



Construction Traffic Management Plan – Five Dock Metro Station East & West Construction Sites

SMWSTCTP-AFJ-FDK-TF-PLN-000001 Revision 19

Sydney Metro West – Central Tunnelling Package



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1. INTRODUCTION

1.1 CTMP CHANGE SUMMARY

Throughout the duration of the project, updates to CTMPs may be required. These updates may result in changes to the CTMP to cater for legislation changes, scope of work changes, or for other reasons to maintain the safe and efficient operation of the project. Changes associated with this revision are as detailed below, within Table 1.

TABLE 1: CTMP CHANGE SUMMARY

CTMP Revision	Date of Revision	Summary of changes
17	18/03/2025	This CTMP has been updated to revision 17 to include: Inclusion of the Local Area Works and driveway designs (LAW designs) within Appendix H, to clearly show traffic conditions that will be handed over to Sydney Metro at completion of AFJV's CTP works.
18	15/04/2025	This CTMP has been updated to Revision 18 to CJP comments received on revision 17. Adjustments made as part of this revision are primarily limited to Appendix H.
19	06/05/2025	This CTMP has been updated to Revision 19 to CJP comments received on revision 18. Adjustments made as part of this revision are primarily limited to Appendix H.

1.2 PROJECT BACKGROUND

The Sydney Metro West Central Tunnelling Package involves the construction of 11.5km of twin tunnel metro line from The Bays Precinct to Sydney Olympic Park, which will be connected with the Sydney Metro City & Southwest and double the rail capacity to/from Sydney CBD.

FIGURE 1: OVERVIEW OF SYDNEY METRO WEST



The Acciona Ferrovial Joint Venture (AFJV) will deliver the Project in partnership with NSW Government and Sydney Metro (SM).

2. PURPOSE AND OBJECTIVES

2.1 PURPOSE

AFJV aims to maintain a safe environment for all road users by effectively maintaining traffic flows during the works and managing construction vehicles to/from the work sites.

This Construction Traffic Management Plan (CTMP) has been prepared to meet the following requirements for the Five Dock metro station site as part of the Sydney Metro West – Central Tunnelling Package (the Project):

- The Project's General Specifications Section 2.11 and Section 5.1.11.1
- EIS Technical Paper 1 – Traffic and Transport Mitigation Measures
- EIS Construction Traffic Management Plan Framework
- Minister for Planning and Public Spaces' Concept and Stage 1 Conditions of Approval (COA) for the State Significant Infrastructure (SSI 10038).

The scope of this CTMP is to detail the long-term traffic changes associated with the construction of Five Dock metro station site. This CTMP and the documents referenced in the CTMP have been prepared in accordance with the relevant standards and guidelines.

AFJV will provide safety measures to a wide range of stakeholders potentially affected by the works including but not limited to motorists, pedestrians, cyclists, public transport users, local residents and property owners, business owners and workers/ staff engaged on the Project.

2.2 OBJECTIVES

The primary objectives and principles of this CTMP are:

- Keeping traffic delays to a minimum
- Minimising disruption to businesses
- Minimising disturbance to the environment
- Ensuring traffic impacts are within the scope permitted by Transport for NSW (TfNSW), SM and City of Canada Bay Council.
- Ensure the safety of employees, contractors and road users
- Meet the requirements of the Project brief, project specifications, COA and TfNSW Traffic Control at Work Sites (TCaWS) Manual 2022.

3. EXISTING TRAFFIC CONDITIONS

3.1 EXISTING ROAD NETWORK

3.1.1 GREAT NORTH ROAD

Great North Road is a classified state arterial road between Lyons Road and Parramatta Road. Great North Road is generally configured with a single traffic lane in both northbound and southbound directions where some sections are separated by a central median. In the immediate vicinity of the site, kerbside parking is permitted for up to 30 minutes along both sides of the road. The posted speed limit of Great North Road is 50km/h.

3.1.2 FIRST AVENUE

First Avenue is a local road aligned in the east-west direction between Great North Road and Henley Marine Drive. First Avenue is configured with a single 3m to 3.3m wide traffic lane in both directions. Unrestricted kerbside parking is available along both sides of the road with short sections of two-hour restricted parking and bus zones along the retail frontages. The posted speed limit of First Avenue is 50km/h.

3.1.3 SECOND AVENUE

Second Avenue is a local road serving access to residential properties and some local businesses. Second Avenue is a two-way undivided road with a carriageway width of approximately 7.8m. Parking is generally provided along both sides of the road with some sections of “No Stopping” to maintain two-way traffic flow. The posted speed limit on Second Avenue is 50km/h.

3.1.4 WATERVIEW STREET

Waterview Street is a local road dissecting through First Avenue and Second Avenue in the north-south alignment. In the near vicinity of the construction site, Waterview Street serves as a direct access to local residents and Waterview Street Car Park. Waterview Street has a carriageway width of approximately 9.6m between First Avenue and Second Avenue with unrestricted kerbside parking available along both sides of the road with two-hour restricted short-term parking along the frontage of Waterview Street Car Park. The default speed limit of Waterview Street is 50km/h.

3.1.5 EAST STREET

East Street is a local road which runs north-south and is to the west of Great North Road. East Street runs between Lyons Road West (to the north) and ends in a cul-de-sac at the southern end, just south of Henry Street. The default speed limit of East Street is 50km/h.

3.1.6 HENRY STREET

Henry Street is a local road which runs east-west between Great North Road (to the east) and Harris Road (to the west). It serves as a collector type road and lined with predominantly residential properties. The default speed limit of Henry Street is 50km/h.

3.2 EXISTING TRAFFIC VOLUMES

Environmental Impact Statement of Sydney Metro West Stage 1 (Chapter 10 Transport and Traffic) documents the existing traffic volumes around the Five Dock metro station construction site, as shown in Table 2.

