

Appendix B1

Construction Traffic, Transport and Access Management Sub-Plan

Western Harbour Tunnel and Warringah Freeway Upgrade

Stage 1A Early and enabling works - Critical utility installation, relocation and protection works

May 2021

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Contents

| | | |
|----------|---|-----------|
| 1 | Introduction | 1 |
| 1.1 | Context and Scope | 1 |
| 1.2 | Background and project description | 1 |
| 1.3 | Environmental management systems overview | 1 |
| 2 | Purpose and objectives | 3 |
| 2.1 | Purpose | 3 |
| 2.2 | Objectives | 3 |
| 3 | Environmental requirements | 4 |
| 3.1 | Relevant legislation and guidelines | 4 |
| 3.2 | Minister's Conditions of Approval | 5 |
| 3.3 | Revised Environmental Management Measures | 5 |
| 4 | Consultation | 6 |
| 5 | Construction traffic impacts | 7 |
| 5.1 | Key construction sites and ancillary facilities | 7 |
| 5.2 | Construction traffic volumes and patterns | 15 |
| 6 | Traffic Management | 19 |
| 6.1 | Traffic management during construction | 19 |
| 6.2 | Road maintenance | 20 |
| 6.3 | Road occupancy | 20 |
| 6.4 | Speed management | 21 |
| 6.5 | Signposting and delineation | 21 |
| 6.6 | Local roads | 22 |
| 6.7 | Pedestrians and cyclists | 23 |
| 6.8 | Public transport | 30 |
| 6.9 | Property access | 31 |
| 6.10 | Parking management | 31 |
| 6.11 | Special events | 32 |
| 6.12 | Incident management and response | 32 |
| 6.13 | Traffic management documents | 32 |
| 6.14 | Driver's Code of Conduct | 33 |
| 7 | Compliance management | 34 |
| 7.1 | Inspections | 34 |
| 7.2 | Auditing | 34 |
| 7.3 | Continual improvement | 34 |

| | |
|---|--|
| Appendix A – Performance Outcomes | |
| Appendix B – Condition of Approval and REMM Compliance Tracking | |
| Appendix C – Local roads for DPIE approval under CoA E132 | |
| Appendix D – Driver’s Code of Conduct | |
| Appendix E – Pedestrian and cyclist detours | |

Tables



| | |
|---|----|
| Table 4-1 Consultation requirements | 6 |
| Table 5-1 Primary access for ancillary facilities and key worksites | 7 |
| Table 5-2 Roads required to access ancillary facilities and associated worksites | 11 |
| Table 5-3 Local roads assessed in the EIS and already approved under CoA E132 | 12 |
| Table 5-4 Local roads requiring DPIE approval under CoA E132 | 13 |
| Table 5-5 <i>Construction vehicle numbers required to access minor ancillary facilities</i> | 16 |
| Table 5-6 <i>Construction vehicle numbers required to access key worksites</i> | 16 |
| Table 5-7 Potential cumulative traffic impacts | 17 |
| Table 6-1 Standard mitigation strategies/approaches for local road usage to address requirements in CoA E133..... | 22 |
| Table 6-2 Identified pedestrian impacts | 25 |
| Table 6-3 Identified cyclist route impacts..... | 29 |
| Table App B-1 Minister's Conditions of Approval..... | 37 |
| Table App B-2 Revised environmental management measures relevant to this TTAMP | 45 |

Figures

| | |
|--|---|
| Figure 1-1 Structure of Construction Environmental Management Plan, sub-plans and procedures | 2 |
| Figure 5-1 Minor ancillary facilities and work sites..... | 9 |

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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 |
| DPIE | Department of Planning, Industry 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 |
| 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 |
| VMS | Variable Message Sign |

1 Introduction

1.1 Context and Scope

This Traffic, Transport and Access Sub-plan (NVMP or Plan) forms part of the Construction Environmental Management Plan (CEMP) for the Stage 1A Early and Enabling Works – critical utility installation, relocation and protection works (refer to herein as “the critical utility works” or ‘CUT’) which 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 CUT 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. It describes how SPA proposes to manage potential traffic impacts during the Stage 1A Early and enabling works - critical utility works stage of the Project. Other construction stages of the Project, including operational traffic and transport impacts and operation 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 based on the Concept Design to address the Secretary’s Environmental Assessment Requirements issued by the Department of Planning, Industry and Environment (DPIE). The traffic and transport assessment was included in the EIS, within Chapter 8 and the Traffic and Transport Technical Paper (Appendix F of the EIS).

The project description is outlined in Section 1.2 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.

