describe how SPA proposes to manage traffic during Cammeray Golf Course works stage of the Project.

2.2 Objectives

The key objective of this TTAMP is to describe the approach to manage traffic impacts during Cammeray Golf Course works and are within the scope permitted by the CoA by minimising delays. The key objectives of this TTAMP is to describe and consider the needs of all road users, pedestrians and cyclists and to ensure the safety for both workers and the general public.

To achieve these objectives, SPA will implement appropriate:

- Controls and procedures during construction activities to address potential traffic impacts along the Project corridor
- Measures to address the relevant CoA outlined in Appendix B, and the safeguards detailed in the EIS
- Measures to comply with all relevant legislation and other requirements as described in Section 3.1 of this Plan.

Furthermore, SPA will meet the performance outcomes from the EIS as required by CoA C2(d)(i), as identified in Appendix A.

3 Environmental requirements

3.1 Relevant legislation and guidelines

3.1.1 Legislation and regulatory requirements

Legislation relevant to traffic management for the Project includes:

- *Roads Act 1993*
- *Road Transport Act 2013*
- *Environmental Planning and Assessment Act 1979 (EP&A Act)*
- Australian Road Rules.

All legislation relevant for the Project is included in Appendix A3 of the CEMP.

3.1.2 Licences / Permits

Licences and permits relevant to traffic management for the Project include:

- Road Occupancy Licences (ROL)
- Speed Zone Authorisations (SZA).

3.1.3 Guidelines

The main guidelines, specifications and policy documents relevant to this Plan include:

- NSW Bicycle Guidelines Version 1.2 (RTA, 2005)
- Planning Guidelines for Walking and Cycling (Department of Infrastructure, Planning and Natural Resources, 2004)

Australian Standards

- AS1742: Manual of Uniform Traffic Control Devices
- AS1742.3: Manual of Uniform Traffic Control Devices – Part 3: Traffic Control for Works on Roads
- AS1743:2018 - Road Sign and Traffic Signals

TfNSW QA Specifications

- TfNSW QA Specification G10 – Traffic Management
- TfNSW QA Specification R141 – Pavement Markings
- TfNSW QA Specification R142 – Raised Reflective Pavement Markers
- TfNSW QA Specification R143 – Sign Posting

TfNSW Guidelines

- TfNSW Supplement to Australian Standard AS 1742.9:2018, Manual of Uniform Traffic Control Devices
- TfNSW Traffic Control at Worksites Manual (Version 5, 2018)
- TfNSW – Safety Barrier Acceptance
- TfNSW – Variable Message Signs (VMS) Guidelines
- TfNSW – Delineation Manual

- TfNSW – Traffic Modelling Guidelines (Roads and Maritimes, 2013)
- TfNSW – Technical Direction (TDT 2009/07) Speed Enforcement on Worksites
- TfNSW – Transport Management Centre, Road Occupancy Manual

Austroads

- Austroads Guide to Traffic Management 2009 – Parts 1-13
- Austroads Guide to Road Design 2009 – Parts 1-7
- Austroads Guide to Road Safety 2009 – Parts 1-9.

3.2 Minister's Conditions of Approval

This TTAMP has been prepared to meet the requirements of CoA C4(a) and CoA C5.

The CoA relevant to traffic management for the Cammeray Golf Course are listed in Appendix B of this TTAMP. A cross reference is also included to indicate where the CoA is addressed in this TTAMP or other Project management documents.

In accordance with CoA C9, this TTAMP will be submitted to DPE for approval no later than one month prior to the commencement of construction for the Cammeray Golf Course works. Construction will not commence for the Cammeray Golf Course works until this TTAMP, the CEMP and relevant CEMP Sub-plans have been approved by DPE in accordance with CoA C10.

3.3 Revised Environmental Management Measures

The REMMs relevant to traffic management for the Cammeray Golf Course works are listed in Appendix B of this TTAMP.

Appendix B includes reference to the required outcomes, the timing of when the commitment applies, relevant documents or sections of the environmental assessment influencing the outcome and implementation.

4 Consultation

Individual briefing sessions have been held with North Sydney Council (NSC) to provide an overview of the traffic and transport issues and to provide a forum for discussion. Subsequent to the meetings, the TTAMP was provided to North Sydney Council for consultation in accordance with CoA C4(a).

Comments from consultation with NSC regarding safety and heavy vehicle impacts have been addressed in the relevant sections of this plan (TTAMP) and Appendix A-E. Further detail on consultation with NSC is outlined in the Consultation Summary Report.

Consultation has been carried out with Bike North and Bicycle NSW regarding the bicycle detours. The outcomes of the agency consultation will be outlined in the Consultation Summary Report. As it is not relevant to the location, Port Authority of NSW has not been included in ongoing consultation.

Ongoing consultation with Transport Coordination (a division within Transport for NSW), North Sydney Council, emergency services, bus operators and other stakeholders will be undertaken (if required) regarding impacts associated with construction traffic and parking management. Regular updates will be provided through a range of tools outlined within the Community Communication Strategy (CCS), including monthly meetings including the Traffic and Transport Liaison Group (TTLG) (or at a frequency agreed with key stakeholders), community updates and notifications and emails, to ensure all upcoming changes and impacts are communicated in a timely fashion.

Additional consultation with the above stakeholders will be triggered because of incident emergency response or special event planning.

Refer to Table 4-1 for all proposed consultation associated with the management of traffic, transport and access impacts associated with the Cammeray Golf Course works.

Table 4-1 Consultation requirements

Source	Consultation for	Consultation with
CoA C4(a)	Traffic, Transport and Access Management Sub-plan	North Sydney Council
CoA E140	Construction Parking and Access Strategy	Affected users utilising on- and off-street parking stock Consultation held with North Sydney Council Carparking spaces will not be impacted in the Willoughby LGA.
CoA E132	Local roads approval	North Sydney Council
CTT4	Ongoing consultation will be carried out to minimise traffic and transport impacts during construction	Transport Coordination within Transport for NSW Port Authority of NSW North Sydney Council Emergency services Bus operators

Source	Consultation for	Consultation with
TfNSW QA Specification G10	Traffic Management Plan	Customer Journey Planning (TfNSW) Planning and Programs (TfNSW)
TfNSW QA Specification G10	Road Occupancy Licence	Customer Journey Planning (TfNSW) Transport Management Centre (TMC)
CCS (CoA B2(e))	Upcoming works that will result in traffic impacts such as lane closures, parking removal, and impacts to cyclist routes	Notification of affected community in the form of community updates, community notification and individual work notices.
Project specific scope inclusions	Upcoming road closures and detours.	SPA have established a Traffic and Transport Liaison Group (TTLG) to consult on traffic and transport impacts. Evidence of meeting minutes, including relevant stakeholders involved and the frequency and timing of meetings, have been included in a revised Stage 1B TTAMP CoA A5 Consultation Report.

5 Construction traffic impacts

Construction of the Cammeray Golf Course works will require the use of both light and heavy vehicles which have the potential to impact upon road users, pedestrians, cyclists and sensitive receivers located near the construction site. This section outlines the potential impacts of the traffic upon these receivers due to the Cammeray Golf Course works.

5.1 Construction site

Construction activities will be undertaken primarily within the golf course project boundary as detailed in Figure 5-1.

A minor ancillary facility consisting of three amenity sheds for lunchroom and toilets, will be established within the Cammeray Golf Course. The work site is located within the Cammeray Golf Course and will be accessed using Park Avenue as detailed in Figure 5-2. During site establishment activities, existing access points will be prioritised for access and egress. Further detailed information on the establishment and management of the ancillary facility is contained in Section 1.3 of the CEMP and the Minor Ancillary Facilities Assessment.

Sensitive receivers located near to the site include 3 childcare receivers, 4 educational receivers, 7 recreational receivers, 1 place of worship and 1 other. The nearest school (Cammeray Public) is located on the corner of Palmer Street and Bellevue Street, which is approximately 600 m northeast from the site.



Figure 5-1 – Location of Cammeray Golf Course works



Figure 5-2 – Location of Cammeray Golf Course access points

5.1.1 Access routes for works

Light and heavy vehicles will access and egress the construction worksite and minor ancillary facility using the following primary access roads:

- Ernest Street - Regional Road
- Warringah Freeway - State Road

Routes were chosen based on roads nominated in the EIS where possible, to minimise potential impacts on traffic and sensitive receivers along the route and generally use major arterial roads or motorways as the routes.

The Cammeray Golf Course works will utilise, roads nominated in the EIS and consult with the relevant authorities for approval where this is not an option. Site access and egress routes will utilise roads which best avoid sensitive areas including schools, aged care facilities, hospitals and shopping precincts. These routes were selected to minimise impacts on residents and return construction vehicles to major arterial roads as quickly as possible. All requests for local road usage not identified in the EIS and RtS will require DPE approval in accordance with CoA E132.

The construction vehicle routes will be provided to contractors for distribution to the site workers and drivers. The construction vehicle routes will be readily available at the ancillary facility for drivers to review. Drivers will minimise idling and queueing on local, state and regional roads, and marshalling of construction vehicles will not occur near sensitive receivers, in accordance with CoA E139.

Where practical, essential vehicles (i.e., vehicles carrying tools, plant and other equipment to facilitate works) will be contained within the footprint of each work site with no impact on adjacent on-street parking. The provision of parking at ancillary facilities means there will be no requirement to idle and queue on state and regional roads. The provision of parking at ancillary facilities, and the limited number of deliveries required at work sites, means there will be no requirement to marshal construction vehicles • The ancillary facilities have been designed so that construction vehicles will not block access across pedestrian or shared user paths at any time.

Figure 5-3 identify the heavy vehicle routes required for the project.

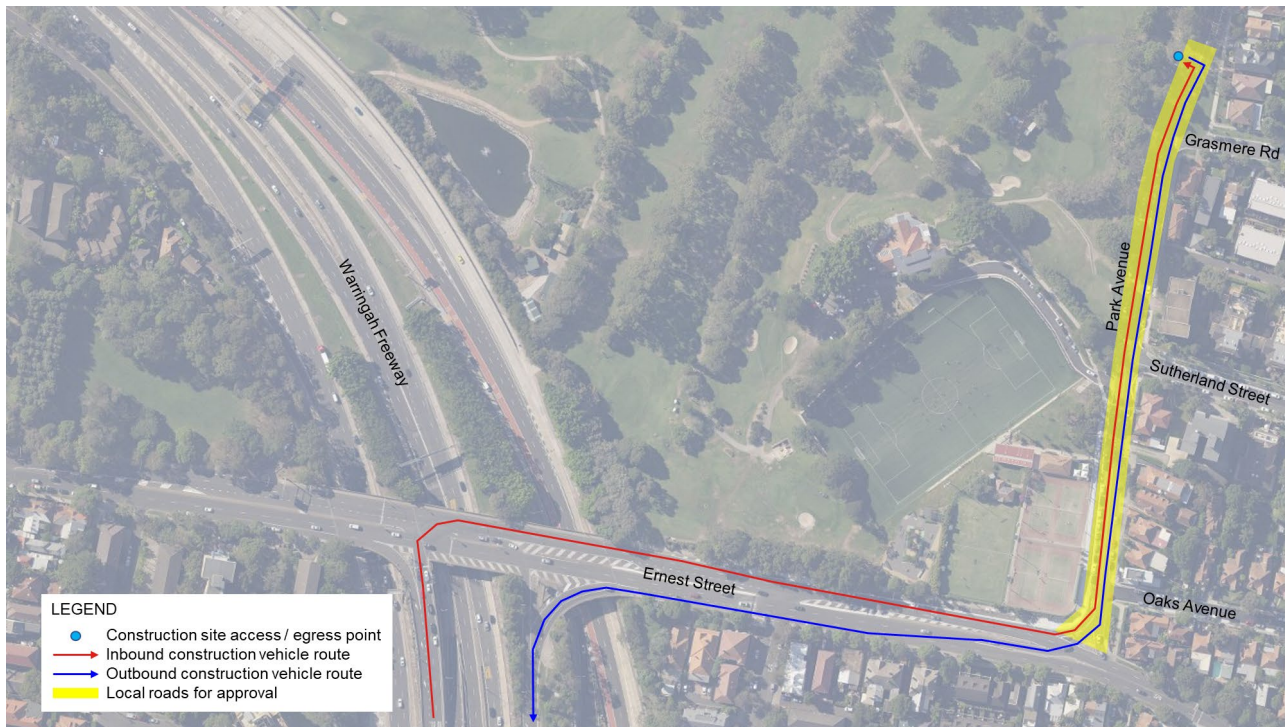


Figure 5-3 – Heavy vehicle route overview

Mitigation measures which will be implemented at construction site access and egress points to manage interactions between construction vehicles and public vehicles, pedestrians and cyclists are outlined in Section 6.1.

5.1.2 Access to local roads

Construction vehicle routes to and from the worksite and have been developed to maximise the use of state and regional roads.

Local roads proposed to be used by heavy vehicles to directly access the construction boundary and ancillary facilities that are not shown in the EIS, must be approved by the Planning Secretary, in accordance with CoA E132. Requests to use local roads will include the information identified in CoA E133, as discussed further in Section 6.6. Current local roads proposed to be used that have not been assessed in the EIS and require DPE approval are listed in Table 5-1 and shown in Figure 5-3. The request for DPE approval of local roads listed in Table 5-1 will be managed through the submission of a separate E132 Local Roads Approval. When obtained, this approval document will be included in Appendix C of this document.

In accordance with CoA E136 before any local road is used by a heavy vehicle for the Cammeray Golf Course works, a Road Dilapidation Report must be prepared for the road. A copy of the Road Dilapidation Report must be provided to the relevant council within three weeks of completion of the survey and no later than one month prior to the road being used by heavy vehicles associated with the CSSI.

Table 5-1 Local roads requiring DPE approval under CoA E132

Local road	Direction of movement	Description of use during construction	Description of potential impacts
Park Avenue	Northbound Southbound	Access to and egress from work site	Use by construction traffic Period of use: up to 8 months

These local roads will not be used to access the Cammeray Golf Course construction site until they are approved by DPE. Should the DPE approval include any additional requirements or conditions, this TTAMP will be updated appropriately to ensure compliance.

SPA is preparing a local roads approval to submit to the Planning Secretary in accordance with CoA E132 which combines the WFU Stage 1A critical utilities (CUT) scope of works and the WFU Stage 1B CGC scope of works. The WFU Stage 1A CUT package is the subject of a separate and already approved CEMP and sub-plans. Both of these early works packages share the same local roads surrounding the Cammeray Golf Course site and are required to directly access the construction boundary and the ancillary facilities that are not identified in Figures 5-7 to 5-22 inclusive of Appendix F of the EIS.

All relevant information related to local roads requiring approval has been incorporated in the combined WFU Stage 1A and Stage 1B early works local roads approval. When obtained, the updated local roads approval will be incorporated in relevant approval documentation for both Stage 1A CUT scope of works and Stage 1B CGC scope of works.

5.2 Construction traffic volumes and patterns

Table 5-2 below details the approximate traffic volumes anticipated to access key worksite for the Cammeray Golf Course works. While construction traffic volumes are anticipated to contribute to further congestion of the local road network, construction traffic movements would be minimised during peak periods in accordance with REMM CTT6. Where reasonable and feasible, SPA will not schedule deliveries to site during peak traffic times. A Vehicle Movement Plan will be prepared and will detail a restriction on heavy vehicle movements during school zone times where applicable. Efficiencies gained from the Project's parking management, discussed in Section 6.10 of this document, would also result in minimising movements during all periods, including the AM and PM peaks:

- Encouragement of the use of public transport to reduce the number of private vehicles travelling to and from the compounds
- Encouragement of carpooling to encourage the construction workforce on the same shifts to coordinate with others to carpool to / from similar locations.

Daily vehicle volumes consider waste removal, material deliveries, and arrival and departure of construction personnel. The proposed vehicle movements are the peak movements and would not be expected for the duration of the works. Typical light vehicles to be used during construction will be worker's 4WD utes and small trucks under 4.5t Gross Vehicle Mass (GVM). Typical heavy vehicles expected to be used during construction would include, but not limited to, rigid bogey tippers, concrete agitators, vacuum trucks, articulated floats and flatbed trucks.

Where possible, deliveries will be scheduled outside of peak traffic times. Worker shift patterns will regularly be influenced by road occupancy licences.

Table 5-2 Construction vehicle numbers required to access the work site

Local road	Peak vehicle movements per day (two-way movements)	Morning peak vehicle movements (6 am to 10 am) (two-way movements)	Evening peak vehicle movements (3 pm to 7 pm) (two-way movements)
	Heavy	Heavy	Heavy
Park Avenue	30	15	15

5.2.1 Traffic generation from other major infrastructure projects

Cammeray Golf Course works will run concurrently with other major infrastructure projects in the region, including the subsequent Warringah Freeway Upgrade early works and the Warringah Freeway Upgrade main works stages of the project. This may raise the potential for cumulative traffic impacts on the road network to and through the Cammeray Golf Course works area. These potential impacts are summarised in Table 5-3.

Table 5-3 Potential cumulative traffic impacts

Project	Time frame	Potential impact
Approved major infrastructure projects		
Warringah Freeway Upgrade Project (Stage 2A and 2B of the WHTWU Project)	The Warringah Freeway Upgrade early works, and Warringah Freeway Upgrade Project main works will commence in 2021 and 2022 respectively, with project completion in 2025.	Vehicles involved in the construction of the project are anticipated to predominantly be concentrated at and adjacent to the Freeway, within Milsons Point, North Sydney, Neutral Bay, Cammeray, Crows Nest and Naremburn.
City and Southwest Metro	The construction of the Chatswood to Sydenham line commenced in 2018 with project completion in 2024.	Whilst most tunnelling works have been completed for this project within the area with potential for cumulative impacts, specifically the area between North Sydney and St Leonards, there is fitout and subsequent works being undertaken from now until commissioning in 2024. Such works is likely to require light and heavy vehicle access onto major arterial roads north of the harbour.
Western Harbour Tunnel	Tunnel driven component of the WHT were assessed in the EIS to commence at the end of 2021 with project completion at the beginning of 2026.	Works associated with the Cammeray Golf Course works will be completed before the commencement of the WHT project
Beaches Link and Gore Hill Freeway Connection	Early works to commence in 2023 with project completion in 2028.	Works associated with the Cammeray Golf Course works will be completed before this Beaches Link and Gore Hill Freeway Connection commence.

Opportunities and measures to work with other projects to minimise the effects of impacts and enhance the benefits of multiple projects occurring concurrently or consecutively will be addressed by complying with relevant CoA and REMMs, particularly REMM CTT4.

Potential cumulative impacts would be captured through the preparation of Traffic Management Plans as described in Section 6.13.

6 Traffic Management

Construction of the Cammeray Golf Course works will result in temporary changes to traffic arrangements which have the potential to impact upon road users, pedestrians, cyclists and sensitive receivers located near on adjacent to the changes. This section outlines the traffic management measures that will be implemented to minimise impacts to these receivers.

6.1 Traffic management during construction

To safely manage interactions between construction vehicles and workers, and public vehicles, pedestrians and cyclists at access and egress points and construction works, SPA will implement management measures including:

- Creation of a safe work zone on Park Avenue using barriers including clear access and egress points
- Utilising traffic control to direct vehicles and cyclists around the work zone
- Installation of VMS signage around the work area to alert motorists to the potential traffic hazards
- Creating a detour route for cyclists to ensure they are not impacted
- Install turning truck signs to warn motorists, pedestrians and cyclists of trucks turning into and out of site accesses
- Ensure access and egress driveways are visible to approaching traffic and signposted accordingly
- Where practicable, manage pedestrians at site access and egress driveways with suitable measures such as traffic controller supervision
- Vehicle parking will not block or disrupt access across pedestrian or shared user paths at any time (CoA E139(d))
- Install security fences and gates at locations which maintain clear sight lines and enable vehicles to park clear of adjacent travel lanes
- Traffic Guidance Schemes (TGSs) will be prepared, where required, for any temporary changes to the traffic environment associated with ancillary facility establishment and use
- VMPs will be prepared, where required, for any access associated with establishment and use of construction ancillary facilities and access routes
- Access for emergency vehicles and to firefighting equipment will be maintained
- Where feasible and reasonable, activities requiring partial and full road closures will occur outside of peak periods and/or during night-time to minimise the impact of these activities on the road network in accordance with REMM CTT12
- Community notification in advance of proposed traffic changes through appropriate media and other appropriate forms of community liaison. Community notification will be undertaken in accordance with the Community Communication Strategy.

The Austroads Guide to Traffic Engineering and the TfNSW Road Design Guide provides guidance on the design of intersections and access points. Temporary traffic controls may be required from time to time to facilitate the movement of over-dimension vehicles.

6.2 Road maintenance

6.2.1 Road Dilapidation Report

SPA has undertaken road dilapidation surveys on public local roads before they are used by heavy vehicles for works associated with the Cammeray Golf Course works and following completion of the works. Surveys include pavement condition surveys, pavement condition assessments and roadside asset condition assessments. The Stage 1A CUT scope of works utilizes the same public local roads as those proposed to be used for the Stage 1B CGC works, including Park Avenue, Cammeray Road and Warringa Road. The road dilapidation report that has been undertaken for the CUT package also satisfies the requirement for the Stage 1B CGC scope of work and these specific public local roads.

A copy of the report has been provided to the relevant roads' authority (the relevant council or TfNSW) within three weeks of completing the surveys and no later than one month prior to the commencement of roads being used by heavy vehicles associated with the Cammeray Golf Course works.

6.2.2 Repair and restore

In accordance with CoA E137, if damage to roads occurs because of the Cammeray Golf Course works, SPA will either (at the relevant road authority's discretion):

- Compensate the relevant road authority for the damage so caused; or
- Rectify the damage to restore the road to at least the condition it was in pre-works as identified in the road dilapidation reports.

SPA will monitor and maintain temporary alignments installed by SPA through the relevant Traffic Management Plan (TMP). Refer to Section 6.13).

6.3 Road occupancy

SPA will obtain the necessary approvals and concurrence of the relevant road authority, prior to conducting any works on the road or the road reserve.

The three specific areas of approval will include:

- All development works within the road reserve and/or any changes to existing infrastructure
- The installation and/or changes of any regulatory traffic control device
- Occupation of the road to conduct works, and the associated installation of temporary traffic control devices.

An ROL will be obtained for work which:

- Slows, stops or otherwise delays or affects the normal flow of traffic
- Diverts traffic from its normal course along the road, including lane closures and detours
- Occupies any portion of the road related area, including the footpath that is normally available for vehicular, pedestrian or bicycle movement.

The ROL will be obtained prior to the commencement of any works on or near a State¹ road except in the case of an emergency, or when directed by Police or Emergency services. ROL applications

¹ An ROL is only required from TfNSW for State and regional roads and when working within 100m of a traffic signal-controlled intersection. North Sydney Council have a separate permit system for any activities on local roads, which SPA will comply with where required.

will be submitted in accordance with Road Occupancy Licensing Guidelines to the Traffic Management Centre (TMC).

6.4 Speed management

Temporary roadwork speed limits are one of many traffic controls that SPA will implement to manage the speed of traffic approaching and passing through the work site. SPA will be conscious of the potential for speed reductions over long distances, to have negative impacts on road user travel times.

SPA will implement Roadwork Speed Zones logically, credibly and capable of being enforced by the NSW Police Force, in accordance with approved Speed Zone Authorisations and as detailed in the ROL.

When considering the use of a roadwork speed zones, SPA will:

- Ensure they are clearly delineated and capable of being enforced
- Position speed signs away from other traffic control signs and devices
- Ensure they are used only while road works are in progress or the lower speed road conditions exist.

As per the *TfNSW Traffic Control at Worksites Manual (Version 5, 2018)*, in order to maintain the current speed limits through the work zone, safety barriers will be provided to protect work and workers.

When night works are required, special consideration will be taken to determine changes in the speed limit depending on the location and type of works.

6.5 Signposting and delineation

During the Cammeray Golf Course works, there will be impacts on the existing road network information and distance information signage.

Signage associated with property access, local community access and businesses will be considered during the detailed design and implementation of temporary traffic management schemes and any impacts addressed to ensure the appropriate information for road users is effectively communicated at all times.

Information signage and advance warning signage will be designed for all changes to the road network and traffic conditions in accordance with relevant *TfNSW Supplement to Australian Standard AS 1742.9:2018, Manual of Uniform Traffic Control Devices* and *AS1743:2018 - Road Sign and Traffic Signals*.

6.5.1 Directional, information and regulatory signposting

The installation of directional, information and regulatory signposting will accompany any changes to the existing road networks.

SPA will design, supply, install and maintain direction, information and regulatory signs and structure required for the Cammeray Golf Course works, including any modification that are required to existing signs and sign structures. The design, manufacture and installation of the signs and sign structure will be in accordance with the TfNSW standards and *AS1742: Manual of Uniform Traffic Control Devices*. All signposting changes will be detailed in the Traffic Management Plan(s) (TMP) and Traffic Control Plan(s) (TCP).

6.5.2 Delineation

Delineation of any intersection layout changes will comply with the requirements of TfNSW Traffic Control at Worksites and other standards and will be detailed in the individual TMP and TCP.

Line marking will be undertaken in accordance with the relevant Codes and Standards, including TfNSW QA Specification, R141 (Pavement Marking) and R142 (Retroreflective Raised Pavement Markers), TfNSW - Delineation Manual and *AS1742: Manual of Uniform Traffic Control Devices*. Temporary works designs are issued to TfNSW and the independent certifier for approval.

Mitigation measures for pavement deterioration will be considered through a Road Safety Audit, which could include sprayed seal surface over affected areas of line removal.

6.5.3 Variable message signs

During Cammeray Golf Course works, SPA will utilise portable and permanent VMS to provide advanced warning and changed traffic condition information to road users where required. The use of VMS and the appropriate message/s will be incorporated within a TMP and/or site-specific TCPs.

The Traffic Team will co-ordinate and deploy portable trailer mounted VMS to allow as much advance warning as possible, as well as set TMC agreed and approved messages in accordance with the TMC's VMS Policy.

6.5.4 Flashing arrow signs

Flashing Arrow Signs (FAS) are mainly used when closing traffic lanes and conducting mobile traffic control operations.

When stipulated by the TCP, SPA will implement FAS in accordance with Section 3.12 of the AS 1742.3 and Annexure D of the TfNSW Traffic Control at Worksites Manual.

6.6 Local roads

SPA has developed standard mitigation strategies and approaches have been identified that will be implemented prior to and during the use of local roads (refer to Table 5-1 for local roads not previously identified in the EIS). SPA will also consult with occupiers of adjacent properties to identify potential impacts from the use of local roads and to develop site specific mitigation measures where required.

The Local Roads Approval in Appendix C provides further information outlining compliance with CoA E133.

Table 6-1 Standard mitigation strategies/approaches for local road usage to address requirements in CoA E133

Requirements	Mitigation strategies / approach
All requests to the Planning Secretary for approval under E133 must include the following: a. include a swept path analysis	Swept paths have been prepared for all local roads requiring DPE approval (refer to Section 3.1 and Appendix A2 in Appendix C). Access to local road(s) will be restricted on site plans until the relevant local road usage request with supporting information has been provided and approved by the Secretary.
b. demonstration that the use of local roads by heavy vehicles for the CSSI will not compromise the safety of pedestrians and cyclists or the safety of two-way traffic flow on two-way roadways	A pedestrian, cyclist and two-way traffic flow safety risk assessment has been undertaken to demonstrate that the use of local roads by heavy vehicles will not compromise pedestrian, cyclist and two-way traffic flow safety (refer to Section 3.2 and Appendix A3 in Appendix C).

Requirements	Mitigation strategies / approach
c. provide details as to the date of completion of the road dilapidation surveys for the subject local roads	Road dilapidation surveys will be undertaken prior to commencement of use of the road by heavy vehicles for the Cammeray Golf Course works, in accordance with CoA E136.
d. measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and childcare facilities during peak times for operation; and	<p>Measures are required to be implemented to avoid where practicable the use of roads past schools, aged care facilities and child care facilities during their peak operation times. To mitigate any potential impacts:</p> <ul style="list-style-type: none"> • Heavy vehicle routes have been selected which avoid passing schools, aged care facilities and childcare facilities where possible. • Where a route passes by a school, aged care facility or childcare facility the project will consult with the sensitive receiver to confirm peak times of operation and periods when they are more sensitive to heavy vehicle traffic, e.g. during school drop off and pick up times, during peak visiting hours at aged care facilities. SPA will avoid using heavy vehicle routes past receivers during these periods where practicable. <p>Refer to Section 4 in the Appendix C for further detail on the mitigation measures.</p>
e. Written advice from an appropriately qualified professional on the suitability of the proposed heavy vehicle route which takes into consideration items (a), (b), (c) and (d) of this condition.	The suitability of the proposed heavy vehicle route, which considers CoA E133(a) – (d), will be reviewed by an appropriately qualified traffic engineer.

6.7 Pedestrians and cyclists

Impacts to shared user paths will be dependent on the detailed design of the Cammeray Golf Course works. Where reasonable and feasible, these impacts will be minimised through the design process.

In accordance with CoA E138, safe pedestrian and cyclist access will be maintained around work sites during construction. In circumstances where pedestrian and cyclist access is restricted or removed due to Cammeray Golf Course works, an alternate route which complies with the relevant standards will be provided and signposted prior to the restriction or removal of the relevant pedestrian and cyclist access. Prior to any alteration to pedestrian and cyclist access arrangements effected stakeholders will be notified in accordance with the CCS.

6.7.1 Pedestrians

SPA will maintain pedestrian connectivity around the Cammeray Golf Course works site, however some detours may be required to improve safety or amenity of pedestrians, or accessibility of trucks entering and exiting the worksite. An active transport link through Cammeray Golf Course, linking Ernest Street and Warringa Road, will be completed prior to the commencement of the Cammeray Golf Course works. An informal existing pedestrian path that transverses Cammeray

Golf Course from Warringa Road to Park Avenue will be decommissioned with pedestrian users diverted to the new active transport link.

Any changes to pedestrian connectivity will be communicated to the relevant council, TfNSW and community stakeholders at least two weeks prior to implementation in line with the CCS. Where alternate routes are implemented, they will be appropriately signed and marked. In accordance with CoA E138 an alternate route which complies with relevant standards will be provided and signposted prior to the restriction or removal of the relevant pedestrian and cyclist access.

SPA will manage pedestrian desire lines with temporary footpaths that comply with the requirements of *Austroads Guide to Road Design Part 6A: Pedestrians and Cycle Paths* and *AS1742.3: Manual of Uniform Traffic Control Devices – Part 3: Traffic Control for Works on Roads*. Prior to work commencing on State and local roads, where the pedestrian access may be affected, SPA will provide alternate pedestrian access routes that are clearly signed and delineated in accordance with all safety requirements. Alternative routes would be tied-in to existing infrastructure including provision of kerb ramps where required, and directional signage to inform pedestrians and cyclists where required.

Alternate routes will aim to minimise inconvenience to pedestrians with the primary goal of maintaining clear space between pedestrians, active work areas and live traffic. This will be addressed in TMPs prior to the commencement of Cammeray Golf Course works. As identified in Section 6.13, TMPs are provided to the TMC and Sydney Coordination Office (SCO) for consideration and approval. Where the work impacts on council areas, the relevant council will be consulted prior to implementation.

If a TMP is not required due to the nature of works, any alternate pedestrian routes will be captured in a TCP, which is approved by TfNSW through the hold point process described in TfNSW Specification G10 and referenced in Section 6.13 of this TTAMP.

As part of this TTAMP, SPA will implement the following measures when providing alternate pedestrian routes to minimise impacts on mobility impaired pedestrians:

- Clearly define temporary footpath arrangements by using appropriate signage
- Maintain sufficient space for wheelchair access
- Maintain a smooth, even surface on all temporary footpaths and crossings
- Conduct regular inspections to maintain footpaths free of trip hazards
- When changing footpath access, minimise grades for wheelchair use.

Pedestrian diversions have been identified to be required at the following sites, for the associated Cammeray Golf Course works listed in Table 6-2.

Table 6-2 Identified pedestrian impacts

Footpath location	Duration	Reason for change	Impact	Alternate route	Additional mitigation measures
Pedestrian path inside Cammeray Golf Course from Warringa Rd to Park Avenue	Between early 2022 – late 2022	Being decommissioned	Permanent closure	Pedestrian users will be rerouted to the Active Transport Link	<ul style="list-style-type: none"> • Community notifications • Alternative route signage
Change to configuration of pedestrian island medians	Between early	Required for compliant swept path	Removal of kerbing	Not applicable	<ul style="list-style-type: none"> • Traffic Control Plan and Traffic Controllers for oversized

Footpath location	Duration	Reason for change	Impact	Alternate route	Additional mitigation measures
at intersection of Ernest and Park Avenue	2022 – late 2022	for heavy vehicles			<p>vehicle movements</p> <ul style="list-style-type: none"> a formal Road Safety Audit (desktop) will be completed on the design prior to implementation and on implementation Low volume of turning movements outside construction hours allows for ample time for pedestrians to cross

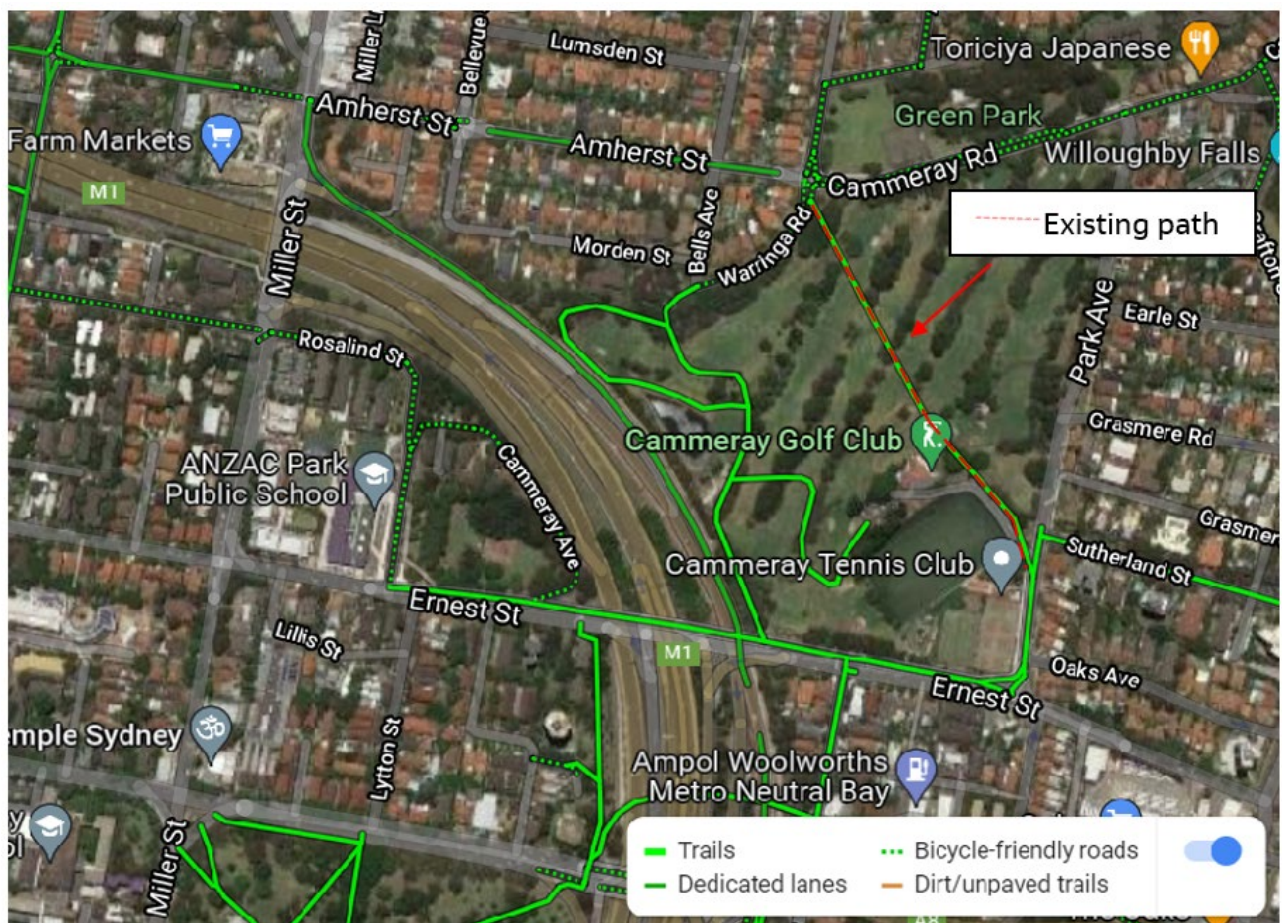


Figure 6-1 –Existing pedestrian path within Cammeray Golf Course works footprint (Google Maps, 2022)

6.7.2 Cyclists

SPA will endeavour to maintain cyclist connectivity and functionality provided within and directly adjacent to the Cammeray Golf Course works area, by preserving existing facilities or providing alternative facilities as part of a detour. An active transport link through Cammeray Golf Course, linking Ernest Street and Warringah Road, will be completed prior to the commencement of the Cammeray Golf Course works.

SPA will manage the cyclist desire lines with temporary routes that comply with the requirements of Austroads Guide to Road Design Part 6A: Pedestrians and Cycle Paths and AS1742 Part 9: Bicycle Facilities, AustRoads Guide to Road Design Part 10 and AS1743: Road Signs Specification. Alternative routes will be tied-in to existing infrastructure including provision of kerb ramps where required, and directional signage to inform pedestrians and cyclists where required.

Where alternate routes are implemented, they will be appropriately signed and marked. In accordance with CoA E138 an alternate route which complies with relevant standards will be provided and signposted prior to the restriction or removal of the relevant pedestrian and cyclist access. Alternate routes will be addressed in a TMP and/or TCP (refer section 6.13). Any changes will be communicated to North Sydney Council, TfNSW and community stakeholder at least two weeks prior to implementation in line with the CCS. Cyclist groups will be consulted with on an as required basis should there be any further changes that impact the modified cyclist routes.

Cyclists on local/urban roads will typically utilise shoulders or dedicated paths where they exist. Cyclist movements at site access points will be managed to maximise cyclist safety.

Cyclist route diversions via the active transport link will be in place prior to the Cammeray Golf Course works commencing. The cycle routes are shown below in Figure 6-2.

Permanent changes to the Warringah Freeway, including cycle lanes is not part of the scope of the project.

Existing cycleways and cycleway detours



Figure 6-2 – Existing Cycleways and cycleway detours

6.8 Public transport

No bus stops have been identified as requiring relocation as part of the Cammeray Golf Course works. Access to public transport will not be impacted by the Cammeray Golf Course works.

6.9 Property access

There are no known impacts on existing commercial or residential properties as access will be retained throughout the Cammeray Golf Course works. In accordance with CoA E141, all reasonably practicable measures will be implemented to maintain pedestrian and vehicular access to, and parking in the vicinity of affected properties. Disruptions are to be avoided, and where avoidance is not possible, minimised. Where disruption cannot be minimised, alternative pedestrian and vehicular access, and parking arrangements will be developed in consultation with affected stakeholders and implemented prior to the disruption. In accordance with CoA E129, any property access physically affected by the Cammeray Golf Course works will be reinstated to at least an equivalent standard, unless otherwise agreed by the landowner or occupier. In accordance with CoA E128, access to all utilities and properties will be maintained during Cammeray Golf Course works, unless otherwise agreed with the relevant utility owner, landowner or occupier.

In the event property access is affected by the Cammeray Golf Course works, these impacts will be identified on the TCPs and communicated to the relevant stakeholders. All such communication will occur in accordance with the CCS. Adequate signage and directions to businesses must be provided prior to, and for the duration of, any disruption.

Affected accesses will be reinstated to a pre-construction condition, unless otherwise agreed by the landowner or occupier.

6.10 Parking management

The construction workforce is expected to be a maximum of 25 people at any one time, with construction workforce parking to be contained within the footprint of the work site, any impact on adjacent on-street parking will be minimal.

The workforce will be encouraged to use public transport where available, with key bus stops including Miller Street (before/after Ernest Street), Falcon Street (at Moodie Street), and Falcon Street (at Bardsley Gardens). Buses servicing these bus stops provide connections to several railway stations for Sydney Trains services to destinations across Greater Sydney.

Some on-street parking will be temporarily removed during Cammeray Golf Course works, in order to facilitate access to the work site.

SPA's Traffic Manager will ensure that the parking management requirements are monitored and reported through inspections as outlined in Section 7.1.