TABLE 2: EXISTING TRAFFIC VOLUME (2019)

Road	Location	Direction	AM Peak Traffic Volume (vph)	PM Peak Traffic Volume (vph)
Second Avenue	East of Great North Road	Eastbound	70	90
		Westbound	30	80
Waterview Street	North of First Avenue	Northbound	20	80
		Southbound	20	110
First Avenue	East of Great North Road	Eastbound	290	270
		Westbound	100	160
Great North Road	North of Garfield Street	Northbound	490	570
		Southbound	540	600

Reference: EIS

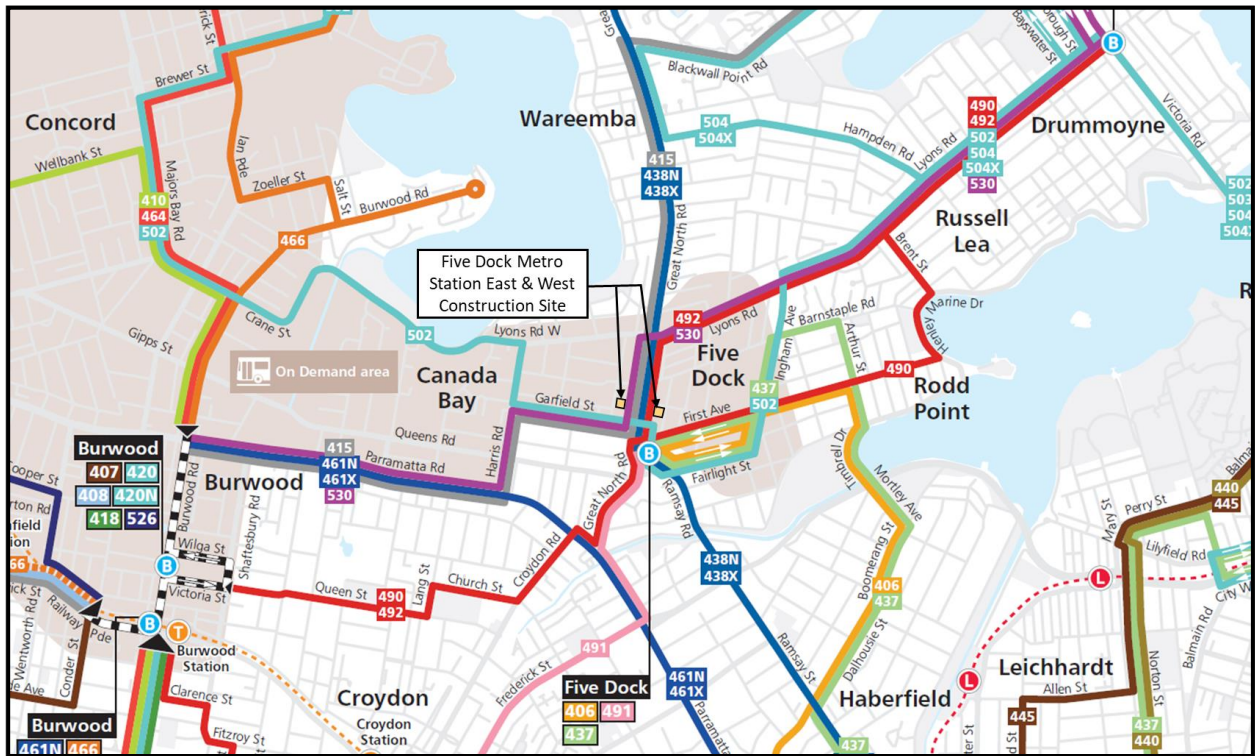
3.3 PUBLIC TRANSPORT NETWORK

The existing bus service network within the vicinity of the Five Dock metro station construction sites is shown in Figure 2. The bus route services travelling in the vicinity of the Five Dock metro station east and west construction sites are detailed in Table 3.

TABLE 3: BUS SERVICES AND FREQUENCIES

Route No.	Route Description	Weekday Service Frequencies (No. of services)	
		AM Peak (7:00am–9:00am)	PM Peak (4:00pm–6:00pm)
406	Five Dock to Hurlstone Park	4	4
415	Campsie to Chiswick	4	4
437	Five Dock to City QVB via City West Link	5	8
438X	Abbotsford to City Martin Place (Express Service)	30	12
490	Drummoyne to Hurstville	3	5
491	Hurstville to Five Dock	8	9
492	Drummoyne to Rockdale	3	4
502	Cabarita Wharf to Drummoyne & City Town Hall	7	4
530	Burwood to Chatswood	5	5