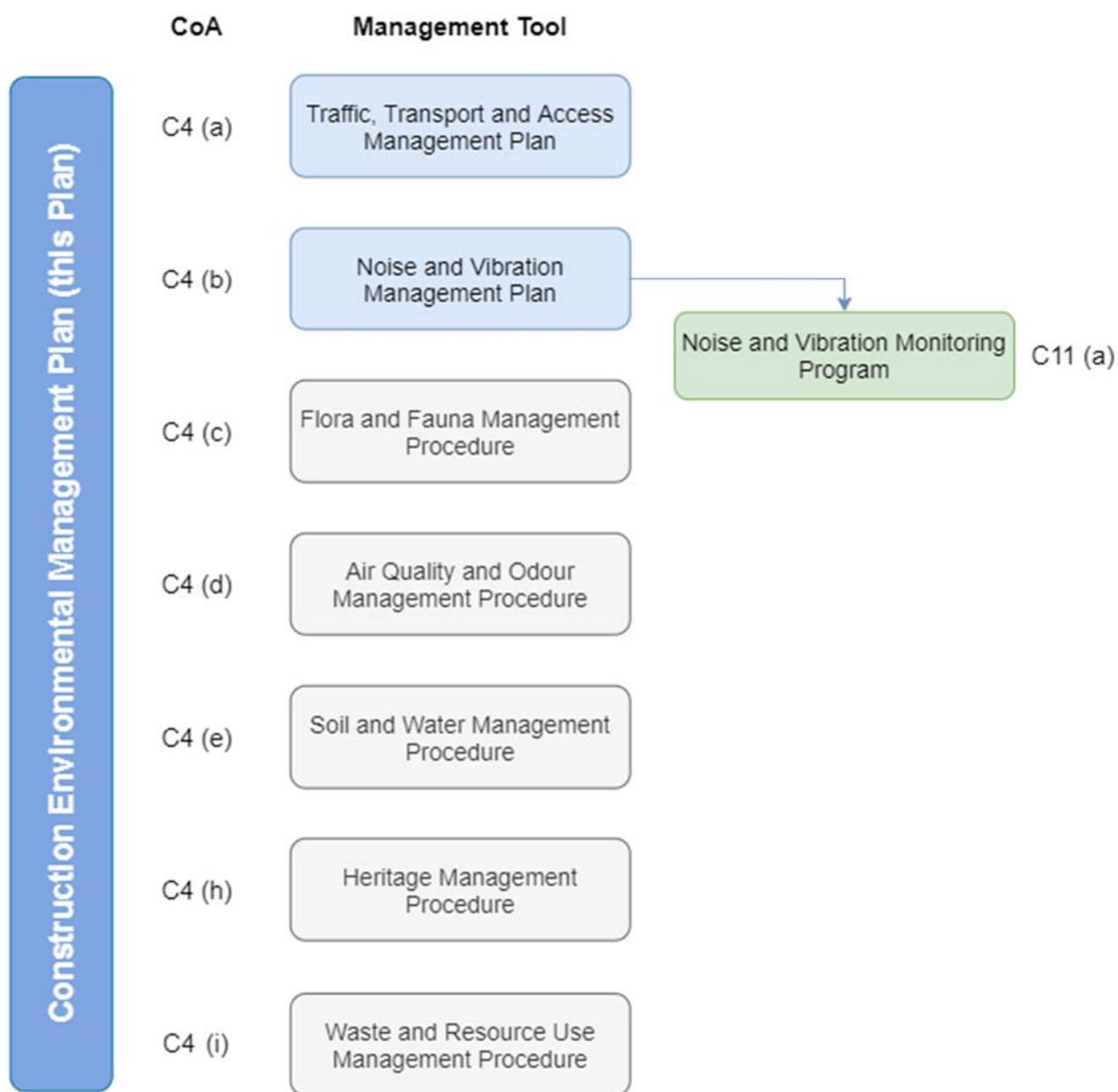


Figure 1-1 Structure of Construction Environmental Management Plan, sub-plans and procedures

2 Purpose and objectives

2.1 Purpose

The purpose of this Plan is to describe how SPA proposes to manage traffic during the critical utility works stage of the Project.

2.2 Objectives

The key objective of the TTAMP is to ensure that traffic impacts during critical utility works are minimised and are within the scope permitted by the planning approval by minimising delays, ensuring consideration is given to the needs of all road users, pedestrians and cyclists and ensuring the safety for both workers and the general public.

To achieve this objective 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:

- AS1742.3: Manual of Uniform Traffic Control Devices – Part 3: Traffic Control for Works on Roads
- AS1743:2018 - Road Sign and Traffic Signals
- TfNSW Supplement to Australian Standard AS 1742.9:2018, Manual of Uniform Traffic Control Devices
- 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 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
- TfNSW – Technical Direction (TDT 2009/07) Speed Enforcement on Worksites
- 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
- Transport Management Centre – Road Occupancy Manual.

3.2 Minister's Conditions of Approval

The CoA relevant to this Plan are listed in Appendix B. A cross reference is also included to indicate where the condition is addressed in this Plan or other Project management documents.

This TTAMP has been prepared to meet the requirements of CoA C4(a) and CoA C5. In accordance with CoA C9 the TTAMP will be submitted to DPIE for approval no later than one month prior to the commencement of construction. Construction will not commence until this TTAMP, the CEMP and relevant CEMP Sub-plans have been approved by DPIE in accordance with CoA C10.

3.3 Revised Environmental Management Measures

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

4 Consultation

This Plan will be provided to North Sydney Council in accordance with CoA C4(a). The outcomes of the agency consultation are outlined in the Critical Utilities CEMP Consultation Report.

Ongoing consultation with Transport Coordination (a division within Transport for NSW), North Sydney Council, emergency services, bus operators and other stakeholders will be undertaken 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 (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.

Should they be required, partial or full closures of Warringah Freeway will be carried out in consultation with the Sydney Coordination Office in accordance with REMM CTT13. However, it is not anticipated that any partial or full closures of Warringah Freeway will be required while carrying out the CUT works.

Additional consultation with the above stakeholders will be triggered as a result 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 CUT 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 on-street parking. N/A – however consultation held with North Sydney Council |
| CoA E132 | Local roads approval | N/A – however consultation held with Anzac Park Public School and residents of Merlin Street. |
| 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. | Notification of affected community in the form of Community Updates, Community Notifications, 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. |

5 Construction traffic impacts

Construction of the critical utility 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 critical utility works traffic upon these receivers.

5.1 Key construction sites and ancillary facilities

The critical utility works will require access to the work sites identified in Table 5-1. Refer to Figure 5-1 for an illustration of these ancillary facilities and work sites.

These sites will be used to support the utility relocation, installation and protection works. The majority of the worksites are within the existing road reserve and will be accessed using the adjacent roadway. During site establishment activities at each site, existing access points will be prioritised for access and egress. Access points to work sites and minor ancillary facilities requiring construction are also detailed in Table 5-1. More detailed information on the establishment and management of minor ancillary facilities is contained in Section 1.3 and Section 4 of the CEMP.

Table 5-1 Primary access for ancillary facilities and key worksites

| Work sites | Access/Egress | Access requiring construction? |
|--|--|--------------------------------|
| Ridge Street ancillary facility | Access: Ridge Street Egress: Ridge Street | Yes |
| Blue Street minor ancillary facility | Access: Blue Street Egress: Blue Street | No |
| Rosalind Street minor ancillary facility | Access: Eastbound along Rosalind Street Egress: Westbound along Rosalind Street | Yes |
| Cammeray Golf Course minor ancillary facility | Access: Eastbound along Ernest Street Egress: Westbound along Ernest Street | Yes |
| Arthur Street | Access and Egress: Pacific Highway onto Arthur Street, right into the work area to the right of Arthur Street | Yes |
| Arthur Street (tidal arrangement) | Access and Egress: Mount Street off-ramp onto Arthur Street, left into the work area to the right of Arthur Street | Yes |
| Cammeray Avenue | Access: Ernest Street onto Cammeray Avenue Egress: Cammeray Avenue onto Anzac Avenue | No |
| Cammeray Avenue (during Cammeray Avenue closure) | Access and Egress: Anzac Avenue onto Cammeray Avenue | No |

| Work sites | Access/Egress | Access requiring construction? |
|----------------------------|--|--------------------------------|
| Alfred Street North | Access and Egress: Alfred Street North in the south | No |
| Bells Avenue | Access: Eastbound along Amherst Street onto Bells Avenue Egress: Bells Avenue onto Amherst Street Westbound | No |
| Warringa Road | Access: Eastbound along Amherst Street onto Warringa Road Egress: Warringa Road onto Amherst Street Westbound | No |
| Amherst Street | Access: Northbound along Miller Street onto Amherst Street Egress: Amherst Street onto Miller Street southbound | No |
| High Street | Access: High Street Egress: High Street | No |
| Ernest St Eastbound | Access: Ernest Street Egress: Ernest Street | Yes |
| Ernest St Westbound | Access: Ernest Street Egress: Ernest Street | No |
| Pacific Highway Northbound | Access: Pacific Highway Egress: Pacific Highway | No |

[INSERT FIGURE 5-1 SHEET ONE HERE]