In accordance with CoA E140, a Construction Parking and Access Strategy (CPAS) has been prepared to identify and mitigate impacts resulting from on- and off-street parking changes during the Cammeray Golf Course works. The strategy will be submitted to DPE for approval at least one month prior to the commencement of any construction activities that will impact on parking availability identified in the CPAS. The approved CPAS will be implemented throughout construction (refer to Appendix E).

REMM CTT9 requires the consideration of a shuttle bus service between ancillary facilities and worksites, where provision of construction workforce parking cannot be accommodated within ancillary facilities. The ancillary facility associated with the Cammeray Golf Course works will provide adequate off-street parking spaces for the construction workforce. In addition to this, shuttle bus services would not be practical given:

- There is sufficient parking within the footprint of the work site to cater for the expected maximum size of the construction workforce

- The scope of the Cammeray Golf Course works is tool and equipment-intensive rather than labour-intensive
- The varied nature of the works means construction workforce numbers are highly variable.

6.11 Special events

SPA is not aware of any special events that may be impacted by the work as the location of the construction site is not near any facilities or places that would host a special event. As the construction works would not impact any public transport nodes (bus stops or railway stations), it is unlikely that consideration will need to be given to the planning of major events such as New Year's Eve, Australia Day or the Sydney Running Festival (for example), regardless ongoing consultation will be undertaken with TfNSW, North Sydney Council, public transport providers and event organisers to devise and implement appropriate traffic measures.

6.12 Incident management and response

Emergencies or unplanned incidents may occur during the Cammeray Golf Course works which impact upon traffic including motor vehicle crashes, environmental spills, terrorist attacks, bomb threats, construction type incidents, structural catastrophic failures, inclement weather conditions, flooding and anti-social behaviour.

The Project team will immediately notify the TfNSW Representative of the occurrence of the incident and record the knowledge of the facts. The Traffic Manager, or delegate, is then required to forward a report with the information to TfNSW Representative within two days of the occurrence of the incident.

Furthermore, in case of unplanned incidents such as power failure and public road traffic incidents that occur within the work site, internal construction trucks would be re-routed over a short period of time. The cause of disruption can then be resolved, and the intersection can be returned to normal operation conditions. SPA will communicate the instructions to truck drivers through traffic marshals.

6.13 Traffic management documents

TMP conforming to *Australian Standard 1742.3: Manual of Uniform Traffic Control Devices – Part 3: Traffic Control for Works on Roads* and the *TfNSW Traffic Control at Worksites Manual (Version 5, 2018)* will be developed for the works, containing details of the nature of the works. The TMP will be provided to the TMC and SCO for consideration and approval, and where the work impacts on council areas, the relevant council will be consulted prior to implementation.

A Traffic Control Plan (TCP) is a diagram showing signs and devices arranged to warn traffic and to guide it around, past or if necessary, through a work site or temporary hazard. All TCPs will be developed in accordance with Australian Standard 1742.3 and the *TfNSW Guide to Traffic Control at Worksites (Version 5, 2018)* by a suitably qualified person. In accordance with TfNSW Specification G10, all TCPs will be approved by TfNSW through a hold point process.

6.14 Driver's Code of Conduct

SPA has developed a Driver's Code of Conduct for the Cammeray Golf Course works (refer to Appendix D). The Driver's Code of Conduct will be included in the Project Induction (refer to Section 3.5.1 of the CEMP) and will also be provided to all sub-contractors and delivery drivers.

7 Compliance management

7.1 Inspections

Requirements and responsibilities in relation to inspections are documented in Section 3.9 of the CEMP.

SPA will undertake regular inspections to ensure the safety of all traffic movements, as well as the wellbeing of pedestrians, cyclists, drivers and property through and surrounding all worksites. These inspections will also monitor the traffic movements and frequencies detailed in Table 5-2. The responsibility and frequency of inspections is stipulated in Section 6.1 of the *TfNSW Traffic Control at Worksites Manual (Version 5, 2018)*.

These regular inspections will also verify the on-street parking commitments established by the Driver's Code of Conduct.

Three main types of inspections and records will occur:

- Inspections of short-term (single shift) traffic controls during the shift
- Regular daytime inspections of long-term traffic controls after implementation
- Regular night-time inspections of long-term traffic controls after implementation.

Pre-opening inspections will be carried out by the Traffic Manager before the start of each new temporary roadwork site or major modification.

Any signage or devices identified during the checks or audits requiring attention will either be rectified at the time or advised to the Traffic Manager during that shift for follow-up action.

7.2 Auditing

In accordance with CoA E145, Independent Road Safety Audits will be undertaken by an appropriately qualified and experienced person during detailed design (audit of the plans) and prior to opening (pre-opening audit).

The Independent Road Safety Audits will assess the safety performance of new or modified roads including traffic staging during the Cammeray Golf Course works, parking, pedestrian and cycle infrastructure to ensure that they meet the requirements of relevant design, engineering and safety guidelines, including *Austroads Guide to Traffic Management 2009 – Parts 1-13*. These audits will also cover temporary traffic control measures and temporary alternative pedestrian and cyclist diversions.

The audit findings and recommendations of the detailed design plans (audit of the plans) will be actioned prior to construction of the relevant infrastructure. The pre-opening audit findings and recommendations must be actioned prior to the relevant infrastructure being made available for use.

Other audit requirements are detailed in Section 3.9.3 of the CEMP.

7.3 Continual improvement

Traffic, transport and access performance will be inspected and monitored for the Cammeray Golf Course works throughout construction. The purpose of the inspections and monitoring is to ensure that the mitigation measures identified during the environmental risk assessment (refer to Section 3.2.1 of the CEMP) are effective and being appropriately implemented.

Should mitigation measures be found to be ineffective during regular inspections (detailed in Section 7.1), SPA will review the activity and, where possible, modify the activity or mitigation measures to prevent reoccurrence. Lessons learnt will be communicated to relevant personnel in

toolbox talks. This will form part of the continual improvement processes detailed in Section 3.11 and Section 3.12 of the CEMP. The continual improvement processes will ensure ongoing achievement of the Project's performance outcomes (refer to Appendix A).

Appendix A Performance Outcomes

Performance outcomes identified in Table 28-4 of the EIS that are relevant to the management of traffic, transport and access during the Cammeray Golf Course works are identified in the table below.

Performance outcome	How performance outcome will be addressed	Records	Source
Minimise impacts to local streets from loss of parking, road closures and heavy vehicle movements during construction	<p>Utilise the heavy vehicle routes outlined in Section 5.1</p> <p>Implement measures to minimise impacts resulting from loss of parking, road closures and heavy vehicles movements outlined in Sections 5 and 6.</p> <p>Undertake training, inspections, auditing and recording in accordance with Section 7.</p>	<p>Heavy vehicle routes</p> <p>Complaints register</p> <p>Weekly inspection record</p>	EIS – Chapter 28
Minimise impacts to road network efficiency during construction	<p>Implement the processes and mitigation measures identified in Section 6.</p> <p>Undertake training, inspections, auditing and recording in accordance with Section 7.</p>	<p>Traffic Management Plans</p> <p>Complaints register</p>	EIS – Chapter 28
Enable access to properties to be maintained during construction	<p>Property access will be maintained through the implementation of the processes and mitigation measures identified in Section 6.9.</p> <p>Undertake training, inspections, auditing and recording in accordance with Section 7 and 3.9 of the CEMP.</p>	<p>Traffic Management Plans</p> <p>Complaints register</p>	EIS – Chapter 28
Maintain pedestrian and cyclist safety along surface roads near the project	<p>Section 6.7 outlines processes and mitigation measures which will be implemented.</p> <p>Undertake training, inspections, auditing and recording in accordance with Section 7 and 3.9 of the CEMP.</p>	<p>Traffic Management Plans</p> <p>Complaints register</p>	EIS – Chapter 28

Appendix B Condition of Approval and REMM Compliance Tracking

The CoA and REMMs detailed below are those that are related specifically to the preparation of this Traffic, Transport and Access Management Sub-plan

Table App B-1 Minister's Conditions of Approval

CoA No.	Condition requirements			Document reference	How addressed
C4	The following CEMP Sub-plans must be prepared in consultation with the relevant government agencies identified for each CEMP Sub-plan. Details of all information requested by an agency during consultation must be included in the relevant CEMP Sub-plan, including copies of all correspondence from those agencies as required by Condition A5.	Required CEMP Sub-plan	Relevant government agencies to be consulted for each CEMP Sub-plan	This Plan Section 4	This TTAMP has been prepared in accordance with this condition and describes how SPA proposes to manage traffic during construction of the Project. Consultation of this Plan will be in accordance with this condition. Section 4 outlines the consultation undertaken with the relevant government agencies.
	(a)	Traffic, transport and access	Relevant council(s)		
C5	The CEMP Sub-plans must state how:				
	(a) The environmental performance outcomes identified in the documents listed in Condition A1 will be achieved			Appendix A	This TTAMP has been prepared in accordance with the environmental performance outcomes identified in the EIS as evidenced in Section 2.2 and Appendix A of this Plan, as applicable to the Cammeray Golf

CoA No.	Condition requirements	Document reference	How addressed
			Course works. Measures to achieve these outcomes are detailed in Section 6 of this Plan.
	(b) the mitigation measures identified in the documents listed in Condition A1 will be implemented	Section 6 Section 7 Appendix B	<p>The implementation of traffic management and mitigation measures identified in the EIS and RtS is addressed in Sections 3 and 6 of this Plan.</p> <p>Section 6 of this Plan addresses the traffic management measures SPA proposes to implement during the Cammeray Golf Course works of the Project.</p> <p>Section 7 of this Plan details compliance management measures SPA proposes to implement during the Cammeray Golf Course works of the Project.</p> <p>Refer to Appendix B for a complete list of relevant REMMs and where the REMMs are addressed in the document.</p>
	(c) the relevant terms of this approval will be complied with; and	Section 3.2 Appendix B	Details regarding how SPA proposes to comply with the relevant terms of approval are listed in Section 3, this Table and Section 6 of this Plan.
	(d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed through SMART principles.	Section 5 Section 6 Section 3.2.1 and Appendix A4 of the CEMP	Traffic issues requiring management during the Cammeray Golf Course works have been identified through the EIS and RtS and Environmental Risk Assessment Workshop (refer Section 3.1.2 and Appendix A4 of the CEMP). These issues will be managed through the implementation of this TTMP and the measures in Section 6. Mitigation measures

CoA No.	Condition requirements	Document reference	How addressed
		Section 3.8 to 3.12 of the CEMP	have been developed with SMART principles in mind. Environmental risk analysis will be ongoing, with regular review in accordance with Section 3.8 to 3.12 of the CEMP to ensure effective management of traffic impacts.
C9	Any of the CEMP Sub-plans must be submitted to the Planning Secretary along with, or subsequent to, the submission of the CEMP but in any event, no later than one month before construction.	Section 1.4 of the CEMP Section 2 of the CEMP Section 3.2	The CEMP Sub-plans (including the Noise and Vibration Management plan and this Plan) will be submitted for approval to DPE with, or subsequent to, the final submission of the CEMP for DPE approval.
C10	Construction must not commence until the CEMP and all CEMP Sub-plans have been approved by the Planning Secretary. The CEMP and CEMP Sub-plans, as approved by the Planning Secretary, including any minor amendments approved by the ER must be implemented for the duration of construction. Where construction of the CSSI is staged, construction of a stage must not commence until the CEMP and sub-plans for that stage have been endorsed by the ER and approved by the Planning Secretary.	Section 1.4 of the CEMP Section 2 of the CEMP Section 3.2	Construction will not commence until the CEMP and all Sub-plans have been endorsed by the ER and approved by DPE. The CEMP and all Sub-plans will be implemented for the duration of construction for the Cammeray Golf Course works.
E128	Access to all utilities and properties must be maintained during construction, where practicable, unless otherwise agreed with the relevant utility owner, landowner or occupier.	Section 6.9	Where practicable, access to all utilities and properties will be maintained during Cammeray Golf Course works, unless otherwise agreed with the relevant utility owner, landowner or occupier.

CoA No.	Condition requirements	Document reference	How addressed
E129	Any property access physically affected by the CSSI must be reinstated to at least an equivalent standard, unless otherwise agreed by the landowner or occupier.	Section 6.9	Affected accesses will be reinstated to a pre-construction condition, unless otherwise agreed by the landowner or occupier.
E132	Local roads proposed to be used by heavy vehicles to directly access the construction boundary and ancillary facilities that are not shown in Figure 5-7 to 5-22 inclusive of Appendix F of the EIS must be approved by the Planning Secretary and included in the Traffic, Transport and Access Management CEMP Sub-plan	Section 5.1.2	Local road usage, in addition to that identified in the EIS, is addressed in Section 5.1.2, particularly Table 5-1. All requests for approval for local road usage will include the information identified in CoA E133.
E133	All requests to the Planning Secretary under Condition E132 must include the following:		
	(a) include a swept path analysis;	Section 6.6	Swept path analysis will be provided to the Planning Secretary for all requests for local road usage.
	(b) demonstration that the use of local roads by heavy vehicles for the CSSI will not compromise the safety of pedestrians and cyclists or the safety of two-way traffic flow on two-way roadways;	Section 6.6	Mitigation strategies and approaches that will be implemented prior to and during the use of local roads are provided in Section 6.6. These measures will ensure the safety of the public is not compromised, with no more than minimal amenity impacts.
	(c) provide details as to the date of completion of the road dilapidation surveys for the subject local roads;	Section 6.2.1 Section 6.6	Road dilapidation surveys will be undertaken prior to commencement of use of the road by heavy vehicles for the Cammeray Golf Course works. Details regarding the road dilapidation surveys are outlined in Section 6.2.1.

CoA No.	Condition requirements	Document reference	How addressed
	(d) measures that will be implemented to avoid where practicable the use of roads past schools, aged care facilities and childcare facilities during their peak operation times; and	Section 6.6	Mitigation strategies and approaches that will be implemented prior to and during the use of local roads are provided in Section 6.6.
	(e) written advice from an appropriately qualified professional on the suitability of the proposed heavy vehicle route which takes into consideration items (a), (b), (c), and (d) of this condition.	Section 6.6	The suitability of the proposed heavy vehicle route, which considers CoA E133(a) – (d), will be reviewed by an appropriately qualified traffic engineer, as identified in Table 6-1.
E136	Before any local road is used by a heavy vehicle for the purposes of the CSSI, a Road Dilapidation Report must be prepared for the road. A copy of the Road Dilapidation Report must be provided to the relevant council within three weeks of completion of the survey and no later than one month prior to the road being used by heavy vehicles associated with the CSSI.	Section 5.1.2 Section 6.2.1	Road dilapidation surveys will be undertaken prior to commencement of use of the local road by heavy vehicles for the Cammeray Golf Course works. Local roads required for access to/from the work areas are identified in Table 5-2. Details regarding the road dilapidation surveys for state and local roads are outlined in Section 6.2.1.
E137	If damage to roads occurs as a result of the CSSI, the Proponent must either (at the relevant road authority's discretion): a. Compensate the relevant road authority for the damage so caused; or b. Rectify the damage to restore the road to at least the condition it was in pre-works as identified in the road dilapidation report(s).	Section 6.2.2	As detailed in Section 6.2.2, SPA will either compensate the landowner for the damage caused or rectify the damage to restore the road to at least the condition it was pre-construction.

CoA No.	Condition requirements	Document reference	How addressed
E138	Safe pedestrian and cyclist access must be maintained around work sites during construction. In circumstances where pedestrian and cyclist access is restricted or removed due to construction activities, a proximate alternative route which complies with relevant standards, unless otherwise endorsed by an independent, appropriately qualified and experienced person, must be provided (including signposting) prior to the restriction or removal of the impacted access.	Section 6.7.1 Section 6.7.2	Safe pedestrian and cyclist access will be maintained around work sites during the Cammeray Golf Course works, as detailed in Section 6.7.1 and 6.7.2. These sections detail known required pedestrian and cyclist detours.
E139	Vehicles (including light and heavy vehicles) associated with the CSSI must be managed to: <ul style="list-style-type: none"> a. minimise parking on public roads b. minimise idling and queueing on state and regional roads c. not carry out marshalling of construction vehicles near sensitive land user(s) d. not block or disrupt access across pedestrian or shared user paths at any time e. ensure spoil haulage vehicles adhere to the nominated haulage routes identified in the Traffic, Transport and Access Management CEMP Sub-plan. 	Section 5.1.1 Section 6.1 Section 6.10 Construction Parking and Access Strategy	Parking arrangements are primarily discussed in Section 6.10 and the CPAS. Construction vehicle routes and idling, queueing and marshalling are addressed in Section 5.1.1. Management measures to safely manage the interactions between construction vehicles and public vehicles, pedestrians and cyclists at access and egress points and construction works are identified in Section 6.1. Access and egress routes have been provided in Section 5.1.1 and Appendix C.
E140	A Construction Parking and Access Strategy must be prepared to identify and mitigate impacts resulting from on- and off-street parking changes during construction of the CSSI. The Strategy must include, but not necessarily be limited to: [...]	Section 6.10 Construction Parking and Access Strategy	The CPAS has been prepared and is included as Appendix E. The CPAS will be submitted to DPE separately. The CPAS will be appended to this TTAMP following DPE approval.

CoA No.	Condition requirements	Document reference	How addressed
	The Construction Parking and Access Strategy must be submitted to the Planning Secretary for approval at least one month before the commencement of any construction that reduces the availability of existing parking. The approved Strategy must be implemented before impacting on on-street parking and incorporated into the Traffic, Transport and Access Management CEMP Sub-plan.		
E141	During construction, all reasonably practicable measures must be implemented to maintain pedestrian and vehicular access to, and parking in the vicinity of, businesses and affected properties. Disruptions are to be avoided, and where avoidance is not possible, minimised. Where disruption cannot be minimised, alternative pedestrian and vehicular access, and parking arrangements must be developed in consultation with affected businesses and implemented prior to the disruption. Adequate signage and directions to businesses must be provided prior to, and for the duration of, any disruption.	Section 6.9	Access will be maintained throughout the Cammeray Golf Course works. Where access is impacted, alternative access will be provided unless otherwise agreed with the affected property.
E145	<p>An independent Road Safety Audit must be undertaken to assess the safety performance of new or modified local road, parking, pedestrian and cycle infrastructure provided as part of the CSSI (including ancillary facilities) to ensure that they meet the requirements of relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Management.</p> <p>The audit must be undertaken by an appropriately qualified and experienced person during detailed design development (audit of plans) and prior to opening (pre-opening audit).</p>	Section 7.2	Independent Road Safety Audits will be completed where required as outlined in Section 7.2.

CoA No.	Condition requirements	Document reference	How addressed
	The audit findings and recommendations of the detailed design plans (audit of the plans) must be actioned prior to construction of the relevant infrastructure. The pre-opening audit findings and recommendations must be actioned prior to the relevant infrastructure being made available for use.		
E149	Where bus stops are required to be temporarily closed, such closure must not occur until relocated bus stops that comply with relevant standards, are functioning, have similar capacity and amenity and are relocated within a 400-metre walking distance of the existing bus stop. Closures and relocation of bus stops during construction must be undertaken in consultation with relevant council(s). Wayfinding signage must be provided directing commuters to adjacent or relocated bus stops. Footpaths and (where required) road crossing facilities must be provided to any relocated bus stops such that accessibility and safety standards are met.	Section 6.8	No bus stop relocations have been identified as being required to carry out the Cammeray Golf Course works.

Table App B-2 Revised environmental management measures relevant to this TTAMP

Impact	Reference No.	Commitment	Timing	Where addressed
Construction traffic	CTT1	A road dilapidation report will be prepared, in consultation with relevant councils and road owners, identifying existing conditions of local roads and mechanisms to repair damage to the road network caused by heavy vehicle movements associated with the project.	Pre-construction	Section 6.2.1
Construction traffic	CTT4	Ongoing consultation will be carried out with (as relevant to the location) Transport Coordination within Transport for NSW, the Port Authority of NSW, local councils, emergency services and bus operators to minimise traffic and transport impacts during construction.	Pre-construction Construction	Section 4
Construction traffic	CTT5	The community will be notified in advance of proposed transport network changes, and maritime restrictions through appropriate media and other appropriate forms of community liaison.	Construction	Section 6.1 CCS
Construction traffic	CTT6	Construction road traffic will be managed to minimise movements during peak periods.	Construction	Section 5.2
Construction traffic	CTT7	Vehicle movements to and from construction sites will be managed to ensure pedestrian, cyclist and motorist safety. Depending on the location, this may require manual supervision, physical barriers, temporary traffic signals and modifications to existing signals or, on occasion, police presence.	Construction	Section 6.7
Construction traffic	CTT8	Directional signage, barriers and/or line marking will as required be used to direct and guide drivers, cyclists and pedestrians past construction sites and on the surrounding network. This will be supplemented by Variable Message Signs to advise drivers of potential delays, traffic diversions, speed restrictions, or alternative routes.	Construction	Section 6.5

Impact	Reference No.	Commitment	Timing	Where addressed
Construction traffic	CTT12	Activities requiring partial and full road closures will occur outside of peak periods and/or during nighttime to minimise the impact of these activities on the road network where feasible and reasonable.	Construction	Section 6.1
Pedestrian access	CTT19	Direct impacts to existing shared user paths will be minimised where reasonable and feasible. Any detours and adjustments will be designed with consideration of user safety and convenience.	Construction	Section 6.7

Appendix C Local Roads Approval

Refer to the Local Roads Approval for Stages 1A and 1B

CoA E132 – Local Roads Approval

Western Harbour Tunnel and Warringah Freeway Upgrade

Stage 1A Early and Enabling Works - Critical utility installation, relocation and protection works and Stage 1B Cammeray Golf Course adjustment works (CGC)

Transport for NSW

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CoA E132 – Local Roads Approval

Western Harbour Tunnel and Warringah Freeway
Upgrade

Stage 1A Early and Enabling Works - Critical
utility installation, relocation and protection works
and 1B Cammeray Golf Course adjustment
works (CGC)

June 2022

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Appendices

Appendix A1 Traffic engineer advice

Appendix A2 Swept path diagrams


Appendix A3 The risk assessment system

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Document control

Approval

Title	Critical utility installation, relocation and protection works - Local roads approval
Document No./Ref	SPAWP12-JHG-PAP-ENV-0-0002
Approved by SPA Project Manager	Jason Nisbet
Signed	
Dated	28/06/2022

Version control

The below document status table is for tracking the revisions of this Document, while the project is in construction. The version control table is to be used to track this Document revisions, including those incorporating changes following agency comments.

It may be modified where necessary to fit with requirements of the individual project.

Revision	Date	Description	Approval
0	22/02/2021	For DPIE review	DL
1	16/03/2021	For DPIE review	AL
2	26/03/2021	For DPIE approval	AL
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11	07/06/2022	Updated in response to DPE comments	JN
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Glossary / abbreviations

Abbreviation	Expanded text
CCS	Community Communication Strategy
CGC	Cammeray Golf Course adjustment works
CoA	Condition of Approval
CPAS	Construction Parking and Access Strategy
CUT	Critical utilities installation, relocation and protection
Document, the	This local roads approval document
DPE	Department of Planning and Environment
EIS	Environmental Impact Statement
HV	Heavy vehicle
Pedestrian desire line	An unplanned route or path that is used by numerous pedestrians to travel from one place to another. An example is a road crossing where there is no formal crossing facility
Project, the	Western Harbour Tunnel Warringah Freeway Upgrade
SPA	Sydney Program Alliance
TfNSW	Transport for NSW
WFU	Warringah Freeway Upgrade
WFUEW	Warringah Freeway Upgrade Early Works
WFUMW	Warringah Freeway Upgrade Main Works
WHT	Western Harbour Tunnel
WHTBL	Western Harbour Tunnel Beaches Link
WHTWFU	Western Harbour Tunnel Warringah Freeway Upgrade

1 Introduction

1.1 Background

The Western Harbour Tunnel and Warringah Freeway Upgrade (WHTWUFU) (the project) forms a core component of the broader Western Harbour Tunnel and Beaches Link (WHTBL) program of works (refer to Figure 1-1 and Figure 1-2). The project comprises two main components:

- A new crossing of Sydney Harbour involving twin tolled motorway tunnels connecting the M4-M5 Link at Rozelle and the Warringah Freeway at North Sydney (the Western Harbour Tunnel)
- Upgrade and integration works along the existing Warringah Freeway, including infrastructure required for connections to the Beaches Link and Gore Hill Freeway Connection project. Reconfiguration works as part of the Warringah Freeway Upgrade would optimise the road corridor and improve the performance of the Sydney Harbour Tunnel, the Sydney Harbour Bridge and the Western Harbour Tunnel.

Due to its importance, the WHTWUFU project was declared to be Critical State Significant Infrastructure (CSSI) by the Minister for Planning and Public Space. On 21 January 2021, Minister for Planning and Public Space approved the construction and operation of the WHTWUFU project (SSI 8863) and the Department of Planning, Industry and Environment (DPIE) issued the NSW Minister for Planning and Public Space's Conditions of Approval (CoA).

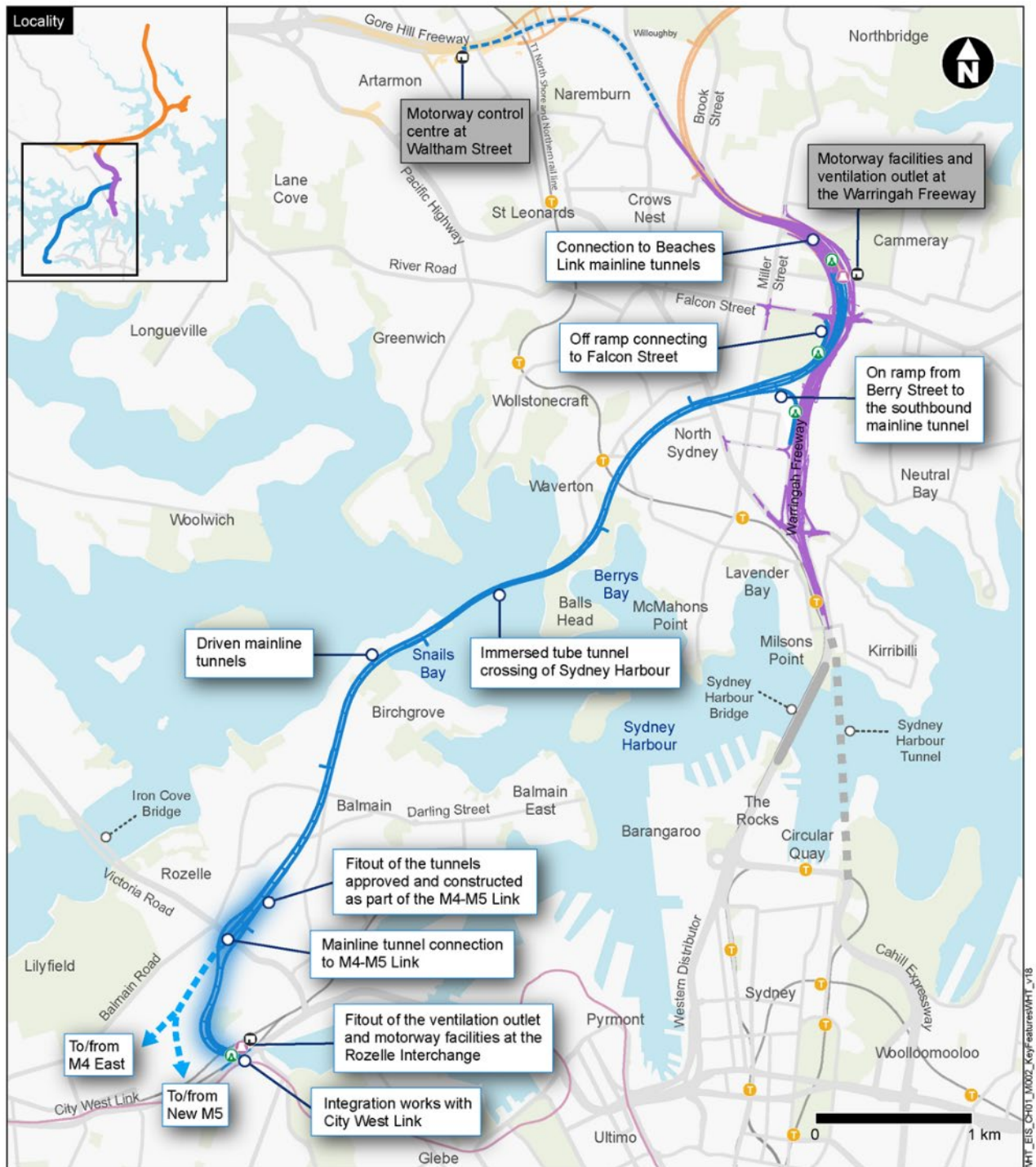
A detailed description of the project is provided in Chapter 5 of the Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement (EIS).

The WHTWUFU project will be delivered in numerous stages:

- Stage 1 - Early and enabling works:
 - Stage 1A - Critical utility installation, relocation and protection (CUT) (the subject of this local roads approval document)
 - Stage 1B - Cammeray Golf Course adjustment works (CGC) (the subject of this local roads approval document)
- Stage 2 - Warringah Freeway Upgrade project:
 - Stage 2A - Warringah Freeway Upgrade early works (WFUEW)
 - Stage 2B - Warringah Freeway Upgrade main works (WFUMW)
- Stage 3 - Western Harbour Tunnel project (WHT).

Further detail on each stage is provided in the WHTWUFU project Staging Report.

This local roads approval document (this Document) applies to Stage 1A Early and Enabling Works - Critical utility installation, relocation and protection stage of the project (referred to herein as "the critical utility works" or 'CUT') and Stage 1B- Cammeray Golf Course adjustment works (CGC). The critical utility works will support the delivery program of the Main Works of the project by undertaking these works prior to the commencement of the Main Works.



Legend

Operational features

- Western Harbour Tunnel
- Warringah Freeway Upgrade
- - - Communications cable for motorway control centre
- M4-M5 Link tunnel fitout and commissioned as part of Western Harbour Tunnel

- ⓐ Surface connection
- Ⓢ Permanent operational facility
- Ⓢ Ventilation outlet

Connecting projects

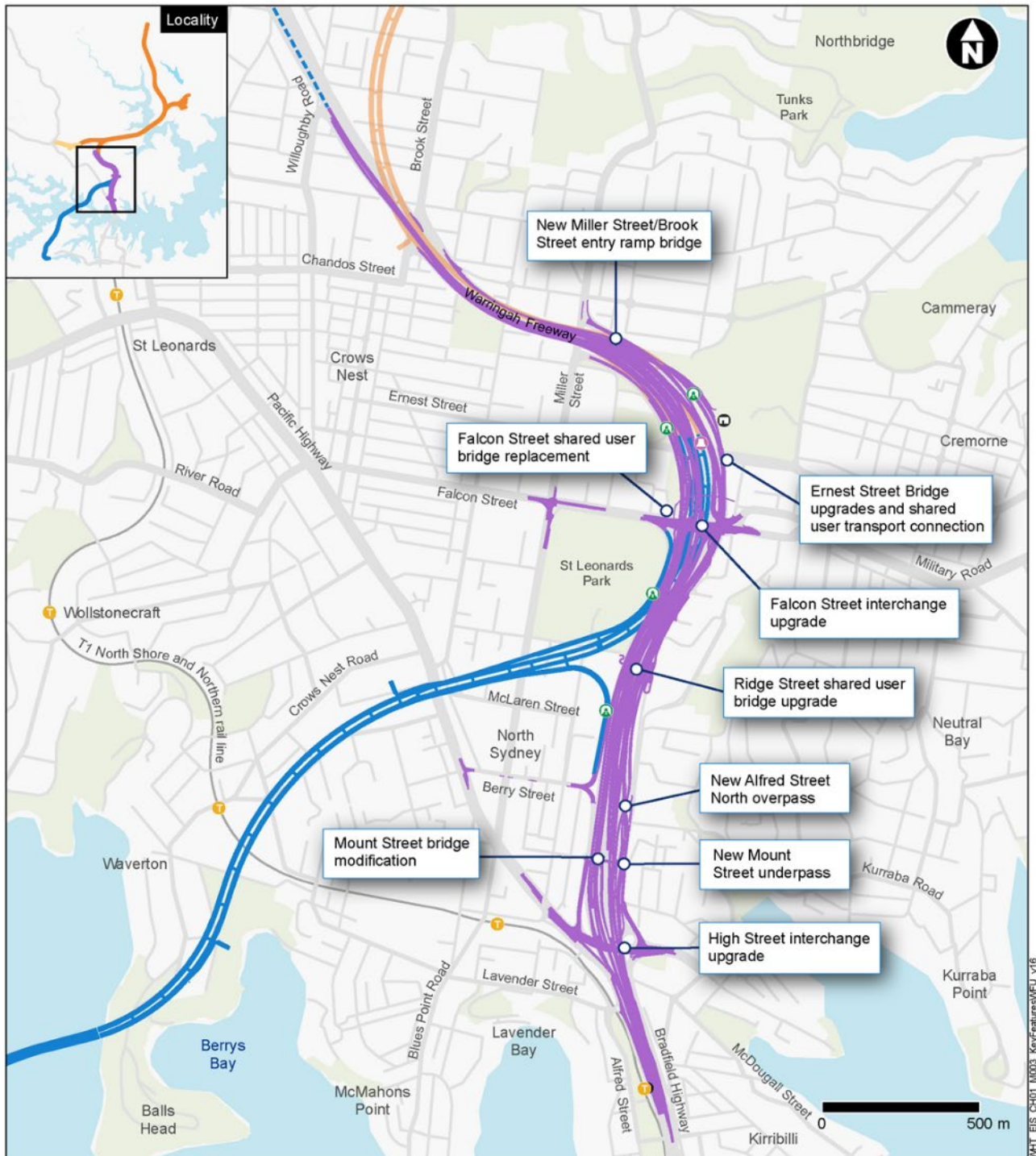
- Beaches Link
- Gore Hill Freeway Connection
- M4-M5 Link connections (indicative)

Existing rail network

- Heavy rail
- Light rail
- Ⓢ Train station

(Reference: Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement, Figure 1-2)

Figure 1-1 Key features of the Western Harbour Tunnel component of the project



(Reference: Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement, Figure 1-3)

Figure 1-2 Key features of the Warringah Freeway Upgrade component of the project

1.2 Project description

The early and enabling works will support the delivery program of the Main Works of the project by undertaking these works prior to the commencement of the Main Works.

This Document applies to the critical utility installation, relocation and protection early works package of the project (Stage 1A) and Cammeray Golf Course adjustment works (CGC) (Stage 1B). These works are critical to an earlier start on site and will be undertaken as part of early and enabling works of the project as outlined in Table 1-1 and Figure 1-3.

Table 1-2 provides a summary of the activities which will be completed as part of the critical utility works scope and the Cammeray Golf Course adjustment works (CGC).

The works will commence in early 2021 and be completed by late 2022. The program for the remaining stages of the WHTWUFU project is included in the WHTWUFU Project Staging Report.

Table 1-1 Critical utilities and CGC works

Areas	Key activities
Alfred Street North, Neutral Bay	<ul style="list-style-type: none">• Deviation of existing Sydney Water sewer mains• Relocation of existing Ausgrid assets• Relocation of various communication provider assets
Arthur Street / High Street, North Sydney	<ul style="list-style-type: none">• Relocation of existing Ausgrid assets• Relocation of various communication provider assets• Relocation of two (2) existing Sydney Harbour Tunnel fire hydrant booster stations• Relocation of existing 415V feed to Sydney Harbour Tunnel control room
Cammeray Avenue / Ernest Street / Cammeray Golf Course, Cammeray	<ul style="list-style-type: none">• Relocation of existing in-ground Ausgrid assets• Removal of existing disused in-ground Ausgrid assets• Relocation of existing in-ground Sydney Water assets• Relocation of existing in-ground communication provider assets• Installation of new permanent Intelligent Transport System (ITS) node and temporary connections• Installation of temporary construction power supply along Ernest Street from Ben Boyd Road to the Cammeray Golf Course site (WHT10).
Cammeray Golf Course	<ul style="list-style-type: none">• Adjustments to the golf course to maintain its viability• Construction of a 9-hole golf course• Upgrades to maintenance facilities• Utility protection and adjustment works• Installation of a new permanent replacement storage dam and associated infrastructure

Table 1-2 Description of activities for the critical utility works and CGC scope

Activity	Description
Establishment and operation of major ancillary facilities	
Site preparation works	<ul style="list-style-type: none"> • Provision of site security such as temporary fencing and perimeter fencing • Clearing and trimming of vegetation within the construction footprint • Site levelling, grading and compaction (including fill importation), including temporary stockpiling of materials for site levelling • Provision of foundations and buildings for toilet facilities, offices, lunch rooms, signage and pedestrian diversions, and installation of traffic barriers
Site survey and site investigation works	<ul style="list-style-type: none"> • Ground penetrating radar or electromagnetic ground investigation • Utility investigation by potholing with a vacuum truck
Initial environmental controls	<ul style="list-style-type: none"> • Erosion and sediment controls, including: <ul style="list-style-type: none"> ◦ Installation of rip rap ◦ Drainage sump ◦ Diversion of offsite flows ◦ Erosion, sediment and water flow controls ◦ Delineation of sensitive areas and temporary fencing/hoardings
Fit out, commissioning and install of remaining site infrastructure including	<ul style="list-style-type: none"> • Chemical and hazardous material storage • Designated stockpile/laydown areas • Office furniture fit out • Formalisation of on-site car parking (line marking etc.) • Site lighting installed which will involve the use of power saws for cutting steel work
Operation of minor ancillary facilities	<ul style="list-style-type: none"> • Site offices • Lunch sheds • Staff amenities • Off-street car parking • Laydown • Material stockpiling
Critical utilities works	
Installation of services to the site e.g. water, sewer, power, communications	<ul style="list-style-type: none"> • Establish temporary work area including installation of temporary fencing, storage, laydown and stockpiling areas • Installing pre-construction environmental management controls, e.g. sandbags at stormwater drainage outlets • Clearing and trimming of vegetation • Concrete wet saw cutting to remove concrete or asphalt pavement

Activity	Description
	<ul style="list-style-type: none"> • Trench excavations • Stockpiling excavated materials within the work area for reuse or removal for off- site disposal • Preparing sub-grade surface (e.g. stabilised sand) to accommodate utility services • Laying utility services either as pipes, cables or conduits • Constructing joint bays and pits (where required) • Pulling feeders and cables through conduits • Connecting utility services to existing networks • Testing and commissioning of utility services • Backfilling trenches and re-instating ground surface to an appropriate condition • Rehabilitate areas disturbed by works • Site clean-up and decommissioning of temporary work areas and environmental management controls
Installation of relocated utilities e.g. water, sewer, power, communications	<ul style="list-style-type: none"> • Establish temporary work area including installation of temporary fencing, storage, laydown and stockpiling areas • Installing pre-construction environmental management controls, e.g. sandbags at stormwater drainage outlets • Clearing and trimming of vegetation • Concrete wet saw cutting to remove concrete or asphalt pavement • Trench excavations • Installation of directional drilling launch/receiving sites • Stockpiling excavated materials within the work area for reuse or removal for off- site disposal • Preparing sub-grade surface (e.g. stabilised sand) to accommodate utility services • Laying utility services either as pipes, cables or conduits • Constructing joint bays and pits (where required) • Pulling feeders and cables through conduits • Connecting utility services to existing networks • Testing and commissioning of utility services • Backfilling trenches and re-instating ground surface to an appropriate condition • Removal of redundant utilities • Rehabilitate areas disturbed by works • Site clean-up and decommissioning of temporary work areas and environmental management controls
Cammeray Golf Course Adjustment works	

Activity	Description
Cammeray Golf Course	<ul style="list-style-type: none"> • Adjustments to the golf course to maintain its viability • Clearing and grubbing of vegetation • Installation of a minor ancillary facility • Construction of a 9-hole golf course • Relocation of existing maintenance buildings • Installation of a practice lesson putting green • Connection of existing car park and revised parking facilities to new maintenance buildings • Service location and adjustment/removal of services and utilities within the golf course • Utility protection and adjustment works • Active Transport Link
Stormwater Dam located inside CGC	<ul style="list-style-type: none"> • Decommissioning of the existing Dam at CGC (beyond the scope of this Local Roads Approval) • Detailed Site Investigation and native fauna survey at existing dam (beyond the scope of this Local Roads Approval) • Installation of a new permanent replacement storage dam and associated infrastructure • Installation of a water treatment system and associated mechanical and electrical equipment, and connections to existing stormwater system

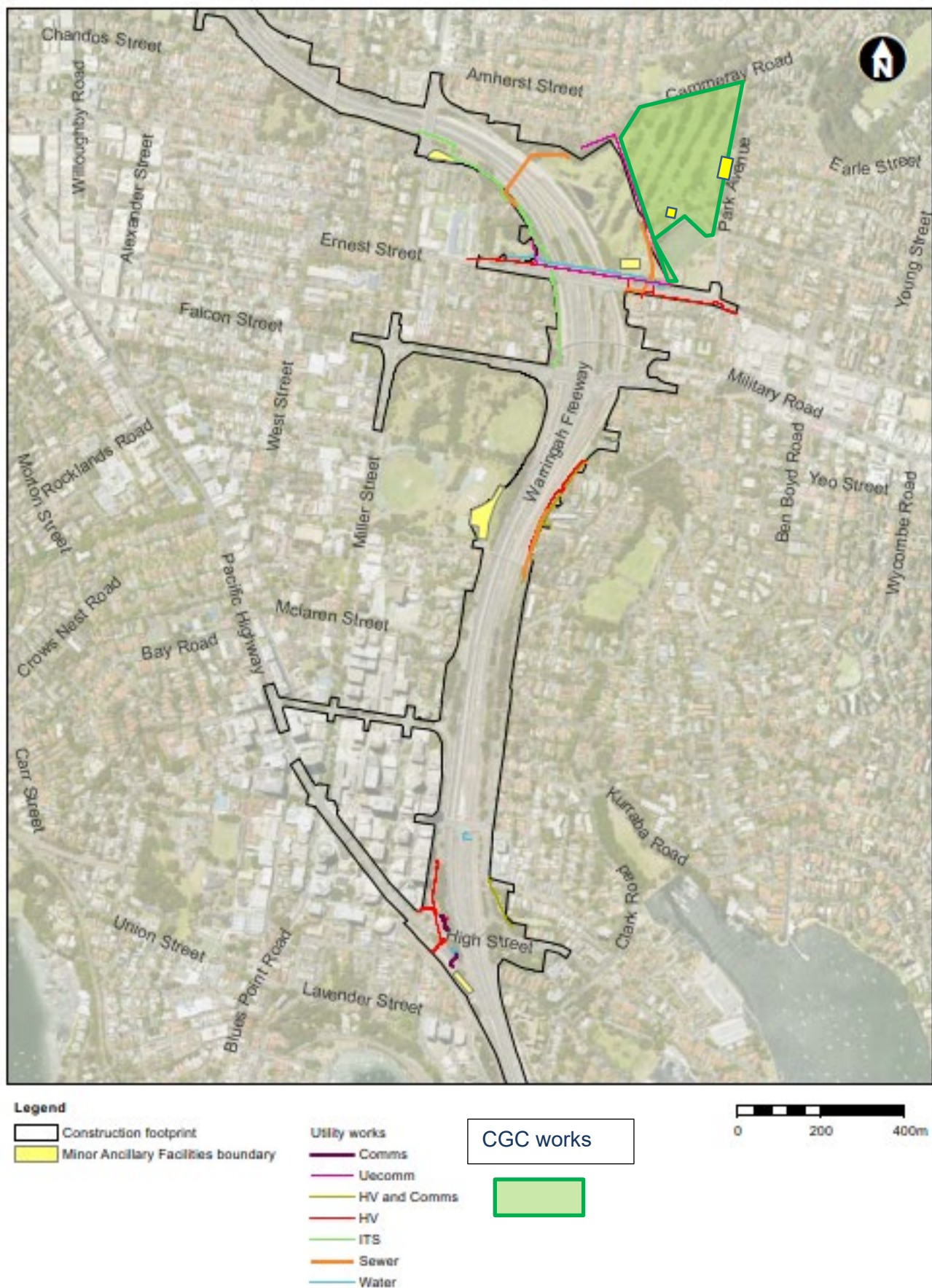


Figure 1-3 Location of critical utility and CGC works scope

1.3 Purpose of this local roads approval

This Document has been prepared to describe how Sydney Program Alliance (SPA), during the critical utilities work, will comply with the requirements of the NSW Minister for Planning and Public Space's CoA E132. This Document will be lodged to DPIE for approval prior to heavy vehicles (HV) use of local roads that have not been identified, assessed and approval as part of the EIS.