FIGURE 2: PUBLIC TRANSPORT NETWORK SURROUNDING FIVE DOCK METRO STATION CONSTRUCTION SITES

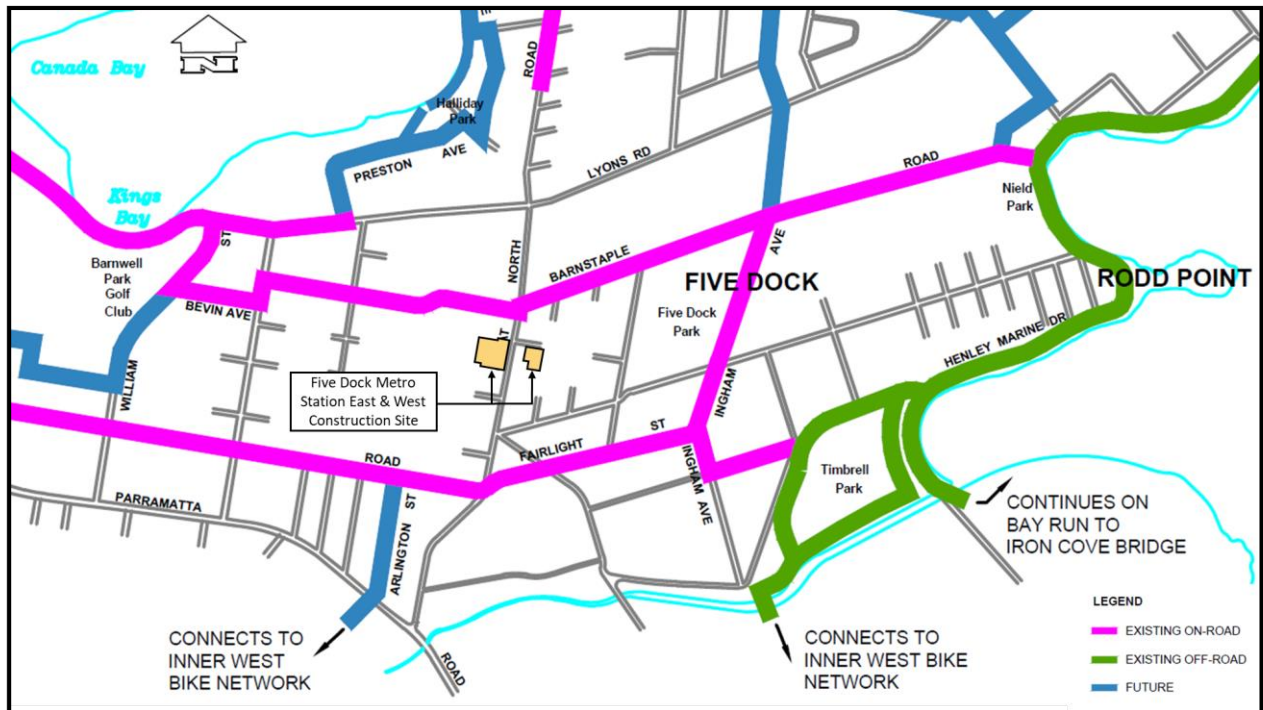


3.4 PEDESTRIAN AND CYCLIST NETWORK

The Five Dock metro station construction sites and surrounds are located within the retail strip along Great North Road. Pedestrian accessibility to this area is very convenient with 1.3m-1.5m wide footpaths provided along both sides of the road and wider pedestrian walkways ranging up to 5m available along both sides of Great North Road. Signalised pedestrian crossings are available on Great North Road for crossing opportunities.

In the immediate vicinity of the site, there are no cycling facilities available on Great North Road. The nearest cycle route is on Henry Street and Barnstaple Road. Cyclists are to share these roads with vehicles as indicated by the bicycle pavement markings along the road. Based on City of Canada Bay Council's cycle map (see Figure 3), there are no future cycle links on Great North Road between Halley Street and Queens Road.

FIGURE 3: CYCLE NETWORK SURROUNDING FIVE DOCK METRO STATION CONSTRUCTION SITES



Source: City of Canada Bay Bike Network Map

3.5 ON-STREET PARKING

The existing on-street parking in the near vicinity of the Five Dock metro station construction sites are shown in Figure 4.

Great North Road between Lyons Road and Queens Road is an all-day short term parking area restricted to 30 minutes. In addition, there are two bus zones along both sides of Great North Road between Second Avenue and Garfield Street. Along the Great North Road frontage of the western construction site, there are approximately 10 on-street parking spaces restricted to 30 minutes. Along the East Street frontage of the site, there are three unrestricted parking spaces and one accessible parking space.

At the road frontages of the eastern construction site, there are five unrestricted parking spaces on Waterview Street. There are four parking spaces restricted to one hour along the Second Avenue frontage of the site.

It is noted that Waterview Street car park is located approximately 60m south of the eastern construction site. Waterview Street car park is a public car park that accommodates 67 vehicles for the local retail shops along Great North Road.

FIGURE 4: ON-STREET PARKING SURROUNDING FIVE DOCK METRO STATION CONSTRUCTION SITES



4. GENERAL CONSTRUCTION DETAILS

4.1 OVERVIEW OF CONSTRUCTION ACTIVITIES

The following construction activities have been undertaken in order to deliver the CTP scope of works:

- Five Dock metro station east construction site
 - Site establishment and demolition works
 - Construction of two driveways on Waterview Street and Second Avenue.
 - Construction of acoustic shed containing the site
 - Establishment of spoil stockpile area.
 - Excavation of station shaft.
 - Installation of site utility and services.
 - Installation of site offices and ancillary facilities.
 - Installation of gantry crane across the station shaft.
 - Installation of hoarding along Waterview Street and Second Avenue.
 - Operational support and maintenance activities for tunnelling
- Five Dock metro station west construction site
 - Site establishment and demolition works
 - Construction of two driveways on Great North Road.
 - Excavation of station box.
 - Construction and installation of site utility and services.
 - Establishment of spoil stockpile area.
 - Installation of site offices and ancillary facilities.
 - Installation of hoarding along Great North Road and East Street.
 - Adjustments to the western site to install a turntable for construction vehicles, providing for forward in and out movements, this is further detailed within Section 5.2.6.
 - Operational support and maintenance activities for tunnelling
 - Construction, use of, and dismantling of sidewall lining formwork

Following initial site establishment works, bulk excavation and other construction activities listed above, various remaining construction activities will take place, including:

- Concrete pours for lining
- Removal of gantry crane and spoil shed from the east site
- Removal of other site facilities before handover of the site to Sydney Metro's follow-on contractor.
- Adjustments to hoarding, signage and various other site features before handover of the site at completion.

Indicative Five Dock metro station east and west construction site layouts are provided in Appendix A.

The following roads have been converted to one-way operation to facilitate construction heavy vehicle movements entering and exiting the eastern construction site:

- Waterview Street between First Avenue and Second Avenue has been converted to one-way in the northbound direction.
- Second Avenue between Great North Road and Waterview Street has been converted to one-way in the westbound direction.

Construction activities commenced in January 2022 and are expected to be completed in mid-2025.

4.2 CONSTRUCTION WORKING HOURS

The proposed construction activities would be carried out at the following working days and hours:

- Monday to Friday: 7:00am – 6:00pm
- Saturday: 8:00am – 6:00pm
- Deliveries between 7:00am – 10:00pm as per Condition D37 (d)(iii)

Tunnel and other activities exempted under CoA D37 will operate 24 hours a day, 7 days a week (not traffic related).