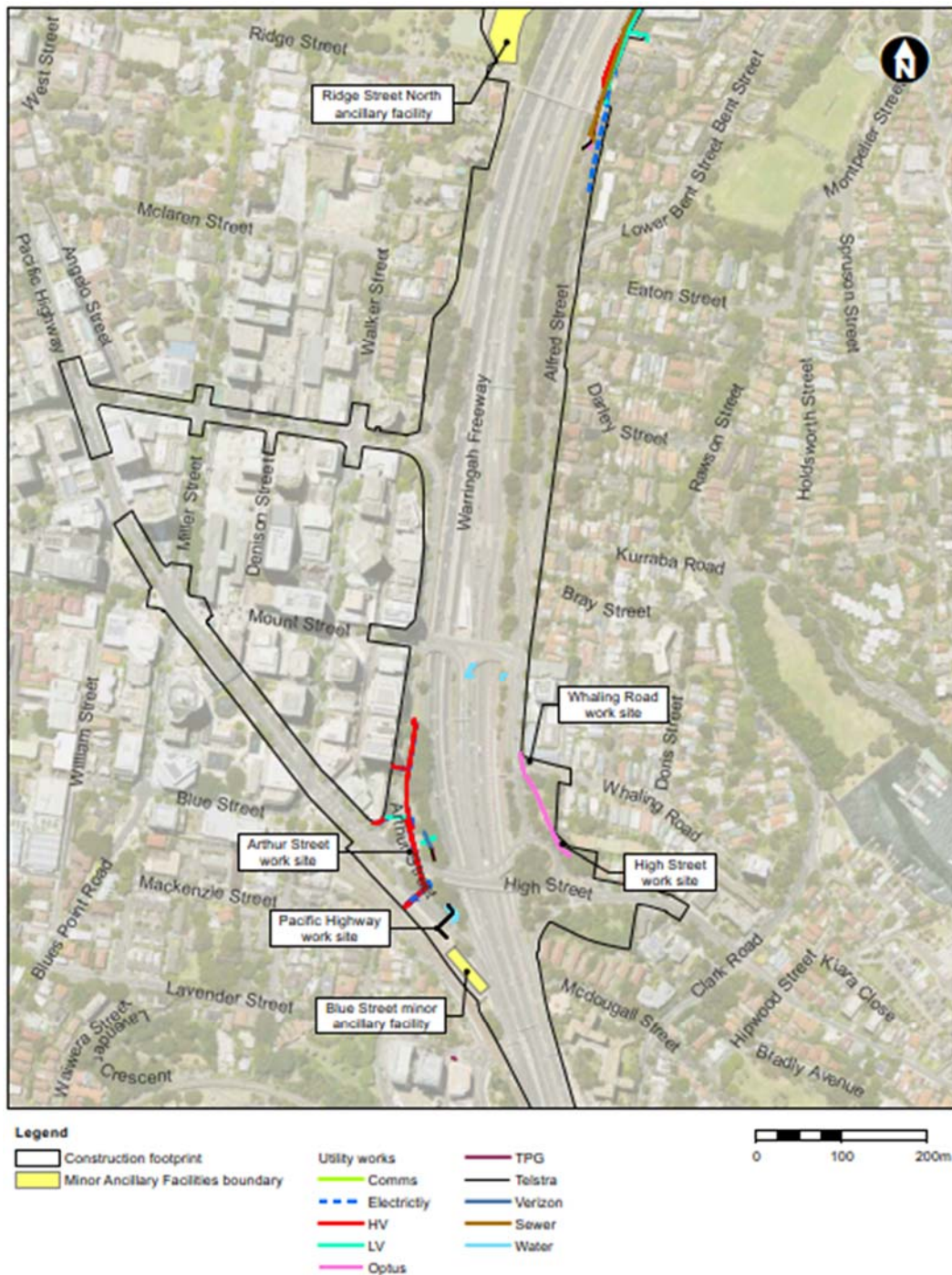


Figure 5-1 Ancillary facilities and key work sites (Sheet 1)

Figure 5-1 Minor ancillary facilities and work sites

[INSERT FIGURE 5-1 SHEET TWO HERE]

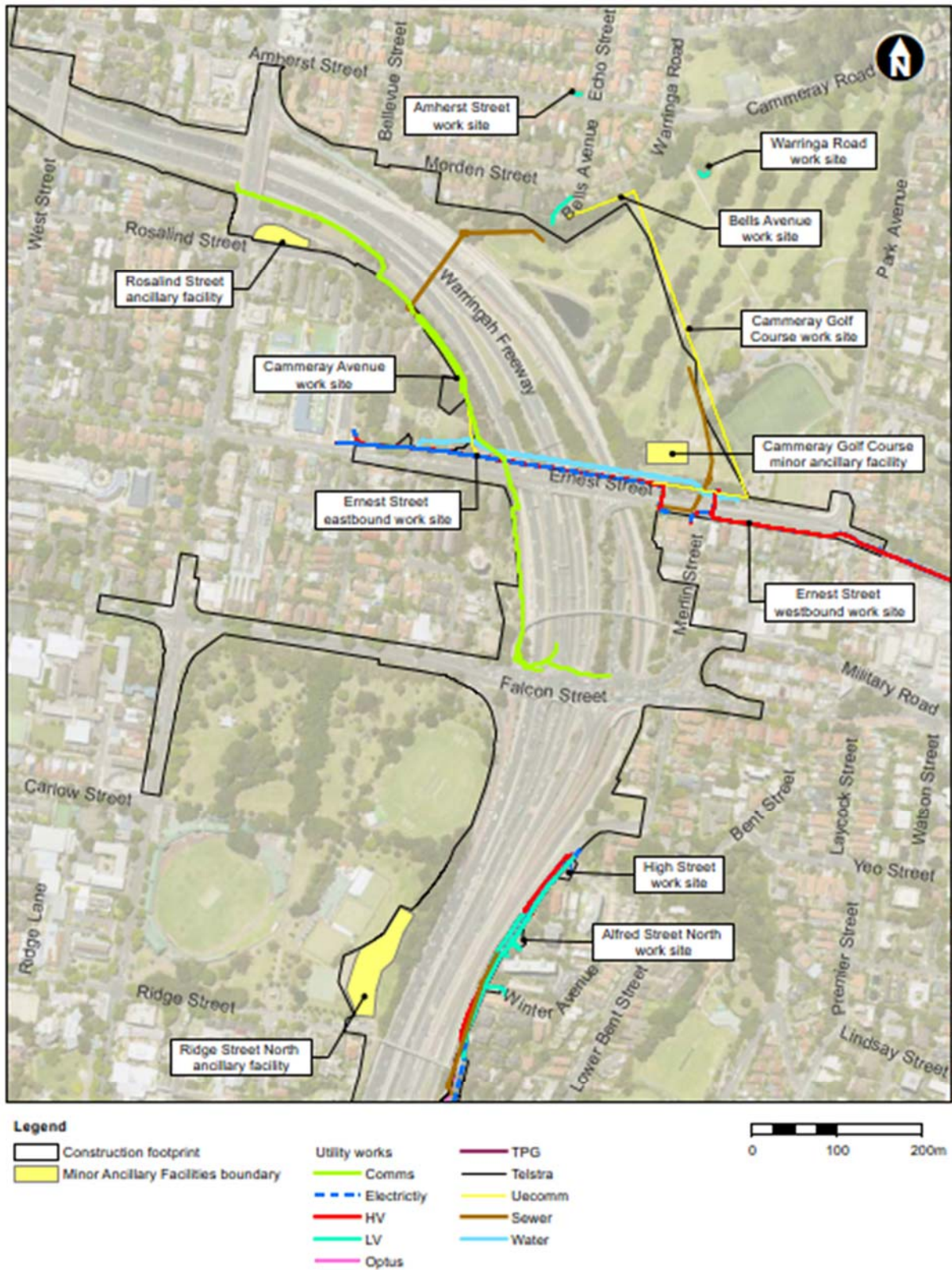


Figure 5-1 Ancillary facilities and key work sites (Sheet 2)

5.1.1 Access routes for works

SPA will access and depart minor ancillary facilities to each associated worksite using the primary access identified in Table 5-1 and the roads described in Table 5-2.