In accordance with CoA E133, this Document will:

- Include swept path analyses for local roads that require DPIE approval
- Demonstrate that DPIE approval of local roads nominated in this Document will not compromise the safety of pedestrians and cyclists or the safety of two-way traffic flow on two-way roadways
- Provide details related to the date of road dilapidations that have been conducted for local roads that require DPIE approval
- Detail measures that will be implemented to avoid use of nominated local roads past schools, aged care facilities and childcare facilities during peak operation times
- Include advice from an appropriately qualified traffic engineer regarding the suitability of nominated local roads that require DPIE approval.

The requirements of CoA E132 and E133 and where they are addressed in this Document are shown in Table 1-3.

The requirements of applicable Revised Environmental Management Measures (REMMs) and where they are addressed in this document are shown in Table 1-4.

Table 1-3 CoA E132 and E133 compliance

CoA	Requirement	Where addressed in Document
E132	Local roads proposed to be used by heavy vehicles to directly access the construction boundary and ancillary facilities that are not shown in Figure 5-7 to 5-22 inclusive of Appendix F of the EIS must be approved by the Planning Secretary and included in the Traffic, Transport and Access Management CEMP Sub-plan.	This Document Traffic, Transport and Access Management Sub-plan (TTAMP)
E133	All requests to the Planning Secretary under Condition E132 must include the following:	
(a)	include a swept path analysis	Section 3.1
(b)	demonstration that the use of local roads by heavy vehicles for the CSSI will not compromise the safety of pedestrians and cyclists or the safety of two-way traffic flow on two-way roadways	Section 3.2
(c)	provide details as to the date of completion of the road dilapidation surveys for the subject local roads	Section 3.3
(d)	measures that will be implemented to avoid where practicable the use of roads past schools, aged care facilities and child care facilities during their peak operation times	Section 4
(e)	written advice from an appropriately qualified professional on the suitability of the proposed heavy vehicle route which takes into consideration items (a), (b), (c), and (d) of this condition	Appendix A1

Table 1-4 Revised Environmental Management Measures (REMMs) compliance

REMM	Requirement	Where addressed in Document
CCT1	A road dilapidation report will be prepared, in consultation with relevant councils and road owners, identifying existing conditions of local roads and mechanisms to repair damage to the road network caused by heavy vehicle movements associated with the project.	Section 3.3
CCT6	Construction road traffic will be managed to minimise movements during peak periods.	Section 4
CTT7	Vehicle access movements to and from construction sites will be managed to ensure pedestrian, cyclist and motorist safety. Depending on the location, this may require manual supervision, physical barriers, temporary traffic signals and modifications to existing signals or, on occasion, police presence.	Section 4
CTT8	Directional signage, barriers and/or linemarking will be used as required to direct and guide drivers, cyclists and pedestrians past construction sites and on the surrounding network. This will be supplemented by Variable Message Signs to advise drivers of potential delays, traffic diversions, speed restrictions, or alternative routes.	Section 4
CTT9	Where provision of construction on-site parking cannot accommodate the WHT/WFU full construction workforce, feasible and reasonable management measures that minimise impacts on parking on local roads will be identified and implemented. Depending on the location, management measures may include workforce shuttle buses and the use of public transport.	Section 4

2 Local roads proposed for approval

2.1 Identification of local roads

As required by CoA E132, DPIE approval is required for any local roads that have not been identified and assessed in the EIS. Local roads assessed in the EIS and already approved under CoA E132 are detailed in Table 2-1. Local roads requiring DPIE approval under CoA E132 are detailed in Table 2-2.

Table 2-1 Local roads assessed in the EIS and already approved under CoA E132

Local road	Description of use during construction	Description of potential impacts
Cammeray Avenue (within construction footprint)	Utility relocations	Short and long term traffic control setups Road closures Period of use: 21 months / January 2023
Rosalind Street	Access to minor ancillary facility Access to worksite	Changes to parking arrangements Use by construction traffic accessing minor ancillary facility and utilities worksite Period of use: 21 months / January 2023
Alfred Street North	Access to minor ancillary facility Access to worksite	Changes to parking arrangements Light vehicle access to minor ancillary facility Use by construction traffic accessing utilities worksite Period of use: 18 months / October 2022
Ridge Street	Access to minor ancillary facility	Changes to parking arrangements Use by construction traffic accessing minor ancillary facility Period of use: 21 months / January 2023
Whaling Road	Access to worksite	Use by construction traffic accessing utilities worksite Period of use: 18 months / October 2022
High Street	Access to worksite	Use by construction traffic accessing utilities worksite Period of use: 21 months / January 2023
Blue Street	Access to minor ancillary facility Access to worksite	Use by construction traffic accessing minor ancillary facility Period of use: 18 months / October 2022

Table 2-2 Local roads requiring DPIE approval under CoA E132

Local road	Direction of movement	Description of use during construction	Description of potential impacts
Cammeray Avenue	Eastbound Westbound	Utility relocations	Short and long term traffic control setups Road closures. Period of use: 21 months / January 2023
ANZAC Avenue	Northbound Southbound	Access to work site	Construction vehicle route Period of use: 21 months / January 2023
Bells Avenue	Northbound Southbound	Access to Cammeray Golf Course	Construction vehicle route Period of use: 21 months / January 2023
Warringa Road	Southbound	Access to work site	Construction vehicle route Period of use: 21 months / January 2023
Amherst Street	Eastbound Westbound	Access to work site	Construction vehicle route Period of use: 21 months / January 2023
Cammeray Road (between Park Avenue and Amherst Street)	Westbound	Access to work site	Use by construction traffic Period of use: 21 months / January 2023
Park Avenue	Northbound Southbound	Access to and egress from work site and existing club house	Use by construction traffic Period of use: 21 months / January 2023
Merlin Street	Northbound Southbound	Access to worksite	Use by construction traffic accessing utilities worksite Period of use: 21 months / January 2023
Ben Boyd Road (south of Ernest Street)	Northbound	Access to worksite (refer to Figure 2-2)	Use by construction traffic Period of use: 21 months / January 2023
Ben Boyd Road (north of Belgrave Street)	Northbound	Egress from worksite (refer to Figure 2-2)	Use by construction traffic Period of use: 21 months / January 2023
Sutherland Street	Westbound	Egress from worksite (refer to Figure 2-2)	Use by construction traffic Period of use: 21 months / January 2023

Figure 2-1 presents local roads requiring DPIE approval for use during CUT works. Figure 2-2 shows access and egress routes that provide justification for the use of Ben Boyd Road and Sutherland Street.



Figure 2-1 Local roads requiring approval (Sheet 1)

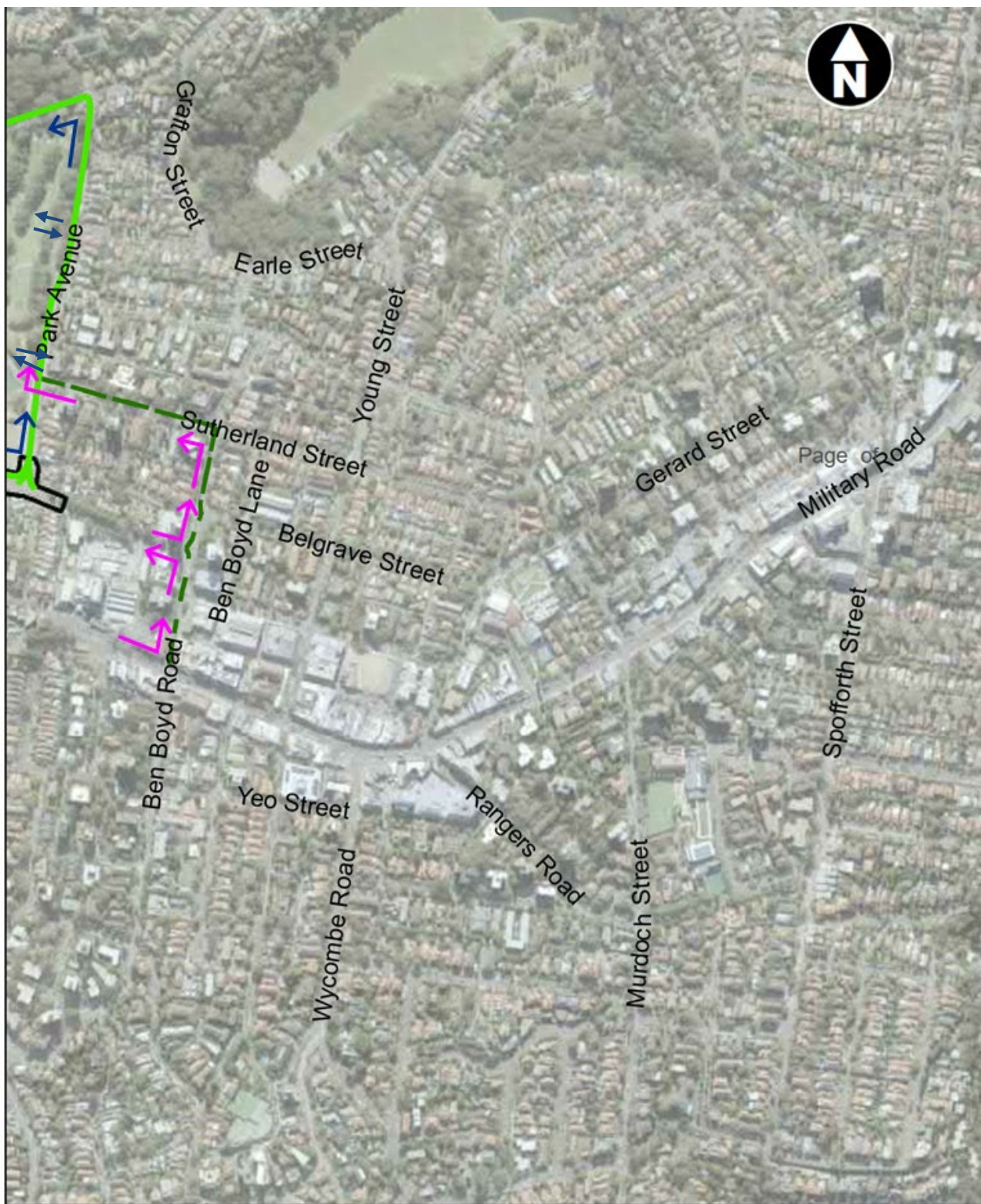


Legend

- Construction support site
- Construction footprint
- Approved local roads

0 100 200m

Figure 2-1 Local roads requiring approval (Sheet 2)



Legend

- Construction support site
- Construction footprint

0 200 400m

- Approved local roads
- Local roads for approval
- ➔ Approved directions for HV movements
- ➔ HV movements for approval

Figure 2-1 Local roads requiring approval (Sheet 3)



Figure 2 2 Justification for the use of Ben Boyd Road and Sutherland Street (Sheet 1)

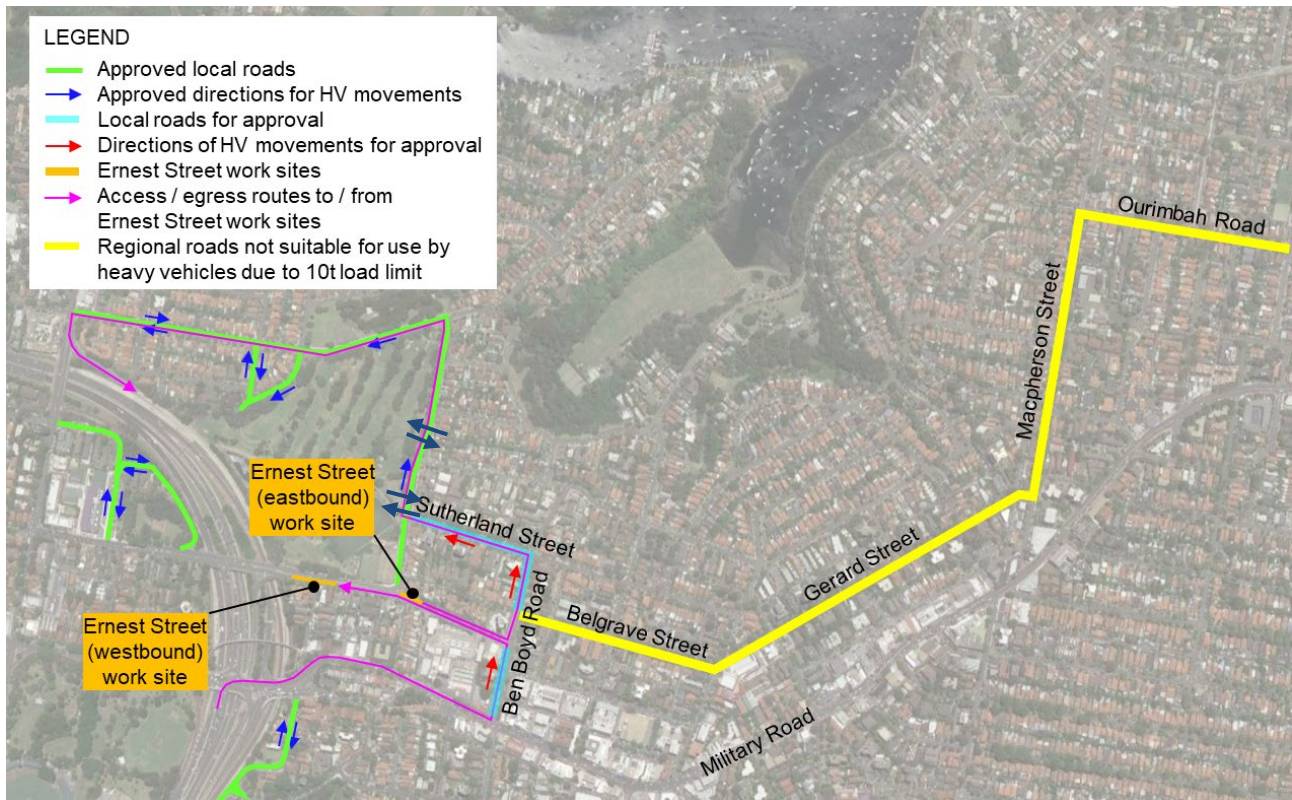


Figure 2-2 Justification for the use of Ben Boyd Road and Sutherland Street (Sheet 2)

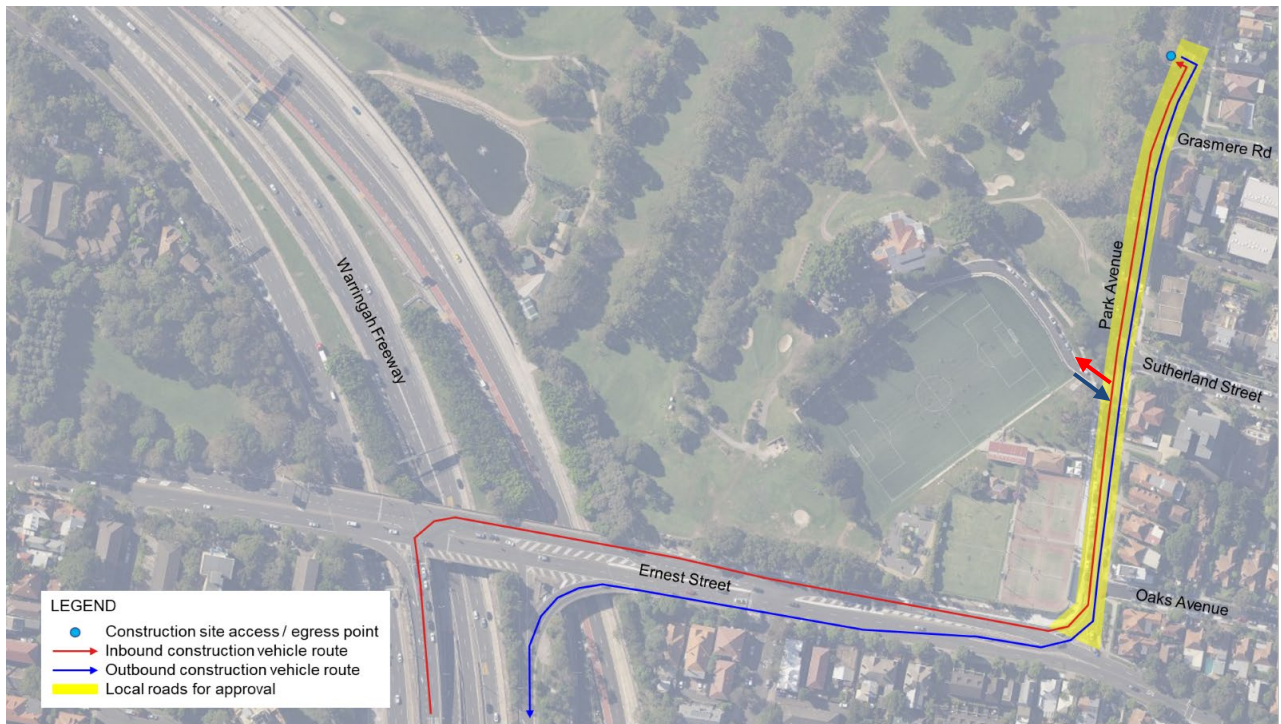


Figure 2-2 Local roads required for stage 1B works

2.2 Proposed volumes of heavy vehicles on local roads

Proposed volumes of heavy vehicles on local roads that are assessed in this Document (shown in Figure 2-1) are detailed in Table 2-3.

Table 2-3 Proposed volumes of heavy vehicles on local roads

Local road	Peak vehicle movements per day (two-way movements)	Morning peak vehicle movements (6 am to 10 am) (two-way movements)	Evening peak vehicle movements (3 pm to 7 pm) (two-way movements)
	Heavy	Heavy	Heavy
Cammeray Avenue	50	20	20
ANZAC Avenue	50	20	20
Bells Avenue	70	25	25
Warringa Road	25 (one-way westbound only)	8 (one-way westbound only)	8 (one-way westbound only)
Amherst Street	70	25	25
Cammeray Road (between Park Avenue and Amherst Street)	70 (one-way westbound only)	25 (one-way westbound only)	25 (one-way westbound only)
Park Avenue (specific to Stage 1A) ¹	50 (one-way northbound)	20 (one-way northbound)	20 (one-way northbound)
Park Avenue (specific to Stage 1B) ²	30	15	15
Merlin Street	40 (20x semi-trailers)	15 (4x semi-trailers)	15 (4x semi-trailers)
Ben Boyd Road (south of Ernest Street)	10 (one-way northbound only)	4 (one-way northbound only)	4 (one-way northbound only)

¹ Vehicles associated with the Stage 1A works travel northbound on Park Avenue, then westbound along Cammeray Road, then westbound along Amherst Street to Miller Street.

² Vehicles associated with the Stage 1B works travel northbound on Park Avenue, then turn left into the driveway of the minor ancillary facility established at the Cammeray Golf Course clubhouse carpark; or left into the Sydney Water driveway where SPA are proposing to establish the main compound for the golf course adjustment works. Vehicles will turn right out of these locations and travel southbound along Park Avenue to Ernest Street.

Local road	Peak vehicle movements per day (two-way movements)	Morning peak vehicle movements (6 am to 10 am) (two-way movements)	Evening peak vehicle movements (3 pm to 7 pm) (two-way movements)
	Heavy	Heavy	Heavy
Ben Boyd Road (north of Belgrave Street)	10 (one-way northbound only)	4 (one-way northbound only)	4 (one-way northbound only)
Sutherland Street	10 (one-way northbound only)	4 (one-way northbound only)	4 (one-way northbound only)

2.3 Justification for the use of local roads

Justification for the selection of local roads that are assessed in this Document (shown in Figure 2-1) is provided in Table 2-4.

Table 2-4 Justification for the selection of local roads

Local road	Justification
<ul style="list-style-type: none"> • Amherst Street, Cammeray • Bells Avenue, Cammeray • Cammeray Road, Cammeray 	<ul style="list-style-type: none"> • Forms part of the shortest route between the Cammeray Golf Course (north) site and the Ridge Street minor ancillary facility (via Miller Street) • The use of other local roads would result in a more circuitous route and impact a greater number of residential properties and sensitive receivers
<ul style="list-style-type: none"> • Park Avenue, Cammeray • Warringa Road, Cammeray 	<ul style="list-style-type: none"> • Forms part of the shortest route between the Bells Avenue site and the nearest arterial road (Ernest Street) for access to the Sydney motorway network • There is no alternative route to access the Bells Avenue site • Is the primary and only suitable main egress / access point to the CGC site • Forms part of the shortest route between the CGC construction access / egress point and the Warringah Freeway • Alternative roads including Cammeray Road and Amherst Street are not suitable for the size of heavy vehicles that are proposed to be used for the works (19 m semi-trailers and 19 m truck-and-dog trailer combinations) for the CGC works • The use of other roads including Cammeray Road and Amherst Street would result in a more circuitous route and impact a greater number of adjoining residential properties for the CGC works
<ul style="list-style-type: none"> • Cammeray Avenue, Cammeray • ANZAC Avenue, Cammeray 	<ul style="list-style-type: none"> • Forms part of the shortest route between the Cammeray Avenue site and the nearest arterial road (Ernest Street) for access to the Sydney motorway network • The use of southbound ANZAC Avenue instead of Rosalind Street for access to the arterial road network is not possible for the following reasons: <ul style="list-style-type: none"> ◦ Sight distance issues for vehicles making the u-turn movement from Cammeray Avenue to Rosalind Street ◦ A 12.5-metre single unit truck would not be able to make the u-turn movement from Cammeray Avenue to Rosalind Street • There will be times when Cammeray Avenue is closed to northbound traffic. At these times, northbound ANZAC Avenue movements will be required to access the Cammeray Avenue work site.
<ul style="list-style-type: none"> • Merlin Street, Neutral Bay 	<ul style="list-style-type: none"> • Forms part of the shortest route between the Alfred Street North worksite and the nearest arterial road

Local road	Justification
	<p>(Falcon Street) for access to the Sydney motorway network</p> <ul style="list-style-type: none"> The use of other local roads would result in a more circuitous route and impact a greater number of residential properties and sensitive receivers
<ul style="list-style-type: none"> Ben Boyd Road (south of Ernest Street), Neutral Bay 	<ul style="list-style-type: none"> Forms part of the shortest route between the arterial road network (Military Road) and the Ernest Street (westbound) worksite for access from the Sydney motorway network There is a 10-tonne load limit on Belgrave Street, Gerard Street, Macpherson Street and Ourimbah Road. This means heavy vehicles cannot travel from Military Road to the Ernest Street (westbound) worksite via these regional roads The use of other local roads would impact a greater number of residential properties and sensitive receivers
<ul style="list-style-type: none"> Ben Boyd Road (north of Belgrave Street), Cremorne Sutherland Street, Cremorne 	<ul style="list-style-type: none"> Forms part of the shortest route between the Ernest Street (eastbound) worksite (east of Park Avenue) and the nearest arterial road (Miller Street southbound) for access to the Sydney motorway network There is a 10-tonne load limit on Belgrave Street, Gerard Street, Macpherson Street and Ourimbah Road. This means heavy vehicles cannot travel from the Ernest Street (eastbound) worksite (east of Park Avenue) to Military Road via these regional roads The use of other local roads would result in a more circuitous route and impact a greater number of residential properties and sensitive receivers

3 Local roads assessment

3.1 Swept path analysis

As required by CoA E133(a), swept paths have been prepared for all local roads requiring DPIE approval. Swept path diagrams are provided in Appendix A2 for:

- A 12.5-metre single unit truck, which is the maximum size vehicle that will be used for most of the CUT works
- A 19-metre semi-trailer on Merlin Street, which will be required for works on Alfred Street North
- An 8.8-metre single unit truck, which is the maximum size vehicle that can travel on Ben Boyd Road (north of Belgrave Street) and Sutherland Street given existing geometric constraints at intersections.

The swept paths provided in Appendix A2 are detailed in Table 3-1.

Table 3-1 Summary of swept path analysis

Local road	Drawing number in Appendix A2	Can 8.8 m single unit truck / 12.5 m single unit truck / 19 m semi-trailer make movement without encroaching on existing kerbs, traffic management / traffic control devices or on-street parking spaces?	Additional comments
Amherst Street and Bellevue Street	Appendix A-1	12.5 m single unit truck – yes	N/A
Amherst Street to Bells Avenue	Appendix A-2	12.5 m single unit truck – yes	N/A
Bells Avenue to Amherst Street	Appendix A-3	12.5 m single unit truck – yes	N/A
Cammeray Road and Park Avenue	Appendix A-4	12.5 m single unit truck – yes	N/A
Amherst Street, Cammeray Road and Warringa Road	Appendix A-5	12.5 m single unit truck – yes	N/A
Ernest Street and Park Avenue	Appendix A-6	12.5 m single unit truck – yes	N/A
Miller Street and Amherst Street	Appendix A-7	12.5 m single unit truck – yes	N/A
Ernest Street and Cammeray Avenue	Appendix A-8A Appendix A-8B	12.5 m single unit truck – yes	N/A

Local road	Drawing number in Appendix A2	Can 8.8 m single unit truck / 12.5 m single unit truck / 19 m semi-trailer make movement without encroaching on existing kerbs, traffic management / traffic control devices or on-street parking spaces?	Additional comments
Cammeray Avenue and ANZAC Avenue	Appendix A-9A, Appendix A-9B	12.5 m single unit truck – yes	N/A
Ernest Street and ANZAC Avenue	Appendix A-10A, Appendix A-10B, Appendix A-10C, Appendix A-10D, Appendix A-10E	Left turn from ANZAC Avenue to Ernest Street for a 12.5 single unit truck– no (shown in Appendix A-10A and Appendix A-10B) Right turn from ANZAC Avenue to Ernest Street for a 12.5 single unit truck – yes (shown in Appendix A-10C)	A 12.5-metre single unit truck would not be able to make the left-turn movement without encroaching on the existing kerb and keep within its own lane (refer to drawing Appendix A-10A). In order for a 12.5-metre single unit truck to make this movement without encroaching on an existing kerb, it would need to use part of the northbound lane (refer to drawing Appendix A-10B). This is considered a safety hazard and therefore all trucks will be required to turn right from ANZAC Avenue to Ernest Street (refer to drawing Appendix A-10C).
		Left turn from Ernest Street to ANZAC Avenue for a 12.5 single unit truck – no (shown in Appendix A-10D)	A 12.5-metre single unit truck would not be able to make the left-turn movement without encroaching on the existing kerb and keep within its own lane. In order for a 12.5-metre single unit truck to make this movement without encroaching on an existing kerb, it would need to use part of
		Right turn from Ernest Street to ANZAC Avenue for a 12.5 single unit truck – yes (shown in Appendix A-10E)	

Local road	Drawing number in Appendix A2	Can 8.8 m single unit truck / 12.5 m single unit truck / 19 m semi-trailer make movement without encroaching on existing kerbs, traffic management / traffic control devices or on-street parking spaces?	Additional comments
			the southbound lane (refer to drawing Appendix A-10D). This is considered a safety hazard and therefore all trucks will be required to turn right from Ernest Street to ANZAC Avenue (refer to Appendix A-10E).
Merlin Street and Falcon Street	Appendix A-11A, Appendix A-11B	12.5 m single unit truck – yes (shown in Appendix A-11A) 19 m semi-trailer – yes (shown in Appendix A-11B)	A 19m semi-trailer is required for asphaltting works on Alfred Street North, with vehicles to exit the work site via Merlin Street for access to Falcon Street. Asphaltting works are associated with “backfilling trenches and re-instating ground surface to an appropriate condition” and “rehabilitate areas disturbed by works” as described in Table 1-2.
Alfred Street North and Merin Street	Appendix A-12A, Appendix A-12B, Appendix A-12C	12.5 m single unit truck – yes (shown in Appendix A-12A) 19 m semi-trailer while staying within the northbound / eastbound lane – no (shown in Appendix A-12B) 19 m semi-trailer with use of the southbound / westbound lane – yes (shown in Appendix A-12C)	A 19-metre semi-trailer would not be able to negotiate the bend at the interface between Alfred Street North and Merlin Street while staying within the northbound / eastbound lane without encroaching on an existing kerb or existing on-street parking spaces (refer to drawing Appendix A-12B). In order for a

Local road	Drawing number in Appendix A2	Can 8.8 m single unit truck / 12.5 m single unit truck / 19 m semi-trailer make movement without encroaching on existing kerbs, traffic management / traffic control devices or on-street parking spaces?	Additional comments
			19-metre semi-trailer to make this movement without encroaching on an existing kerb or existing on-street parking spaces, it would need to use the southbound / westbound lane (refer to drawing Appendix A-12C). Traffic controllers are proposed to manage the safe movement of semi-trailers (refer to Section 4).
Military Road and Ben Boyd Road	Appendix A-13	12.5 m single unit truck – yes	N/A
Ernest Street and Ben Boyd Road	Appendix A-14A Appendix A-14B	12.5 m single unit truck – yes	N/A
Ben Boyd Road and Sutherland Street	Appendix A-15A Appendix A-15B	12.5 m single unit truck – no (shown in Appendix A-15A) 8.8 m single unit truck – yes (shown in Appendix A-15B)	A 12.5-metre single unit truck would not be able to make the left-turn movement without encroaching on the existing kerb and keep within its own lane. In order for a 12.5-metre single unit truck to make this movement without encroaching on an existing kerb, it would need to use part of the eastbound lane (refer to drawing Appendix A-15A). This is considered a safety hazard and therefore the maximum truck size will be limited to 8.8

Local road	Drawing number in Appendix A2	Can 8.8 m single unit truck / 12.5 m single unit truck / 19 m semi-trailer make movement without encroaching on existing kerbs, traffic management / traffic control devices or on-street parking spaces?	Additional comments
			metres (refer to Appendix A-15B).
Park Avenue and Sutherland Street	Appendix A-16A Appendix A-16B Appendix A-16C	<p>Left turn from Park Avenue to Sutherland Street for a 12.5 single unit truck – no (shown in Appendix A-16A)</p> <p>Left turn from Park Avenue to Sutherland Street for an 8.8 m single unit truck – no (shown in Appendix A-16B)</p> <p>Right turn from Park Avenue to Sutherland Street for an 8.8 m single unit truck – yes (shown in Appendix A-16C)</p>	<p>An 8.8-metre or 12.5-metre single unit truck would not be able to make the left-turn movement without encroaching on the existing kerb and keep within its own lane. In order for an 8.8-metre or 12.5-metre single unit truck to make this movement without encroaching on an existing kerb, it would need to use part of the northbound lane (refer to drawing Appendix A-16A and Appendix A-16-B). This is considered a safety hazard and therefore all trucks will be required to turn right from Park Avenue to Sutherland Street (refer to Appendix A-16C).</p>
Left turn from Ernest Street eastbound to Park Avenue northbound (<i>Specific to 1B works</i>)	Appendix A2-1 and Appendix A2-2	Yes (For a 19 m semi-trailer and 19 m truck-and-dog trailer combination)	*19 m semi-trailers and 19 m truck-and-dog trailer combinations would be able to make the left turn movement with the proposed removal of the two existing median islands separating northbound and southbound traffic on Park Avenue

Local road	Drawing number in Appendix A2	Can 8.8 m single unit truck / 12.5 m single unit truck / 19 m semi-trailer make movement without encroaching on existing kerbs, traffic management / traffic control devices or on-street parking spaces?	Additional comments
Right turn from Park Avenue southbound to Ernest Street westbound (<i>Specific to 1B works</i>)	Appendix A2-3, Appendix A2-4	Yes (For a 19 m semi-trailer and 19 m truck-and-dog trailer combination)	N/A
Left in and right out from site onto Park Avenue (<i>Specific to 1B works</i>)	Appendix A2	Yes (For a 19 m semi-trailer and 19 m truck-and-dog trailer combination)	*19 m semi-trailers and 19 m truck-and-dog trailer combinations would be able to make the left and right turn movement with the proposed removal of the 2 existing car park spaces on the western side of Park Avenue and removal of approximately 18m of existing median
Left in and right out from existing clubhouse onto Park Avenue	Appendix A2	8.8m single unit truck – Yes 12.5m single unit truck - Yes	*Any vehicle which is 7.5m or longer, may display the words DO NOT OVERTAKE TURNING VEHICLE on one of the rear marking plates. These vehicles may use more than one lane when turning right or left including on single carriageway roads with one lane in each direction.

3.2 Pedestrian, cyclist and two-way traffic flow safety risk assessment

As required by CoA E133(b), a pedestrian, cyclist and two-way traffic flow safety risk assessment has been undertaken to demonstrate that the use of local roads by heavy vehicles will not compromise pedestrian, cyclist and two-way traffic flow safety.

Existing potential hazards to pedestrians, cyclists and two-way traffic were identified during site inspections. These were assessed against a risk matrix. The risks of these potential hazards were then reassessed, taking into consideration the use of local roads by heavy vehicles.

The methodology of identifying hazards and assessing their level of risk is similar to that undertaken for road safety audits. The risk assessment system is the easiest means of identifying the level of risk associated with any given hazard. The risk assessment system is outlined in Appendix A3.

The pedestrian, cyclist and two-way traffic flow safety risk assessment is detailed in Table 3-2 below. Potential hazards to cyclists have been identified where there is an existing designated cycle route (Amherst Street, Cammeray Road, Warringa Road and ANZAC Avenue). The results of the safety risk assessment demonstrate that the use of local roads by heavy vehicles will not have an impact on pedestrian, cyclist and two-way traffic flow safety as indicated by the revised level of risk being the same as the existing level of risk for all identified potential hazards.

During consultation with North Sydney Council (NSC) additional management measure of undertaking a road safety audit (RSA) was recommended and has since been implemented by SPA. The measures as detailed in the RSA will be implemented during the use of the local roads and proposed temporary modifications to enable their safe and efficient use by all road users.