Works outside of these hours will occur on occasion. These works will only occur following notification to residents, businesses and stakeholders, times will be restricted to approved ROL times only, where applicable.

4.3 HAULAGE ROUTES

The designated haulage routes for heavy vehicles are detailed below and shown in Figure 5 and Figure 6 below, a full copy of the Vehicle Movement Plans (VMP) can be found within Appendix C.

- Inbound Routes
 - **East Site Route:** Great North Road (northbound), First Avenue and Waterview Street
 - **West Site Route:** Great North Road (northbound)
- Outbound Routes
 - **East Site Route:** Second Avenue and Great North Road (southbound)
 - **West Site Route:** Great North Road (northbound), Lyons Road and Victoria Road

FIGURE 5: CONSTRUCTION HEAVY VEHICLE ROUTES WEST SITE

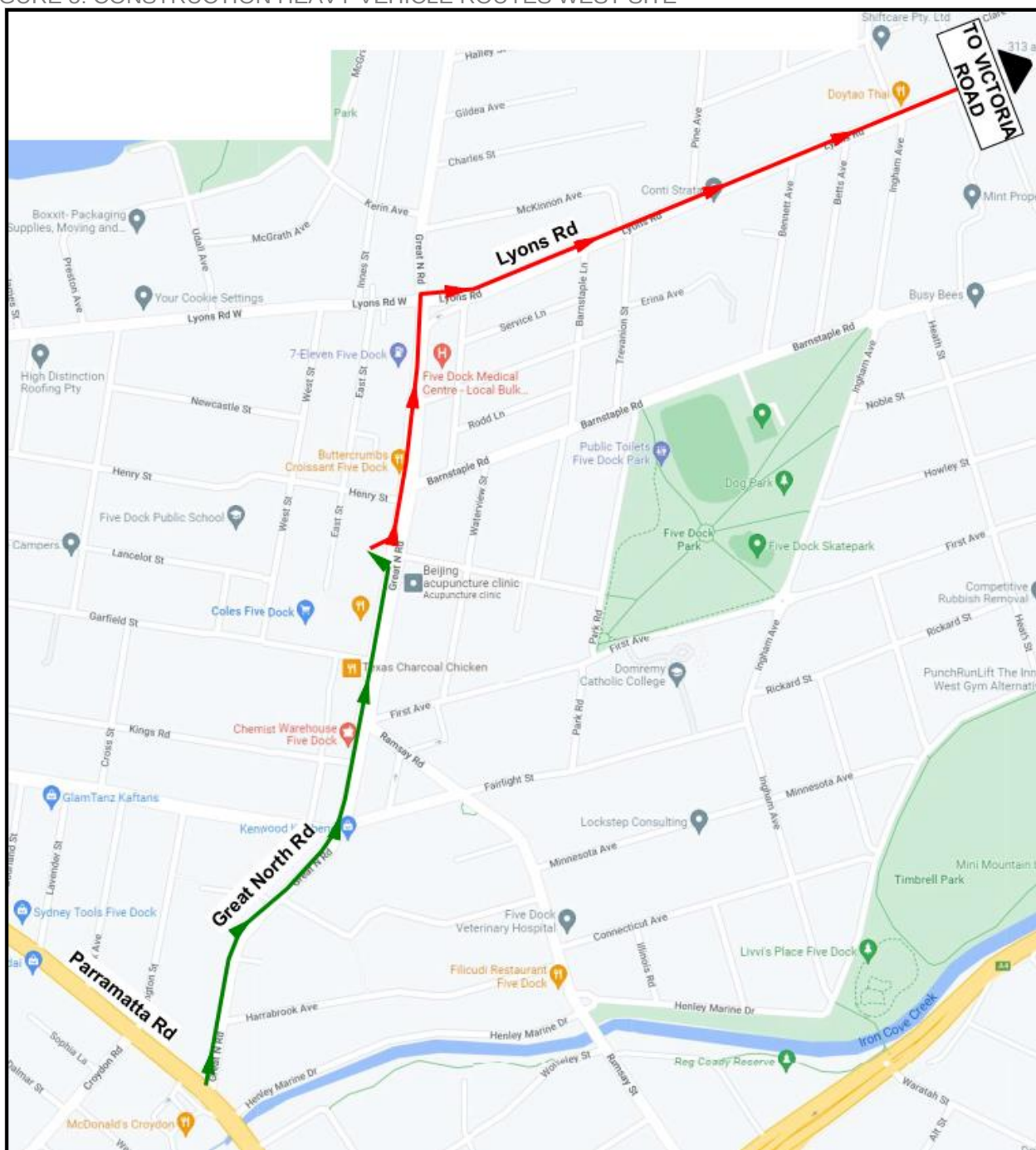
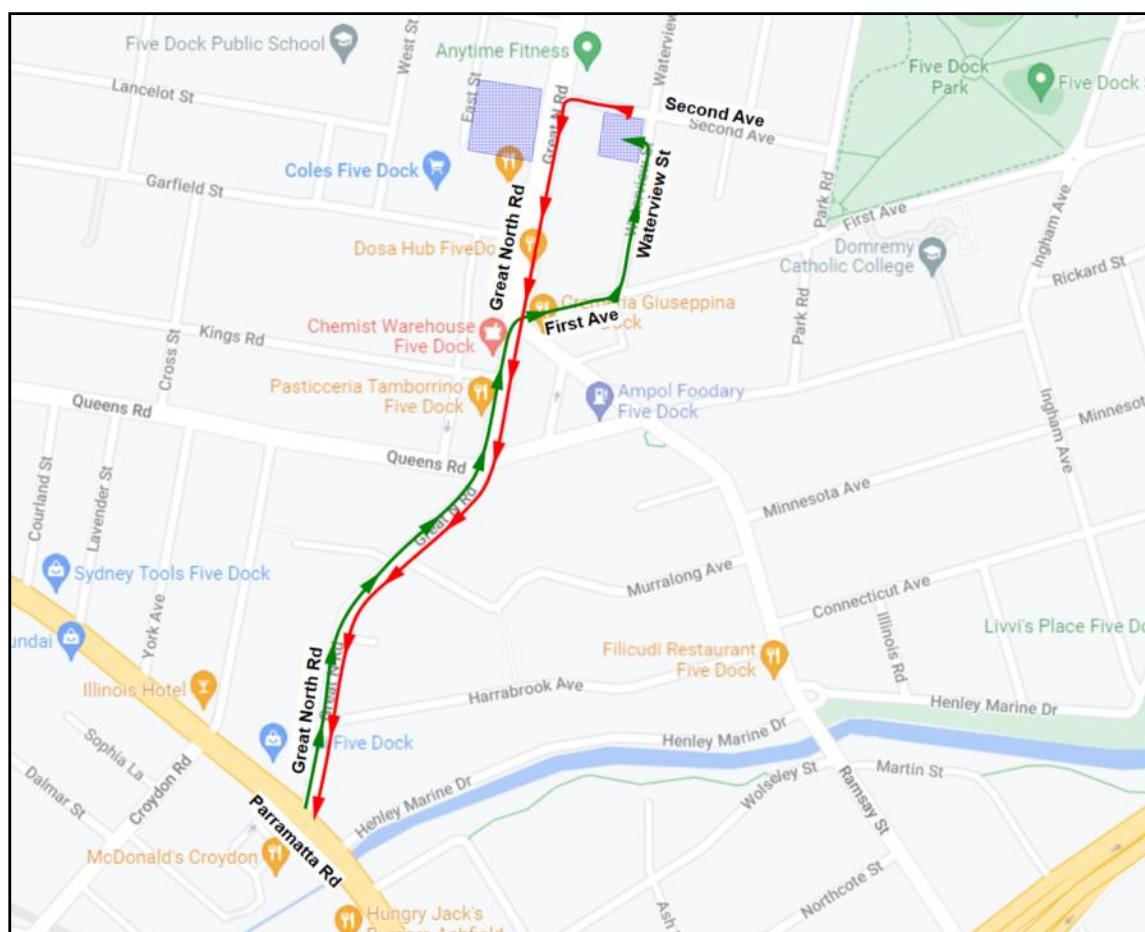