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.

While the critical utility works will utilise roads nominated in the EIS where possible, multiple critical utility works will be undertaken on local roads and will require alternate access. Site access and egress routes will utilise roads which avoid sensitive areas including schools, aged care facilities, hospitals and shopping precincts wherever possible. 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 DPIE approval in accordance with CoA E132. Refer to Appendix C for a figure detailing local roads already approved under CoA E132 and local roads requiring DPIE approval under CoA E132. Refer to Section 5.1.2 for further detail on access to local roads.

The construction vehicle routes will be provided to contractors for dissemination to their workers and drivers and will be readily available at each ancillary facility for review by drivers. 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.

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.

Table 5-2 Roads required to access ancillary facilities and associated worksites

| Vehicle Type | State Roads/Regional Roads | Approved Local Roads under CoA E132 | Local Roads requiring approval under CoA E132 |
|---------------|----------------------------|--|---|
| Light vehicle | Warringah Freeway | Ridge Street | Warringa Road |
| Heavy vehicle | Cahill Expressway | Alfred Street | |
| | Pacific Highway | Alfred Street North | |
| | Military Roads | Rosalind Street | |
| | Falcon Street | Blue Street | |
| | Ernest Street | Cammeray Avenue | |
| | Miller Street | Whaling Road | |
| | Berry Street | Merlin Street | |
| | Arthur Street | Park Avenue | |
| | Mount Street ramps | Cammeray Road | |
| | High Street | Cammeray Avenue (outside of construction boundary) | |
| | | Bells Avenue | |
| | | Amherst Street | |
| | | Anzac Avenue | |

5.1.2 Access to local roads

Construction vehicle routes to and from ancillary facilities and worksites have been developed to avoid local roads outside the construction footprint and within 1km of the construction works, where possible, while maximising the use of state and regional roads. However some ancillary facilities and work areas are located on local roads and/or can only be accessed from local roads.

The anticipated local roads to be used by heavy vehicles for direct access to the construction boundary and ancillary facilities are shown in Figure 5-7 to 5-22 inclusive of Appendix F of the EIS and have been approved under CoA E132. Table 5-3 below details the local roads that have been approved under CoA E132 and will be used by light and heavy vehicles while carrying out CUT works

Table 5-3 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: 12 months |
| 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: 12 months |
| 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: 12 months |
| Ridge Street | Access to minor ancillary facility | Changes to parking arrangements Use by construction traffic accessing minor ancillary facility Period of use: 12 months |
| Whaling Road | Access to worksite | Use by construction traffic accessing utilities worksite Period of use: 12 months |
| High Street | Access to worksite | Use by construction traffic accessing utilities worksite Period of use: 12 months |
| Blue Street | Access to minor ancillary facility Access to worksite | Use by construction traffic accessing minor ancillary facility Period of use: 12 months |

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. The request for DPIE approval of local roads listed in Table 5-4 was lodged with DPIE on 3 March 2021. Approval for the use of Merlin Street was given by DPIE on 25 March 2021. The remaining local roads requiring approval was given by DPIE on 12 April 2021 with the exception of Warringa Road, Cammeray.

Current local roads proposed to be used that have not been assessed in the EIS and require DPIE approval are listed in Table 5-4 below. The relevant routes are described and shown in Table 5-2. Refer to Appendix C for EIS assessed local roads and local roads requiring DPIE approval under CoA E132. In accordance with CoA E136 before any local road is used by a heavy vehicle for the CUT 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 5-4 Local roads requiring DPIE approval under CoA E132

| Local road | Description of use during construction | Description of potential impacts |
|--|--|--|
| Cammeray Avenue | Utility relocations | Short and long term traffic control setups. Road closures. Period of use: 12 months Note: Approved by DPIE on 12/4/21 |
| Anzac Avenue | Access to work site | Construction vehicle route Period of use: 12 months Note: Approved by DPIE on 12/4/21 |
| Bells Avenue | Access to Cammeray Golf Course | Construction vehicle route Period of use: 12 months Note: Approved by DPIE on 12/4/21 |
| Warringa Road | Access to work site | Construction vehicle route Period of use: 12 months |
| Amherst Street | Access to work site | Construction vehicle route Period of use: 12 months Note: Approved by DPIE on 12/4/21 |
| Cammeray Road (between Park Avenue and Amherst Street) | Access to work site | Use by construction traffic Period of use: 12 months Note: Approved by DPIE on 12/4/21 |

| Local road | Description of use during construction | Description of potential impacts |
|---------------|--|---|
| Park Avenue | Access to work site | Use by construction traffic Period of use: 12 months Note: Approved by DPIE on 12/4/21 |
| Merlin Street | Access to worksite | Use by construction traffic accessing utilities worksite Period of use: 12 months Note: Approved by DPIE on 25/3/21 |

The DPIE approval for the use of Merlin Street included the following conditions:

- Merlin Street between Falcon Street and McIntosh Lane
- 12.5m rigid heavy vehicles
- Maximum daily two-way HV movements: 40
- Maximum two-way morning and afternoon peak HV movements: 20
- Approval duration: 12 months from the date of approval – up to 25 March 2022.

The DPIE approval for the use of Anzac Avenue included the following conditions:

- Anzac Avenue between Rosalind Street and Ernest Street
- 12.5m rigid heavy vehicles
- No heavy vehicle movements will be allowed from the Cammeray Avenue worksite via Anzac Avenue during school zone times on school days:
 - 8am to 9:30am
 - 2:30pm to 4:00pm
- Maximum one-way daily HV movements: 50
- Maximum one-way morning and afternoon peak HV movements: 20
- Approval duration: 12 months from the date of the approval – up to 12 April 2022

The DPIE approval for the use of Cammeray Avenue included the following conditions:

- Cammeray Avenue between Ernest Street and Rosalind Street
- 12.5m rigid heavy vehicles
- Maximum one-way daily HV movements: 50
- Maximum one-way morning and afternoon peak HV movements: 20
- Approval duration: 12 months from the date of the approval – up to 12 April 2022

The DPIE approval for the use of Amherst Street included the following conditions:

- Amherst Street between Miller Street and Cammeray Road
- 12.5m rigid heavy vehicles
- Maximum two-way daily HV movements: 35

- Maximum two-way morning and afternoon peak HV movements: 13
- Approval duration: 12 months from the date of the approval – up to 12 April 2022

The DPIE approval for the use of Cammeray Road included the following conditions:

- Cammeray Road between Park Avenue and Ernest Street
- 12.5m rigid heavy vehicles
- Maximum one-way daily HV movements: 70
- Maximum one-way morning and afternoon peak HV movements: 25
- Approval duration: 12 months from the date of the approval – up to 12 April 2022

The DPIE approval for the use of Park Avenue included the following conditions:

- Park Avenue between Cammeray Road and Ernest Street
- 12.5m rigid heavy vehicles
- Maximum one-way daily HV movements: 70
- Maximum one-way morning and afternoon peak HV movements: 25
- Approval duration: 12 months from the date of the approval – up to 12 April 2022

The DPIE approval for the use of Bells Avenue included the following conditions:

- Bells Avenue between Amherst Street and Warringa Road
- 12.5m rigid heavy vehicles
- Maximum one-way daily HV movements: 70
- Maximum one-way morning and afternoon peak HV movements: 25
- Approval duration: 12 months from the date of the approval – up to 12 April 2022

5.2 Construction traffic volumes and patterns

Table 5-5 below details the traffic volumes anticipated to access minor ancillary facilities for the critical utility works, based on those presented in the EIS. Table 5-6 below details the traffic volumes anticipated to access key worksite for the critical utility works. Where 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. Vehicle Movement Plans (VMPs) will be prepared for all ancillary facilities and will detail a restriction on heavy vehicle movements during school zone times where applicable.