Table 3-2 Pedestrian, cyclist and two-way traffic flow safety risk assessment

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
Amherst Street westbound approach to Bellevue Street, Cammeray	There is the potential for conflict between cyclists and vehicles where the cycle lane and traffic lane converge on approach to the roundabout	Occasional	Minor	Medium	<ul style="list-style-type: none"> Heavy vehicles would travel at lower speed in the westbound direction due to the uphill grade Existing low numbers of cyclists Signage to warn cyclists (and other vehicles) of the presence of heavy vehicles Driver induction process to include safety awareness in relation to all road users 	Occasional	Minor	Medium
Amherst Street (both directions), Cammeray	There is the potential for conflict between cyclists and vehicles travelling in the same direction on Amherst Street as they share the same road space	Improbable	Serious	Medium	<ul style="list-style-type: none"> Existing low numbers of cyclists Signage to warn cyclists (and other vehicles) of the presence of heavy vehicles Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
Amherst Street, Cammeray	There is the potential for conflict between pedestrians crossing Amherst Street and vehicles travelling on Amherst Street	Improbable	Serious	Medium	<ul style="list-style-type: none"> • Presence of pedestrian refuge islands on the approaches to Bellevue Street, Echo Street / Bells Avenue and Warringa Road • Existing low numbers of pedestrians • Existing 50 km/h posted speed limit • Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium
Amherst Street, Cammeray	There is the potential for conflict between heavy vehicles undertaking turning manoeuvres and pedestrians using Amherst Street	Improbable	Serious	Medium	<ul style="list-style-type: none"> • Swept path analysis shows heavy vehicles undertaking turning manoeuvres would not encroach on footpaths • Existing low numbers of pedestrians • Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
Bells Avenue, Cammeray	There is the potential for conflict between pedestrians crossing Bells Avenue and vehicles travelling on Bells Avenue	Improbable	Serious	Medium	<ul style="list-style-type: none"> Existing low numbers of pedestrians Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium
Bells Avenue, Cammeray	There is the potential for conflict between heavy vehicles undertaking turning manoeuvres and pedestrians using Bells Avenue	Improbable	Serious	Medium	<ul style="list-style-type: none"> Swept path analysis shows heavy vehicles undertaking turning manoeuvres would not encroach on footpaths Existing low numbers of pedestrians Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
Cammeray Road, Cammeray	There is the potential for conflict between cyclists and vehicles travelling in the same direction on Cammeray Road as they share the same road space	Improbable	Serious	Medium	<ul style="list-style-type: none"> There is an existing separated shared path on the northern side of Cammeray Road Existing low numbers of cyclists Signage to warn cyclists (and other vehicles) of the presence of heavy vehicles Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium
Cammeray Road, Cammeray	There is the potential for conflict between pedestrians crossing Cammeray Road and vehicles travelling on Cammeray Road	Improbable	Serious	Medium	<ul style="list-style-type: none"> Existing lack of pedestrian desire lines across Cammeray Road Existing low numbers of pedestrians Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
Cammeray Road, Cammeray	There is the potential for conflict between heavy vehicles undertaking turning manoeuvres and pedestrians using Cammeray Road	Improbable	Serious	Medium	<ul style="list-style-type: none"> Swept path analysis shows heavy vehicles undertaking turning manoeuvres would not encroach on footpaths Existing low numbers of pedestrians Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium
Park Avenue (northbound between Ernest Street and Cammeray Road), Cammeray	There is the potential for conflict between cyclists and vehicles travelling in the same direction on Park Avenue as they share the same road space	Improbable	Serious	Medium	<ul style="list-style-type: none"> There is an existing separated cycleway on the western side of Park Avenue south of Sutherland Street Existing low numbers of cyclists Signage to warn cyclists (and other vehicles) of the presence of heavy vehicles Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
Park Avenue (northbound between Ernest Street and Cammeray Road), Cammeray	There is the potential for conflict between pedestrians crossing Park Avenue and vehicles travelling on Park Avenue	Improbable	Serious	Medium	<ul style="list-style-type: none"> Existing lack of pedestrian desire lines across the majority of Park Avenue Existing low numbers of pedestrians Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium
Park Avenue (northbound between Ernest Street and Cammeray Road), Cammeray	There is the potential for conflict between heavy vehicles undertaking turning manoeuvres and pedestrians using Park Avenue	Improbable	Serious	Medium	<ul style="list-style-type: none"> Swept path analysis shows heavy vehicles undertaking turning manoeuvres would not encroach on footpaths Existing low numbers of pedestrians Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
Warringa Road, Cammeray	There is the potential for conflict between cyclists and vehicles travelling in the same direction on Warringa Road as they share the same road space	Improbable	Serious	Medium	<ul style="list-style-type: none"> Existing low numbers of cyclists Signage to warn cyclists (and other vehicles) of the presence of heavy vehicles Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium
Warringa Road, Cammeray	There is the potential for conflict between pedestrians crossing Warringa Road and vehicles travelling on Warringa Road	Improbable	Serious	Medium	<ul style="list-style-type: none"> Existing lack of pedestrian desire lines across Warringa Road Existing low numbers of pedestrians Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
Warringa Road, Cammeray	There is the potential for conflict between heavy vehicles undertaking turning manoeuvres and pedestrians using Warringa Road	Improbable	Serious	Medium	<ul style="list-style-type: none"> Swept path analysis shows heavy vehicles undertaking turning manoeuvres would not encroach on footpaths Existing low numbers of pedestrians Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium
Cammeray Avenue, Cammeray	There is the potential for conflict between pedestrians crossing Cammeray Avenue and vehicles travelling on Cammeray Avenue	Improbable	Serious	Medium	<ul style="list-style-type: none"> Existing lack of pedestrian desire lines across Cammeray Avenue Existing low numbers of pedestrians (outside of school hours) Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
Cammeray Avenue, Cammeray	There is the potential for conflict between heavy vehicles undertaking turning manoeuvres and pedestrians using Cammeray Avenue	Improbable	Serious	Medium	<ul style="list-style-type: none"> Swept path analysis shows heavy vehicles undertaking turning manoeuvres would not encroach on footpaths Existing low numbers of pedestrians Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium
ANZAC Avenue, Cammeray	There is the potential for conflict between cyclists and vehicles travelling in the same direction on ANZAC Avenue as they share the same road space	Improbable	Serious	Medium	<ul style="list-style-type: none"> Existing low numbers of cyclists Signage to warn cyclists (and other vehicles) of the presence of heavy vehicles Existing 50 km/h posted speed limit (40 km/h during school zone times) Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
ANZAC Avenue, Cammeray	There is the potential for conflict between pedestrians crossing ANZAC Avenue and vehicles travelling on ANZAC Avenue	Improbable	Serious	Medium	<ul style="list-style-type: none"> Heavy vehicles will not be permitted to travel to or from the Cammeray Avenue worksite via ANZAC Avenue during school zone times on school days (8 am to 9.30 am and 2.30 pm to 4 pm) All heavy vehicles will be required to turn right from ANZAC Avenue to Ernest Street Existing low numbers of pedestrians (outside of school hours) Existing 50 km/h posted speed limit (40 km/h during school zone times) Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
ANZAC Avenue, Cammeray	There is the potential for conflict between heavy vehicles undertaking turning manoeuvres and pedestrians using ANZAC Avenue	Improbable	Serious	Medium	<ul style="list-style-type: none"> Heavy vehicles will not be permitted to travel to or from the Cammeray Avenue worksite via ANZAC Avenue during school zone times on school days (8 am to 9.30 am and 2.30 pm to 4 pm) Swept path analysis shows heavy vehicles undertaking turning manoeuvres would not encroach on footpaths if turning right from ANZAC Avenue to Ernest Street All heavy vehicles will be required to turn right from ANZAC Avenue to Ernest Street Existing low numbers of pedestrians (outside of school hours) Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
Merlin Street, Neutral Bay	There is the potential for conflict between pedestrians crossing Merlin Street and vehicles travelling on Merlin Street	Improbable	Serious	Medium	<ul style="list-style-type: none"> Existing lack of pedestrian desire lines across Merlin Street Existing low numbers of pedestrians Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium
Merlin Street, Neutral Bay	There is the potential for conflict between heavy vehicles undertaking turning manoeuvres and pedestrians using Merlin Street	Improbable	Serious	Medium	<ul style="list-style-type: none"> Swept path analysis shows heavy vehicles undertaking turning manoeuvres would not encroach on footpaths Existing low numbers of pedestrians Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
Ben Boyd Road (south of Ernest Street), Neutral Bay	There is the potential for conflict between pedestrians crossing Ben Boyd Road and vehicles travelling on Ben Boyd Road	Improbable	Serious	Medium	<ul style="list-style-type: none"> Signalised pedestrian crossings of Ben Boyd Road at Military Road and Ernest Street Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium
Ben Boyd Road (south of Ernest Street), Neutral Bay	There is the potential for conflict between heavy vehicles undertaking turning manoeuvres and pedestrians using Ben Boyd Road	Improbable	Serious	Medium	<ul style="list-style-type: none"> Swept path analysis shows heavy vehicles undertaking turning manoeuvres would not encroach on footpaths Signalised pedestrian crossings of Ben Boyd Road at Military Road and Ernest Street Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
Ben Boyd Road (north of Belgrave Street), Cremorne	There is the potential for conflict between pedestrians crossing Ben Boyd Road and vehicles travelling on Ben Boyd Road	Improbable	Serious	Medium	<ul style="list-style-type: none"> Existing lack of pedestrian desire lines across Ben Boyd Road Existing low numbers of pedestrians Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium
Ben Boyd Road (north of Belgrave Street), Cremorne	There is the potential for conflict between heavy vehicles undertaking turning manoeuvres and pedestrians using Ben Boyd Road	Improbable	Serious	Medium	<ul style="list-style-type: none"> Swept path analysis shows heavy vehicles undertaking turning manoeuvres would not encroach on footpaths Existing low numbers of pedestrians Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
Sutherland Street, Cremorne	There is the potential for conflict between cyclists and vehicles travelling in the same direction on Sutherland Street as they share the same road space	Improbable	Serious	Medium	<ul style="list-style-type: none"> There is an existing separated shared path on the northern side of Sutherland Street Existing low numbers of cyclists Signage to warn cyclists (and other vehicles) of the presence of heavy vehicles Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium
Sutherland Street, Cremorne	There is the potential for conflict between pedestrians crossing Sutherland Street and vehicles travelling on Sutherland Street	Improbable	Serious	Medium	<ul style="list-style-type: none"> Existing lack of pedestrian desire lines across Sutherland Street Existing low numbers of pedestrians Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
Sutherland Street, Cremorne	There is the potential for conflict between heavy vehicles undertaking turning manoeuvres and pedestrians using Sutherland Street	Improbable	Serious	Medium	<ul style="list-style-type: none"> Swept path analysis shows heavy vehicles undertaking turning manoeuvres would not encroach on footpaths Existing low numbers of pedestrians Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium
Park Avenue (southbound south of Sutherland Street), Cremorne	There is the potential for conflict between cyclists and vehicles travelling in the same direction on Park Avenue as they share the same road space	Improbable	Serious	Medium	<ul style="list-style-type: none"> There is an existing separated cycleway on the western side of Park Avenue south of Sutherland Street Existing low numbers of cyclists Signage to warn cyclists (and other vehicles) of the presence of heavy vehicles Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
Park Avenue (southbound south of Sutherland Street), Cremorne	There is the potential for conflict between pedestrians crossing Park Avenue and vehicles travelling on Park Avenue	Improbable	Serious	Medium	<ul style="list-style-type: none"> Existing low numbers of pedestrians Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium
Park Avenue (southbound south of Sutherland Street), Cremorne	There is the potential for conflict between heavy vehicles undertaking turning manoeuvres and pedestrians using Park Avenue	Improbable	Serious	Medium	<ul style="list-style-type: none"> Swept path analysis shows heavy vehicles undertaking turning manoeuvres would not encroach on footpaths Existing low numbers of pedestrians Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
All local roads	There is the potential for side-swipe and head-on crashes between two vehicles travelling in opposite directions on two-way roads	Improbable	Serious	Medium	<ul style="list-style-type: none"> Road widths are sufficient for two heavy vehicles to pass each other Existing 50 km/h posted speed limit (40 km/h during school zone times on ANZAC Avenue) Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium
Park Avenue, Cammeray (specific to 1b works)	There is the potential for conflict between cyclists and vehicles travelling in the same direction on Park Avenue	Improbable	Serious	Medium	<ul style="list-style-type: none"> There is an existing separated cycleway located on the western side of Park Avenue Existing low numbers of cyclists Signage to warn cyclists (and other vehicles) of the presence of heavy vehicles Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
Park Avenue, Cammeray (Specific to 1b works)	There is the potential for conflict between pedestrians crossing Park Avenue and vehicles travelling on Park Avenue	Improbable	Serious	Medium	<ul style="list-style-type: none"> Low volume of turning movements outside of construction hours allows ample opportunity for pedestrians to cross Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium
Park Avenue, Cammeray (Specific to 1b works)	There is the potential for conflict between heavy vehicles undertaking turning manoeuvres and pedestrians using Park Avenue	Improbable	Serious	Medium	<ul style="list-style-type: none"> Swept path analysis shows heavy vehicles undertaking turning manoeuvres would not encroach on footpaths Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

Location	Description of existing hazard	Existing conditions			Use of local roads by heavy vehicles			
		Crash frequency	Crash severity	Level of risk	Mitigating factors	Revised crash frequency	Revised crash severity	Revised level of risk
Park Avenue, Cammeray (Specific to 1b works)	There is the potential for side-swipe and head-on crashes between two vehicles travelling in opposite directions on two-way roads	Improbable	Serious	Medium	<ul style="list-style-type: none"> To safely maintain two-way traffic flow on Park Avenue, traffic controllers will be positioned on Park Avenue near Ernest Street to ensure southbound vehicles on Park Avenue are stopped when trucks are turning left from Ernest Street eastbound to Park Avenue northbound. This will reduce the potential for side-swipe and head-on crashes between two vehicles travelling in opposite directions on Park Avenue. Traffic controllers will be deployed during construction hours when heavy vehicle movements are occurring Existing 50 km/h posted speed limit Driver induction process to include safety awareness in relation to all road users 	Improbable	Serious	Medium

3.3 Details of road dilapidation surveys undertaken

As required by CoA E133(c), road dilapidation surveys have been undertaken on all local roads requiring DPIE approval. The road dilapidation surveys were completed on 20 February 2021. These road dilapidations were provided to North Sydney Council for information in accordance with CoA E136.

4 Mitigation measures

As required by CoA E133(d), measures are required to be implemented to avoid where practicable the use of roads past schools, aged care facilities and child care facilities during their peak operation times. To mitigate any potential impacts:

- Heavy vehicles will not be permitted to travel to or from the Cammeray Avenue worksite via ANZAC Avenue during school zone times on school days (8 am to 9.30 am and 2.30 pm to 4 pm)
- All heavy vehicles will be required to turn right from ANZAC Avenue to Ernest Street, and to turn right from Ernest Street to ANZAC Avenue, which will be included in the vehicle movement plan for the Cammeray Avenue worksite
- To safely maintain two-way traffic flow on Cammeray Avenue, traffic controllers will be positioned at both ends of the east-west section of Cammeray Avenue to ensure only one vehicle can travel along Cammeray Avenue at the one time. Traffic controllers will be deployed during construction hours when heavy vehicle movements are occurring
- To safely manage the movement of 19-metre semi-trailers in the northbound / eastbound direction on Merlin Street, traffic controllers will be positioned at the intersection of Alfred Street North / Wyagdon Street and at the southern end of the north-south section of Merlin Street to ensure no other vehicles can travel on Merlin Street during movements of 19-metre semi-trailers. Traffic controllers will be deployed during construction hours when heavy vehicle movements are occurring
- To safely maintain two-way traffic flow on Park Avenue, traffic controllers will be positioned on Park Avenue near Ernest Street to ensure southbound vehicles on Park Avenue are stopped when trucks are turning left from Ernest Street eastbound to Park Avenue northbound. This will reduce the potential for side-swipe and head-on crashes between two vehicles travelling in opposite directions on Park Avenue. Traffic controllers will be deployed during construction hours when heavy vehicle movements are occurring
- Any vehicle over 7.5m or longer, may display the words DO NOT OVERTAKE TURNING VEHICLE on one of the rear marking plates. These vehicles may use more than one lane when turning right or left including on single carriageway roads with one lane in each direction
- For heavy vehicles egressing from the Ernest Street (eastbound) worksite (east of Park Avenue), the maximum size of heavy vehicle that will be permitted to travel on Ben Boyd Road (north of Belgrave Street) and Sutherland Street is an 8.8-metre single unit truck
- All heavy vehicles will be required to turn right from Sutherland Street to Park Avenue
- Vehicle movement plans showing approved routes and vehicle sizes to and from each origin and destination will be issued to all subcontractors as part of contract documentation upon engagement. Signage will also be installed along approved routes to guide heavy vehicle drivers
- An additional crossing supervisor will be positioned at the zebra crossing on ANZAC Avenue to supplement the existing school crossing supervisor. The additional crossing supervisor will be present from 6.30 am to 10.30 am, and 2 pm to 6 pm on school days. The purpose of the additional crossing supervisor is to manage the movement of pedestrians across ANZAC Avenue
- Heavy vehicle movements on Warringa Road will be restricted to two movements per hour in the westbound direction. In the unlikely event that heavy vehicle movements on Warringa Road exceed two movements per hour, traffic controllers will be deployed at both ends of Warringa Road to manage the movement of heavy vehicles and general traffic to avoid

conflict. Traffic controllers will be deployed during construction hours when heavy vehicle movements are occurring

- Signage will be installed on cyclist routes to warn cyclists (and other vehicles) of the presence of heavy vehicles
- Implementation of a Driver's Code of Conduct (refer to Appendix A4)
- The driver induction process will include safety awareness in relation to all road users (including pedestrians and cyclists) and the strict requirement to obey all road rules and to travel only on approved roads (refer to Section 3.5 of the CEMP)
- Workforce shuttle buses and the use of public transport will be prioritised by the project team where the provision of construction on-site parking cannot accommodate the WHT/WFU full construction workforce
- Both contractors for Stage 1A-B and Stage 2 works will work collaboratively to ensure the maximum approved movements as detailed in Section 2 are not exceeded
- HV drivers will be inducted to the Project with specific emphasis on the requirements for using local roads. In particular, the need for additional vigilance when entering and exiting the Cammeray Golf Course driveway will be stressed
- Construction vehicle movements will be monitored on a daily basis and additional Traffic Control provided as required
- Additional signage to alert HV drivers of 'High Pedestrian Activity' have been installed on Park Avenue
- This is in addition to the typical 'Trucks Turning' warning signs (W5-22) and their supplementary information plates (W8-207 series)
- Community consultation will be undertaken in accordance with the Community Communication Strategy (CCS). This will include engagement activities such as:
 - Fact sheets showing overall impacts in the area which will include traffic detours, loss of on-street parking
 - Maps showing traffic diversions/parking impacts
 - Property access plans to discuss impacts of detours on individual properties
 - Detour specific notifications
 - Doorknocks for impacted properties to understand access requirements
- Coordination meetings between SPA, TfNSW, Transport Management Centre and Customer Journey Planning – Operations will occur on a regular basis throughout the delivery of the CSSI. Key issues for discussion at the coordination meetings will include road occupancy licences and any other transport network changes or impacts resulting from construction of the CSSI
- Continuous review and improvement will be undertaken (refer to Section 3.12 of the CEMP). This CoA E132 local roads approval document will be reviewed and updated as required:
 - Following reportable environmental incidents
 - Upon identification of new 'significant' risks, including risks identified during risk register updates
 - When non-compliances are identified
 - When the root cause of incident or non-conformance is identified as part of the investigation
 - In response to significant project change (including modifications to the CSSI)

- Within one month of any of the above occurrences
- As part of a continuous improvement process
- The effect of changes in standards and legislation.
- Regular monitoring of mitigation measures for compliance and effectiveness will be undertaken (refer to Section 3.9 of the CEMP). Further detail on regular inspections is detailed in Section 4.1 below.

4.1 Inspections

In accordance with Section 7.1 of the TTAMP SPA will undertake regular inspections to ensure the safety of all traffic movements, as well as the wellbeing of pedestrians, cyclists, drivers and property through and surrounding all worksites. The responsibility and frequency of inspections is stipulated in section 6.1 of the TfNSW Traffic Control at Worksites Manual.

These regular inspections will also verify the on-street parking commitments established by the 'Driver Code of Conduct'.

Three main types of inspections and records will occur:

- Inspections of short-term (single shift) traffic controls during the shift
- Regular daytime inspections of long-term traffic controls after implementation
- Regular night time inspections of long-term traffic controls after implementation.

Pre-opening inspections will be carried out by the Traffic Manager before the start of each new temporary roadwork site or major modification.

Any signage or devices identified during the checks or audits requiring attention will either be rectified at the time or advised to the Traffic Manager during that shift for follow-up action.

Appendix A1 Advice regarding the suitability of local roads as proposed heavy vehicle routes

MEMORANDUM

0242 WP12 and WP15 SPA WFU Early Works
Sydney Program Alliance

Memo Title	Suitability of proposed heavy vehicle routes on local roads
Recipient	Sydney Program Alliance
Prepared by	David Lowe
Revision	G
Date	03 June 2022

1. Introduction

This memo provides advice on the suitability of proposed heavy vehicle routes for the Stage 1A Early and Enabling Works – Critical utility installation, relocation and protection and Stage 1B Cammeray Golf Course adjustment works in accordance with the NSW Minister for Planning and Public Space's Conditions of Approval (CoA) E133(e). The advice is based on Revision 10 of the CoA E132 – Local Roads Approval document, which has been updated to include:

- The Cammeray Golf Course adjustment works, inclusive of the following scope of work:
 - *Adjustments to the golf course to maintain its viability*
 - *Clearing and grubbing of vegetation*
 - *Installation of a minor ancillary facility*
 - *Construction of a 9-hole golf course*
 - *Relocation of existing maintenance buildings*
 - *Installation of a practice lesson putting green*
 - *Connection of existing car park and revised parking facilities to new maintenance buildings*
 - *Service location and adjustment/removal of services and utilities within the golf course*
 - *Utility protection and adjustment works*
 - *Active Transport Link*
- Park Avenue in the southbound direction from the access point of the Cammeray Golf Course adjustment works main compound to Ernest Street

2. Assessment

The following local roads were assessed for their suitability as proposed heavy vehicle routes:

- Cammeray Avenue
- ANZAC Avenue
- Bells Avenue
- Warringa Road
- Amherst Street
- Cammeray Road (between Park Avenue and Amherst Street)
- Park Avenue

- Merlin Street
- Ben Boyd Road (south of Ernest Street)
- Ben Boyd Road (north of Belgrave Street)
- Sutherland Street.

Items that were considered in the assessment include:

- CoA E133: All requests to the Planning Secretary under Condition E132 must include the following:
 - CoA E133(a): include a swept path analysis
 - CoA E133(b): demonstration that the use of local roads by heavy vehicles for the CSSI will not compromise the safety of pedestrians and cyclists or the safety of two-way traffic flow on two-way roadways
 - CoA E133(c): provide details as to the date of completion of the road dilapidation surveys for the subject local roads
 - CoA E133(d): measures that will be implemented to avoid where practicable the use of roads past schools, aged care facilities and child care facilities during their peak operation times.

Taking into account CoA E133(a), CoA E133(b), CoA E133(c) and CoA E133(d), it is considered that all local roads that were assessed are suitable as proposed heavy vehicle routes.

3. Formal statement

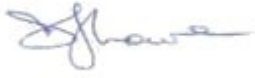
This assessment has been undertaken by David Lowe, who is an appropriately qualified professional from Turnbull Engineering.

David Lowe is a traffic and transport engineer / planner with over 30 years of experience. He has **extensive international knowledge of traffic and transport management from an operational perspective. He has developed and implemented strategies, policies, standards and programs to facilitate and improve network efficiency through the application of advances in traffic management technology, these days known as Intelligent Transport Systems.**

David has worked extensively in the construction industry developing traffic management and incident response plans for some of the most complex built infrastructure and construction activity in NSW. He is accredited as a Level 3 Road Safety Auditor (Roads and Maritime) and is also a Certified TMP developer. This assessment has been undertaken for the sole purpose of providing advice on the suitability of proposed heavy vehicle routes for the Stage 1A Early and Enabling Works – Critical utility installation, relocation and protection and the Stage 1B Cammeray Golf Course adjustment works in accordance with the NSW Minister for Planning and Public Space's Conditions of Approval (CoA) E133(e). The findings are the opinion and judgement of David:

MEMORANDUM

0242 WP12 and WP15 SPA WFU Early Works
Sydney Program Alliance



David Lowe
Technical Director, Transport Engineering & Planning
03.06.2022

Appendix A2 Swept path diagrams





WESTERN HARBOUR TUNNEL AND WARRINGAH FREEWAY UPGRADE
STAGE 1A EARLY AND ENABLING WORKS - CRITICAL UTILITY INSTALLATION, RELOCATION AND PROTECTION WORKS

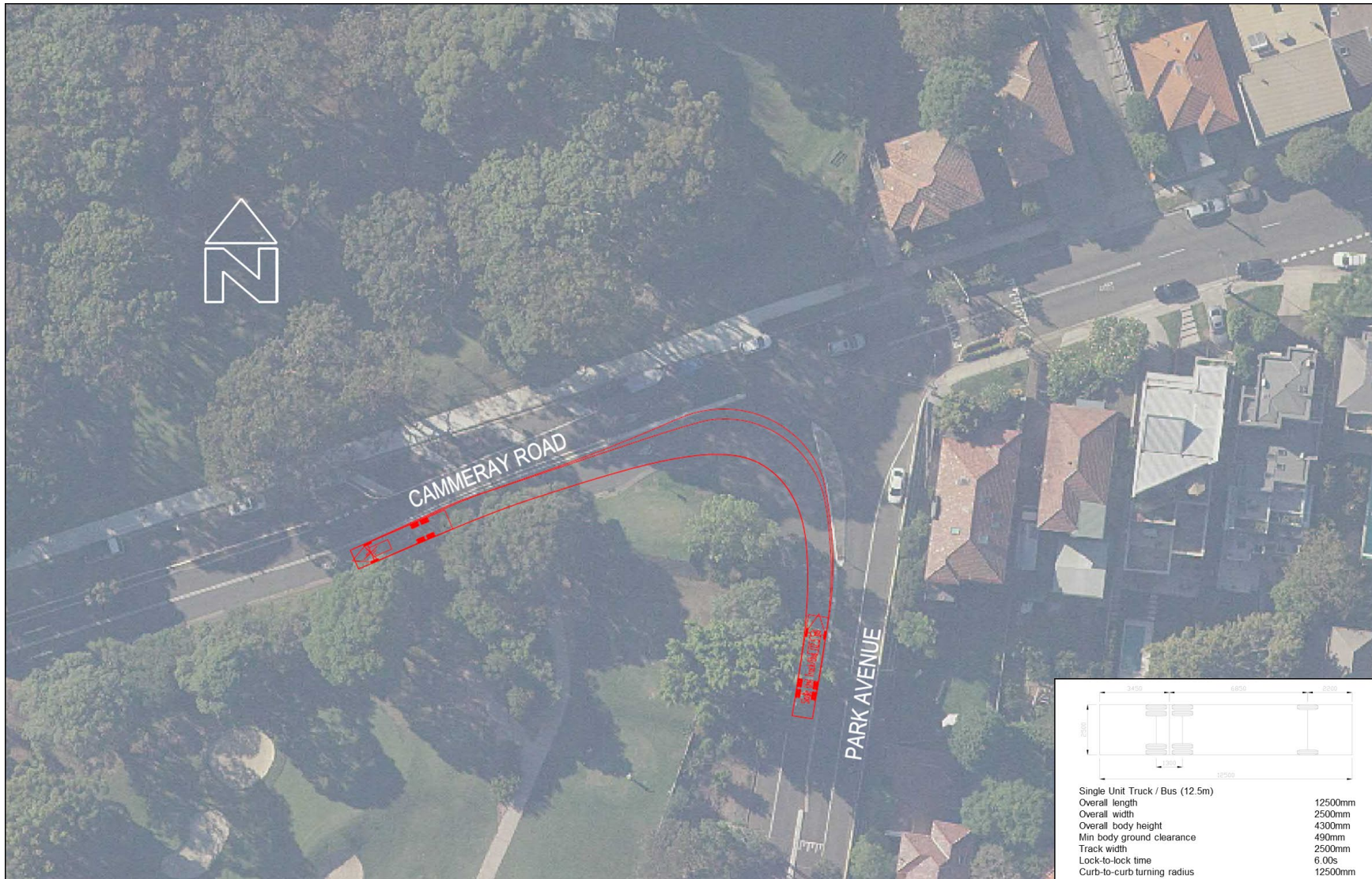
SWEPT PATH ANALYSIS – BELLS AVENUE TO AMHERST STREET
12.5m SINGLE UNIT TRUCK / BUS

DWG No.

APPENDIX A-3

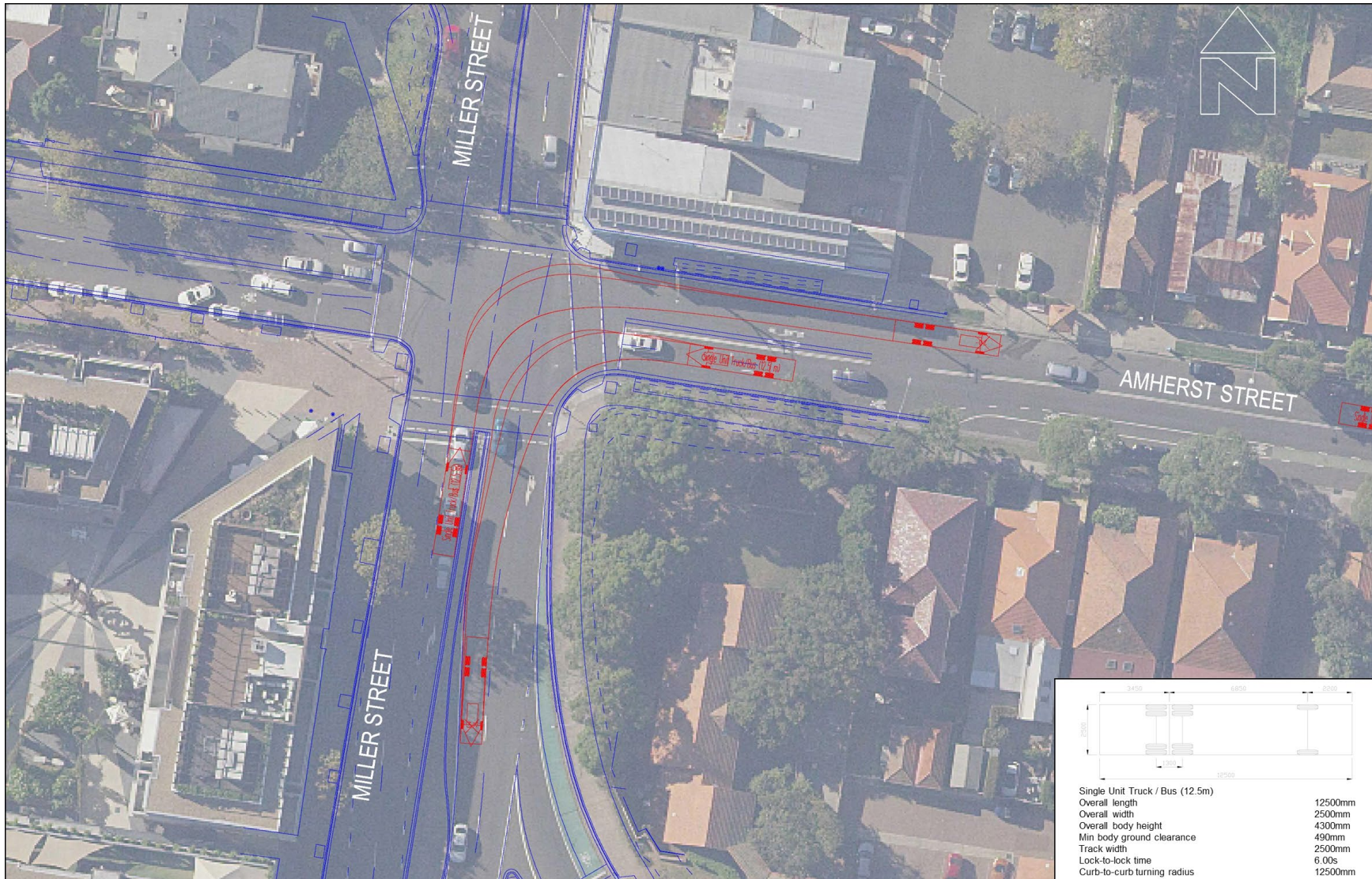
DATE STAMP

11 DECEMBER 2020









WESTERN HARBOUR TUNNEL AND WARRINGAH FREEWAY UPGRADE
STAGE 1A EARLY AND ENABLING WORKS - CRITICAL UTILITY INSTALLATION, RELOCATION AND PROTECTION WORKS

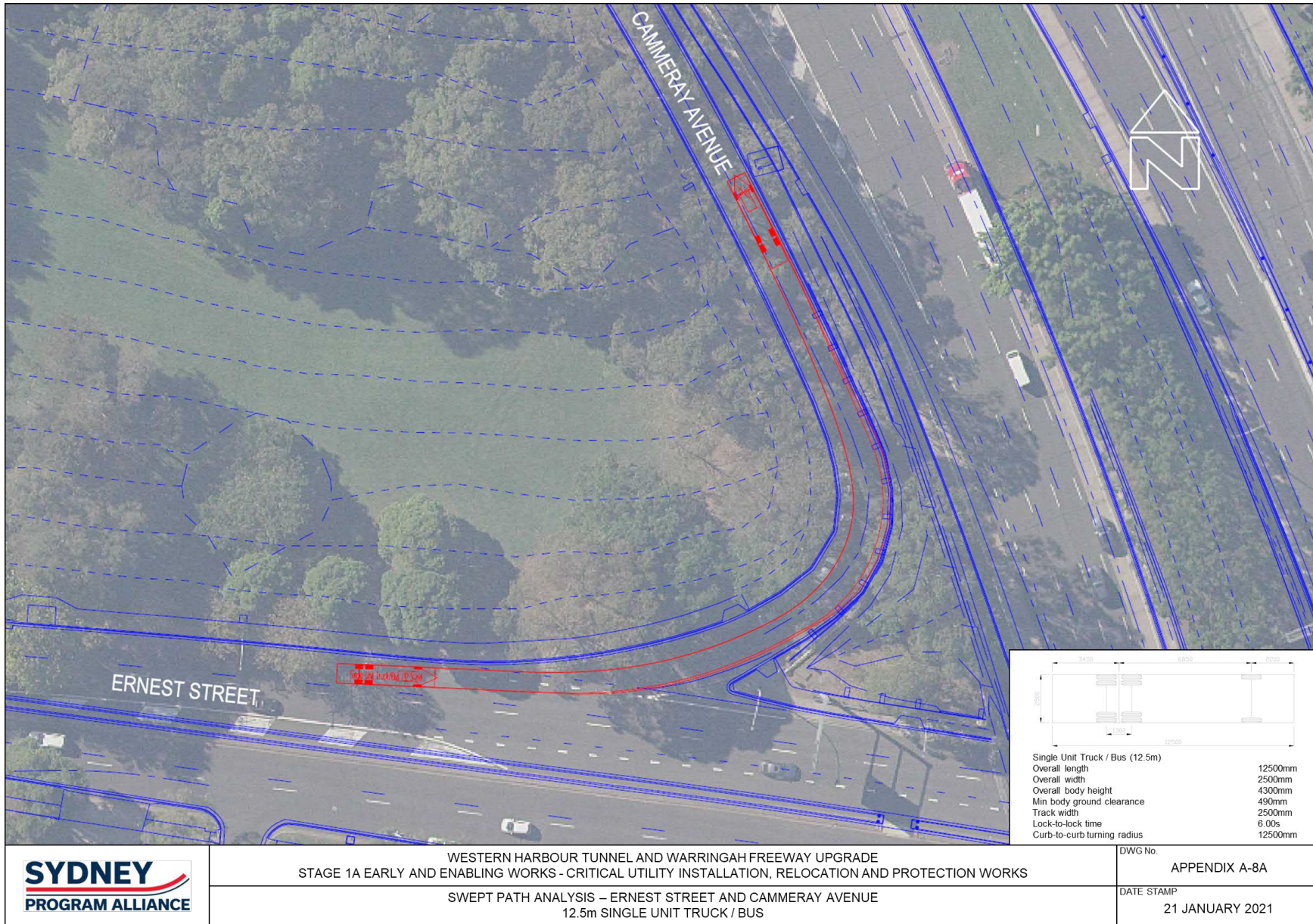
SWEEP PATH ANALYSIS – MILLER STREET AND AMHERST STREET
12.5m SINGLE UNIT TRUCK / BUS

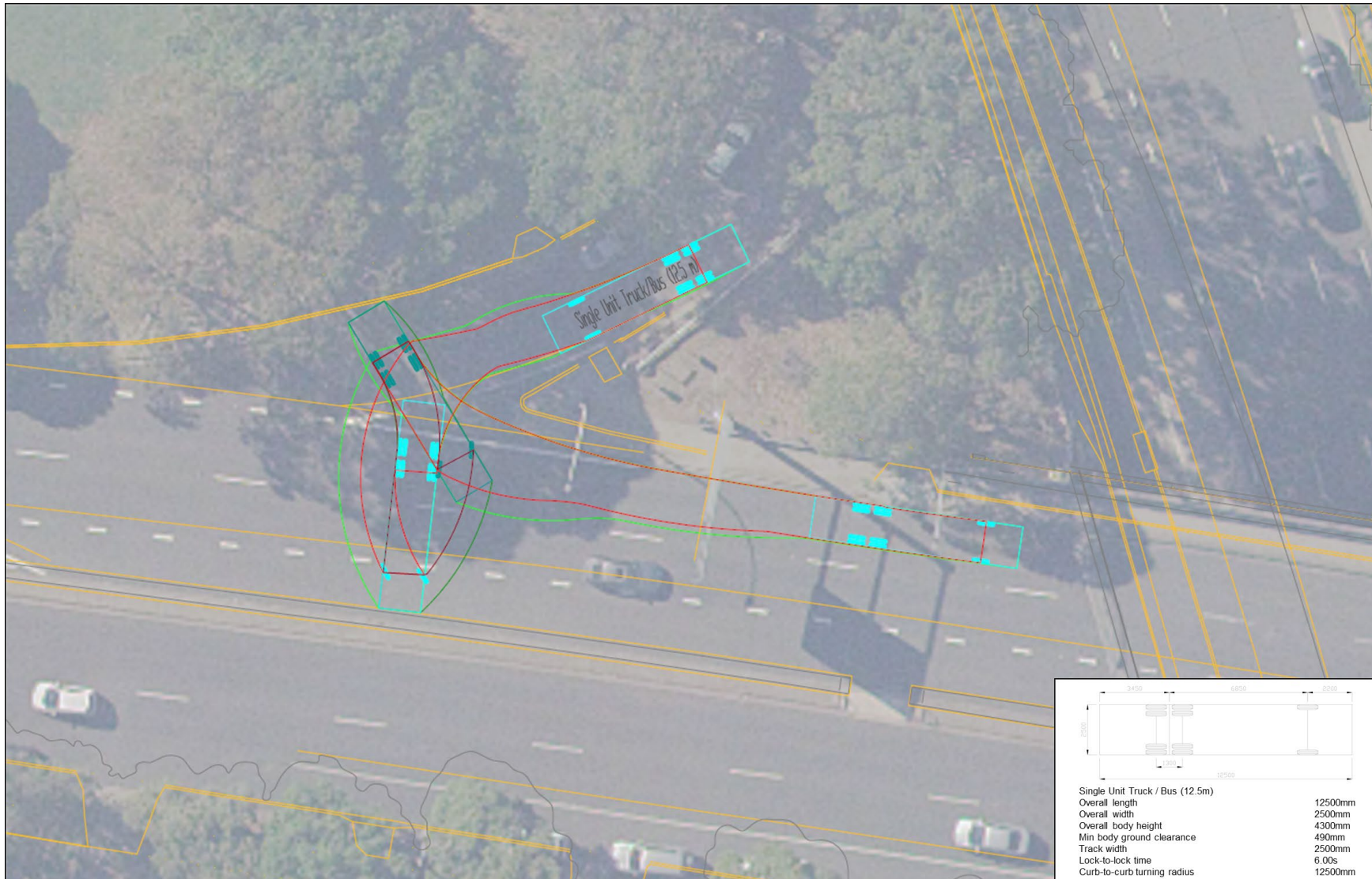
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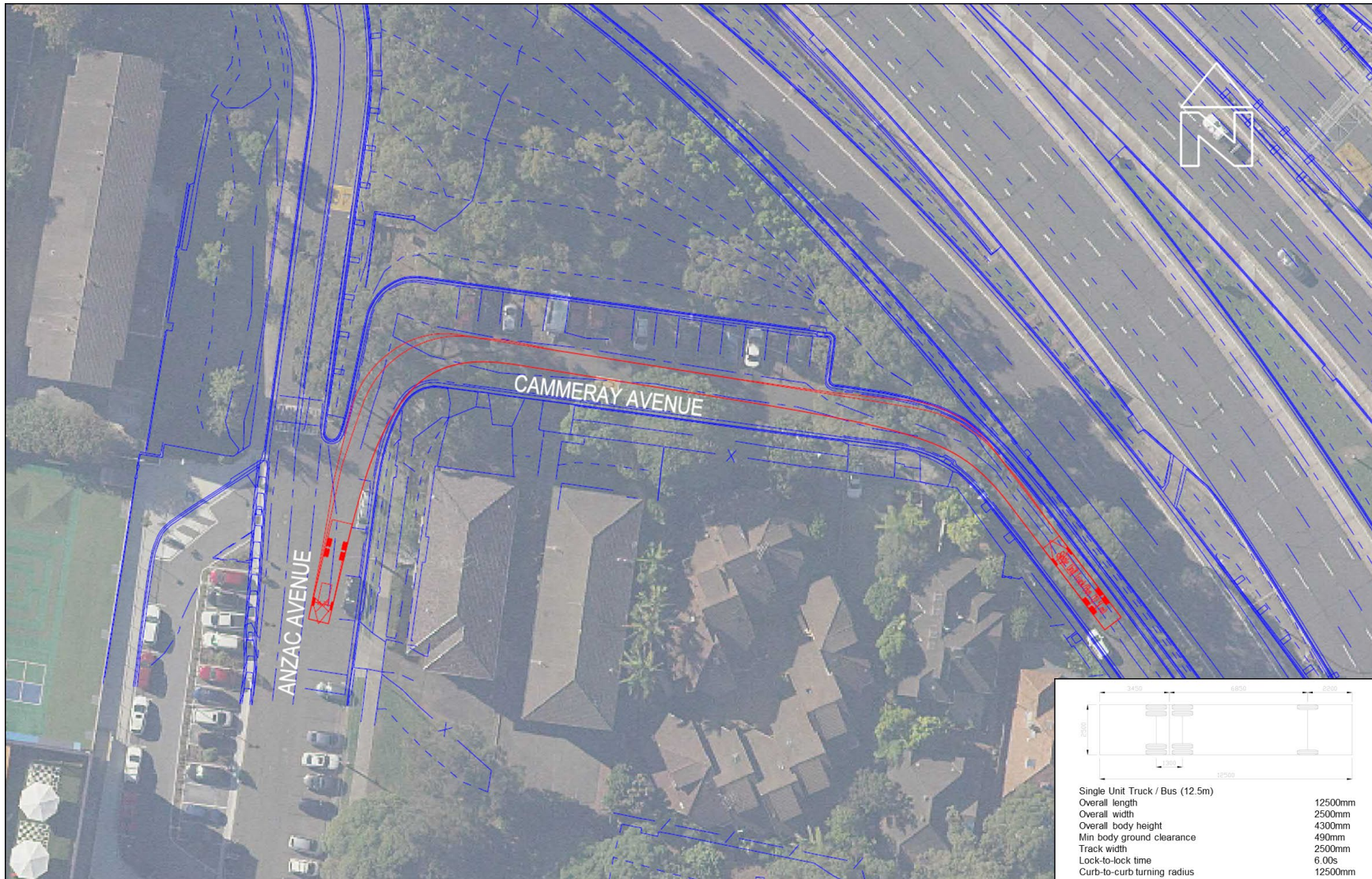
APPENDIX A-7