FIGURE 6: CONSTRUCTION HEAVY VEHICLE ROUTES EAST SITE



On occasion, some heavy vehicle movements may need to occur that are not shown within this CTMP, in this instance the vehicles would still be restricted to state roads and the haulage routes defined within this CTMP. Variation to these access routes will only be adopted if width, swept path and access constraints exist. These movements will only occur with an approved TGSs and VMP in place, and ROLs and/or council approvals, where required.

The proposed site access gates as shown in Appendix A are detailed in Table 4.

TABLE 4: SITE ACCESS AND EGRESS ARRANGEMENTS

Gate Number	Site Access to	Access and Egress Movements	Largest Vehicle Type
Gate FD 01	Loading area of Five Dock metro station west construction site	Great North Road	Heavy rigid vehicles
Gate FD 02	Loading area of Five Dock metro station west construction site	Great North Road	Heavy rigid vehicles
Gate FD 03	Loading area of Five Dock metro station east construction site	Waterview Street	Heavy rigid vehicles
Gate FD 04	Loading area of Five Dock metro station east construction site	Second Avenue	Heavy rigid vehicles

It is proposed that additional haul routes using state and regional routes be included:

- The southbound movement on Great North Road from Lyons Road
- The westbound movement on Lyons Road from Victoria Road to Great North Road
- The southbound movement from Great North Road, onto Parramatta Rd, Wattle Street, Ramsay Street and back onto Northbound Great North Road.
- The Southbound movement from the western site, southbound on Great North Road, to Parramatta Road.

These additional haul route options will provide flexibility with 'truck loops' and 'East site to West site' movements, should there be congestion at either of the sites and they cannot enter. Marshalling areas in this location are limited, where difficulty arises, it's anticipated trucks will need to 'loop' and come back to the site.

The above detailed 'truck loops' and 'East to West site' movements are intended for irregular use only, and as a last resort. Primary measures to prevent trucks from queuing, will be to stagger truck bookings and use 'Linkedsite' to monitor spoil truck movements, and divert trucks to alternate project sites. If or when these additional movements are required; it's anticipated that there will be no more than approximately 1 truck per hour during peak times.

At times truck reversing movements will be required, to facilitate:

- During demobilisation of the eastern site where all construction works at Five Dock would need to be carried out from the western site. This is expected to take place between December 2024 and April 2025 and would require approximately 20 truck reversing movements per day.
- During the demobilisation of the Five Dock western site, expected to occur between February 2025 and April 2025. Approximately 20 truck reversing movements per day would be required for these works.

These reversing movements will be restricted to rigid vehicles only. Anytime where larger OSOM or 19m semies need to reverse into the site, this will occur at night. All reversing movements regardless of vehicle size will only take place under traffic control and in accordance with an approved ROL, as further detailed below within section 5.1.2. Reversing entry movements at the western site will be spaced out to ensure construction vehicles do not queue onto the roadway and public traffic is not adversely affected. These movements would be restricted to a maximum of 4 per hour.

5. CONSTRUCTION TRAFFIC AND TRANSPORT MANAGEMENT

5.1 LONG TERM TRAFFIC CHANGES

5.1.1 TRAFFIC STAGING

Traffic staging drawings have been prepared to detail the proposed traffic management measures for the east and west construction sites with the following key features as shown in Figure 7 and a full copy within Appendix B.