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 and therefore will minimise shift start times during peak traffic times.

Table 5-5 Construction vehicle numbers required to access minor ancillary facilities

| Location | Peak vehicle movements per day | | Morning peak vehicle movements (6am to 10am) | | Evening peak vehicle movements (3pm to 7pm) | |
|------------------------------|--------------------------------|-------|--|-------|---|-------|
| | Light | Heavy | Light | Heavy | Light | Heavy |
| Ridge Street North (WHT9) | 75 | 38 | 38 | 13 | 38 | 13 |
| Cammeray Golf Course (WHT10) | 63 | 35 | 25 | 13 | 25 | 13 |
| Rosalind Street (WFU9) | 35 | 15 | 13 | 5 | 13 | 5 |
| Blue Street (WFU1) | 50 | 10 | - | - | - | - |

Note: Vehicle movements are each way.

Table 5-6 Construction vehicle numbers required to access key worksites

| Location | Peak vehicle movements per day | | Morning peak vehicle movements (6am to 10am) | | Evening peak vehicle movements (3pm to 7pm) | |
|----------------------|--------------------------------|-------|--|-------|---|-------|
| | Light | Heavy | Light | Heavy | Light | Heavy |
| Arthur Street | 80 | 40 | 30 | 15 | 30 | 15 |
| Cammeray Golf Course | 125 | 70 | 50 | 25 | 50 | 25 |
| Cammeray Avenue | 100 | 50 | 40 | 20 | 40 | 20 |
| Alfred Street North | 80 | 40 | 30 | 15 | 30 | 15 |
| High Street | 50 | 30 | 15 | 10 | 15 | 10 |

Note: Vehicle movements are each way.

5.2.1 Traffic generation from other major infrastructure projects

Critical utility 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 critical utility works area. These potential impacts are summarised in Table 5-7.

Table 5-7 Potential cumulative traffic impacts

| Project | Time Frame | Potential Impact |
|---|--|---|
| Approved major infrastructure projects | | |
| M4-M5 Link Rozelle Interchange | The construction of the M4-M5 Link Rozelle Interchange Project commenced 2019 including tunnelling and surface works, with project completion in 2023. | Heavy and light vehicle movements departing the project are anticipated to predominantly be concentrated around the Rozelle Rail Yards and Iron Cove Link sites, using City West Link and Victoria Road to access the project. |
| 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 the majority of 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. | WHT tunnel associated aspects at the Cammeray Golf Course cannot commence until the CUT works in the Cammeray Golf Course have been completed. The WHT tunnel components associated with the Ridge Street North construction support site cannot commence until SPA has completed the CUT works and demobilised from this ancillary facility. All WHT construction traffic will directly access and egress compounds via the Warringah Freeway. |
| Beaches Link and Gore Hill Freeway Connection | Early works to commence in 2023 with project completion in 2028. | Works associated with the CUT works will be completed before this Beaches Link and Gore Hill Freeway Connection commence. |
| Other major projects yet to be approved but with potential for cumulative impacts | | |

| Project | Time Frame | Potential Impact |
|--------------------------------------|--|--|
| Sydney Metro West (the Bays Station) | The project EIS was exhibited in Q2 2020 and pending project approval, the indicative program for commencement of construction of the Bays Station (White Bay) is Q3 2021 with expected completion in Q2 2024. | The Bays Station site is the project's launch site for the tunnel boring machine and subsequent spoil haulage. Heavy and light vehicle movements are anticipated to access the Bays Station site, using both the City West Link and Victoria Road to access the project. |

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 critical utility 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:

- 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 Control Plans (TCPs) 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
- In accordance with CoA E146 direct vehicular access must be provided from Mount Street, North Sydney to Alfred Street North, Neutral Bay. Access will be provided in both directions.
- 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)
- Works along Ernest Street will be undertaken in consultation with NSC
- 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 will undertake road dilapidation surveys on public local roads before they are used by heavy vehicles for works associated with the critical utility works and following completion of the works. Surveys would include pavement condition surveys, pavement condition assessments and roadside asset condition assessments.

The condition reports will include a written survey, photos and/or video of each road. A copy of the report, including mechanisms to repair damage to the road network caused by heavy vehicle movements associated with the project, shall be 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 critical utility works.

In accordance with CoA E136 before any local road is used by a heavy vehicle for the CUT 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.

6.2.2 Repair and restore

In accordance with CoA E137, if damage to roads occurs as a result of the critical utility 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.

A Road Occupancy Licence (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 State road except in the case of an emergency, or when directed by Police or Emergency services. ROL applications 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 some of the work zones, 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 critical utility 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 Manual of Uniform Control Devices (AS 1742.3) and Road Sign Specifications (AS 1743).

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 critical utility 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, Australian Standards AS1742 Manual for 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, R145 (Pavement Marking) and R142 (Retroreflective Raised Pavement Markers), TfNSW Guide to "Delineation Manual" 2014 and AS 1742 Manual of uniform 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 critical utility 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 5-4 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. Refer to Section 5.1.2 for a comprehensive list of local roads already approved for use to access the construction boundary and those requiring DPIE approval, in accordance with CoA E132.

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

| Requirements | Mitigation strategies / approach |
|---|---|
| <p>All requests to the Planning Secretary for approval under E133 must include the following:</p> <p>a. include a swept path analysis</p> | <p>A swept path analysis will be submitted with local road usage requests.</p> <p>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.</p> |
| <p>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</p> | <ul style="list-style-type: none"> • Traffic Management Plan(s) will be approved by TfNSW and Transport Management Centre (TMC) prior to the use of site access points • Signage advising of construction traffic conditions will be implemented in accordance with a Traffic Control Plan • Signage advising of altered traffic conditions will be implemented in accordance with a Traffic Control Plan • Heavy vehicles will be subject to the existing speed limits and road rules • Maintain safe and suitable two-way access for vehicles and pedestrians to adjoining properties and side roads affected by the critical utility works. Where is it |

| Requirements | Mitigation strategies / approach |
|---|---|
| | <p>unavoidable and access to a property is impacted, the works will not commence until adequate alternative access is provided or agreement is reached with the affected property. Affected stakeholders will be notified of the changes.</p> <ul style="list-style-type: none"> • Implement additional fencing (where appropriate), signposting (including VMS where appropriate) for alternative access arrangements. • Where required, authorised traffic controllers will be placed at the site access points. Authorised traffic controllers are not to stop traffic on the road to allow trucks to enter and leave the site. They must wait until a suitable gap in traffic allows them to assist trucks to exit the site. Motorists already on the road have right-of-way. |
| 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 critical utility 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 child care facilities during peak times for operation; and | <p>Heavy vehicle routes have been selected which avoid passing schools, aged care facilities and child care facilities where possible.</p> <p>Where a route passes by a school, aged care facility or child care 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> |
| 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 critical utility 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 critical utility 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 each of the critical utility works sites, however some detours may be required to improve safety or amenity of pedestrians, or accessibility of trucks entering and exiting ancillary facilities. 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 critical utility 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 critical utility works listed in Table 6-2. Pedestrian detour routes are presented in Appendix E.