DATE STAMP

11 DECEMBER 2020







Single Unit Truck / Bus (12.5m)	
Overall length	12500mm
Overall width	2500mm
Overall body height	4300mm
Min body ground clearance	490mm
Track width	2500mm
Lock-to-lock time	6.00s
Curb-to-curb turning radius	12500mm



Single Unit Truck / Bus (12.5m)	
Overall length	12500mm
Overall width	2500mm
Overall body height	4300mm
Min body ground clearance	490mm
Track width	2500mm
Lock-to-lock time	6.00s
Curb-to-curb turning radius	12500mm

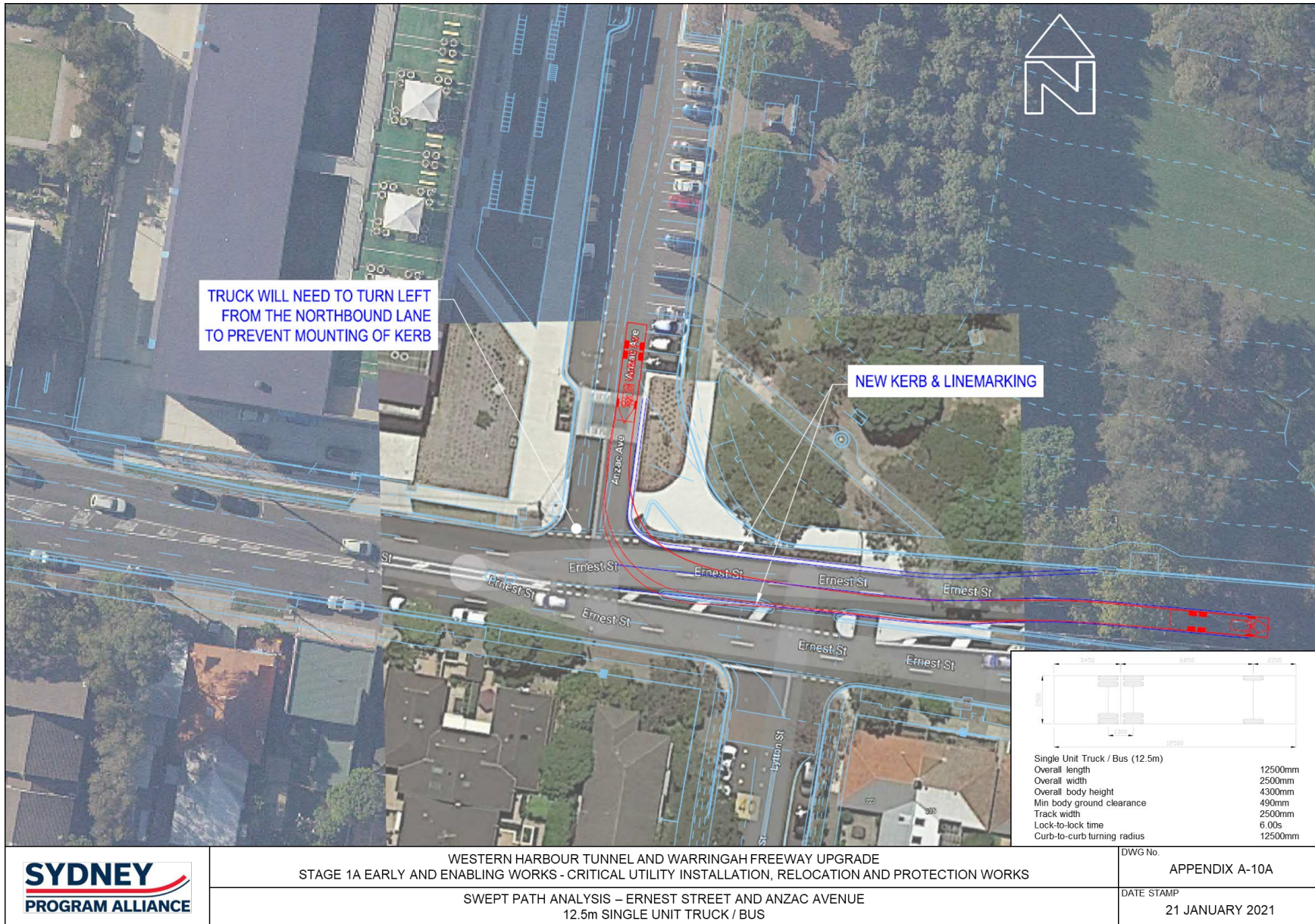


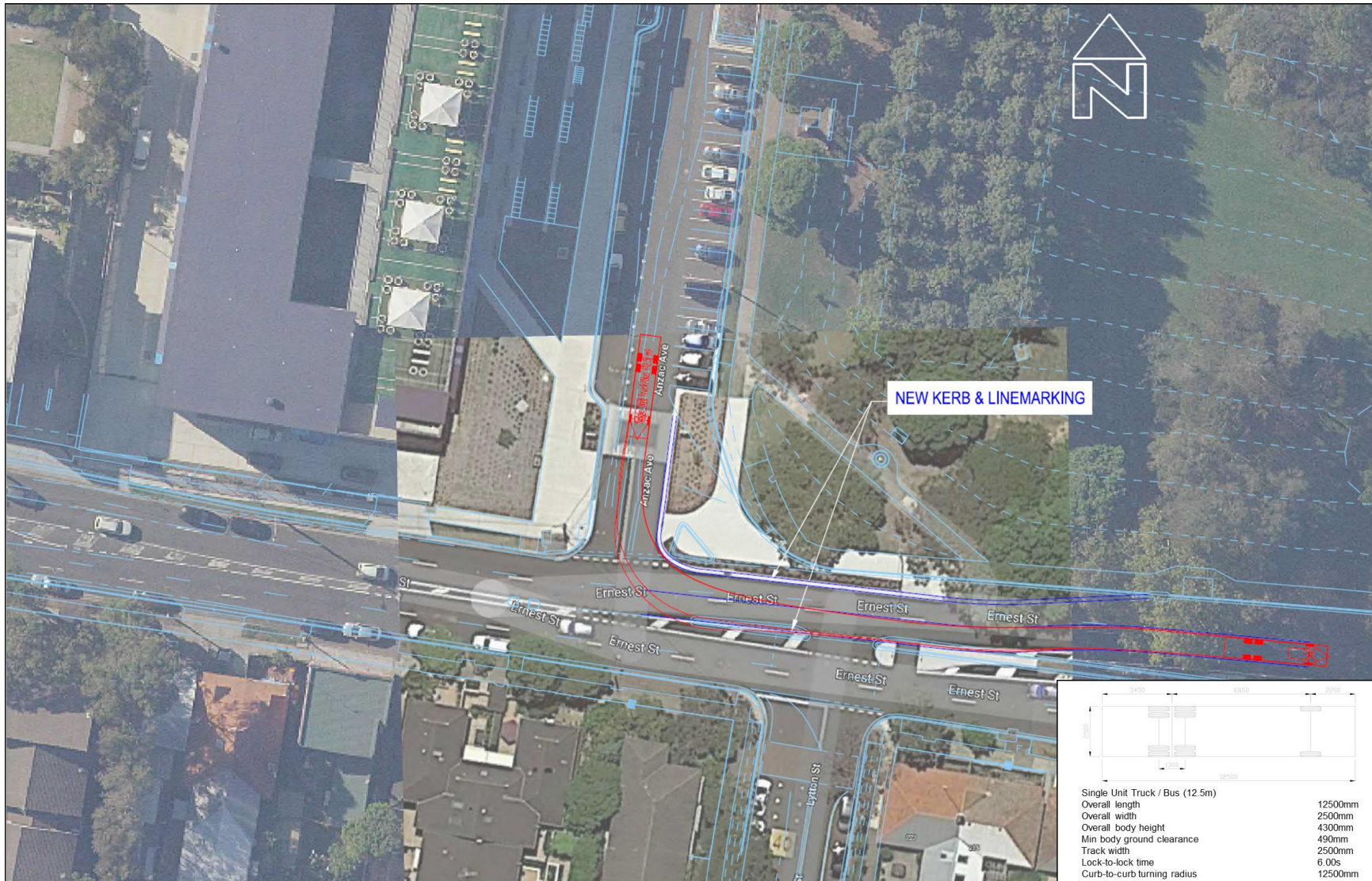
WESTERN HARBOUR TUNNEL AND WARRINGAH FREEWAY UPGRADE
STAGE 1A EARLY AND ENABLING WORKS - CRITICAL UTILITY INSTALLATION, RELOCATION AND PROTECTION WORKS

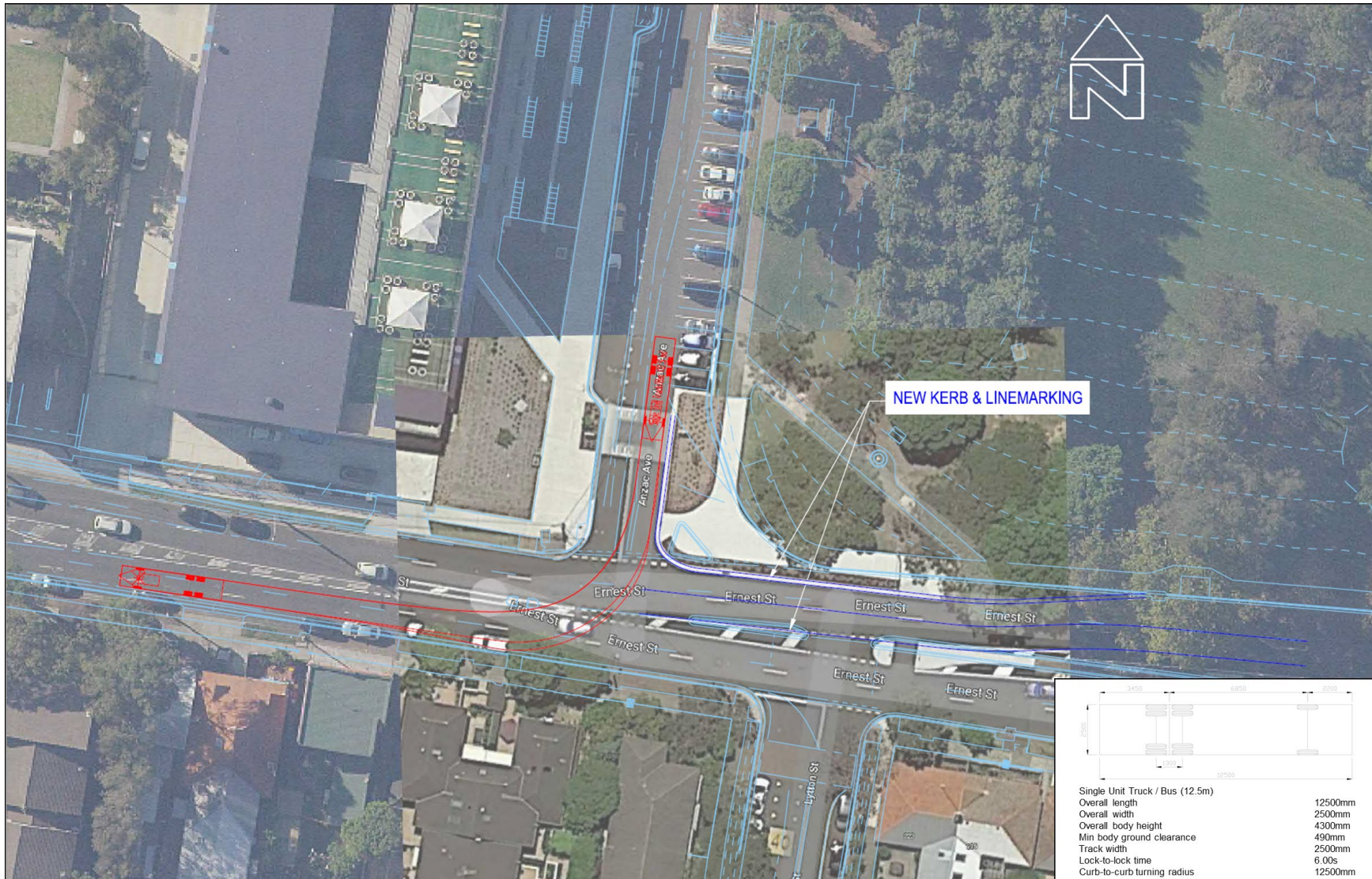
SWEPT PATH ANALYSIS - CAMMERAY AVENUE AND ANZAC AVENUE
12.5m SINGLE UNIT TRUCK / BUS

DWG No. APPENDIX A-9B

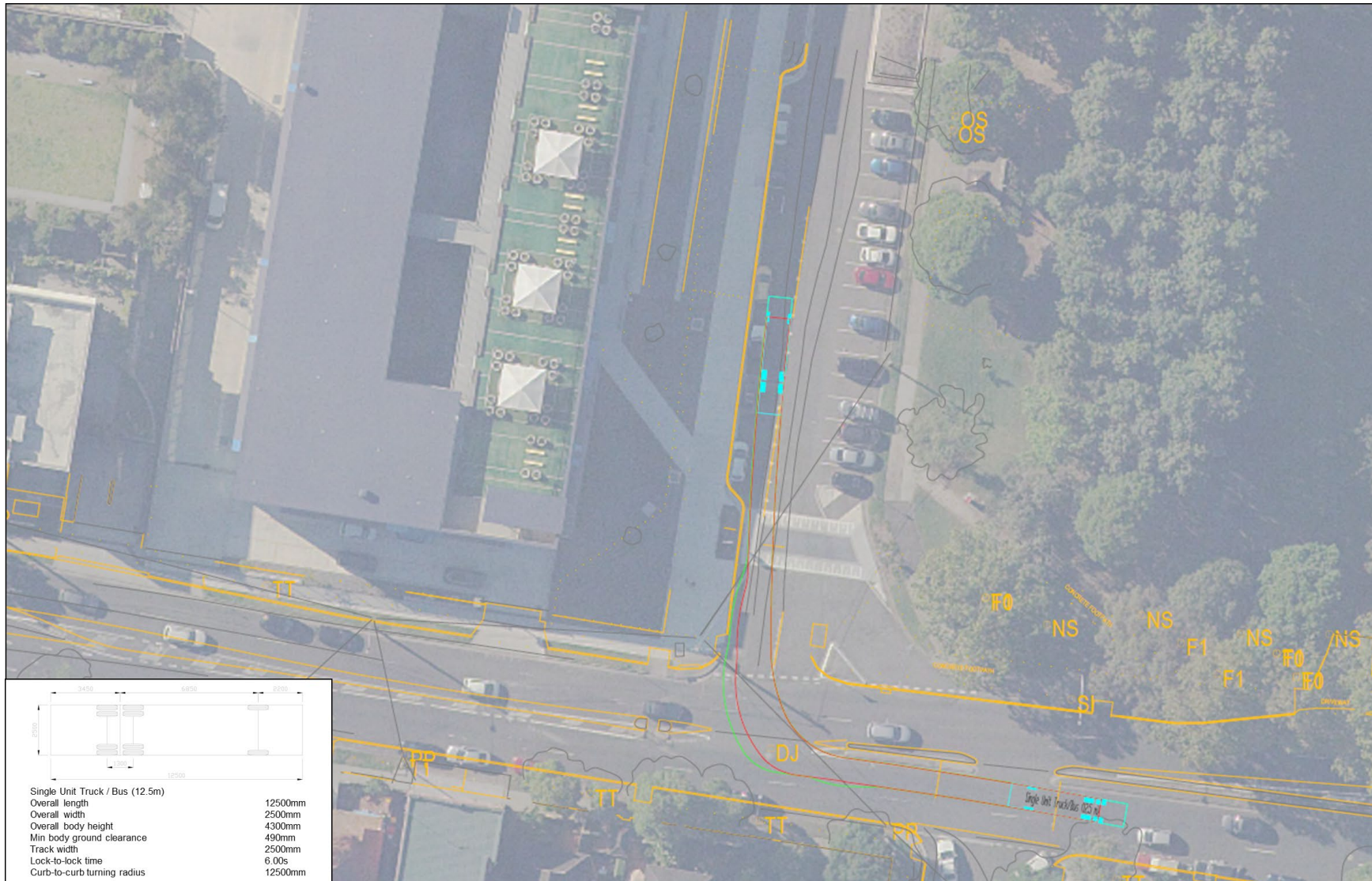
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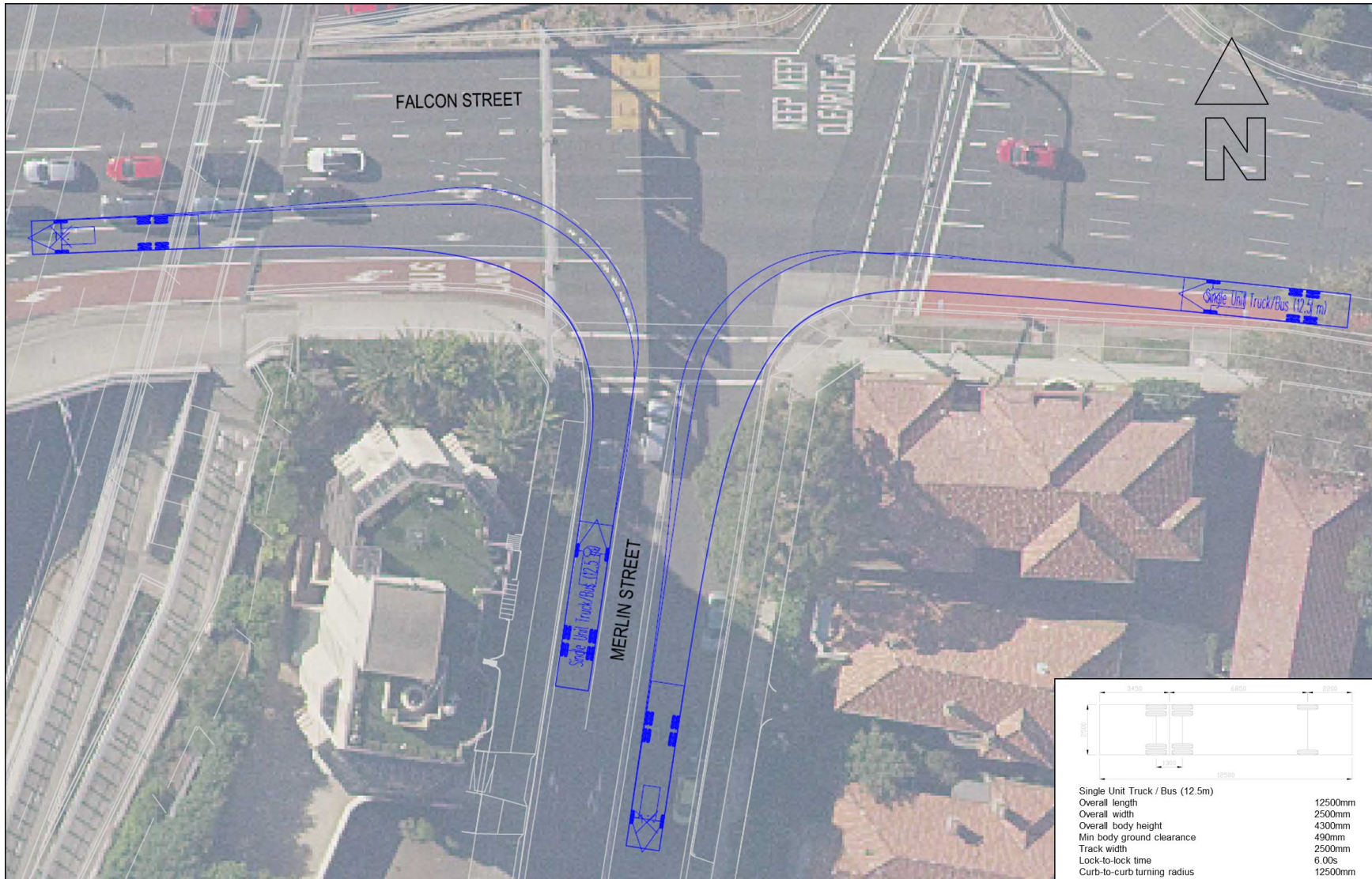


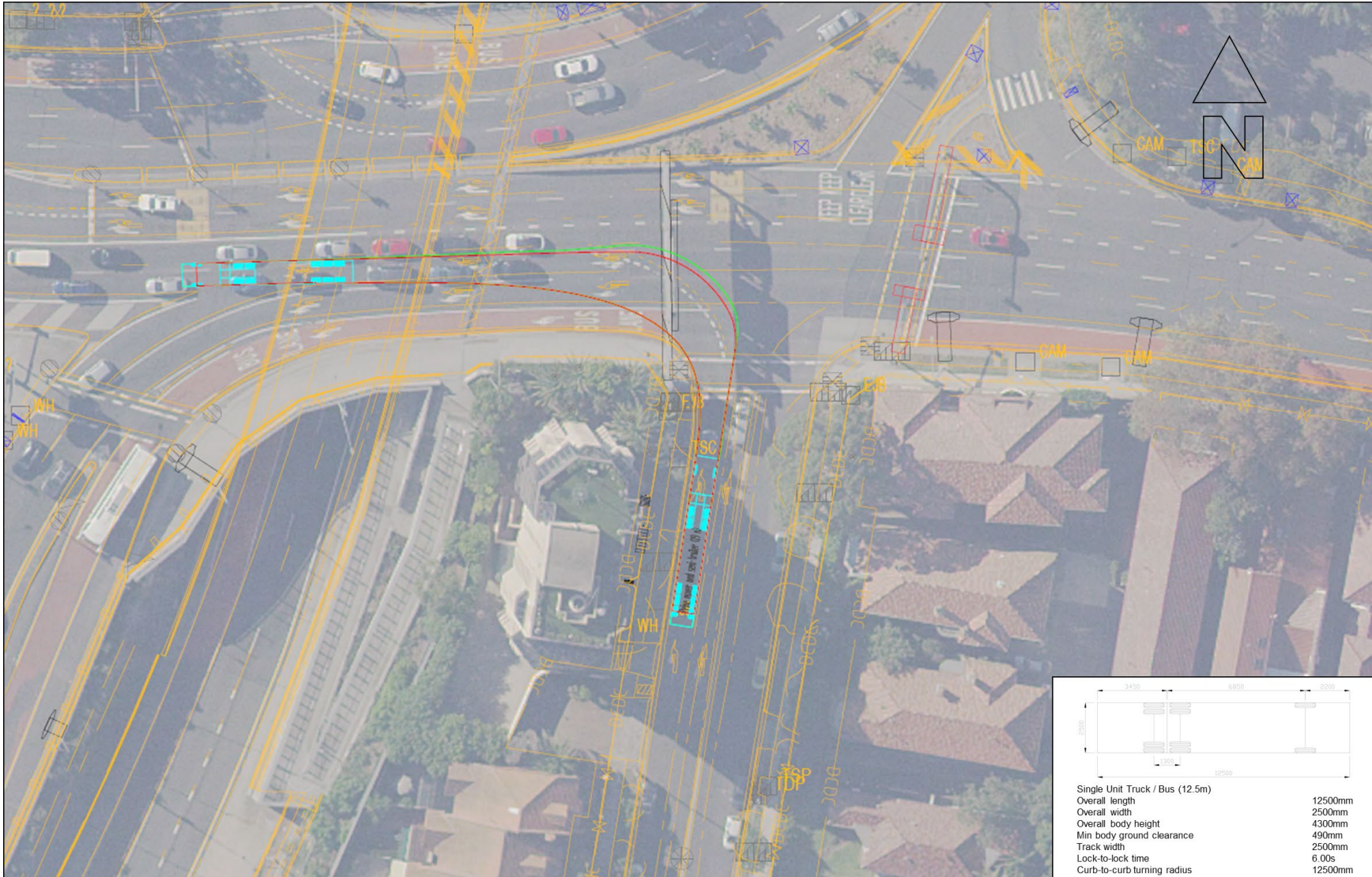


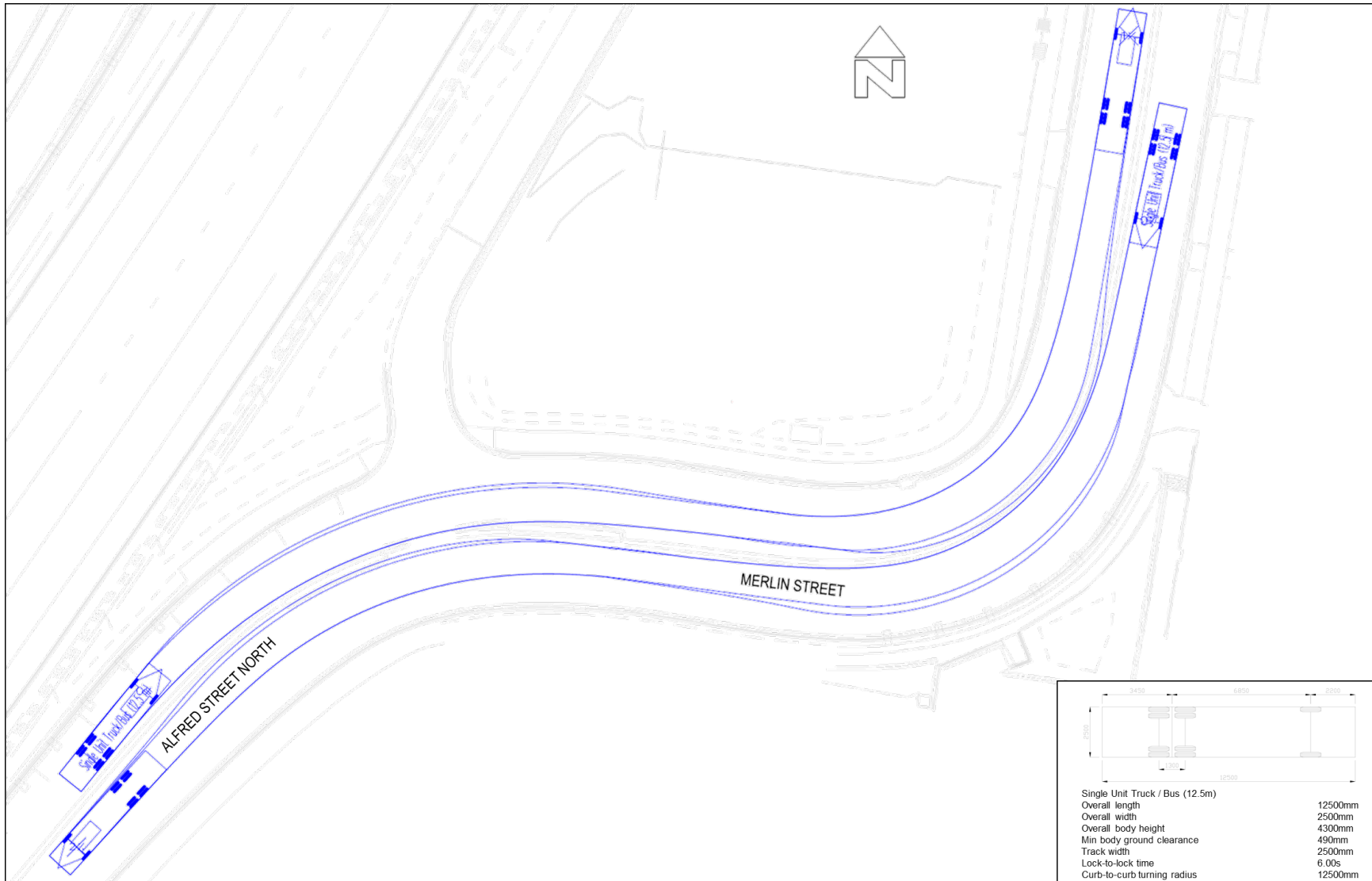


SWEPT PATH ANALYSIS – ERNEST STREET AND ANZAC AVENUE
12.5m SINGLE UNIT TRUCK / BUS

DATE STAMP	25 MAY 2021
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WESTERN HARBOUR TUNNEL AND WARRINGAH FREEWAY UPGRADE
STAGE 1A EARLY AND ENABLING WORKS - CRITICAL UTILITY INSTALLATION, RELOCATION AND PROTECTION WORKS

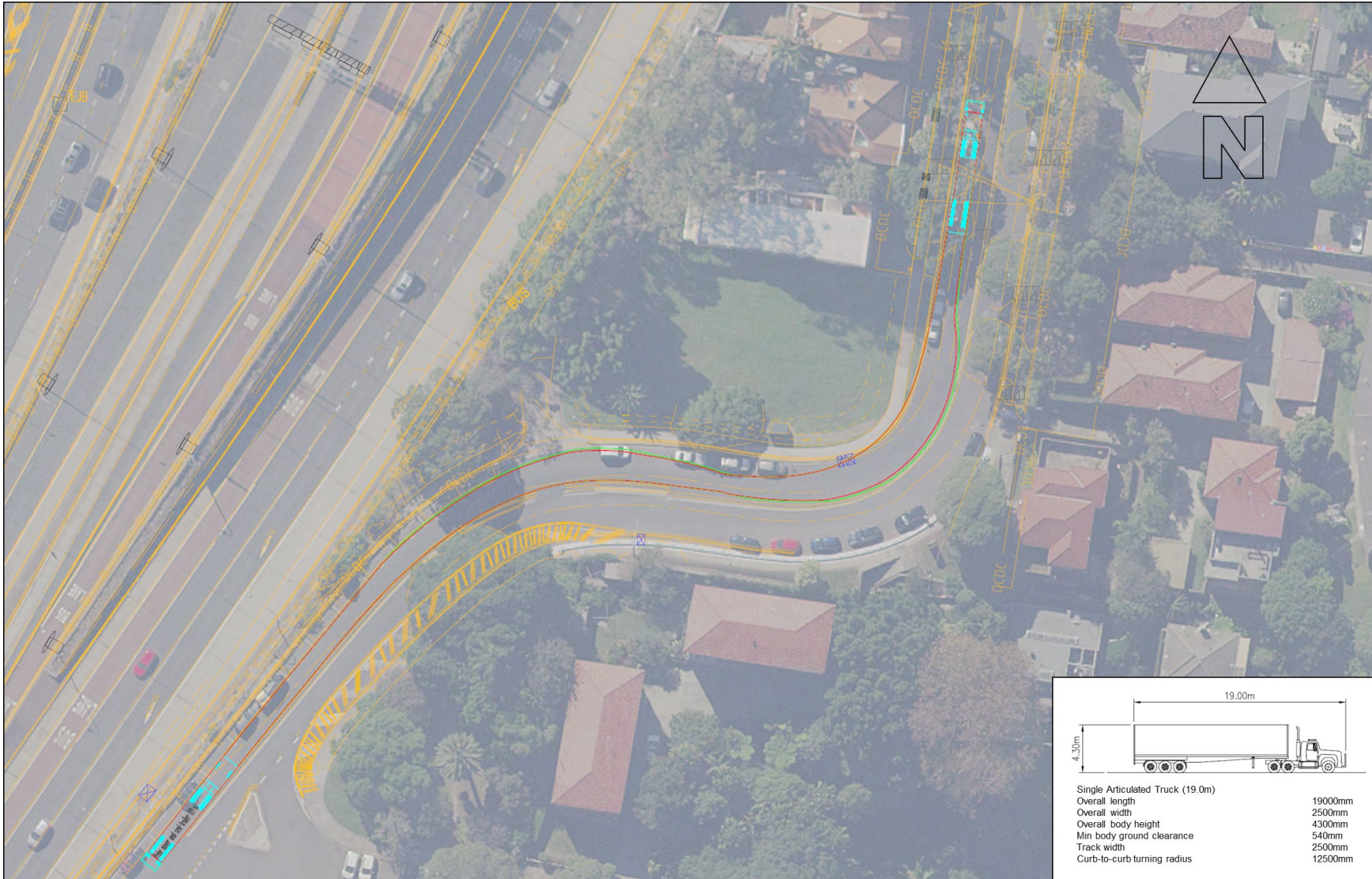
SWEPT PATH ANALYSIS – ALFRED STREET NORTH AND MERLIN STREET
12.5m SINGLE UNIT TRUCK / BUS