- Waterview Street between Waterview Street car park and Second Avenue converted to one-way traffic flow in the northbound direction, while the existing two-way operation remains south of the car park access
- Second Avenue between Great North Road and Waterview Street is to be converted to one-way traffic flow in the westbound direction.
- A half road closure on the southern leg of the Waterview Street and Second Avenue intersection to physically restrict traffic from entering Waterview Street in the southbound direction.
- Appropriate signage installed to inform motorists of the one-way conversion of Waterview Street and Second Avenue, including One Way, No Entry, No Left Turn and No Right Turn signs.
- Appropriate signage on approach to the site, including Truck warning signs and distance plates.
- Pedestrian management at the site access gates.
- Speed reduction on Great North Road, to be installed to increase public safety.

Dates of the traffic stages listed above may change due to unforeseen circumstances such as weather and construction program changes. Community updates and updates during TTLG meetings will be provided as works progress.

The one-way northbound traffic flow on Waterview Street will avoid conflicts between AFJV heavy vehicles and any oncoming vehicles while maintaining on-street parking along both sides of the road.

The one-way westbound traffic flow on Second Avenue will maximise the available space to accommodate AFJV heavy vehicles exiting the construction site and the left turn movement onto Great North Road.

5.2 ADDITIONAL TRAFFIC CONTROLS & MITIGATIONS

Primarily during 2022 and early 2023, a high level of public non-conformance was identified. This includes; public not following traffic control instructions, not following basic road rules, and not adhering to regulatory and warning signage. For this reason, numerous additional safety measures have been considered. This section of the CTMP explains the safety concerns and controls that have been installed to date.

5.2.3 SAFETY CONCERNS

Shortly after the start of construction activities in early 2022, it was noted that an unusually large unwillingness from the public to follow regulatory and warning signs, or follow Traffic Controller instructions. This included:

- Vehicles not complying with regulatory and warning signage.
- Pedestrians not complying with regulatory and warning signage and crossing the road at uncontrolled locations.
- Pedestrians crossing the road adjacent to site driveways, further increasing risk.
- Drivers not complying with traffic control instructions

5.2.4 CONTROL MEASURES IMPLEMENTED

A number of adjustments and additional control measures have been adopted to date, including:

- Speed reduction to 40km/h on Great North Road.
- Additional regulatory signs, line marking, and traffic management devices installed.
- CCTV installed for a period of time to help identify safety issues and how best to manage them.
- Public non-conformance reported to the police
- Police engaged under a 'user pay' agreement to attend site for 6hr shifts at various times and dates (during construction hours) across a month. This was intended to create a public perception that 'police could be there at any time'.
- Additional traffic controllers on site at strategic locations, during working hours.
- An additional traffic controller at both site access gates at the west site on Great North Road. This will be in place during all working hours and times when bulk haulage operations are taking place.
- Additional custom pedestrian signage and gates to be installed at each side of both driveways on Great North Road.
- During reversing movements, truck and dogs, 19m Semies or OSOM loads will not be permitted at the western site, the reversing of trucks will be restricted to rigid vehicles only. Where larger trucks can not be avoided these movements would occur at night only.
- During reversing movements, Traffic Control positioned along Great North Road to control traffic via 'intermittent traffic stops'.
- Provision to reduce reversing movements at the western site as further detailed below within Section 5.2.6.
- A footpath closure on Second Avenue and Waterview Street as further detailed below within Section 5.7.1.

Following installation of the previous revisions of this CTMP, the above listed control measures have been regularly inspected and audited. These inspections have found a significant improvement to safety with no further concerns being identified.

Inspections and auditing will continue throughout the use of this Revision of the CTMP, any deficiencies identified will be actioned accordingly.

5.2.5 CONTROL MEASURES CONSIDERED (NOT ADOPTED)

The option of installing an additional level pedestrian crossing, North of Second Avenue, to facilitate east/west pedestrian crossings was investigated. Intent of the pedestrian crossing would be to

facilitate the closure of the western footpath on Great North Road. This crossing was not installed for two primary reasons as listed below:

- Local residents and businesses expressed concern with; removal of parking spaces that would be required to install the additional pedestrian crossing.
- The possibility of increasing risk to pedestrians, by introducing a new pedestrian crossing that vehicles may fail to stop at (three pedestrian crossings within a 160m distance). This was considered a concern primarily due to the high level of public non-conformance in the area.

The option of implementing daily footpath closures, without the level pedestrian crossing described above. This measure was not adopted due to the following primary reasons:

- The associated impact to local businesses and residents.
- Concern this could result in further public non-conformance increasing the overall risk of negative public pedestrian and vehicle interactions.

5.2.6 WESTERN SITE TURNTABLE INSTALLATION

Following completion of bulk excavation activities, AFJV has investigated an opportunity to install a bridge. This bridge would span across the station box of the western site to allow heavy vehicles to perform a forward in and forward out movement.

Upon assessing installation of the bridge, it was determined not the most appropriate control measure to provide for forward in and forward out movements. This is primarily due to:

- The significant night works required and temporary traffic management requirements during installation.
- A significant quantity of high risk crane works required.
- Potential delays to other works during installation.
- The bridge providing no significant benefit when compared to installing a turntable.

It was determined that installing a turntable would be more appropriate.

Installing a turntable reduces the need for reversing movements as the primary method of entry to site. Construction vehicles will be permitted forward entry into Gate 1, once inside the site the vehicle can turnaround before exiting in a forward direction. Gate 2 will no longer be used to facilitate general site entry and exit movements of heavy vehicles with exception to construction of sidewall lining formwork and during the demobilisation of the east and west sites.

Installation of the turntable was completed in late February 2024.

5.2.7 PEDESTRIAN VOLUMES

To better understand pedestrian movements in the area, manual pedestrian counts were conducted. Counts were conducted across one week between 10th October and 15th October 2022. These counts took place on the western footpath of Great North Road, and counted all pedestrians traveling in a north and southerly direction, that would be affected by closing the footpath, or at risk if leaving the footpath open during haulage operations.

A summary of pedestrian counts can be found below within Table 5 and a full copy of the data within Appendix F.