Table 6-2 Identified pedestrian impacts

| Footpath location | Duration | Reason for change | Impact | Alternate route | Additional mitigation measures |
|--|--|--|--|--|---|
| Alfred St North, between pedestrian bridge and Wyagdon St | Short term closures during works, reinstated at end of each shift, undertaken over 12 months | Utility relocations | Closure of existing footpath. | Adjacent to works zone, under control of traffic controllers | Traffic controllers |
| Alfred St North access stairs to pedestrian bridge | 12 months | Utility relocations | Closure of existing stairs. | Existing pedestrian ramp | Nil |
| Stairs to unnamed access road adjacent to Alfred St North below the Ridge Street pedestrian footbridge | 2 periods of 3 months | Utility relocations | Closure of existing stairs. | Very similar alignment, in same area | Nil |
| North-western corner of Ernest Street and Anzac Avenue intersection | Multiple short term impacts (footpath closed during shift) | Installation of new conduits through footpath | Closure of existing footpath | Adjacent to works zone | Managed with traffic controllers to ensure separation between pedestrians, traffic and the works zone. |
| Cammeray Avenue | Multiple short term impacts (footpath closed during shift) | Installation of new conduits through road and footpath | Closure of existing footpath (local access only) | Cammeray Avenue | Traffic controllers to guide pedestrians through site as required, or provide a safe footpath to residences |

| Footpath location | Duration | Reason for change | Impact | Alternate route | Additional mitigation measures |
|---|--|--|------------------------------|---|--|
| Northern side of Ernest Street (between ANZAC Avenue and Cammeray Avenue) | Multiple short term impacts (footpath closed during shift) | Installation of new conduits through footpath | Closure of existing footpath | Temporary footpath to the north of the existing footpath | Nil |
| Northern side of Ernest Street (between Warringah Freeway & Park Avenue) | Multiple short term impacts (footpath closed during shift) | Installation of electrical, comms, water conduits through footpath | Closure of existing footpath | Temporary footpath to the north of the existing footpath | Nil |
| Intersection of Ernest Street & Park Avenue (NW corner) | Multiple short term impacts (footpath closed during shift) | Installation of electrical, comms, water conduits through footpath | Closure of existing footpath | Existing footpath to be used as shared path | Traffic controllers to guide pedestrians |
| Intersection of Ernest Street & Ben Boyd Road (NW corner) | Multiple short term impacts (footpath closed during shift) | Installation of electrical conduits through footpath | Closure of existing footpath | Footpath on southern side of Ernest Street | Traffic controllers to guide pedestrians |
| Northern side of Ernest Street (between Cammeray Ave and Warringah Freeway) | Multiple short term impacts (footpath closed during shift) | Installation of new conduits through footpath | Closure of existing footpath | Falcon Street pedestrian bridge (via Merlin Street and Jefferson Jackson Reserve) | Traffic controllers to guide pedestrians. Where possible, diversion adjacent to works zone (in place of detour) when traffic is on the opposite carriageway during contraflow operation |

| Footpath location | Duration | Reason for change | Impact | Alternate route | Additional mitigation measures |
|--|--|--|------------------------------|--|--|
| Northern side of Ernest Street (between Warringah Freeway and Merlin Street) | Multiple short term impacts (footpath closed during shift) | Installation of new conduits through footpath | Closure of existing footpath | Temporary footpath to the north of the existing footpath | Nil |
| Southern side of Ernest St, between Merlin Street and Warringah Freeway | 2-3 months. Short term impact during shifts | Installation of new Ausgrid and Sydney Water works | Closure of existing footpath | Footpath on northern side of Ernest St | Traffic controllers to guide pedestrians |
| Southern side of Ernest Street, between Warringah Freeway and ANZAC Avenue | Multiple short term impacts (footpath closed during shift) | Installation of new conduits through footpath | Closure of existing footpath | Adjacent to works zone, under control of traffic controllers | Managed with traffic controllers to ensure separation between pedestrians, traffic and the works zone. Temporary kerb ramps where required Traffic controllers |
| Northern side of Rosalind Street | 9 months | Establishment and use of minor ancillary facility | Closure of existing footpath | Footpath on southern side of Rosalind Street | Nil |
| Northern side of Bells Avenue, west of Warringah Road | Multiple short term impacts (footpath closed during shift) | Installation of new conduits through footpath | Closure of existing footpath | Footpath on southern side of Bells Avenue | Nil |
| Northern side of Amherst Street, west | Multiple short term impacts | Installation of new conduits | Closure of existing footpath | Footpath on southern | Nil |

| Footpath location | Duration | Reason for change | Impact | Alternate route | Additional mitigation measures |
|--|---|---------------------|----------------------------|--|--------------------------------|
| of Bells Avenue | (footpath closed during shift) | through footpath | | side of Amherst Street | |
| Cammeray Golf Course (paths between Bells Ave and Ernest St) | 2-3 months during utility relocations, on multiple occasions. | Utility adjustments | Closure of existing paths. | Other existing paths located within Cammeray Golf Course | Nil |

6.7.2 Cyclists

SPA will endeavour to maintain cyclist connectivity and functionality provided within and directly adjacent to the critical utility works area, by preserving existing facilities or providing alternative facilities as part of a detour. 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 would 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.

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 have been identified to be required at the following sites, for the associated critical utility works listed in Table 6-3. Cyclist detour routes are presented in Appendix E.

Table 6-3 Identified cyclist route impacts

| Cyclist routes | Duration | Reason for change | Impact | Alternate route | Additional mitigation measures |
|--|---|--|------------------------------|---|--|
| Northern side of Ernest Street, between Park Avenue and Merlin Street | 2-3 months during utility relocations | Installation of new conduits through cycleway | Closure of existing cycleway | Existing footpath to be used as shared path | Nil |
| Northern side of Ernest Street, between Warringah Freeway and Merlin Street | Multiple short term impacts (shared path closed during shift) | Installation of new conduits through cycleway. Install construction access into Cammeray Golf Course. | Closure of existing cycleway | Temporary footpath to the north of the existing footpath | Traffic controllers to guide cyclists. Cyclists may be asked to dismount from bike |
| Merlin Street bike path (N/S) at Ernest Street & Merlin Street intersection. | During short term closures at night | Installation of electrical conduits through cycleway | Closure of existing cycleway | Existing crossing on western side of intersection to be used as shared path | Traffic controllers to guide cyclists |

| Cyclist routes | Duration | Reason for change | Impact | Alternate route | Additional mitigation measures |
|---|---|--|---|--------------------------|--|
| Cammeray Golf Course (cycleway from Miller Street / Warringah Freeway to Ernest St) | 6 months | Utility adjustment works on Ernest St | Closure of existing dedicated cycle path. | On road on Ernest Street | Traffic control guidance for cyclists passing works site while work is occurring |
| Winter Avenue | During short term closures of Alfred Street North | Utility adjustments on Alfred Street North | Closure of existing dedicated cycle path. | Winter Avenue | Traffic control guidance for cyclists passing works site while work is occurring |

6.8 Public transport

SPA will seek to minimise disruption to the current level of service of public transport services. Where impacts to bus lanes or bus stops are identified the project will consult with the bus operators and other divisions of Transport for NSW to identify appropriate mitigation.