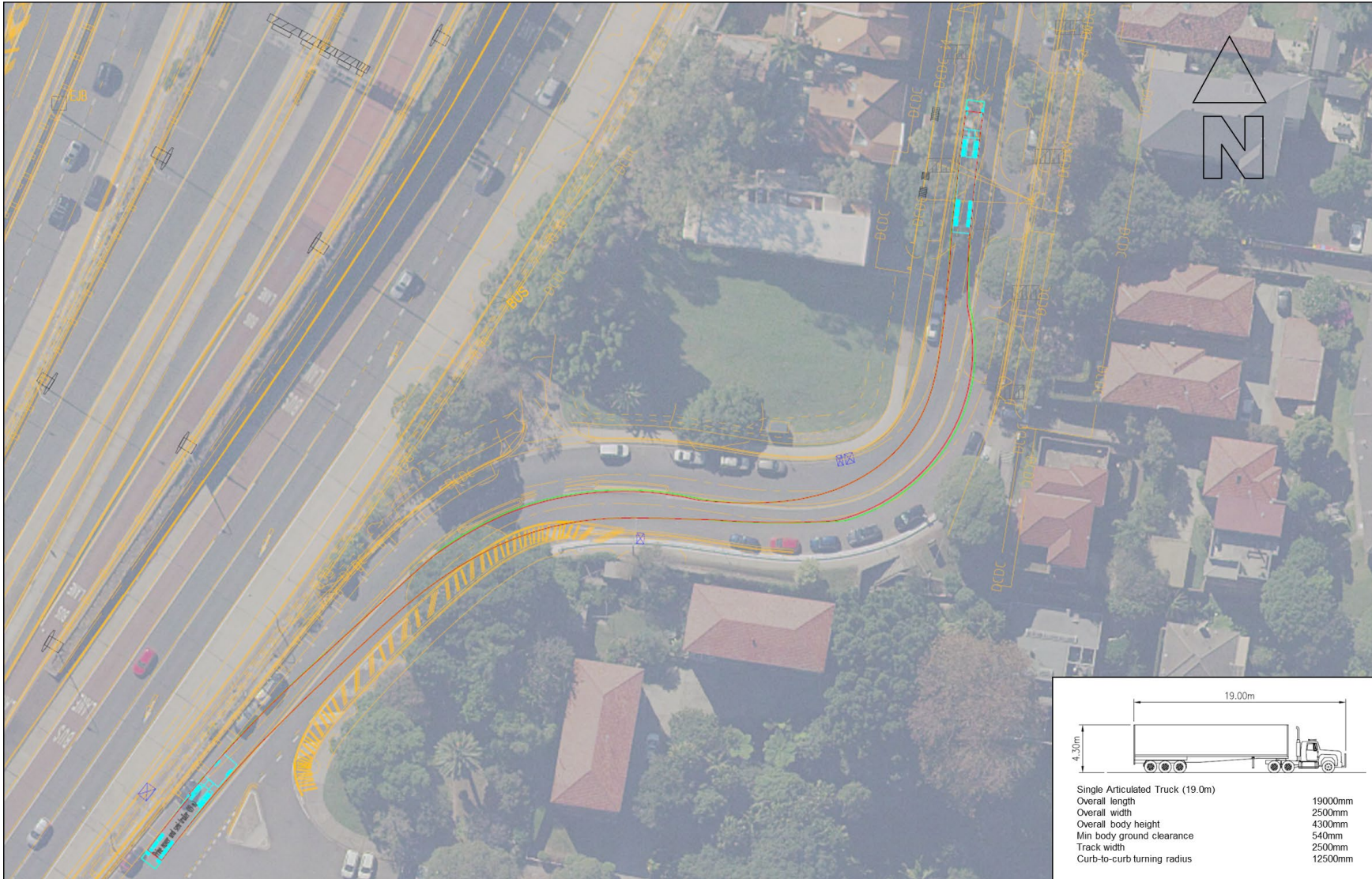
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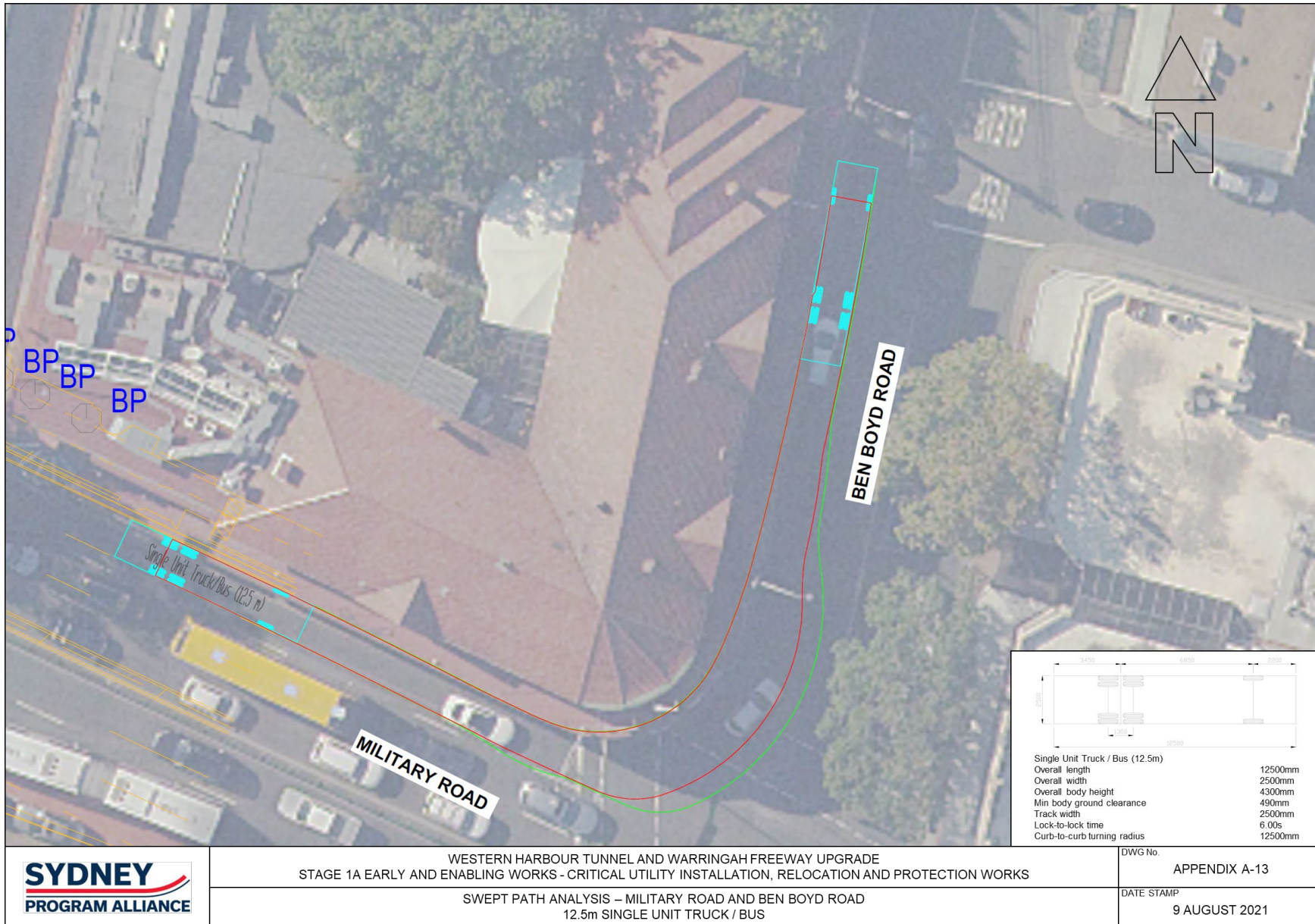
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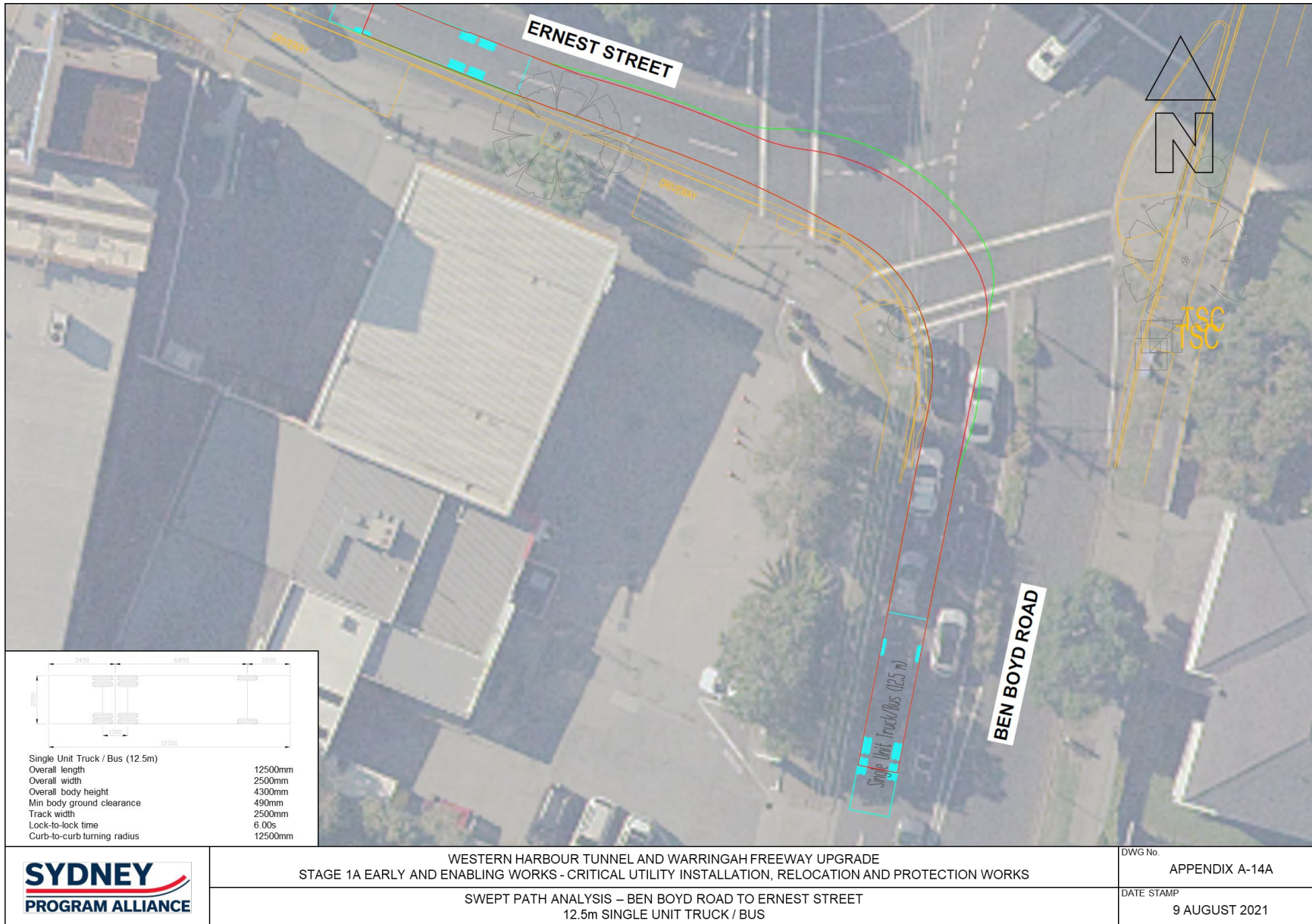
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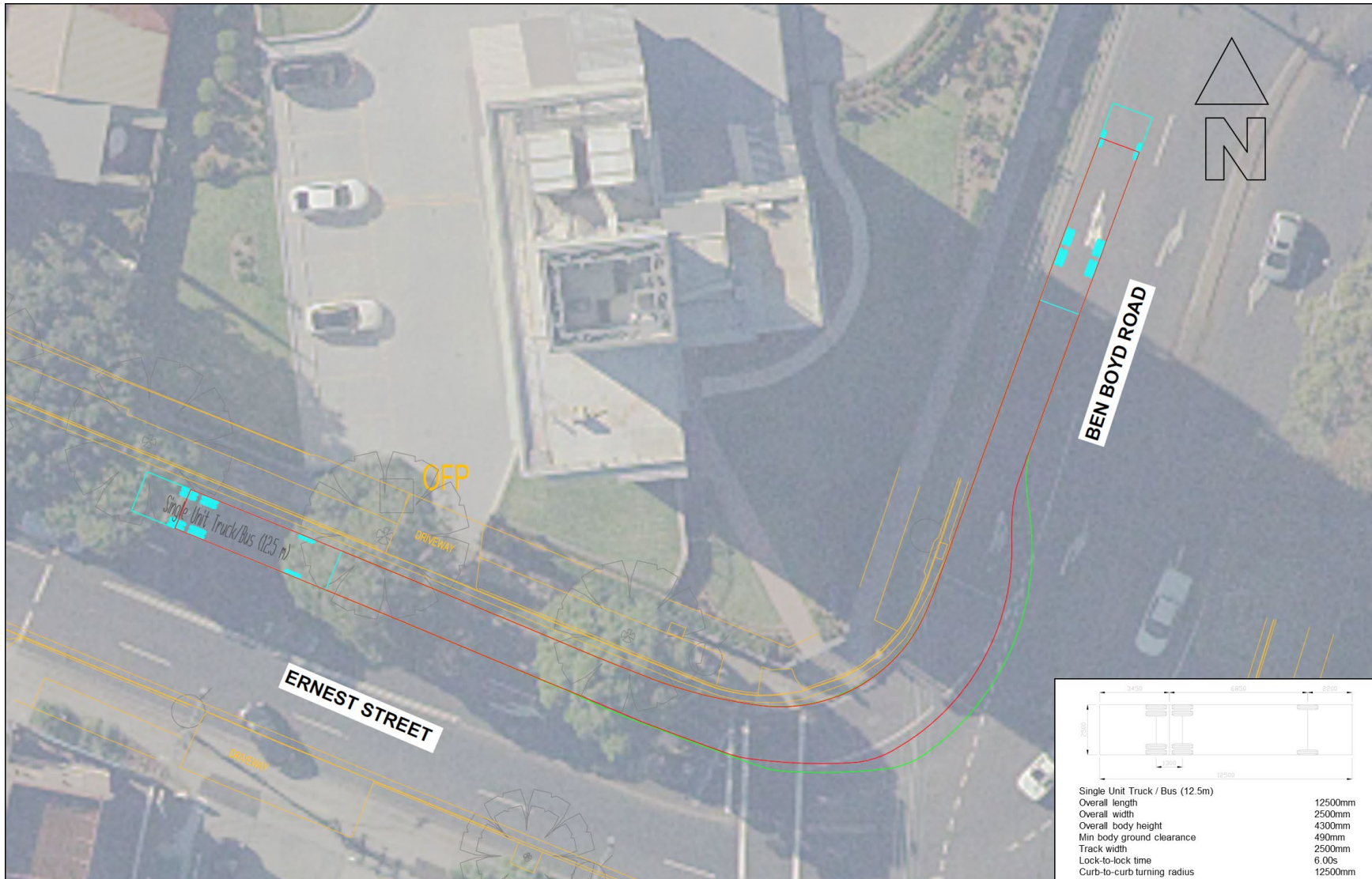
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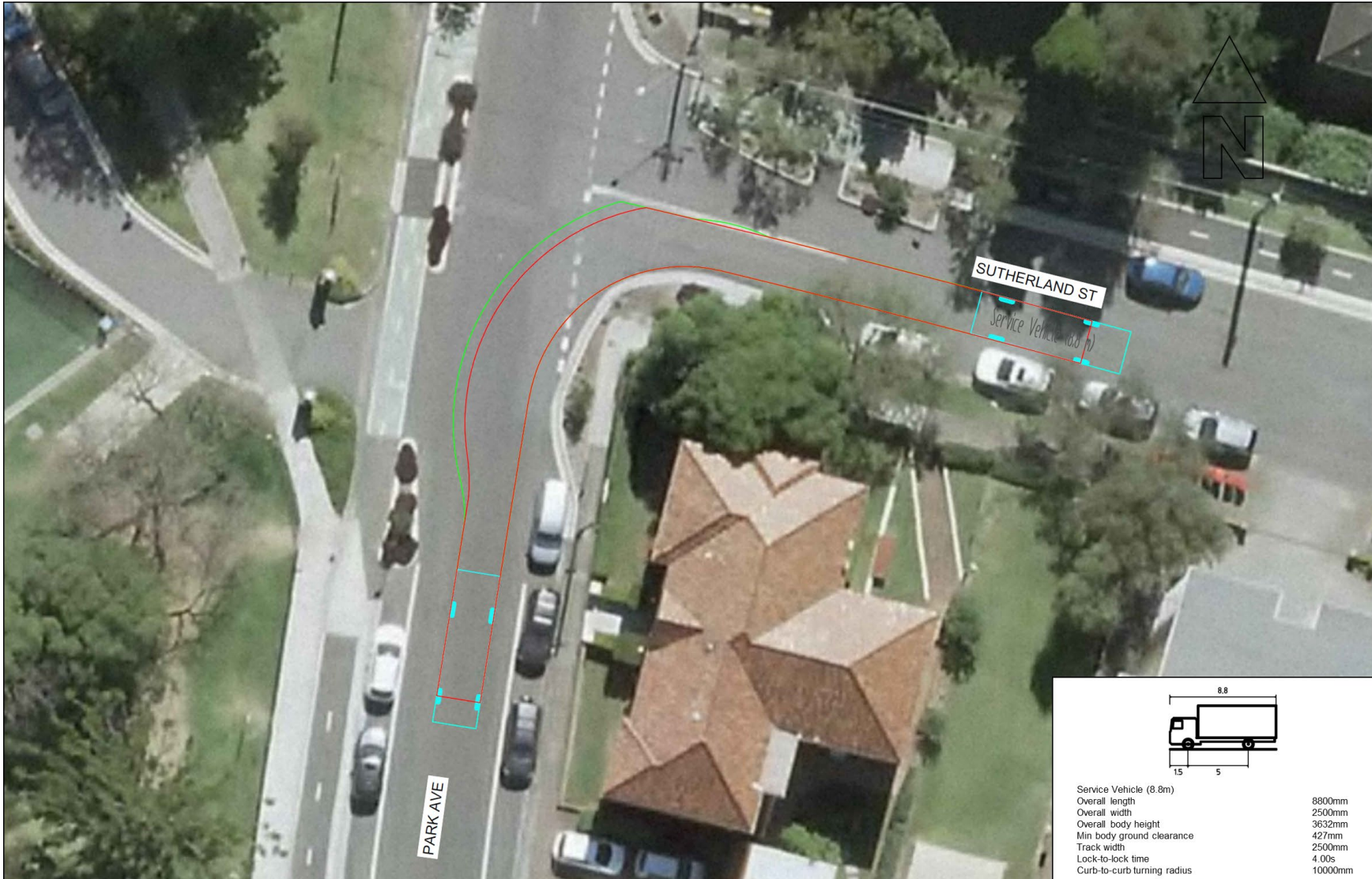












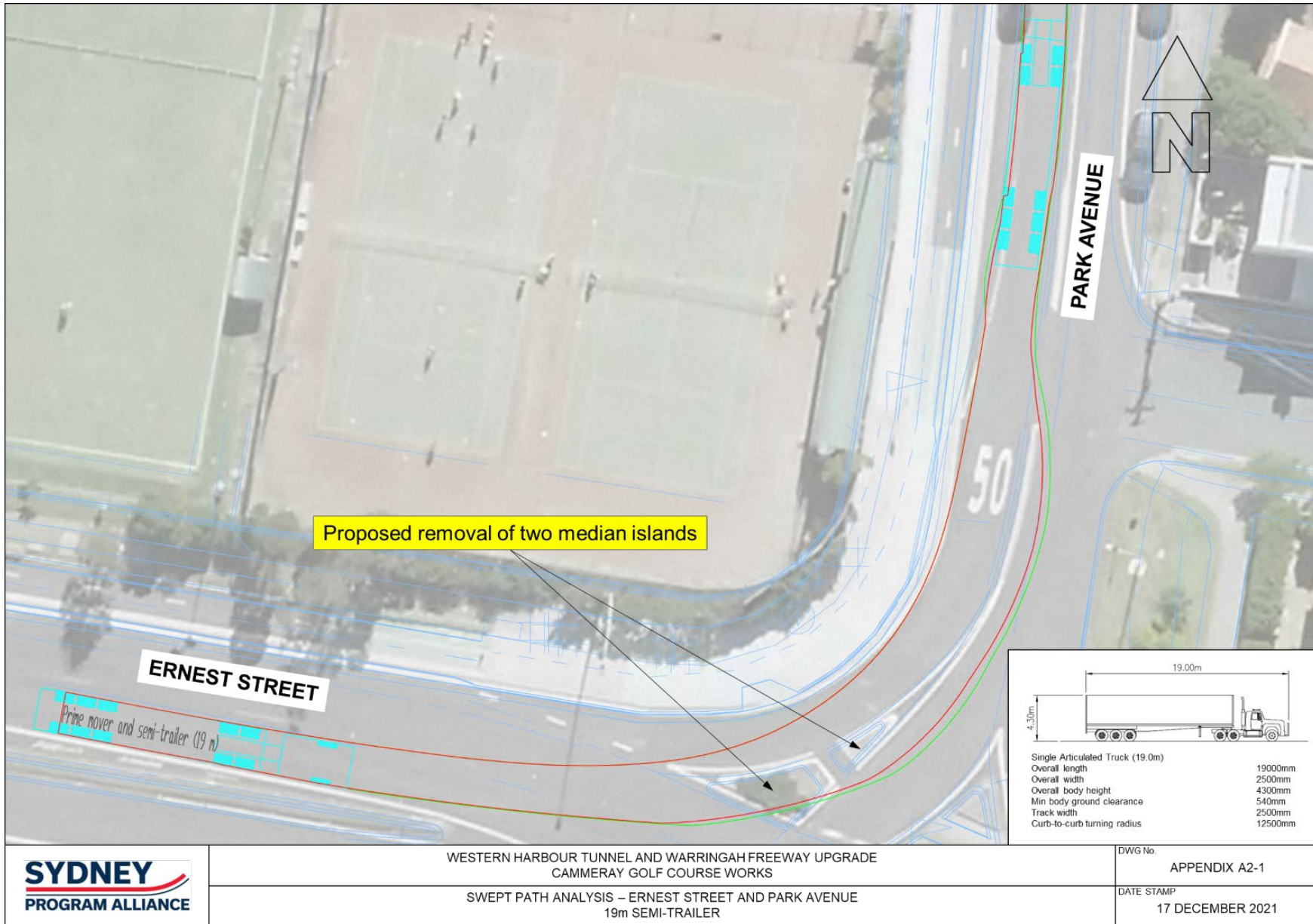
WESTERN HARBOUR TUNNEL AND WARRINGAH FREEWAY UPGRADE
STAGE 1A EARLY AND ENABLING WORKS - CRITICAL UTILITY INSTALLATION, RELOCATION AND PROTECTION WORKS

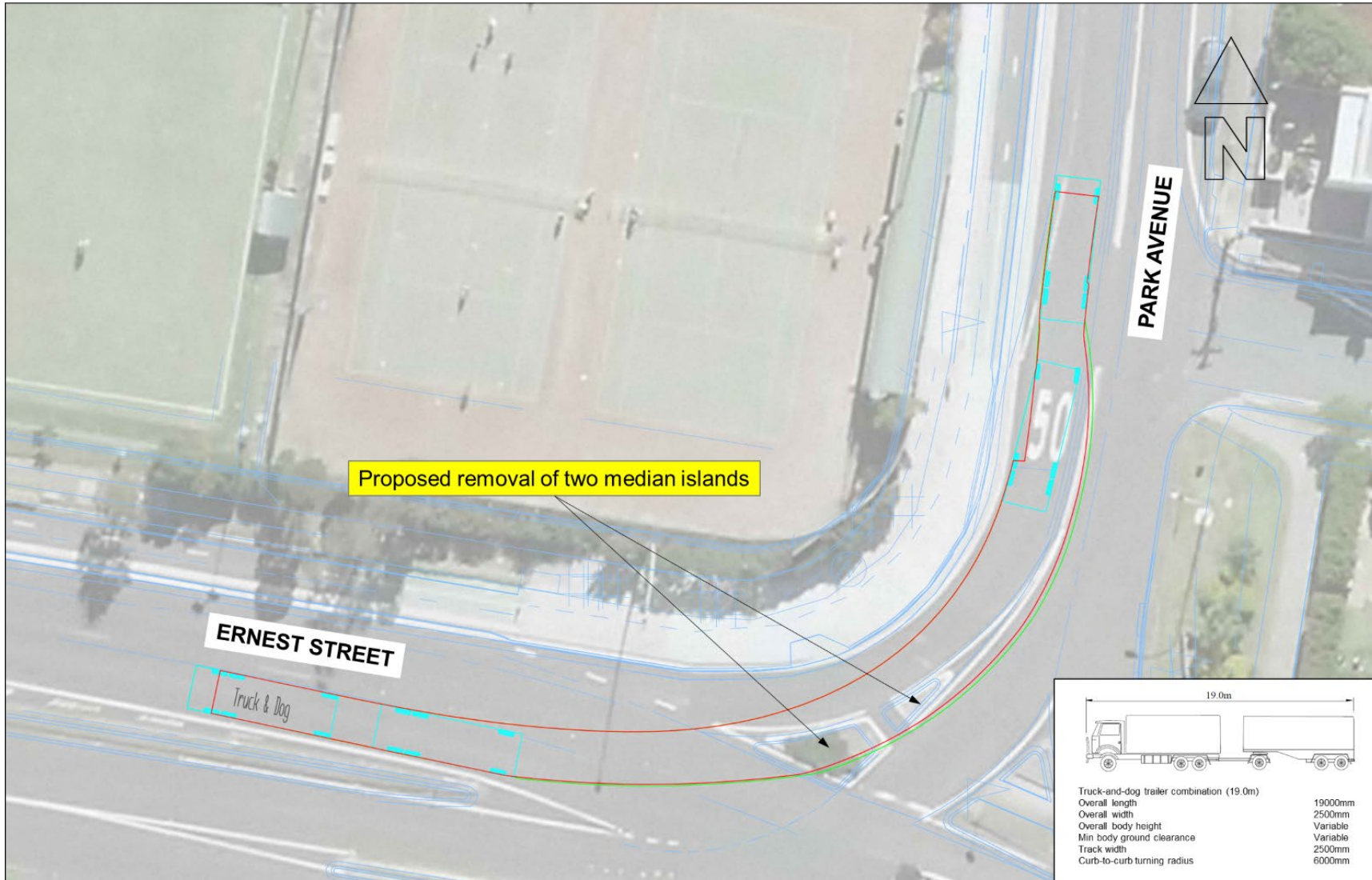
SWEPT PATH ANALYSIS – SUTHERLAND STREET AND PARK AVENUE
8.8 m SINGLE UNIT TRUCK

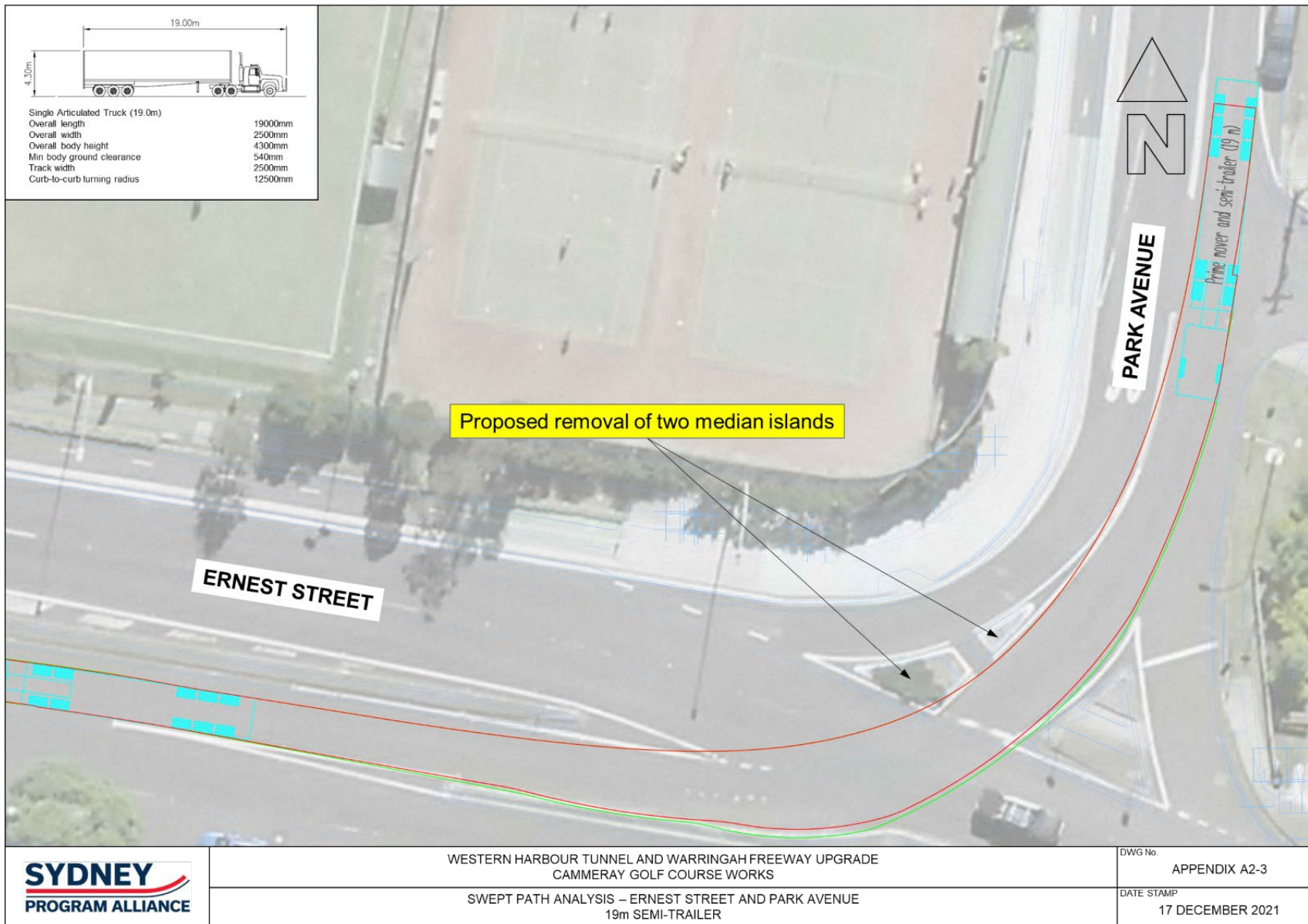
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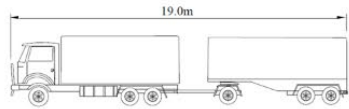
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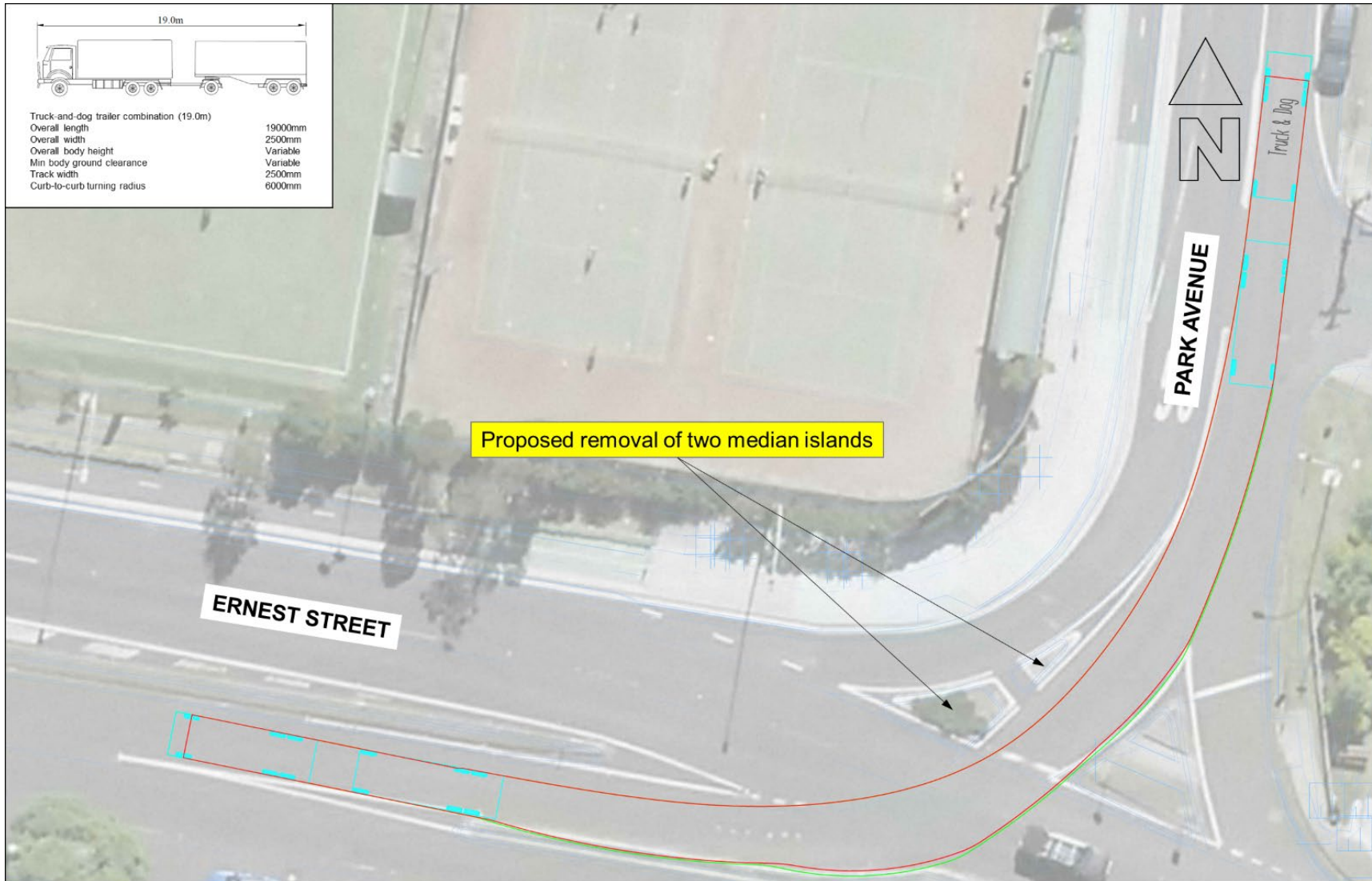


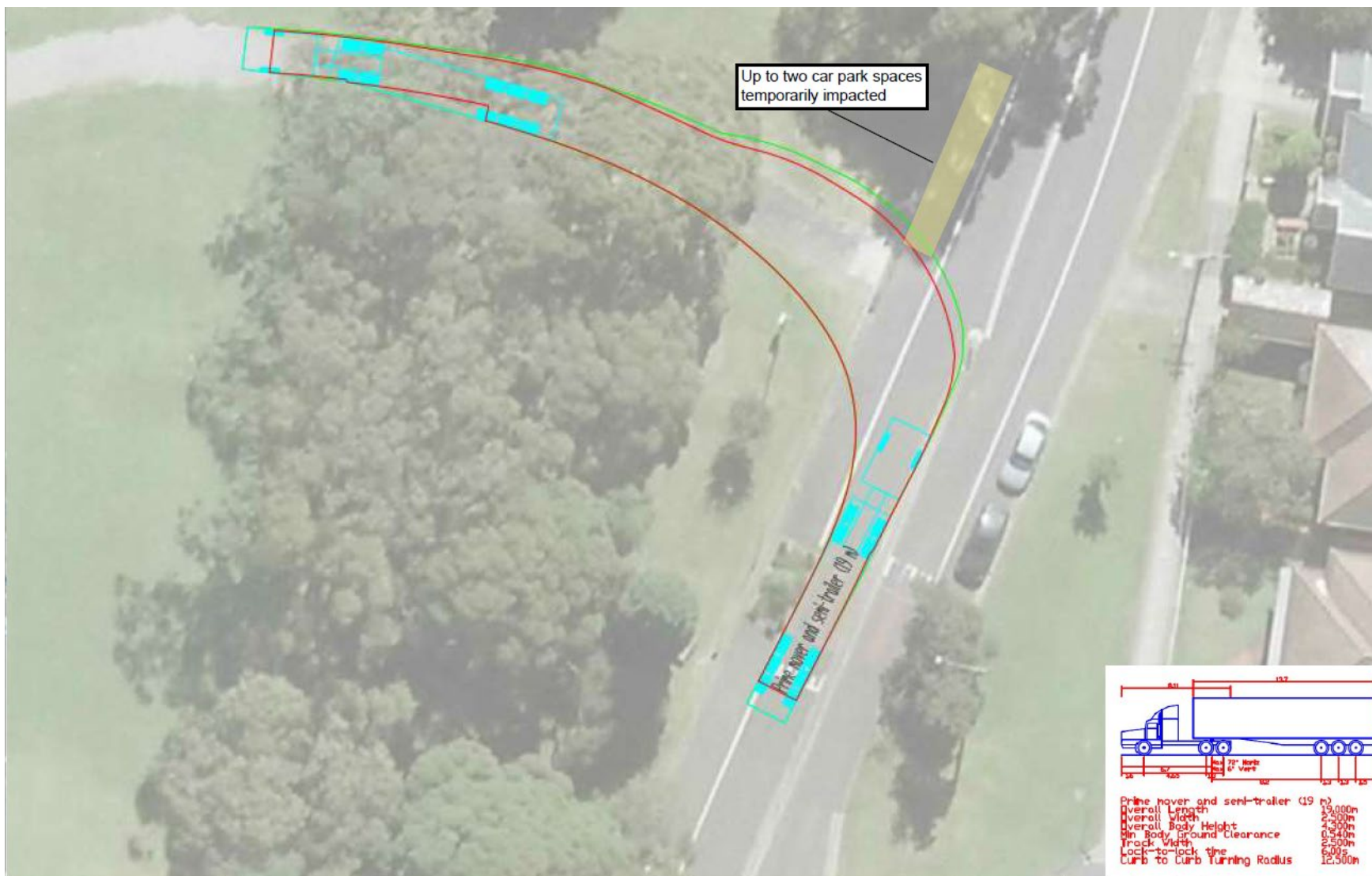




Truck-and-dog trailer combination (19.0m)

Overall length	19000mm
Overall width	2500mm
Overall body height	Variable
Min body ground clearance	Variable
Track width	2500mm
Curb-to-curb turning radius	6000mm

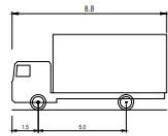









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10m ON A3 SIZE ORIGINAL



Service Vehicle (8.8 m)
Overall Length
Overall Width
Overall Body Height
Mini Body Ground Clearance
Track Width
Lock-to-lock time
Curb to Curb Turning Radius

8.800m
2.500m
2.300m
0.427m
2.500m
4.00s
12.500m

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20			23.05.2022			SKETCH			ISSUE STATUS SKETCH			REV ROD-001 0			
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			AT A3			HEIGHT DATUM AMD			PROJECT MNGR F. NAPOLITANO						
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DESIGN CHECK A. DUNNAN			23.05.2022			DESIGN MNGR A. KANDIC			23.05.2022						
PROJECT MNGR F. NAPOLITANO			23.05.2022			PROJECT MNGR F. NAPOLITANO			23.05.2022						

Appendix A3 The risk assessment system

Each identified hazard has been recorded and assessed in accordance with the Austroads *Guide to Road Safety Part 6: Managing Road Safety Audits* (Edition 1.0), 2019. The guide recommends a risk matrix be used to determine the level of risk associated with each hazard. This risk matrix is described below.

Estimated crash frequency: the probable frequency of an incident occurring as a direct result of the hazard was determined using the scale displayed in Table A2-4-1.

Table A2-4-1 Estimated crash frequency

Frequency	Description
Frequent	Once or more per week
Probable	Once or more per year (but less than once a week)
Occasional	Once every five or ten years
Improbable	Less often than once every ten years

Estimated crash severity: the likely severity of the incident which occurred as a direct result of the hazard was determined using the scale displayed in Table A2-4-2.

Table A2-4-2 Estimated crash severity

Severity	Description	Examples
Catastrophic	Likely multiple deaths	<ul style="list-style-type: none">• High-speed, multi-vehicle crash on freeway• Car runs into crowded bus stop• Bus and petrol tanker collide• Collapse of a bridge or tunnel
Serious	Likely death or serious injury	<ul style="list-style-type: none">• High or medium-speed vehicle/vehicle collision• High or medium-speed collision with a fixed roadside object• Pedestrian or cyclist struck by a car
Minor	Likely minor injury	<ul style="list-style-type: none">• Some low-speed vehicle collisions• Cyclists falls from bicycle at low speed• Left-turn rear-end crash in a slip lane
Limited	Likely trivial injury or property damage only	<ul style="list-style-type: none">• Some low speed vehicle collisions• Pedestrian walks into object (no head injury)• Car reverses into post

Deemed level of risk: the risk matrix displayed in Table A2-4-3 was used to assess the level of risk for each hazard. The risk matrix uses the frequency / severity determined above to determine the likely level of risk for each hazard.

Table A2-4-3 Deemed level of risk

		Frequency			
		Frequent	Probable	Occasional	Improbable
Severity	Catastrophic	Intolerable	Intolerable	Intolerable	High
	Serious	Intolerable	Intolerable	High	Medium
	Minor	Intolerable	High	Medium	Low
	Limited	High	Medium	Low	Low

Appendix A4 Driver's Code of Conduct

Driver Code of Conduct

This Driver Code of Conduct applies to all Sydney Program Alliance personnel and any other person undertaking work for the Sydney Program Alliance, whether they are a direct employee of Sydney Program Alliance or employed by another organisation providing a service or product to Sydney Program Alliance.

All drivers must:

- Drive courteously.
- Obey all road rules, including posted speed limits and other traffic signage within work sites and site compounds.
- Take extreme care when driving past other vehicles travelling in the opposite direction on local roads including ANZAC Avenue, Bells Avenue, Warringa Road, Amherst Street, Cammeray Road, Park Avenue and Merlin Street.
- Report any incidents or near misses to your supervisor immediately.
- Hold a current and valid driving licence for the class of vehicle that you operate. Additionally, you must always carry your current driver licence with you while you are on duty. If your licence is cancelled or suspended, you must let your supervisor know immediately.
- Maintain and operate your vehicle in accordance with the vehicle manufacturer's recommended standards (refer to the vehicle manufacturer's handbook and service schedule).
- Not use engine brakes in residential areas.
- Try to avoid reversing whenever possible. If you cannot avoid it, use extreme caution.
- Ensure your vehicle is fitted with audible reversing alarms.
- Always follow posted signs as they provide vital clues to road conditions and characteristics.
- Always be aware of the following:
 - Reduce your speed in wet conditions
 - Drive cautiously in fog or heavy rain
 - Descend hills at signposted heavy vehicle speeds, or in the lowest gear to suit the conditions
 - Observe road work speed limits
 - Do not exceed the posted speed limit
 - Do not drive at speed past schools, school buses, playgrounds, shopping areas etc.
- Follow Vehicle Movement Plans that specify approved routes to and from work sites and site compounds. Only roads that are shown on the Vehicle Movement Plans may be used. The use of roads that are not shown on the Vehicle Movement Plans is strictly prohibited.
- Follow directions provided by a Sydney Program Alliance employee.
- Park within work sites and site compounds where possible. Parking on public roads is to be avoided. Where this is not possible, contact your Sydney Program Alliance contact to seek alternative arrangements.



DRIVER CODE OF CONDUCT

This Driver Code of Conduct is applicable 24 hours per day, seven days per week. Failure to comply with this Driver Code of Conduct will lead to either the issue of a non-conformance notice or disciplinary action if the offender is an employee of Sydney Program Alliance. If the offending person is employed by another organisation providing a service or product to Sydney Program Alliance, then a suspension or cancellation of a service contract or arrangement with that organisation may be considered.

Appendix A5 size

Heavy vehicle routes according to vehicle



Appendix D Driver's Code of Conduct

Refer to the Driver's Code of Conduct

Driver Code of Conduct

This Driver Code of Conduct applies to all Sydney Program Alliance personnel and any other person undertaking work for the Sydney Program Alliance, whether they are a direct employee of Sydney Program Alliance or employed by another organisation providing a service or product to Sydney Program Alliance.

All drivers must:

- Drive courteously.
- Obey all road rules, including posted speed limits and other traffic signage within work sites and site compounds.
- Take extreme care when driving past other vehicles travelling in the opposite direction on local roads including Amherst Street, West Street, Jenkins Street, Armstrong Street, Massey Street and Palmer Street.
- Report any incidents or near misses to your supervisor immediately.
- Hold a current and valid driving licence for the class of vehicle that you operate. Additionally, you must always carry your current driver licence with you while you are on duty. If your licence is cancelled or suspended, you must let your supervisor know immediately.
- Maintain and operate your vehicle in accordance with the vehicle manufacturer's recommended standards (refer to the vehicle manufacturer's handbook and service schedule).
- Not use engine brakes in residential areas.
- Try to avoid reversing whenever possible. If you cannot avoid it, use extreme caution.
- Ensure your vehicle is fitted with audible reversing alarms.
- Always follow posted signs as they provide vital clues to road conditions and characteristics.
- Always be aware of the following:
 - Reduce your speed in wet conditions
 - Drive cautiously in fog or heavy rain
 - Descend hills at signposted heavy vehicle speeds, or in the lowest gear to suit the conditions
 - Observe road work speed limits
 - Do not exceed the posted speed limit
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Appendix E Construction Parking and Access Strategy

Refer to the Construction Parking and Access Strategy

CoA A5 Consultation Report – Traffic, Transport and Access Management Sub-plan

Western Harbour Tunnel and Warringah
Freeway Upgrade

Stage 1B Cammeray Golf Course Adjustment Works

Transport for New South Wales

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CoA A5 Consultation Summary Report – Traffic, Transport and Access Management Sub-plan

Transport for NSW

Western Harbour Tunnel and Warringah
Freeway Upgrade

Stage 1B Cammeray Golf Course Adjustment
Works

June 2022

Rev 1

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Document control

Title	Stage 1B Cammeray Golf Course Adjustment Works CoA A5 Consultation Summary Report CoA A5 Consultation Summary Report – Traffic, Transport and Access Management Sub-plan
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Version control

Revision	Date	Description	Approval
0	16/05/22	To support TTAMP lodgment to DPE	AH
1	29/06/22	Updated following DPE comments	AH
2			
3			

Glossary/Abbreviations

Abbreviation	Expanded text
CEMP	Construction Environmental Management Plan
CUT	Stage 1A Early and Enabling Works - Critical utility installation, relocation and protection works
CoA	NSW Minister for Planning Conditions of Approval
CSSI	Critical State Significant Infrastructure
DPE	Department of Planning and Environment
EIS	Environmental Impact Statement
Minister, the	NSW Minister for Planning, Industry and Environment
Planning Approval	The Planning Approval includes the Conditions of Approval, the EIS and the Submissions and Preferred Infrastructure Report (SSI-8863)
Proponent, the	Transport for NSW
Project, the	Western Harbour Tunnel and Warringah Freeway Upgrade
REMM	Revised Environmental Mitigation and Management Measure
RtS	Response to Submissions Report
SPA	Sydney Program Alliance
TTAMP	Traffic, Transport and Access Management Sub-plan
WHTBL	Western Harbour Tunnel and Beaches Link
WHTWFU	Western Harbour Tunnel and Warringah Freeway Upgrade
WFU	Warringah Freeway Upgrade

1 Introduction

1.1 Background

The Western Harbour Tunnel and Warringah Freeway Upgrade (WHTWUFU) (the project) forms a core component of the broader Western Harbour Tunnel and Beaches Link (WHTBL) program of works. The project comprises two main components:

- A new crossing of Sydney Harbour involving twin tolled motorway tunnels connecting the M4-M5 Link at Rozelle and the Warringah Freeway at North Sydney (the Western Harbour Tunnel)
- Upgrade and integration works along the existing Warringah Freeway, including infrastructure required for connections to the Beaches Link and Gore Hill Freeway Connection project. Reconfiguration works as part of the Warringah Freeway Upgrade would optimise the road corridor and improve the performance of the Sydney Harbour Tunnel, the Sydney Harbour Bridge and the Western Harbour Tunnel.
- Due to its importance, the WHTWUFU project was declared to be Critical State Significant Infrastructure (CSSI) by the Minister for Planning and Public Space on 9 November 2020.
- On 21 January 2021, the Department of Planning and Environment (DPE) approved the construction and operation of the WHTWUFU project (SSI 8863).