TABLE 5: PEDESTRIAN COUNTS - GREAT NORTH ROAD WESTERN FOOTPATH

	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
	10/10/2022		11/10/2022		12/10/2022		13/10/2022		14/10/2022		15/10/2022	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
Daily total	413	425	410	423	364	430	505	437	496	501	530	509

5.3 CONSTRUCTION TRAFFIC VOLUMES

Following installation of the western site's turntable (in February 2024), construction activities generate the following heavy vehicle movements per day during the peak construction activities:

- 548 heavy vehicle movements at both construction sites, mainly consisting of 10 wheeler rigid trucks (12.5m long).
- 272 light vehicle movements at both construction site.

A workforce of up to 124 construction staff and contractors will be required on both sites at any one time. Given that there is no on-site parking available in both sites, there will be minimal light vehicle movements in and out of the east and west construction sites.

A comparison of the proposed construction traffic volumes within the EIS is provided below within Table 6, for the peak construction activities. An hourly breakdown of the expected movements is provided below within Table 7.

TABLE 6: DAILY CONSTRUCTION TRAFFIC GENERATION DURING PEAK ACTIVITIES

Construction Site	Trip Type	Peak Daily Traffic Volume		AM Peak Hour Traffic Volume		PM Peak Hour Traffic Volume	
		EIS	AFJV	EIS	AFJV	EIS	AFJV
East	Light vehicle	164	164	18	18	12	12
	Heavy vehicle	192	240	8	20	8	20
West	Light vehicle	108	108	14	14	12	12
	Heavy vehicle	230	230	8	8	8	8
Total		694	820	48	80	40	72

TABLE 7: SUMMARY OF PEAK HOURLY HEAVY VEHICLE MOVEMENTS

Site:	Expected hourly heavy vehicle volumes						
East Site	0700-0800	0800-0900	0900-1000	At all other times of site operation	1600-1700	1700-1800	total
	20	20	20	Site movements as required, not exceeding daily total.	20	20	240
West Site	0700-0800	0800-0900	0900-1000	At all other times of site operation	1600-1700	1700-1800	total
	8	8	8	Site movements as required, not exceeding daily total.	8	8	230

Despite the permitted construction vehicle volumes listed above, further restrictions exist for reversing movements. These restrictions include:

- No more than 20 reversing movements per day during both demobilisation of the eastern site, and demobilisation of the western site.

- Reversing movements must be spaced out with a maximum of 4 reversing movements per hour.

Linkedsite (previously Virtual Superintendent) is a GPS truck monitoring system and will be used to control spoil truck movements on the project. The system is capable to redirect trucks and notify drivers when the site is full.

With the implementation of a combination of bookings, live monitoring and live adjustment, AFJV can control truck movements to be in-line with those listed within this CTMP.

5.4 TRAFFIC IMPACTS

5.4.8 ONE WAY CONVERSION

Both Waterview Street and Second Avenue are local roads with low traffic volumes as shown in Table 2. The one-way conversion on Waterview Street would result in the likely traffic diversion as follows:

- Southbound through traffic heading towards First Avenue would be diverted to Second Avenue and Great North Road instead.
- Southbound traffic heading towards Waterview Street car park would be diverted to Great North Road (or Park Road) and First Avenue before going back to Waterview Street and turn left into the car park.

This would affect the existing Waterview Street southbound traffic involving 20 vph and 110 vph in the AM and PM peak hours respectively to be diverted to the alternative routes. On average, these traffic volumes are equivalent to one vehicle every three minutes in the AM peak, and approximately two vehicles per minute in the PM peak hour. The low level of traffic increase which would be dispersed on the alternative routes is not expected to impose any adverse traffic impact.

The one-way conversion on Second Avenue would prevent traffic entering Second Avenue directly from Great North Road. Traffic going to the affected section of Second Avenue would be diverted to First Avenue, Waterview Street and turn left onto Second Avenue.

This would affect the existing Second Avenue eastbound traffic involving 70 vph and 90 vph in the AM and PM peak hours respectively to be diverted to the alternative route. On average, these traffic volumes are equivalent to one vehicle every 1.2 minutes in the AM peak, and approximately one vehicle every 1.5 minute in the PM peak hour. The low level of traffic increase on the alternative route is not expected to impose any adverse traffic impact.

FIGURE 8: LOCAL TRAFFIC ACCESS ROUTES



Where required, traffic modelling will be undertaken to assess the performance of the surrounding intersections to determine whether any mitigation measures will be required.

5.5 ON-STREET PARKING

5.5.1 DURING CONSTRUCTION

On-street parking along the site frontages of Waterview Street, Second Avenue and Great North Road will be removed. The removal of on-street parking is to mitigate traffic conflict between AFJV heavy vehicles and the passing traffic while accommodating the heavy vehicle turning movements in and out of the construction sites and construction areas.

It is anticipated that a total of 22 on-street parking spaces will be removed on Great North Road, Waterview Street and Second Avenue. A breakdown of the parking removal is shown as follows:

- 6 on-street parking spaces on Waterview Street
- 4 on-street parking spaces on Second Avenue
- 12 on-street parking spaces on Great North Road.

No Stopping signs will be installed to indicate the parking restrictions along the frontages.

Given the existing parking demand in the affected road section is mostly generated by the existing residential premises that will be demolished, no parking displacement is proposed as the parking demand associated with the adjacent properties will be reduced during construction period.

In addition, occasionally on-street parking will need to be occupied for localised construction activities, utilities works, asphalt and line marking works in a variety of locations not yet determined. These will be coned off in advance of the works being completed and reinstated on completion. These impacts will be minimised as much as practically possible.

5.5.2 PARKING REINSTATEMENT

Removal of parking along the western side of Great North Road has been essential in facilitating safe working areas and movement of construction vehicles to date. Now that a majority of the utility, driveway construction and bulk excavation works have been completed, an opportunity was identified for the reinstatement of three timed parking spaces on the western side of Great North Road.