If short-term closures of bus lanes are required, buses will use the adjacent general traffic lanes. Where possible, temporary closure of the bus lanes will be undertaken during the short periods that these bus lanes would not be in operation.

In accordance with CoA E149, if bus stops are required to be temporarily closed or relocated, such closure will not occur until relocated bus stops 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 the critical utility works will be undertaken in consultation with relevant council(s). Wayfinding signage will be provided directing commuters to adjacent or relocated bus stops. Footpaths and (where required) road crossing facilities will be provided to any relocated bus stops such that accessibility and safety standards are met. In some instances, bus stop relocation will require some existing parking spaces to be removed.

Required changes to bus stops will be documented and approved through the appropriate Traffic Management Plan and/or Traffic Control Plan (refer to section 6.13). Advance notification will be provided to affected bus customers of the changes to stopping sequences and location of bus stops.

The community will be notified in advance of proposed transport network changes, in accordance with the Community Communication Strategy.

No bus stops have been identified as requiring relocation as part of the CUT works. However, should any bus stops be identified as requiring location SPA will first consult with TfNSW and relevant bus operators prior to bus stop relocation to ensure that any proposed alternative bus stop locations are suitable.

6.9 Property access

There are no known impacts on existing commercial or residential properties as access will be retained throughout the 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, 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 will be developed in consultation with affected businesses and implemented prior to the disruption. In accordance with CoA E129, any property access physically affected by the CUT works will be reinstated to at least an equivalent standard, unless otherwise agreed by the landowner or occupier.

Where practicable, access to all utilities and properties will be maintained during critical utility works, unless otherwise agreed with the relevant utility owner, landowner or occupier (CoA E128).

In the event property access is affected by the critical utility 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

SPA will provide car parking facilities to support its work areas and ancillary facilities to minimise worker parking on local roads and streets, and state and regional roads. The bulk of this car parking storage will be within the Ridge Street and Cammeray Golf Course minor ancillary facilities. Limited worker parking will also be provided at the individual work sites. The workforce will be encouraged to use public transport where available, with key bus corridors including Pacific Highway, Warringah Freeway, Miller Street, Falcon Street and Military Road. In addition, the T1 North Shore and T9 Northern Lines are accessible from Milsons Point, North Sydney, Wollstonecraft and Waverton railway stations.

Some on street parking will be temporarily removed adjacent to construction ancillary facilities during critical utility works where the utility is installed within the parking lane, to create a safe working environment where construction activities to support the utility works are within the parking lane, and provision of turning paths for construction trucks. Any NSC parking sensors to be removed will be done following approval from NSC. At least 7 business days' notice will be given to NSC prior to the removal of any NSC parking sensors.

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) will be prepared to identify and mitigate impacts resulting from on- and off-street parking changes during the critical utility works. The strategy will be submitted to DPIE 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. Following approval by DPIE, the CPAS will be appended to this TTAMP in accordance with CoA E140. The CPAS lodged with DPIE on [insert date] with approval of the CPAS given by DPIE on [insert date].

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. Ancillary facilities associated with the CUT works will provide adequate off-street parking spaces for the construction workforce. In addition to this, shuttle bus services would not be practical given:

- The scope of the CUT works is tool and equipment intensive, therefore construction vehicles are required to travel from ancillary facilities to worksites. Such equipment can't be accommodated on shuttle buses
- The scope of the CUT works is not labour intensive, therefore shuttle buses would unlikely be filled
- The nature of the CUT works means that the workforce numbers are highly variable
- The distance between some ancillary facilities and their associated worksites are short in distance and where possible, the construction workforce could walk to the worksite. For instance:
 - Ridge Street North ancillary facility to Alfred Street North: about 125 metres distance
 - Rosalind Street ancillary facility to Cammeray Avenue: about 200 metres distance
 - Cammeray Golf Course ancillary facility to Cammeray Gold Course worksites: about 50m distance
 - Blue Street ancillary facility to Pacific Highway worksite: about 150 metres distance.

6.11 Special events

Consideration for work sites will be undertaken during scheduled special events. Special events that occur in the vicinity of the worksite will be identified and incorporated into the construction program, with detailed responses and contingencies, as required.

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 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

Traffic Management Plans (TMP) conforming to AS 1742.3 and the TfNSW Traffic Control at Worksites manual 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" 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 CUT works (refer to Appendix D). This 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 5-5 and Table 5-6. 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.

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) to assess the safety performance of new or modified roads including traffic staging during CUT works (road safety audit), 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. 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 CUT works throughout construction. The purpose of this will be to ensure that the mitigation measures identified during the environmental risk assessment (refer to Section 3.2.1 of the CEMP) are being 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 and 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 critical utility 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 5.1.1.</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.</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.</p> | <p>Traffic Management Plans</p> <p>Complaints register</p> | EIS – Chapter 28 |

Appendix B Condition of Approval and REMM Compliance Tracking

The Conditions of Approval and Revised Environmental Management Measures 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 | <table><tr><td>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.</td><td>Required CEMP Sub-plan</td><td>Relevant government agencies to be consulted for each CEMP Sub-plan</td></tr><tr><td>(a)</td><td>Traffic, transport and access</td><td>Relevant council(s)</td></tr></table> <p>a.</p> | | | 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 | (a) | Traffic, transport and access | Relevant council(s) | This Plan Section 4 | <p>This TTAMP has been prepared in accordance with this condition and describes how SPA proposes to manage traffic during construction of the Project.</p> <p>Consultation of this Plan will be in accordance with this condition. Section 4 outlines the consultation undertaken with the relevant government agencies.</p> |
| 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 | | | | | | | | | |
| (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 | | | Section 2.2 Section 5 | This TTAMP has been prepared in accordance with the environmental performance outcomes identified in the EIS as evidenced in section 2.2 and Appendix | | | | | | |

| CoA No. | Condition Requirements | Document reference | How addressed |
|---------|--|--|--|
| | | Section 6 | A of this Plan, as applicable to the CUT work. Measures to achieve these outcomes are detailed in sections 5 and 6 of this Plan. |
| (b) | the mitigation measures identified in the documents listed in Condition A1 will be implemented | Section 5 Section 6 Appendix B | <p>The implementation of traffic management and mitigation measures identified in the EIS and RtS is addressed in sections 5 and 6 of this Plan.</p> <p>Section 6 of this Plan addresses the traffic management measures SPA proposes to implement during critical utility works of the Project.</p> <p>Section 7 of this Plan details compliance management measures SPA proposes to implement during critical utility works of the Project.</p> <p>Refer to Appendix B for a complete list of relevant REMMs and where in the document they are addressed.</p> |
| (c) | the relevant terms of this approval will be complied with; and | Section 3.2 Appendix B Section 5 Section 6 | Details regarding how SPA proposes to comply with the relevant terms of approval are listed in section 3.2, this Table and sections 5 and 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 | Traffic issues requiring management during critical utility works of the Project 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 Sub-plan and the measures in Sections 5 and 6. |