A detailed description of the project is provided in Chapter 5 of the Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement (EIS).

The WHTWUFU project will be delivered in numerous stages:

- Stage 1 - Early and enabling works:
 - Stage 1A - Critical utility installation, relocation and protection (CUT)
 - Stage 1B - Cammeray Golf Course adjustment works (CGC) (the subject of this Construction Environmental Management Plan (CEMP))
 - Stage 1C – Massey to Amherst noise wall (M2A)
 - Stage 1D – WHT construction power and utilities (WHTCP)
 - Stage 1E – Maritime Heritage – relocation of historic vessels M.V. Cape Don and Baragoola (MH)
- Stage 2 - Warringah Freeway Upgrade project:
 - Stage 2A - Warringah Freeway Upgrade early works (WFUEW)
 - Stage 2B - Warringah Freeway Upgrade main works (WFUMW)
- Stage 3 - Western Harbour Tunnel project (WHT).

Further detail on each stage is provided in the WHTWUFU project Staging Report.

The Traffic and Transport Access Management Sub-plan (TTAMP) applies only to Stage 1B Early and Enabling Works – Cammeray Golf Course Adjustment Works (refer to herein as 'Cammeray golf course works' or 'CGC'). CGC will support the delivery program of the Main Works of the project by undertaking these works in parallel to the Main Works.

Sydney Program Alliance (SPA) has been appointed by Transport for New South Wales (TfNSW) to deliver the CGC works. The works are to be carried out in accordance with CoA E101 with regards to the establishment of an equivalent standard golf course.

1.2 Purpose of this Consultation Report

This Consultation Report has been prepared to meet the requirements of the CSSI approval, in particular Condition of Approval (CoA) A5. CoA A5 outlines the requirements for undertaking and documenting consultation undertaken during the preparation of approval documents or monitoring programs required under relevant the CoA for those documents. This Consultation Report has been prepared to consolidate the consultation undertaken during the preparation of the following documents:

- CoA C4(a): Traffic, Transport and Access Management Sub-plan

Consultation required during the development of this document is detailed in Table 1-1.

Table 1-1 Consultation Requirements

CoA ID	Document	Consultation requirement
C4(a)	Traffic, Transport and Access Management Sub-plan	North Sydney Council (NSC)

1.3 CoA Compliance

This section discusses the compliance of this Consultation Report with the relevant CoA as applicable to consultation required to be undertaken during the development of the TTAMP.

Table 1-2 lists the applicable CoA, where and how they have been addressed in this Consultation Report.

Table 1-2 Compliance with applicable CoA

CoA ID	CoA Detail	Where Addressed	How Addressed
A5	Where the terms of this approval require a document or monitoring program to be prepared or a review to be undertaken in consultation with identified parties, evidence of the consultation undertaken must be submitted to the Planning Secretary with the document. The evidence must include:	This Consultation Report.	This consultation report identifies each of the stakeholders and agencies consulted in the preparation of this plan (Section 1.2). Full correspondence and documentation exchanged during consultation is found the Appendix 1 to Appendix 2 inclusive.
A5	(a) documentation of the engagement with the party identified in the condition of approval that has occurred before submitting the document for approval;	This Consultation Report.	Full correspondence and documentation exchanged during consultation is found the Appendix 1 to Appendix 2 inclusive. All correspondence is provided in a chronological order.

A5	(b) a log of the dates of engagement or attempted engagement with the identified party;	Section 2 of this Report.	<p>Section 2 includes, by NSC, a log of all points of engagement completed or attempted.</p> <p>It also summarises the issues raised by each stakeholder.</p>
A5	(c) documentation of the follow-up with the identified party where engagement has not occurred to confirm that they do not wish to engage or have not attempted to engage after repeated invitations;	Section 2 of this Report.	<p>Section 2 includes, by NSC, a log of all points of engagement completed or attempted.</p>
A5	(d) outline of the issues raised by the identified party and how they have been addressed; and	Section 2 of this Report, Appendix 1 and Appendix 2.	<p>Section 2 identifies all the issues raised during consultation. It provides in tabular format:</p> <ul style="list-style-type: none"> • Issue raised; • Date raised; • How it was addressed or justification as to why it wasn't addressed; • Details of whether the Stakeholder was satisfied with the outcome. <p>Section 2 then provides cross- referencing to the relevant Appendix identifying where evidence of the above is documented in full within this Report.</p>
A5	(e) a description of the outstanding issues raised by the identified party and the reasons why they have not been addressed.	Section 2 of this Report and Appendix 1 to Appendix 2 inclusive.	<p>Section 2 identifies all the issues raised during consultation. It provides in tabular format:</p> <ul style="list-style-type: none"> • Issue raised; • Date raised; • How it was addressed or justification as to why it wasn't addressed.

C4	The following CEMP Sub-plans must be prepared in consultation with the relevant government agencies identified for each CEMP Sub-plan. Details of all information requested by an agency during consultation must be provided to the Planning Secretary as part of any submission of the relevant CEMP Sub-plan, including copies of all correspondence from those agencies as required by Condition A5.	This Report	This Report has been prepared to address the consultation undertaken during the development of the TTAMP.
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1.4 Consultation Process

Consultation with stakeholders and agencies was undertaken using the following means:

- Formal correspondence (DPE Portal notifications)
- Formal correspondence (standard email)

2 Stakeholder and agency consultation

This Section of the Consultation Report provides detail of consultation undertaken with each stakeholder and agency in the preparation of the CEMP. In particular it contains:

A consultation log that identifies:

- Consultation dates (actual and attempted)
- Form of consultation
- Whether responses and / or comments were received
- Summary of the issues raised, including how they have been addressed

Documentary evidence of all the correspondence received and sent through the consultation phase is contained in the Appendices at the end of this Report. The Appendices and this Section are broken down by stakeholder and agency, not by issue.

2.1 TTAMP – North Sydney Council

Consultation with North Sydney Council (NSC) commenced on 22nd February 2022 and concluded 23 March 2022.

Table 2-1 below includes the details of engagement between SPA and NSC regarding the TTAMP. Table 2-2 includes a summary of the issues raised, how those were addressed and closed out. Full evidence of correspondence is in Appendix 1 of this report.

Table 2-1 Engagement log – TTAMP – North Sydney Council

#	Date	Correspondence		From	Recipient
		Form / Type	Purpose		
1	22/01/21	Aconex Email	Correspondence regarding the road dilapidation report required to be undertaken by SPA in relation CoA E136 and REMM CTT1. As the Stage 1A CUT scope of works shares similar roads (i.e., Park Avenue, Cammeray Road and Warringa Road, Cammeray NSW) the road dilapidation report that was undertaken for the CUT package also satisfies the same deliverable for the Stage 1B CGC scope of work.	SPA	NSC
2	24/01/22	Online meeting	Traffic and Transport Liaison Group (TTLG) Meeting, held via a Microsoft Teams online meeting and meeting minutes recorded and distributed to all invitees.	SPA	Various (including NSC)
3	27/01/22	Email	SPA sent email correspondence via Outlook email to Gavin McConnell and Michaela Kemp of NSC regarding the distribution of a letter to relevant residents and business regarding proposed temporary parking changes on Park Avenue.	SPA	NSC

			The email included the referenced letter as an attachment.		
4	27/01/22	Email	Gavin McConnell (NSC) responded directly to SPA via Outlook email confirming that NSC were interested in providing feedback with respect to proposed changes around the golf course and requested that SPA provide a comprehensive CTMP for their review.	NSC	SPA
5	22/2/22	Aconex Email	TTAMP submitted directly to NSC via Aconex correspondence to Gavin McConnell (SHBP-GCOR-001925) with offer of a page turn workshop	SPA	NSC
6	28/02/22	Online meeting	Traffic and Transport Liaison Group (TTLG) Meeting, held via a Microsoft Teams online meeting and meeting minutes recorded and distributed to all invitees.	SPA	Various (including NSC)
7	17/3/22	Email	NSC issued consultation comments of TTMP	NSC	TfNSW
8	18/3/22	Email	NSC issued additional consultation comments of TTMP	NSC	TfNSW

Table 2-2 below summarises the consultation comments received from NSW on the TTAMP. Appendix 2 of this report provides a complete comment register of this consultation.

Table 2-2 Summary of issues – TTAMP – North Sydney Council

Document Section, CoA or REMM	Comment Raised	Date Raised	How Addressed / Justification Why Not Addressed
N/A	The proposal to remove median islands at the intersection of Ernest St and Park Ave will increase the walking distance of 5m and 3m (with a safe refuge) to 12m walking distance (without a refuge). and ancillary facilities	17/3/22	<p>The proposed removal of the median island to facilitate access by longer vehicles has been reviewed from a safety perspective, and a formal Road Safety Audit (desktop) will be completed on the design prior to implementation, and a roadside RSA will be completed on implementation.</p> <p>In reviewing the potential risks, SPA has identified a number of controls within the TMP, including the provision of Traffic Control when articulated vehicles or truck and dog vehicles are scheduled to</p>

			<p>use the intersection.</p> <p>TTAMP Table 6-3 updated with this control measure</p>
N/A	<p>The swept paths of 19m AV and Truck and Dog show encroachment onto the opposite traffic lane at the intersection of Ernest St and Park Ave which poses safety issues with other road users.</p>	17/3/22	<p>The driver of a vehicle may drive to the right of the center of the road 'to enter or leave the road', so long as this is done so safely.</p> <p>This was identified within the TMP, and controls have been proposed to mitigate this risk.</p> <p>Control measures outlined in Section 6.1 of TTAMP and Section 4 of Appendix C Local Roads Approval.</p>
N/A	<p>The TMP, however has not stated how pedestrians safely cross Park Ave at Ernest St outside the construction hours.</p>	17/3/22	<p>The median island to be removed is not a formal refuge and, consequently, does not facilitate a two staged crossing. Hence the crossing distance has not been changed by the removal of the median island. Pedestrians crossing Park Avenue would do so under the protection of the Australian Road Rules i.e. vehicles must give way to pedestrians when turning at an intersection regardless of whether there is a marked crossing. Given the relatively low volume of turning movements, particularly outside construction hours, there will be ample opportunity for pedestrians to cross regardless of the level of compliance with road rules.</p> <p>Update to Section 3.2 of Appendix C Local Roads Approval and Table 6-2 in TTAMP</p>
N/A	<p>It should be also noted that removal of this island will make provision for vehicles to travel at a higher speed outside the construction hours when turning left from Ernest St onto Park Ave which could possibly cause a head on collision with south bound traffic.</p>	17/3/22	<p>Despite the removal of the median island vehicles will still need to decelerate to a speed suitable to negotiate the turn. The scenario presented in the comment is highly unlikely.</p>
N/A	<p>The provision of temporary driveway access has not been addressed in the report</p>	17/3/22	<p>The temporary driveway access is an existing construction driveway, and as such was not elaborated on in detail. Instead, it has been</p>

			referenced and reviewed, noting that the driveway will require modifications to the existing median on Park Ave.
N/A	Removal of existing refuge island at the intersection of Ernest St and Park Ave will cause a significant safety issue along the road users, especially pedestrians as the walking distance is increased to 12m	18/3/22	Refer response above.
N/A	Loss of parking in Bells Ave has not been justified.	18/3/22	<p>The closure referenced relates to the ATL on Warringa Rd. The note within the plan references Bells/Warringa, as that was the footprint of the parking survey.</p> <p>There will be no impacts on Bells Ave.</p> <p>References to Bells Avenue in the CPAS have been updated to note this.</p>
N/A	Loss of parking in Park Ave has not been justified properly.	18/3/22	<p>The proposal to impact up to 4 parking spaces was developed at a time when there was uncertainty on the availability of the existing driveway for use by SPA.</p> <p>As the planning has been developed, we are now confident that we can use the existing driveway, which means the all 4 parking spaces nominated are no longer required.</p> <p>Instead, no more than 2 on-street parking spaces will be temporarily removed. These parking spaces are required to facilitate the swept path of the approaching and departing heavy vehicles. SPA did investigate relocating the driveway south, to utilise the existing 'no parking' area, however the location of an existing power pole precludes this. We will only occupy the minimum space required to provide safe entry and egress to vehicles.</p> <p>The TMP and CPAS will be updated to reflect this change, and will include additional justification on the need to temporarily remove</p>

			<p>these parking spaces.</p> <p>Updates made to Section 4.2.1 in CPAS.</p>
N/A	<p>The report states no impact on the bus operation. This needs to be confirmed as it is contrary to what was discussed at the Weekly WFU interface meeting.</p>	18/3/22	<p>There will be no impact on bus operations.</p> <p>SPA is not aware of any information contrary to this, and given SPA are not part of any WFU weekly interface meetings, are unable to confirm why this was discussed.</p>

Appendix 1 North Sydney Council consultation records

SPA Work Package 12

52 Alfred Street
South Milsons Point
NSW 2061 Australia

**MAIL TYPE**

General Correspondence

MAIL NUMBER

SHBP-GCOR-000295

REFERENCE NUMBER

SHBP-GCOR-000295

Houspect Road Dilapidation Reports (Part 1)

From Prasanna Mool - Sydney Program Alliance

To Gavin Mcconnell - North Sydney Council (gavin.mcconnell@northsydney.nsw.gov.au)

Cc (5) Mr Nick Andrianakos - Sydney Program Alliance ([+4 more...](#))

Sent Monday, 22 February 2021 6:24:25 PM AEDT (GMT +11:00)

Acknowledge by **26/02/2021**










Status **Overdue**

DETAILS

Road Work Package WP12 - WFUEW

Discipline Community & Stakeholder Relations

FILE ATTACHMENTS (9)

File Name
 SPA_Condition Report_Area A-North Sydney.pdf
 SPA_Condition Report_Area B-North Sydney.pdf
 SPA_Condition Report_Area C-North Sydney.pdf
 SPA_Condition Report_Area D-North Sydney.pdf
 SPA_Condition Report_Area E-North Sydney.pdf
 SPA_Condition Report_Area F-North Sydney.pdf
 SPA_Condition Report_Area G-North Sydney.pdf
 WFU - Road Dilap Routes -19-02-2021.PDF
 WFU - Summary Works Letter 22022021_V1.2M.pdf

MESSAGE

PROTECTED

Hi Gavin

Attached find Houspect Road Dilapidation Reports (Part 1) for you records. Other parts will be sent later as these are large size files.

Regards

Prasanna Mool

Quality and Systems Manager

SYDNEY
PROGRAM ALLIANCE

Level 11, 52 Alfred Street

Milsons Point NSW 2061

M. +61 412 384 507

E. prasanna.mool@jhg.com.au



PROTECTED

22 February 2021

Houspect NSW Pty Ltd – SPA Road Dilapidation

Reporting Summary

Introduction:

Houspect were engaged by Sydney Program Alliance (SPA) to complete road dilapidation (current condition) surveys for the Warringah Freeway Upgrade Western Harbour Tunnel Critical Utilities Works (CUT).

Purpose:

Road dilapidation (current condition) surveys were undertaken for local roads proposed to be used by heavy vehicles as part of the CUT works in accordance with Condition of Approval E136.

Detail:

Local road and adjacent assets dilapidation (current condition) surveys were undertaken on the following local roads / areas as detailed in the attached map and completed 20 February 2021.

Road dilapidation (current condition) surveys are videos taken using a car mounted camera at low speed.

Records of footpaths, verges, general council assets, and utilities are documented by still photography. Reports are organised in accordance with the master map, which shows the direction the inspector completed the survey. This will then guide the user to their area of interest, displaying the current condition at the time of survey. Collectively, the reports provide an extensive collection of high-resolution photo files, displaying the current condition prior to the use of heavy vehicles as part of the CUT works.

These reports have been prepared to supply any relevant stakeholders or interested parties to convey the current condition prior to CUT works.

The following roads were included in the inspections:

- Merlin Street
- Warringa Road
- Bells Avenue
- Cammeray Avenue (inside of the construction boundary)
- Cammeray Avenue (outside of the construction boundary)
- Anzac Avenue
- Park Avenue
- Whaling Road
- Amherst Street
- Cammeray Road

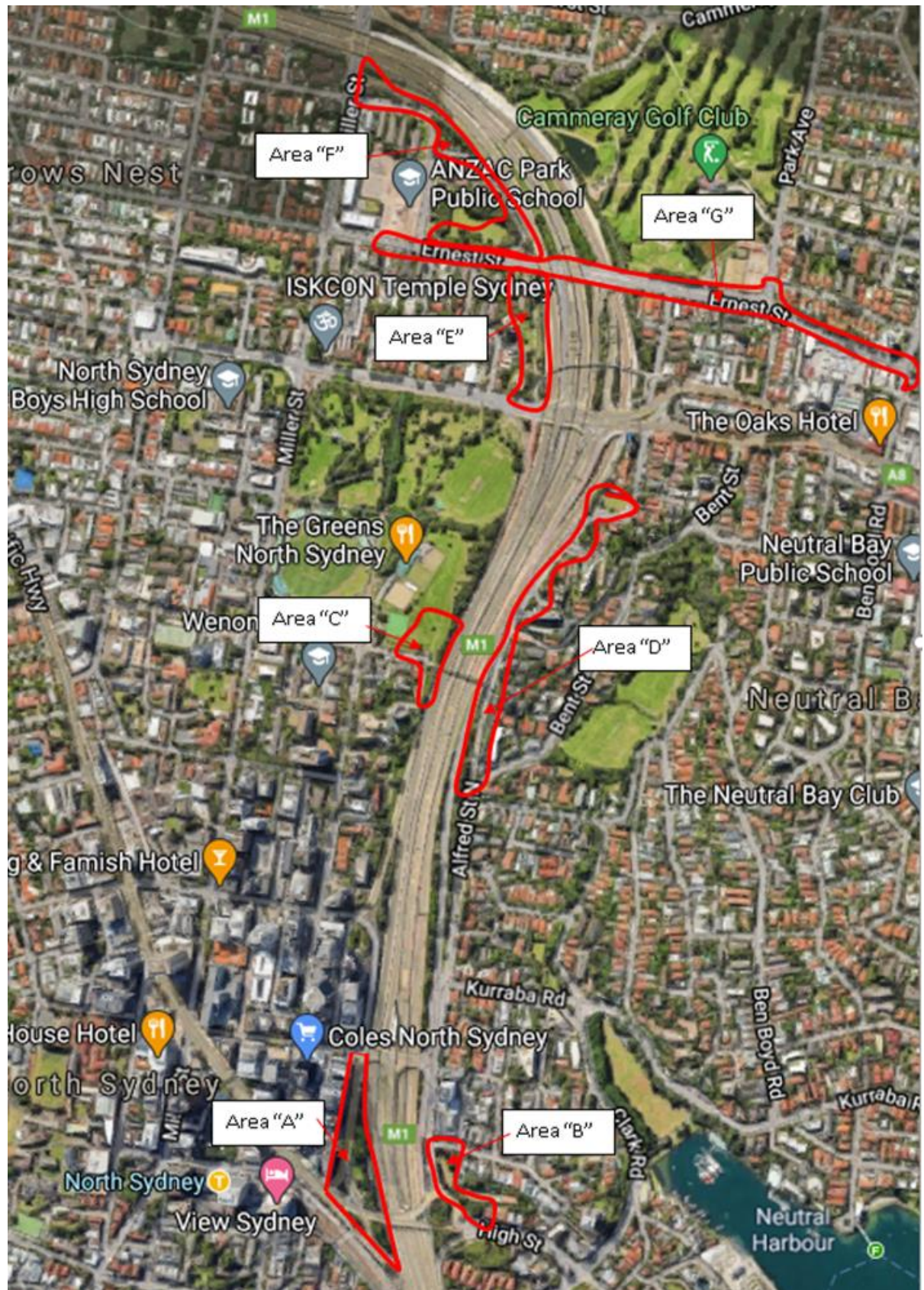
The following state/regional roads were included in the inspections:

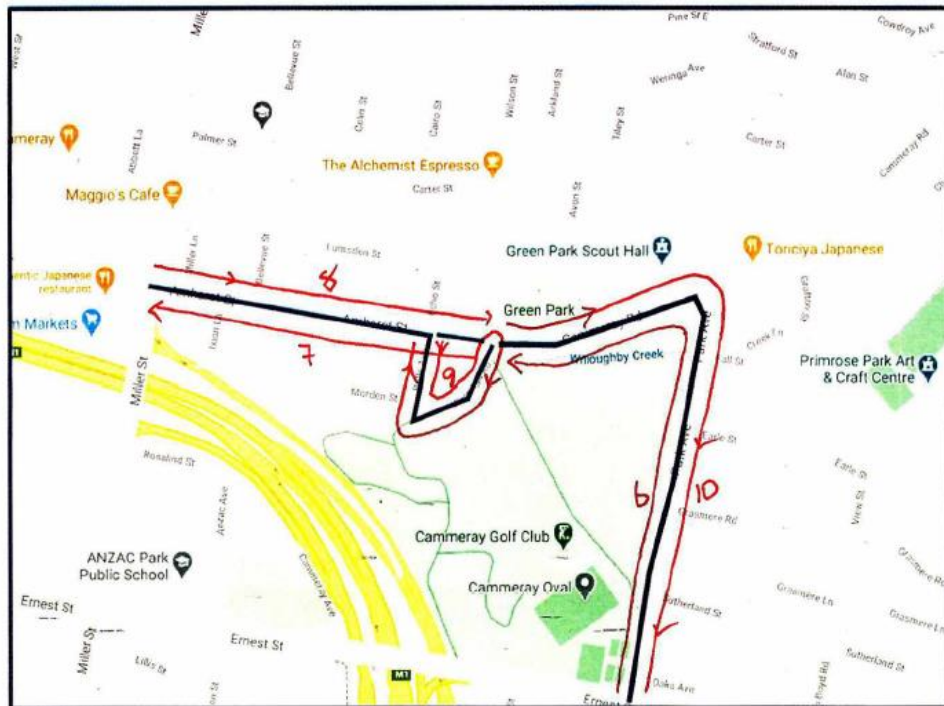
- Arthur Street
- High Street
- Pacific Highway
- Ernest Street


Regards

Richard Locke

Director – Houspect NSW Pty Ltd





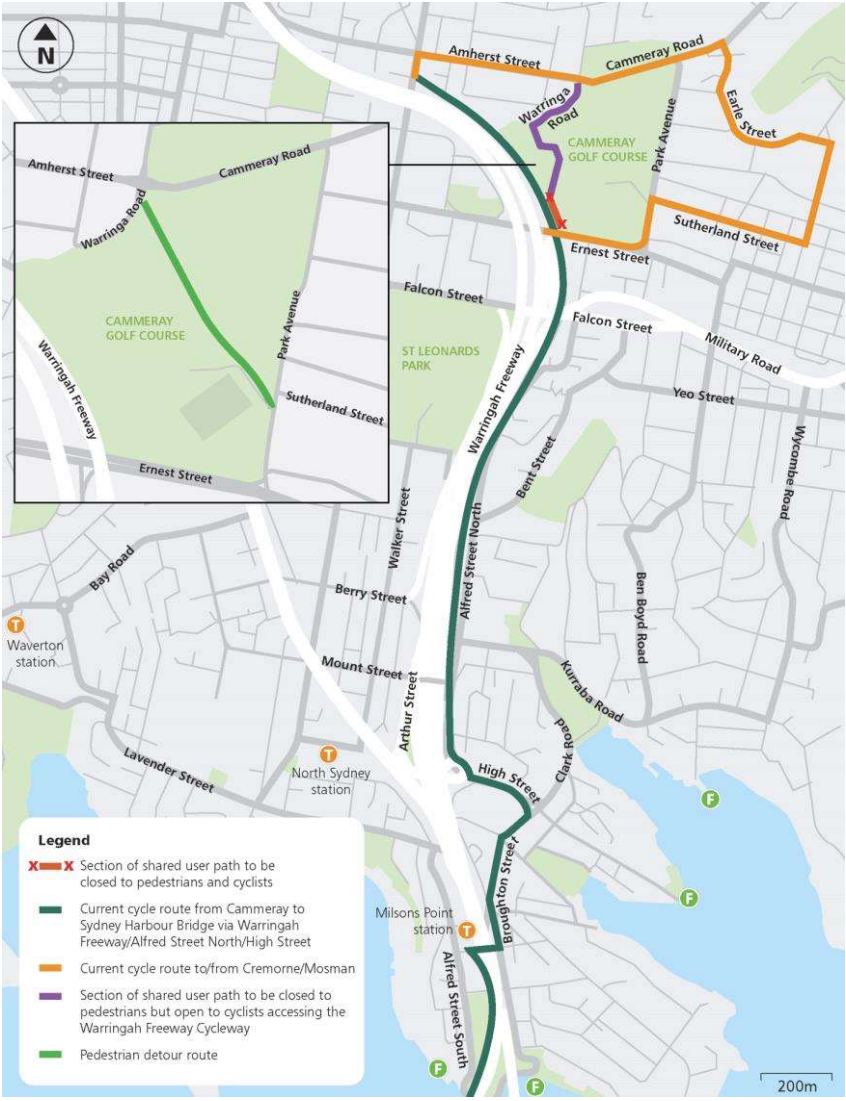
		TRAFFIC AND TRANSPORT LIAISON GROUP MEETING #09		FORM NUMBER SPA-SHB-F-014	
Time:	11.30am – 12.30pm	Date:	Monday 24 January 2022		
Location:	Online (Microsoft Team Meeting)				

Invitees	Organisation	Attendance/ Distribution			Invitees	Organisation	Attendance/ Distribution		
		Present	Apology	Copy			Present	Apology	Copy
Micheala Kemp (MK)	NSC		X		Harold Scruby (HS)	Pedestrian Council		X	
Gavin McConnell (GM)	NSC	X			Rez Ramzan (RR)	Transurban	X		
Vidushi Sahni (VS)	TMC		X		Michael Ibrahim (MI)	TfNSW		X	
Sgt Ryan Edwards (RE)	NSW Police		X		Todd Lyall (TL)	TfNSW	X		
Kel McNamara (KMc)	NSW Fire and Rescue		X		Sara Yeoman (SY)	TfNSW		X	
Alix Carpenter (AC)	DET		X		James McKenzie (JMc)	TfNSW	X		
Gary Paesano (JC)	SHT		X		Sandra Nicholson (SN)	TfNSW	X		
M Gollan (MG)	SHT		X		Giovanny Ramirez (GR)	TfNSW	X		
Alfred Reynolds (AR)	DAS		X		Kynan Parry (KP)	TfNSW		X	
Bastien Wallace (BW)	Bicycle NSW		X		Paul McNeill (PM)	TfNSW		X	
Carolyn New (CN)	Bike North		X		Peter Keyes (PK)	TfNSW	X		
Roy Wakelin- King (RWK)	Taxi Council		X		Phil Truong (PT)	SPA	X		
Jason Nisbet (JN)	SPA	X			Alejandra Rojas (AR)	School Infrastructure		X	
Nick Andrianakos (NA)	SPA		X		Madeline Mcivor (MM)	TfNSW		X	
Tara Kennedy (TK)	SPA	X			Harry Murtough-Coombes (HMC)	Transurban		X	
Katie Weaver (KW)	School Infrastructure		X		Conrad Strachan (CS)	TfNSW	X		
Rebecca Lehman (RL)	School Infrastructure		X		Graeme Robertson (GR)	TfNSW	X		
Kevin Pham (KP)	Transurban		X		Stuart Fisher (SF)	SES		X	
Gordon Farrelly (GF)	WCC		X		German Barragan (GB)	WCC		X	
Amanda Muir (AM)	SPA	X			Deborah Metcalf (DM)	SPA		X	
Ian Veinot (IV)	CPBD	X			Debra Lancelot (DL)	CPBD		X	
Anne Learmonth	CPBD		X		Christine Keyes (CK)	CPBD		X	
Amreetha Karlyasasam (AK)	CPBD		X		Lise Maddocks (LM)	TfNSW		X	
Michael Kayello	TfNSW		X		Nicole Li	TfNSW		X	
Rockie Cabida	Transurban	X			David Bohm	TfNSW	X		
Iman Mohamedi	NSC	X			Sarah Power	CPBD	X		

Item	Agenda/Minutes	Action	
		By Whom	By When
1.0 Welcome & Review of minutes from previous meeting			
1.1	<i>Welcome to Country</i> <i>I would like to begin by acknowledging and paying my respects to the Cammeraygal people, the Traditional Custodians of the land on which we are gathered today.</i> <i>I would like to pay my respects to their Elders, past present and emerging and acknowledge all Aboriginal and Torres Strait Islanders here today, also paying my respects to your Elders past present and emerging</i>	Note	Closed
1.2	Please provide any comments on minutes from previous meeting sent on 24/01/2022	All	Ongoing
1.3	New attendees: - None this month	Note	Ongoing
2.0 Construction Update (early works) – current and upcoming works			
2.1	Alfred St North <ul style="list-style-type: none">- Permanent HV – 100% complete- Permanent LV – complete pending cutovers, cutover dates not yet confirmed, two cutovers to go- Comms – ongoing. Cutovers outstanding by some comms providers- Restoration works ongoing. Now progressing with footpath and kerb restoration- Detours will continue as required – short-term (one shift)- Please see our Alfred Street North fact sheet for more information about the work in this area- GM requested plan showing final configuration of Alfred St North to understand traffic flows during operational phase of project. SPA to provide available plans to GM.	Note	Closed
2.2	Cammeray West (Rosalind St/ Cammeray Ave/ ANZAC Park / Ernest St west of Warringah Fwy) <ul style="list-style-type: none">- Potable water adjustments ongoing. Works to complete in the next couple of weeks, returning in July 2022- Low voltage installation on Ernest Street west of the Warringah Freeway ongoing- ITS installation at ANZAC Park, working north towards Miller Street bridge commencing soon- Conduit removal and installation on the underside of the Ernest St bridge ongoing. Will require partial and full carriageway closures of the Warringah Freeway (to be done at night – liaison with Lane Cove Tunnel and Sydney Harbour Tunnel ongoing)- Cammeray Avenue sewer works ongoing- While we are working, some areas will require temporary traffic control for everyone’s safety – particularly Cammeray Avenue- Short-term lane closures and / or detours required where works impact traffic- Local pedestrian and cyclist detours where required Please see our Rosalind Street East fact sheet and Cammeray early work fact sheet for more information about the work in this area.	Note	Closed

2.3	<p>Cammeray East (Cammeray Golf Course/Ernest St east of Warringah Fwy)</p> <ul style="list-style-type: none"> - Construction power ongoing with underbores with lane closures required <p>CGC:</p> <ul style="list-style-type: none"> - Sewer underbore works in CGC to connect to Cammeray Avenue progressing (no impact on road network) - Will continue to liaise with CGC <p>Ernest St</p> <ul style="list-style-type: none"> - Low voltage installation to continue on Ernest St - Potable water works completed ahead of cutover in mid-2022 - Operation of temporary construction power work area on the northern side of Ernest Street west of Park Avenue to continue, reopening of separated cycleway on Ernest Street TBC <p>Please see our Cammeray early works fact sheet for more information about the work in this area.</p>	Note	Closed
2.4	<p>Arthur St</p> <ul style="list-style-type: none"> - Continuation of Ausgrid works, cutovers - Continuation of Telstra and fire hydrant works (almost complete) - Lane closures in place at the Arthur Street / High Street intersection during the day between peak periods - Works ongoing on Arthur St underneath rail corridor (between Pacific Highway and Middlemiss Street) - Restoration works to commence soon <p>Please see our North Sydney early work notification for more information about the work in this area.</p>	Note	Closed
2.5	<p>Ridge St</p> <ul style="list-style-type: none"> - No works – continuation of compound operation - Some night works staged out of Ridge St compound 	Note	Ongoing
2.6	<p>Out of Hours Works</p> <ul style="list-style-type: none"> - Continuing to undertake as much work during the day as possible, subject to CJPO restrictions on road occupancies during the day. 	Note	Ongoing
2.7	<p>Amherst Street noise wall (M2A)</p> <ul style="list-style-type: none"> - Major works have commenced with cyclist detours in place - Continued liaison with impacted stakeholders including cyclist groups - Daytime ROLs on the Brook Street on-ramp 	Note	Ongoing
2.8	<p>Active Transport Link (ATL)</p> <ul style="list-style-type: none"> - New shared path through CGC - Minimal impact to transport network during construction 	Note	Ongoing
2.9	<p>Cammeray Golf Course works</p> <ul style="list-style-type: none"> - Reconfiguration of CGC. Planning underway - Majority of works within CGC, minimal impact to road network. Some pedestrian changes required 	Note	Ongoing

3.0 Construction Update (main works) – current and upcoming works			
3.1	<p>Construction update for main works will be provided in future meetings by CPBD. IV – investigation and survey works to commence under night time ROLs.</p> <p>GM request SPA and CPBD for a briefing of works – stages and timing. JN to organise meeting. GC – CJPO to be invited.</p>	Note	Ongoing
4.0 Traffic Management Measures Review			
4.1	<p>Alfred St North</p> <ul style="list-style-type: none"> - Traffic control on site most days. - Some parking reinstated and barriers have been removed - Continued liaison with residents to manage property access 	Note	Ongoing
4.2	<p>Cammeray West (Rosalind St/ Cammeray Ave/ ANZAC Park / Ernest St west of Warringah Fwy)</p> <ul style="list-style-type: none"> - Traffic control will assist construction vehicles entering and exiting the site on Rosalind St and Cammeray Avenue onto Ernest Street - ITS installation – some closures required on Miller Street northbound off-ramp (night time ROL) - Continued liaison with ANZAC Park Public School to ensure they are informed of our works and resolving any potential impacts 	Note	Ongoing
4.3	<p>Cammeray East (Cammeray Golf Course/Ernest St east of Warringah Fwy)</p> <ul style="list-style-type: none"> - Lateral shift for Ernest St eastbound has been implemented. Agreed with CPBD to leave lateral shift in place. - Closure of the separated cycleway on the north side of Ernest St west of Park Ave has been implemented to accommodate temporary construction power work area. Traffic controllers are positioned at both ends of the shared path narrowing point from 6am to 8pm 7 days a week. Target date for reopening TBC 	Note	Ongoing
4.4	<p>Arthur St</p> <ul style="list-style-type: none"> - Day time lane closures to continue between peak periods - Lane 3 of Arthur St to remain closed until further notice 	Note	Ongoing
4.5	<p>Impact on bike routes (general)</p> <ul style="list-style-type: none"> - Ernest St Bridge north side – Will be impacted at night. Through traffic managed under TC - Ernest St (north side): - Will be managed either under TC, or with local detours (temporarily relocated paths). Cyclist access will be maintained during the work, however cyclist may be momentarily stopped or asked to dismount by traffic controllers to allow for safe construction vehicle movements and material deliveries. Target date for reinstatement TBC - Through golf course - Temp diversions (locally) - Amherst Street noise wall – cycle lane on the Brook St entry ramp / Amherst Street will be closed for up to nine months. Detours currently in place and have been developed in consultation with Bicycle NSW, Bike North, North Sydney Council and Willoughby City Council. Detour signage installed in mid-December. 	Note	Ongoing

4.6	<p>Impact on bike routes (specific)</p> <ul style="list-style-type: none"> - Southern section of the shared path through the golf course closed to facilitate site investigation works along the underground Ausgrid power line (underneath the shared path) – scheduled for this coming Thursday and Friday (27/28 Jan) – see figure below. Detour via existing designated cycle routes – Cammeray Road / Earle Street / Young Street / Sutherland Street / Park Avenue  <ul style="list-style-type: none"> - The Miller St on-ramp closure to the Warringah Freeway southbound will need to be implemented again to complete works but at this time this is TBC (Ausgrid resourcing – to remove redundant cables from utilities tunnel) 	Note	Ongoing
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4.8	<p>SPA is seeking approval from DPIE to use the following local roads (shown in the figure below) for heavy vehicle access for the Amherst Street noise wall works:</p> <ul style="list-style-type: none"> - Amherst Street - West Street - Jenkins Street - Armstrong Street - Massey Street - Palmer Street 	Note	Ongoing
4.9	<p>SPA is seeking approval from DPIE to use Park Avenue (northbound and southbound) for semi-trailer and truck-and-dog access for the Cammeray Golf Course works. Access to CGC via existing Sydney Water layback.</p> <p>Note – current approval for Park Avenue is northbound only and only for rigid heavy vehicles.</p> <p>GM – increased truck movements on Park Avenue likely to be controversial and expect some pushback from the community.</p>	Note	Ongoing
5.0 Upcoming Special Events/Holidays			
5.1	Special events for January – Australia Day Wednesday 26 January. No works on site during day shift.	Note	Ongoing
5.2	<p>School terms</p> <ul style="list-style-type: none"> - Term 1: Friday 28 January - Friday 8 April 2022 	Note	Ongoing
6.0 Traffic Incidents			
6.1	No traffic incidents to report for the previous month.	Note	Ongoing
6.2	<p>Feedback</p> <ul style="list-style-type: none"> - Positive feedback from strata committee on Wyagdon Street in Neutral Bay (related to Alfred Street North works) - Project working closely with ANZAC Park Public School to address any concerns regarding work in Cammeray to ensure the safety of pedestrians. 	Note	Ongoing
7.0 Any Other Business			
7.1	Circulation of terms of reference – ongoing. CPBD currently reviewing.	SPA	Ongoing

Next meeting: 28/02/2022

From: [Amanda Muir-JHG](#)
To: [Alyce Harrington-JHG](#)
Subject: FW: Warringah Freeway Upgrade - Cammeray Golf Course adjustment works - Consultation on proposed parking changes at Park Avenue, Cammeray
Date: Tuesday, 14 June 2022 1:35:25 PM
Attachments: [20221401-WFU-Ltr-CPAS consultation-Park Ave Cammeray-FINALSigned77_LA_JM_TS_APPROVED\[39\].pdf](#)

From: Gavin McConnell <Gavin.McConnell@northsydney.nsw.gov.au>
Sent: Thursday, 27 January 2022 1:36 PM
To: Amanda Muir-JHG <Amanda.Muir@jhg.com.au>
Cc: Iman Mohammadi <Iman.Mohammadi@northsydney.nsw.gov.au>; Jonathan Higlett <Jon.Higlett@northsydney.nsw.gov.au>
Subject: Fw: Warringah Freeway Upgrade - Cammeray Golf Course adjustment works - Consultation on proposed parking changes at Park Avenue, Cammeray

Hi Amanda,

Council is interested in providing feedback with respect of changes around the golf course. In order to properly address the issues raised by the removal of the three parking spaces and creation of a truck access crossing we need to have full details of the truck movements into and out of the site. Please provide a comprehensive CTMP for truck movements for the various projects proposed for the golf course (shed, dam, layout reconfiguration etc). Can you please include Iman in any ongoing discussion of this matter.

Regards,
Gavin



Gavin McConnell

Public Projects Interface Manager

P +61 2 9936 8481

Gavin.McConnell@northsydney.nsw.gov.au



covid 19 health warning



From: Iman Mohammadi <Iman.Mohammadi@northsydney.nsw.gov.au>
Sent: Thursday, 27 January 2022 1:17 PM
To: Gavin McConnell <Gavin.McConnell@northsydney.nsw.gov.au>; Jon Higlett <Jon.Higlett@northsydney.nsw.gov.au>
Subject: FW: Warringah Freeway Upgrade - Cammeray Golf Course adjustment works - Consultation on proposed parking changes at Park Avenue, Cammeray

Hi Gavin

I had a look at this notification for the Cammeray Golf Course.

Just to let you know that I have not seen any Construction Traffic management Plan (CTMP) for this work. Since the advice was not to provide any comments on this site, I didn't ask for it at the last meeting with WFU on Tuesday.

Not sure if Council can ask for this CTMP at this stage as there are discussions on the design documents.



Iman Mohammadi

Public Projects Engineering Officer

P +61 2 9936 8242 | **M** +61 481 011 661

Iman.Mohammadi@northsydney.nsw.gov.au



covid 19 health warning



From: Michaela Kemp <Michaela.Kemp@northsydney.nsw.gov.au>

Sent: Thursday, 27 January 2022 10:18 AM

To: Iman Mohammadi <Iman.Mohammadi@northsydney.nsw.gov.au>

Subject: FW: Warringah Freeway Upgrade - Cammeray Golf Course adjustment works - Consultation on proposed parking changes at Park Avenue, Cammeray

Hi Iman – for your review.

Thanks,
Michaela



Michaela Kemp

Manager Traffic & Transport Operations

P +61 2 9936 8243 | **M** +61 478 333 910

Michaela.Kemp@northsydney.nsw.gov.au



covid 19 health warning



From: Amanda Muir-JHG <Amanda.Muir@jhg.com.au>

Sent: Thursday, 27 January 2022 10:02 AM

To: Gavin McConnell <Gavin.McConnell@northsydney.nsw.gov.au>; Michaela Kemp <Michaela.Kemp@northsydney.nsw.gov.au>

Subject: Warringah Freeway Upgrade - Cammeray Golf Course adjustment works - Consultation on proposed parking changes at Park Avenue, Cammeray

CAUTION : Do not click links or open attachments unless you recognise the sender and know the content is safe.

Good morning.

Please find attached the letter that was distributed 26/01/22 to around 2,500 properties advising of the proposed parking changes to Park Avenue, Cammeray.

The consultation period is open until 5pm February 13 2022.

I understand Gavin, that you provided some initial comments on this at the Traffic and Transport Liaison Group Meeting last Monday, and we thank you for that feedback.

If North Sydney Council have any comments they would like to submit during this consultation period then please respond by 13 February.

Any questions, please don't hesitate to contact me.

Kind regards

Amanda

Amanda Muir
Communications Lead



Level 11, 52 Alfred Street
Milsons Point NSW 2061

M. 0499 542 816

E. Amanda.Muir@jhg.com.au | W. johnholland.com.au

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27 January 2022

Dear resident

Warringah Freeway Upgrade – temporary removal of three on-street parking spaces at Park Avenue, Cammeray

As mentioned in our December 2021 community notification, we will be starting main construction work for the Warringah Freeway Upgrade in early 2022. Our project teams have been working to get ready for this major milestone since early 2021 and we have almost finished our service and utility relocations early works in North Sydney, Neutral Bay and Cammeray.

When main work starts, one of our first key activities will be building the Warringah Freeway Upgrade temporary construction site at the Cammeray golf course. This temporary construction site will support the main work activities. When we start building this temporary site, we will be reconfiguring the golf course to maintain the viability of the course for members and the public, and to meet our conditions of approval.

As part of our ongoing commitment to work collaboratively with our stakeholders, we have been working closely with the Cammeray Golf Club to develop and finalise the reconfigured course design. We look forward to providing the community with further detail on what the reconfiguration of golf course will look like in the coming months. In the meantime, please refer to our December 2021 notification available online at nswroads.work/whtportal

To enable us to carry out the golf course reconfiguration we will also need a small temporary construction compound within the golf course itself. Planning for this temporary construction compound area is still underway with access to this smaller site proposed via the existing golf course maintenance track on Park Avenue (near Grasmere Road).

For the safety of cyclist, pedestrians and motorists, we propose some changes to the on-street parking near the driveway access to the golf course maintenance track. Changes proposed include temporarily **removing four restricted on-street parking spaces** on **Park Avenue, Cammeray** (please see map over the page). This would be to safely manage construction vehicle movements and material deliveries to and from the smaller temporary construction site and enable construction vehicles to have safe lines of sight to cyclist, motorists and pedestrians.

If approved, the parking spaces will be temporarily removed in early 2022 when work starts for around six months, weather permitting. When construction work is finished these parking spaces will be returned to the community for use.

We understand the temporary removal of four parking spaces is a change for local residents, which was not identified during the Environmental Impact Statement. It is not uncommon to see some additional changes once an appointed construction contractor carries out detailed planning before starting work.

Our Minister's Conditions of Approval allow for these types of changes and potential impacts, however, we often need to carry out additional assessments to confirm the changes are required and consistent with our approvals.

Parking studies

In recent months, we have carried out detailed parking studies to understand how the temporary removal of these parking spaces might impact you. Our studies identified both the amount of on-street

parking spots available in the local area and the usage of these spots during different times and days during the week.

Based on these studies we have found the temporary removal of these on-street parking spaces will still leave the local community with a sufficient amount of on-street parking spaces to meet current demand.

We would like to hear from you

We invite you to provide us feedback on this proposal by participating in our short community survey so we have a greater understanding of you and your circumstances and how this proposal may impact you.

To complete the survey, please:

- please use the QR code (see over page)
- visit nswroads.work/wfucommunitysurvey
- or email us your feedback at whtbl@transport.nsw.gov.au labelled as '[Cammeray parking removal feedback](#)'.

The online survey is voluntary and you may choose to only complete the 'Access' section of it.

We encourage you to get involved in the process as this will help us investigate options to see how we can plan our work to minimise impacts.

Please provide your feedback by **5pm Sunday 13 February 2022**.

What happens next

We will collate your feedback and seek approval from the Department of Planning, Industry and Environment for the temporary removal of these three parking spaces. If the proposal is approved, more information will be provided before work starts. If you have any questions please contact our team on 1800 931 189 or by email whtbl@transport.nsw.gov.au

Yours sincerely



Tony Sheppard
Project Delivery Director
Warringah Freeway Upgrade
Transport for NSW

Complete the survey

To complete the survey, please use the QR code below or visit nswroads.work/wfucommunitysurvey



Location of parking spaces to be temporarily removed – Cammeray (not to scale)



Warringah Freeway Upgrade Early Works
52 Alfred Street
South Milsons Point
NSW 2061 Australia



MAIL TYPE
General Correspondence

MAIL NUMBER
SHBP-GCOR-001925

REFERENCE NUMBER
SHBP-GCOR-001925

Cammeray Golf Course Reconfiguration - TMP, CPAs, TTAMP and Local Roads Approval

From Jason Nisbet - Sydney Program Alliance

To Gavin McConnell - North Sydney Council (gavin.mcconnell@northsydney.nsw.gov.au)

Cc (12) Jon Higlett - North Sydney Council (Jon.Higlett@northsydney.nsw.gov.au)
NSC NSC - North Sydney Council (council@northsydney.nsw.gov.au)
Michaela Kemp - North Sydney Council (michaela.kemp@northsydney.nsw.gov.au)
Imam Mohammadi - North Sydney Council (Imam.Mohammadi@northsydney.nsw.gov.au)
Mrs Alyce Harrington - Sydney Program Alliance
David Lowe - Sydney Program Alliance
Mr Damien Wagner - Sydney Program Alliance
Amanda Muir - Sydney Program Alliance
Todd Lyall - Sydney Program Alliance
Ms Tara Kennedy - Sydney Program Alliance
Mr Rob Owens - Transport for New South Wales
Sam Schubert - Transport for New South Wales

Sent Tuesday, 22 February 2022

DETAILS

Road Work Package WP15 - Cammeray Golf Club

Discipline Mechanical

MESSAGE


Gavin

Ahead of works commencing on the Cammeray Golf Course reconfiguration, Sydney Program Alliance has prepared the following documentation to meet our obligations under the Western Harbour Tunnel & Warringah Freeway Upgrade (SSI-8863) Conditions of Approval:

1. Traffic, Transport and Access Management CEMP Sub-plan (TTAMP)
2. Construction Parking and Access Strategy (CPAS)
3. CoA E132 - Local Roads Approval
4. Traffic Management Plan (TMP)

We request any comments North Sydney Council may on the TTAMP, CPAS and Local Roads approval on or before 22/03/22. We also welcome the opportunity to undertake a page turn with North Sydney Council of these plans, and answer any specific questions Council may have. If this would be of value, please confirm whether you would have any time in the week commencing 28/02/22.

Regards

		TRAFFIC AND TRANSPORT LIAISON GROUP MEETING #10		FORM NUMBER SPA-SHB-F-014	
Time:	11.30am – 12.30pm	Date:	Monday 28 February 2022		
Location:	Online (Microsoft Team Meeting)				

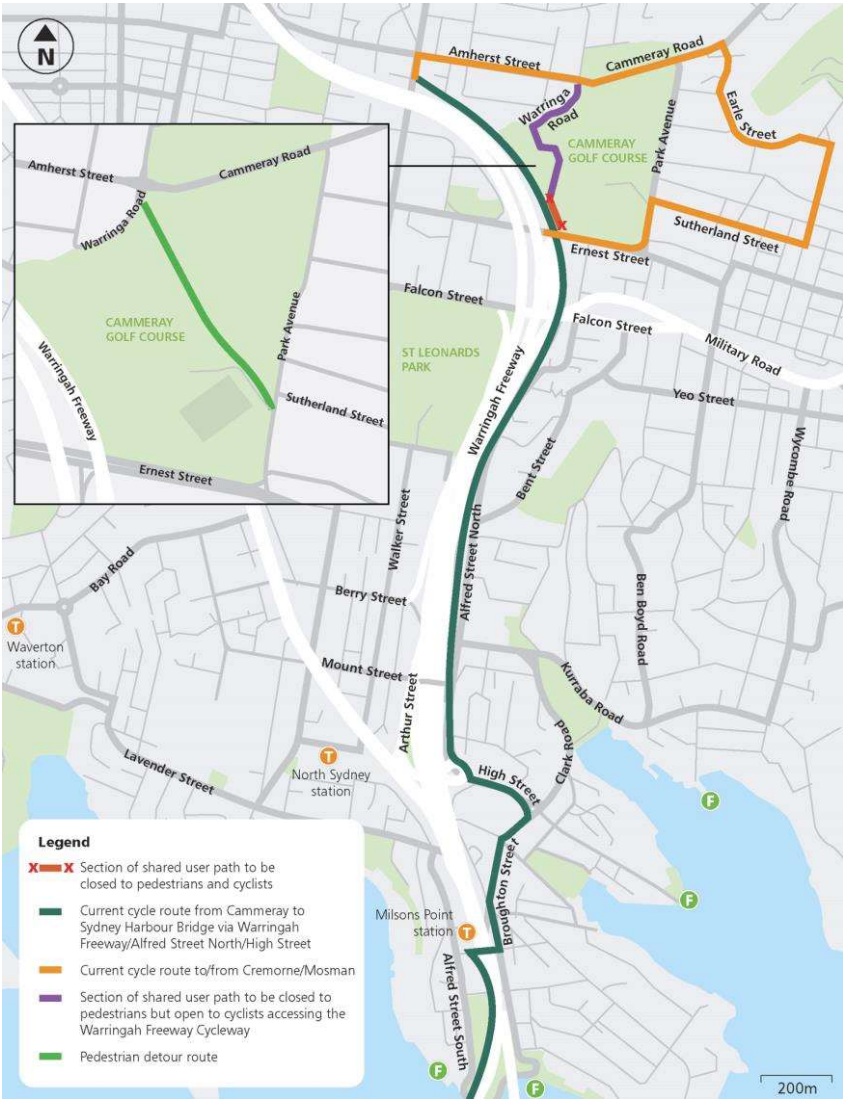
Invitees	Organisation	Attendance/ Distribution			Invitees	Organisation	Attendance/ Distribution		
		Present	Apology	Copy			Present	Apology	Copy
Micheala Kemp (MK)	NSC		X		Harold Scruby (HS)	Pedestrian Council		X	
Gavin McConnell (GM)	NSC	X			Rez Ramzan (RR)	Transurban		X	
Vidushi Sahni (VS)	TMC	X			Michael Ibrahim (MI)	TfNSW		X	
Sgt Ryan Edwards (RE)	NSW Police	X			Todd Lyall (TL)	TfNSW	X		
Kel McNamara (KMc)	NSW Fire and Rescue		X		Sara Yeoman (SY)	TfNSW		X	
Alix Carpenter (AC)	DET		X		James McKenzie (JMc)	TfNSW	X		
Gary Paesano (JC)	SHT		X		Sandra Nicholson (SN)	TfNSW	X		
M Gollan (MG)	SHT		X		Giovanny Ramirez (GR)	TfNSW	X		
Alfred Reynolds (AR)	DAS		X		Kynan Parry (KP)	TfNSW	X		
Bastien Wallace (BW)	Bicycle NSW		X		Paul McNeill (PM)	TfNSW		X	
Carolyn New (CN)	Bike North	X			Peter Keyes (PK)	TfNSW		X	
Roy Wakelin- King (RWK)	Taxi Council		X		Phil Truong (PT)	TfNSW	X		
Jason Nisbet (JN)	SPA	X			Alejandra Rojas (AR)	School Infrastructure		X	
Nick Andrianakos (NA)	SPA		X		Madeline Mcivor (MM)	TfNSW		X	
Tara Kennedy (TK)	SPA	X			Harry Murtough-Coombes (HMC)	Transurban		X	
Katie Weaver (KW)	School Infrastructure		X		Conrad Strachan (CS)	TfNSW	X		
Rebecca Lehman (RL)	School Infrastructure		X		Graeme Robertson (GR)	TfNSW	X		
Kevin Pham (KP)	Transurban		X		Stuart Fisher (SF)	SES		X	
Gordon Farrelly (GF)	WCC		X		German Barragan (GB)	WCC		X	
Amanda Muir (AM)	SPA	X			Deborah Metcalf (DM)	SPA		X	
Ian Veinot (IV)	CPBD	X			Debra Lancelot (DL)	CPBD		X	
Anne Learmonth	CPBD		X		Christine Keyes (CK)	CPBD		X	
Amreetha Karlyasasam (AK)	CPBD		X		Lise Maddocks (LM)	TfNSW		X	
Michael Kayello	TfNSW		X		Nicole Li	TfNSW		X	
Rockie Cabida	Transurban	X			David Bohm	TfNSW		X	
Iman Mohamedi	NSC	X			Sarah Power	CPBD	X		
James Suprain	TfNSW	X			Sarah Bickford	Bike NSW	X		

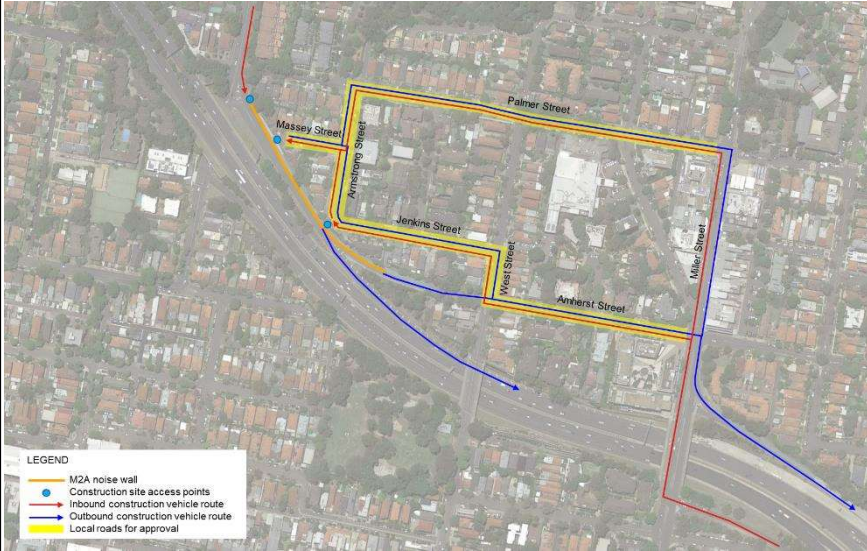
David Lowe	SPA	X							
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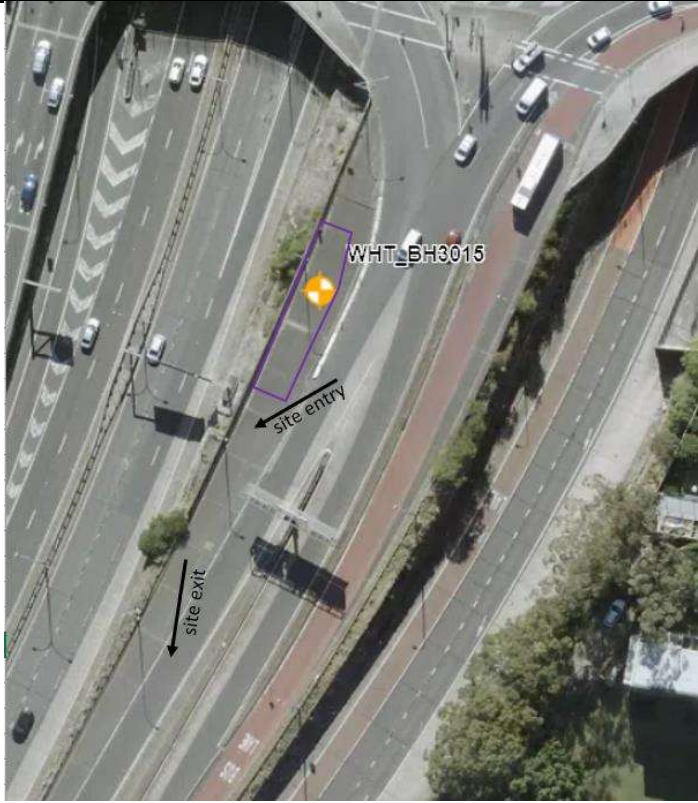
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		By Whom	By When
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1.1	<i>Welcome to Country</i> <i>I would like to begin by acknowledging and paying my respects to the Cammeraygal people, the Traditional Custodians of the land on which we are gathered today.</i> <i>I would like to pay my respects to their Elders, past present and emerging and acknowledge all Aboriginal and Torres Strait Islanders here today, also paying my respects to your Elders past present and emerging.</i>	Note	Closed
1.2	Please provide any comments on minutes from previous meeting sent on 28/02/2022	All	Ongoing
1.3	New attendees: - Sarah Bickford from Bicycle NSW	Note	Ongoing
2.0 Construction Update (early works) – current and upcoming works			
2.1	Alfred St North - Permanent LV – complete pending cutovers, cutover dates not yet confirmed, two cutovers to go - Comms – ongoing. Cutovers outstanding by some comms providers - Restoration works ongoing. Now progressing with footpath and kerb restoration - Detours will continue as required – short-term (one shift) - Please see our Alfred Street North fact sheet for more information about the work in this area -	Note	Closed
2.2	Cammeray West (Rosalind St/ Cammeray Ave/ ANZAC Park / Ernest St west of Warringah Fwy) - Potable water adjustments ongoing. Completed all works for now, returning in July 2022 - Low voltage installation on Ernest Street west of the Warringah Freeway ongoing - ITS installation at ANZAC Park, - Conduit removal and installation on the underside of the Ernest St bridge ongoing. Will require partial and full carriageway closures of the Warringah Freeway (to be done at night – liaison with Lane Cove Tunnel and Sydney Harbour Tunnel ongoing) - Cammeray Avenue sewer works almost complete. - While we are working, some areas will require temporary traffic control for everyone’s safety – particularly Cammeray Avenue - Short-term lane closures and / or detours required where works impact traffic - Local pedestrian and cyclist detours where required Please see our Rosalind Street East fact sheet and Cammeray early work fact sheet for more information about the work in this area.	Note	Closed
2.3	Cammeray East (Cammeray Golf Course/Ernest St east of Warringah Fwy) - Construction power ongoing Underbore complete. CGC:	Note	Closed

	<ul style="list-style-type: none"> - Sewer underbore works in CGC complete. - Will continue to liaise with CGC <p>Ernest St</p> <ul style="list-style-type: none"> - Low voltage installation to continue on Ernest St - Operation of temporary construction power work area on the northern side of Ernest Street west of Park Avenue to continue. <p>Please see our Cammeray early works fact sheet for more information about the work in this area.</p>		
2.4	<p>Arthur St</p> <ul style="list-style-type: none"> - Continuation of Ausgrid works, cutovers are being booked. - Continuation of Telstra and fire hydrant works are complete. - Lane closures in place at the Arthur Street / High Street intersection during the day between peak periods - Works ongoing on Arthur St underneath rail corridor (between Pacific Highway and Middlemiss Street) - Restoration works has commenced, and is ongoing. <p>Please see our North Sydney early work notification for more information about the work in this area.</p>	Note	Closed
2.5	<p>Ridge St</p> <ul style="list-style-type: none"> - No works – continuation of compound operation - Some night works staged out of Ridge St compound 	Note	Ongoing
2.6	<p>Out of Hours Works</p> <ul style="list-style-type: none"> - Continuing to undertake as much work during the day as possible, subject to CJPO restrictions on road occupancies during the day. 	Note	Ongoing
2.7	<p>Amherst Street noise wall (M2A)</p> <ul style="list-style-type: none"> - Continued liaison with impacted stakeholders including cyclist groups - Daytime ROLs on the Brook Street on-ramp 	Note	Ongoing
2.8	<p>Active Transport Link (ATL)</p> <ul style="list-style-type: none"> - New shared path through CGC - Minimal impact to transport network during construction 	Note	Ongoing
2.9	<p>Cammeray Golf Course works</p> <ul style="list-style-type: none"> - Reconfiguration of CGC. Planning underway. - Majority of works within CGC, minimal impact to road network. Some pedestrian changes required. - TMP, TTAMP and CPAS have been issued to NSC. Iman reviewing, and comments to be issued to SPA. 	Note	Ongoing

3.0 Construction Update (main works) – current and upcoming works			
3.1	Construction update for main works will be provided in future meetings by CPBD. IV – investigation and survey works to continue under night time ROLs. Currently preparing TMP's to take over existing compounds.	Note	Ongoing
4.0 Traffic Management Measures Review			
4.1	Alfred St North <ul style="list-style-type: none"> - Traffic control on site as needed. - Continued liaison with residents to manage property access 	Note	Ongoing
4.2	Cammeray West (Rosalind St/ Cammeray Ave/ ANZAC Park / Ernest St west of Warringah Fwy) <ul style="list-style-type: none"> - Traffic control will assist construction vehicles entering and exiting the site on Rosalind St and Cammeray Avenue onto Ernest Street - Continued liaison with ANZAC Park Public School to ensure they are informed of our works and resolving any potential impacts 	Note	Ongoing
4.3	Cammeray East (Cammeray Golf Course/Ernest St east of Warringah Fwy) <ul style="list-style-type: none"> - Lateral shift for Ernest St eastbound has been implemented. Agreed with CPBD to leave lateral shift in place. - 	Note	Ongoing
4.4	Arthur St <ul style="list-style-type: none"> - Day time lane closures to continue between peak periods - Lane 3 of Arthur St to remain closed until further notice 	Note	Ongoing
4.5	Impact on bike routes (general) <ul style="list-style-type: none"> - Ernest St Bridge north side – Will be impacted at night. Through traffic managed under TC. - Ernest St (north side): - Will be managed either under TC, or with local detours (temporarily relocated paths). Cyclist access will be maintained during the work, however cyclist may be momentarily stopped or asked to dismount by traffic controllers to allow for safe construction vehicle movements and material deliveries. Target date for reinstatement TBC - Through golf course - Temp diversions (locally) - Amherst Street noise wall – cycle lane on the Brook St entry ramp / Amherst Street will be closed for up to nine months. Detours currently in place and have been developed in consultation with Bicycle NSW, Bike North, North Sydney Council and Willoughby City Council. Detour signage installed in mid-December. 	Note	Ongoing

4.6	<p>Impact on bike routes (specific)</p> <ul style="list-style-type: none"> - Southern section of the shared path through the golf course closed to facilitate site investigation works along the underground Ausgrid power line (underneath the shared path) – scheduled for this coming Thursday and Friday (27/28 Jan) – see figure below. Detour via existing designated cycle routes – Cammeray Road / Earle Street / Young Street / Sutherland Street / Park Avenue. May be some intermittent closures going forward.  <p>The Miller St on-ramp closure to the Warringah Freeway southbound will need to be implemented again to complete works but at this time this is TBC (Ausgrid resourcing – to remove redundant cables from utilities tunnel)</p>	Note	Ongoing
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4.7	<p>SPA is seeking approval from DPIE to use the following local roads (shown in the figure below) for heavy vehicle access for the Amherst Street noise wall works:</p> <ul style="list-style-type: none"> - Amherst Street - West Street - Jenkins Street - Armstrong Street - Massey Street - Palmer Street 	Note	Ongoing
4.8	<p>SPA is seeking approval from DPIE to use Park Avenue (northbound and southbound) for semi-trailer and truck-and-dog access for the Cammeray Golf Course works. Access to CGC via existing Sydney Water layback.</p> <p>Note – current approval for Park Avenue is northbound only and only for rigid heavy vehicles.</p>	Note	Ongoing
5.0 Upcoming Special Events/Holidays			
5.1	<p>School terms</p> <ul style="list-style-type: none"> - Term 1: Friday 28 January - Friday 8 April 2022 	Note	Ongoing
5.2	Easter and ANZAC day coming up (April).	Note	Ongoing
5.3	90 th birthday for Harbour Bridge may have some impact. To be monitored.	Note	Ongoing
6.0 Traffic Incidents			
6.1	No traffic incidents to report for the previous month.	Note	Ongoing
6.2	Feedback	Note	Ongoing
7.0 Any Other Business			
7.1	Circulation of terms of reference – ongoing. CPBD currently reviewing.	SPA	Ongoing
7.2	<p>CPBD (Ian Veinot) to chair this TTLG meeting from next Month (March 2022).</p> <p>New invite to be sent out.</p>	IV	Ongoing
7.3	<p>Western Harbour Tunnel undertaking investigation works in the area.</p> <p>1 area of overlap is Falcon St Onramp. Daytime shoulder closure. Starting 03/03/22. Borehole for tunnel.</p>	Note	03/03/22

			
7.4	<p>GM noted that with 3 projects underway, TfNSW need to ensure any enquiries are handled cleanly.</p> <p>Noted that we have 1 phone number (community number) for the 3 projects.</p> <p>JM to send through details on the project page and phone number to GM.</p>	JM	01/03/22

Next meeting: 28/03/2022

Appendix 2 North Sydney Council comments register

Warringah Freeway Upgrade Early Works

52 Alfred Street
South Milsons Point
NSW 2061 Australia

Transport for New South Wales

16-24 Elsie Street
Burwood
New South Wales 2134 Australia

MAIL TYPE

General Correspondence

MAIL NUMBER

TRFNSW-GCOR-000172

REFERENCE NUMBER

SHBP-GCOR-001925

Re: Cammeray Golf Course Reconfiguration - TMP, CPAs, TTAMP and Local Roads Approval

From Mr Rob Owens - Transport for New South Wales

To (2) Mrs Alyce Harrington - Sydney Program Alliance
Jason Nisbet - Sydney Program Alliance

Cc (12) Jon Higlett - North Sydney Council (Jon.Higlett@northsydney.nsw.gov.au)
NSC NSC - North Sydney Council (council@northsydney.nsw.gov.au)
Gavin Mcconnell - North Sydney Council (gavin.mcconnell@northsydney.nsw.gov.au)
Michaela Kemp - North Sydney Council (michaela.kemp@northsydney.nsw.gov.au)
Imam Mohammadi - North Sydney Council (Imam.Mohammadi@northsydney.nsw.gov.au)
Mrs Alyce Harrington - Sydney Program Alliance
David Lowe - Sydney Program Alliance
Mr Damien Wagner - Sydney Program Alliance
Amanda Muir - Sydney Program Alliance
Todd Lyall - Sydney Program Alliance
Ms Tara Kennedy - Sydney Program Alliance
Sam Schubert - Transport for New South Wales

Sent Monday, 21 March 2022

DETAILS

Road Work Package WP15 - Cammeray Golf Club

Discipline Mechanical

MESSAGE

Hi Jason and Alyce,

please find attached comments received from North Sydney Council on the multiple traffic plans issued as part of the original correspondence below.

These were issued to TfNSW interface manager (Lise) and CPBD on Friday.

Rob

From: J Nisbet

Sent: 22/02/2022 8:53:06 AM AEDT (GMT +11:00)

To: Gavin Mcconnell

Cc: Jon Higlett, NSC NSC, Michaela Kemp, Imam Mohammadi, Alyce Harrington, Tara Kennedy, David Lowe, Todd Lyall, Amanda Muir, Damien Wagner, Rob Owens, Sam Schubert

Mail Number: SHBP-GCOR-001925

Subject: Cammeray Golf Course Reconfiguration - TMP, CPAs, TTAMP and Local Roads Approval

Road Work	
Package:	WP15 - Cammeray Golf Club
Discipline:	Mechanical

Gavin

Ahead of works commencing on the Cammeray Golf Course reconfiguration, Sydney Program Alliance has prepared the following documentation to meet our obligations under the Western Harbour Tunnel & Warringah Freeway Upgrade (SSI-8863) Conditions of Approval:

1. Traffic, Transport and Access Management CEMP Sub-plan (TTAMP)
2. Construction Parking and Access Strategy (CPAS)
3. CoA E132 - Local Roads Approval
4. Traffic Management Plan (TMP)

We request any comments North Sydney Council may on the TTAMP, CPAS and Local Roads approval on or before 22/03/22. We also welcome the opportunity to undertake a page turn with North Sydney Council of these plans, and answer any specific questions Council may have. If this would be of value, please confirm whether you would have any time in the week commencing 28/02/22.

Regards

Cammeray Golf Course Reconfiguration works

I refer to the following documents submitted for review by North Sydney Council and my comments below:

- **SPA-JGA-PLN-MAN-WP15-0-0001-1_CGC works**
- **SPA CGC TTAMP_ Rev 2_clean_17022022**
- **Appendix C Local Roads Approval_Clean_17022022**
- **SPA CGC CPAS Rev 2_17012022_Clean**

1. Temporary removal of the raised island at the intersection of Ernest Street and Park Ave

A requirement of CoA E133 condition (b) under "Appendix C Local Roads Approval_Clean_17022022" is that:

"demonstration that the use of local roads by heavy vehicles for the CSSI will not compromise the safety of pedestrians and cyclists or the safety of two-way traffic flow on two-way roadways"

The proposal to remove median islands at the intersection of Ernest St and Park Ave will increase the walking distance of 5m and 3m (with a safe refuge) to 12m walking distance (without a refuge).

This island is used by variety of road users, including school children and its removal will pose a safety issue.

In addition, the swept paths of 19m AV and Truck and Dog show encroachment onto the opposite traffic lane at the intersection of Ernest St and Park Ave which poses safety issues with other road users.

"Appendix C Local Roads Approval_Clean_17022022" under section 3.1, Swept Path Analysis confirms that the 19m Av and Truck and Dog movements in and out of Park Ave as well as access the Golf Course in Park Ave, do not encroach on existing kerb, traffic management/traffic control devices or on-street parking spaces.

Clearly the submitted turning paths showcase truck's manoeuvring cause safety issues at the intersection of Ernest St and Park Ave, traveling on the opposite traffic lane as well as impacts on on-street parking in Park Ave.

The TMP by Sydney program Alliance states that:

During the reconfiguration works, traffic controllers will be positioned at the Ernest Street / Park Avenue intersection during construction hours to manage interactions between trucks and pedestrians. Pedestrians crossing Park Avenue may be momentarily stopped by traffic controllers to allow trucks to turn left from Ernest Street to Park Avenue and to turn right from Park Avenue to Ernest Street. Given the anticipated low volumes of truck movements, the impact of these brief stoppages on pedestrian movements is anticipated to be minor.

The TMP, however has not stated how pedestrians safely cross Park Ave at Ernest St outside the construction hours.

It should be also noted that removal of this island will make provision for vehicles to travel at a higher speed outside the construction hours when turning left from Ernest St onto Park Ave which could possibly cause a head on collision with south bound traffic.

- Based on the above safety concerns, Council raises strong objection to the temporary removal of the raised island and provision of temporary painted median island at the intersection of Ernest Street and Park Ave to accommodate turning paths of Truck and Dogs and semi-trailers.
- It is suggested to use smaller truck sizes to avoid removal of raised islands at Ernest Street and Park Ave as well as minimal impact on the on-street parking spaces.
- If the use of Truck and Dogs and semi-trailers are essential for this project, then a Road Safety Audit report needs to be prepared and submitted to Council.

2. Truck access onto Golf Course in Park Ave:

Truck access to the golf course is proposed through the existing driveway in Park Ave (of approx. 5m wide). Turning paths of Truck and Dog (low resolution plan) reveals the driveway widening is required to achieve turns in and out of Golf Course.

The provision of temporary driveway access has not been addressed in the report.

The report also proposes removal of 3 on-street parking on the northern side of driveway access (which is stated as 4 spaces on “CoA 132 – Local Roads Approval” and “Construction Parking and Access Strategy” documents).

- The removal of 3 (or 4) parking spaces has not been justified as the turning paths of Truck and Dog only impact one parking space on the northern side of driveway.
- In addition, turning paths of a 19m AV have not been provided and need to be included.

3. Impacts to transport and traffic

- Traffic detour for the full road closure of Park Ave, diverts east bound traffic in Sutherland Street to North. There is no diversion of this traffic south. Any reason??

The Parking Occupancy survey carried out in November 2021. Conclusion did not take into consideration of the Covid-19 restrictions where lower number of vehicles on road were present, hence less demand for parking.

- Removal of 3 on-street parking spaces on the northern side of driveway access in Park Ave (which is stated as 4 spaces on “CoA 132 – Local Roads Approval” and

“Construction Parking and Access Strategy” documents) has not been justified correctly.

- Removal of 4 Parking spaces in Bells Ave as stated on “Construction Parking and Access Strategy” has not been justified.
- North Sydney Council does not support removal of any parking spaces in Park Ave and Bells Ave as stated and shown on “Construction Parking and Access Strategy”, unless justified for consideration.

From: [Lise Maddocks](#)
To: [Rob Owens](#)
Cc: [Graeme Robertson](#)
Subject: FW: Cammeray Golf Course - CTMP
Date: Friday, 18 March 2022 4:30:28 PM
Attachments: [Council Comments SPA-JGA-PLN-MAN-WP15-0-0001-1 CGC works 17 Mar 2022.pdf](#)

Hi Rob,

See attached from Iman Mohammadi from North Sydney Council. Is this the comments you were waiting for, for Cammeray Golf Course? North Sydney Council has sent the comments to Monica Chausson at CPBD, not sent to SPA. Can you sent to SPA please if it's for them?

Regards

Lise Maddocks
Interface Lead WFU
Sydney Project Delivery
Infrastructure and Place
Transport for NSW

M 0412 389 545
Level 22 101 Miller Street North Sydney NSW 2060

From: Iman Mohammadi <Iman.Mohammadi@northsydney.nsw.gov.au>
Sent: Friday, 18 March 2022 3:18 PM
To: Lise Maddocks <Lise.Maddocks@transport.nsw.gov.au>; Monica.Chausson@cpbdownerjv.com.au
Cc: Gavin McConnell <gavin.mcconnell@northsydney.nsw.gov.au>
Subject: Cammeray Golf Course - CTMP

CAUTION: This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Hi Lise/Monica

I have reviewed the CTMP and related documents for the works in Cammeray Golf Course and provided my comments in the attached PDF Document.

Please note the following issues:

1. Removal of existing refuge island at the intersection of Ernest St and Park Ave will cause a significant safety issue along the road users, especially pedestrians as the walking distance is increased to 12m !!!
2. Loss of parking in Bells Ave has not been justified
3. Loss of parking in Park Ave has not been justified properly
4. The report states no impact on the bus operation. This needs to be confirmed as it is contrary to what was discussed at the Weekly WFU interface meeting

Yours Sincerely

Iman Mohammadi

Public Projects Engineering Officer

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Iman Mohammadi

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SUNSET
SERIES



ST LEONARDS PARK
SATURDAY 26 MARCH
SUNDAY 27 MARCH

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OFFICIAL

Warringah Freeway Upgrade - CGC

Document	TTAMP
Date Issued	14-Mar-22
Document Revision	Version 2
Date Due	

Reviewer Name 1	NSC
Reviewer Name 2	
Reviewer Name 3	

RESPONSE AGREEMENT STATUS
O Open
C Closed

NSC			Sydney Program Alliance		ER review of comment close-out			Sydney Project Alliance	
Item	Document reference	Comments	Response Comments	By	Reviewer Close-out Comments (09/05/22)	Response Status	Date Closed	Response Comments (13/05/22)	By
1	N/A	The proposal to remove median islands at the intersection of Ernest St and Park Ave will increase the walking distance of 5m and 3m (with a safe refuge) to 12m walking distance (without a refuge). and ancillary facilities	<p>The proposed removal of the median island to facilitate access by longer vehicles has been reviewed from a safety perspective, and a formal Road Safety Audit (desktop) will be completed on the design prior to implementation, and a roadside RSA will be completed on implementation.</p> <p>In reviewing the potential risks, SPA has identified a number of controls within the TMP, including the provision of Traffic Control when articulated vehicles or truck and dog vehicles are scheduled to use the intersection.</p> <p>TTAMP Table 6-3 updated with this control measure</p>	SPA	Closed.		09-May-22		
2	N/A	The swept paths of 19m AV and Truck and Dog show encroachment onto the opposite traffic lane at the intersection of Ernest St and Park Ave which poses safety issues with other road users.	<p>The driver of a vehicle may drive to the right of the center of the road 'to enter or leave the road', so long as this is done so safely.</p> <p>This was identified within the TMP, and controls have been proposed to mitigate this risk.</p> <p>Control measures outlined in Section 6.1 of TTAMP and Section 4 of Appendix C Local Roads Approval.</p>	SPA	Closed.		09-May-22		

3	N/A	The TMP, however has not stated how pedestrians safely cross Park Ave at Ernest St outside the construction hours.	<p>The median island to be removed is not a formal refuge and, consequently, does not facilitate a two staged crossing. Hence the crossing distance has not been changed by the removal of the median island.</p> <p>Pedestrians crossing Park Avenue would do so under the protection of the Australian Road Rules i.e. vehicles must give way to pedestrians when turning at an intersection regardless of whether there is a marked crossing. Given the relatively low volume of turning movements, particularly outside construction hours, there will be ample opportunity for pedestrians to cross regardless of the level of compliance with road rules.</p> <p>Update to Section 3.2 of Appendix C Local Roads Approval and Table 6-2 in TTAMP</p>	SPA	Closed.		09-May-22		
4	N/A	It should be also noted that removal of this island will make provision for vehicles to travel at a higher speed outside the construction hours when turning left from Ernest St onto Park Ave which could possibly cause a head on collision with south bound traffic.	Despite the removal of the median island vehicles will still need to decelerate to a speed suitable to negotiate the turn. The scenario presented in the comment is highly unlikely.	SPA	Closed		09-May-22		
5	N/A	The provision of temporary driveway access has not been addressed in the report	The temporary driveway access is an existing construction driveway, and as such was not elaborated on in detail. Instead, it has been referenced and reviewed, noting that the driveway will require modifications to the existing median on Park Ave.	SPA	Closed.		09-May-22		

6	N/A	Removal of existing refuge island at the intersection of Ernest St and Park Ave will cause a significant safety issue along the road users, especially pedestrians as the walking distance is increased to 12m	Refer response above.	SPA	Closed.		09-May-22		
7	N/A	Loss of parking in Bells Ave has not been justified.	<p>The closure referenced relates to the ATL on Warringa Rd. The note within the plan references Bells/Warringa, as that was the footprint of the parking survey.</p> <p>There will be no impacts on Bells Ave.</p> <p>References to Bells Avenue in the CPAS have been updated to note this.</p>	SPA	Closed.		09-May-22		
8	N/A	Loss of parking in Park Ave has not been justified properly.	<p>The proposal to impact up to 4 parking spaces was developed at a time when there was uncertainty on the availability of the existing driveway for use by SPA.</p> <p>As the planning has been developed, we are now confident that we can use the existing driveway, which means all 4 parking spaces nominated are no longer required.</p> <p>Instead, no more than 2 on-street parking spaces will be temporarily removed. These parking spaces are required to facilitate the swept path of the approaching and departing heavy vehicles. SPA did investigate relocating the driveway south, to utilise the existing 'no parking' area, however the location of an existing power pole precludes this. We will only occupy the minimum space required to provide safe entry and egress to vehicles.</p> <p>The TMP and CPAS will be updated to reflect this change and will include additional justification on the need to temporarily remove these parking spaces.</p> <p>Updates made to Section 4.2.1 in CPAS.</p>	SPA	Closed.		09-May-22		

9	N/A	The report states no impact on the bus operation. This needs to be confirmed as it is contrary to what was discussed at the Weekly WFU interface meeting.	There will be no impact on bus operations. SPA is not aware of any information contrary to this, and given SPA are not part of any WFU weekly interface meetings, are unable to confirm why this was discussed.	SPA	Closed.		09-May-22		
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