| CoA No. | Condition Requirements | Document reference | How addressed |
|---------|---|---|--|
| | | A4 of the CEMP Section 3.8 to 3.12 of the CEMP | Mitigation measures 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 will be submitted for approval to DPIE with, or subsequent to, the final submission of the CEMP for DPIE 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 DPIE. The CEMP and all Sub-plans will be implemented for the duration of construction for the critical utility 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 critical utility 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 5-4. 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 critical utility 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 child care 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 critical utility 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 critical utility works, as detailed in Section 6.7.1 and Section 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 in the Construction Parking and Access Strategy. 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 | Construction Parking and Access Strategy will be prepared for the critical utility works and will be submitted to DPIE separately. |

| CoA No. | Condition Requirements | Document reference | How addressed |
|---------|---|--------------------|--|
| | <p>[...]</p> <p>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.</p> | Access Strategy | The CPAS will be appended to this TTAMP following DPIE approval. |
| 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 critical utility works. Where access is impacted, alternative access will be provided unless otherwise agreed with the affected property. |
| E145 | 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. | 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 |
|---------|--|--------------------|---|
| | <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> <p>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.</p> | | |
| E146 | Direct vehicular access must be provided from Mount Street, North Sydney to Alfred Street North, Neutral Bay. Access must be provided in both directions | Section 6.1 | The CUT scope of works will have no impacts on this intersection and therefore will not impact on this required movement. Notwithstanding, this has been included as a management measure in Section 6.1. |
| 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 CUT works. Where bus stops are relocated the project will ensure alternative access is available as outlined in Section 6.8 |

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

| Impact | Ref # | Commitment | Timing | TTAMP reference |
|----------------------|-------|--|----------------------------------|---|
| 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 |
| 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 Community Communication Strategy |
| 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 5.1 Section 6.7 |
| Construction | CTT8 | Directional signage, barriers and/or linemarking 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 | Construction | Section 6.5 |

| Impact | Ref # | Commitment | Timing | TTAMP reference |
|----------------------|-------|---|--------------|--|
| | | potential delays, traffic diversions, speed restrictions, or alternative routes. | | |
| Construction traffic | CTT9 | Where provision of construction on-site parking cannot accommodate the 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. | Construction | Section 6.10 Construction Parking and Access Strategy |
| Construction traffic | CTT10 | Any adjustments to existing bus stops will be determined in consultation with relevant stakeholders including other divisions of Transport for NSW and advanced notification will be provided to affected bus customers. Relocations will be as close as feasible and reasonable to their existing position. | Construction | Section 6.8 |
| Construction traffic | CTT12 | 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 where feasible and reasonable. | Construction | Section 6.1 |
| Construction traffic | CTT13 | Partial or full closures of Warringah Freeway will be carried out in consultation with Transport Coordination within Transport for NSW. | Construction | Section 4 |
| 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 for DPIE approval under CoA E132



Legend

- | | |
|--|---|
| Construction support site | Approved local roads |
| Construction footprint | Local roads for approval |





Appendix D 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.



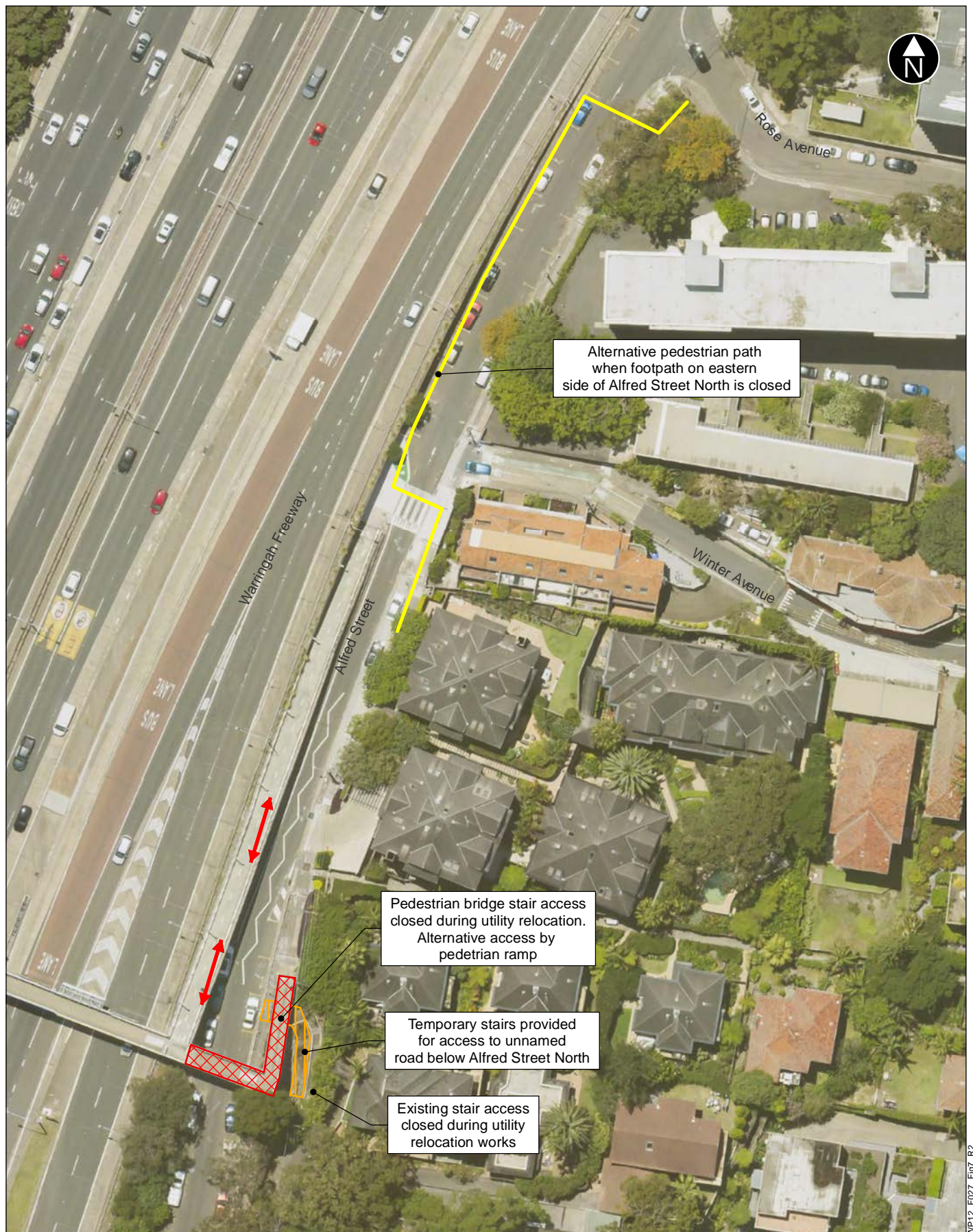
DRIVER CODE OF CONDUCT

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 E Pedestrian and cyclist detour locations



Cammeray pedestrians and cyclist detours



Neutral Bay cyclist and pedestrian detours



North Sydney precinct cyclist and pedestrian detours