As further detailed within the traffic staging plan provided within Appendix B of this CTMP, three parking spaces have been reinstated on Great North Road. The spaces are restricted to 30 minute parking.

5.6 WORKFORCE PARKING

From the end of February 2024, up to four worker parking spaces will be provided within the western construction site with exception to times when reversing movements are required. This includes, during sidewall lining formwork construction and demobilisation activities. It is anticipated that there will be a total of 124 AFJV workers and staff on site at any one time during peak construction activities.

Refer to the Construction Parking and Access Strategy (CPAS), for full details of worker parking.

5.7 PEDESTRIAN AND CYCLISTS

Traffic controllers will be stationed at the site access gates on Great North Road to assist and manage heavy vehicle and pedestrian movements.

In addition, traffic controllers will utilise moveable pedestrian gates at the vehicle crossover points to manage pedestrian movements while AFJV heavy vehicles are entering and exiting the construction sites.

“Be Truck Aware” decals will be installed on the footpaths at the site driveways. A Road Safety Audit will be conducted post site implementation to review pedestrian safety.

If at any time a footpath cannot remain open, it will only be closed in accordance with an approved TGS, ROL and/or Council approval, where applicable.

A concern has been noted at the intersection of Great North Road and Second Avenue

- Regular non-compliant pedestrian movements around the Five Dock site
- Addition of having heavy vehicles traveling out of Second Avenue that the public may not typically expect.

Truck drivers would generally be looking North and focusing on entering Great North Road, a driver may not notice a pedestrian stepping in front of the truck from the South. In addition to toolbox talks, footpath decals, and regular inspections and monitoring, a Traffic Controller will be positioned at the South of the intersection at all times when bulk excavation works are taking place from the East site. The speed of Great North Road will also be reduced to a 40km/h roadwork speed zone.

Any incidents involving heavy vehicles and public interactions, or 'At-Risk' observations will form part of regular monitoring of haul routes. Issues identified will be recorded, investigated and any improvements, implemented within consultation with relevant stakeholders.

5.7.1 FOOTPATH CLOSURE ON WATERVIEW STREET AND SECOND AVENUE

To increase safety by reducing possible interaction of pedestrians and construction vehicles at the eastern site, a footpath closure was installed on Waterview Street and Second Avenue in accordance with council permits.

While this CTMP was updated to Revision 14 to include this footpath closure for transparency, it's noted that approval of this footpath closure will continue being handled as per the CoCB permit process. The CoCB permit process will also capture items related to use of the footpath area that may at times be used to facilitate construction activities and storage of material.

5.8 PUBLIC TRANSPORT

The proposed construction activities will not impact any existing local bus route services along Great North Road and First Avenue.

5.9 ACCESS TO LOCAL PROPERTIES, BUSINESSES AND UTILITIES

Access to all neighbouring properties, businesses and Waterview Street car park in the vicinity of the Five Dock metro station construction sites will be maintained at all times unless agreed with property owner.

Access to all utilities will be maintained during construction unless agreed with the relevant utility owner, landowner or occupier unless agreed with the utility owner.

Local residents and businesses will be notified via letter box drops and door knock notifications of the proposed traffic changes at least two weeks prior to the works.

In addition, variable message signs (VMS) were installed on 10 December 2021 to advise of the Second Avenue car park closure in January 2022. Additional VMS were installed in early 2022 to advise of proposed one-way traffic flow conversions.

5.10 SPECIAL EVENTS

A review of City of Canada Bay Council's website for special events near the subject site shows that there are currently no scheduled special events which will be impacted by the proposed construction works.

It is noted that Council's Ferragosto Street Festival is set to return in August 2024. The Ferragosto is the largest annual event held by Council which showcases Italian culture and cuisine on Great North Road. The Ferragosto is an all-day event typically held on a Sunday which will be outside of construction working hours of the Project.

AFJV will continue to monitor Council's event calendar for any upcoming events that may be impacted by the proposed construction activities. AFJV will further discuss with Council of the impacted special events where necessary.

5.11 INSPECTIONS

On-site inspection and monitoring of this CTMP will be undertaken regularly and in accordance with the Overarching Construction Traffic Management Plan.

All long-term traffic management arrangements will be inspected post Implementation. Any minor issues identified during the inspection will be recorded and rectified immediately. More significant issues will be recorded for rectification.

Where traffic control deficiencies are identified through inspections, this CTMP and associated TGS will be amended, as required, by the Traffic Manager.

All identified issues and status of rectification will be documented.

5.12 ROAD SAFETY AUDIT

When required, a road safety audit will be conducted by a suitably qualified and independent auditor with Level 3 certification and another auditor with Level 2 or higher certification.

Where road safety deficiencies are identified through the audit, the relevant design/implementation will be amended to address the deficiencies, where required. A Road Safety Audit report will be made available.

Refer to Appendix D for the road safety audit report for the proposed traffic staging plan.

5.13 WORKFORCE AND STAFF TRAINING

5.13.1 SITE INDUCTION

All AFJV workers and staff employed on Five Dock metro station east and west construction sites (including sub-contractors) will be required to undergo a site induction.

The induction will include information of the construction site access routes for site staff and construction vehicles, on-site parking locations, WH&S, driver protocols and emergency procedures.

All personnel employed with the Project will perform their duties in accordance with the requirements of this CTMP.

5.13.2 DRIVER TRAINING

Heavy vehicle drivers shall be made fully aware of the traffic management arrangements within and surrounding the site. All drivers will be informed of all site access gates and the access requirements including specific heavy vehicle driver training to ensure the following:

- Appropriate procedures for accessing the site
- Drivers shall adhere to the nominated site access routes
- Drivers are to be cautious to other road users (pedestrians and cyclists) travelling past the sites
- Drivers shall be aware of the speed restrictions along the site access routes, and
- No queuing and truck marshalling is to be wholly contained within the site.

Vehicle movement plans (VMP) will be provided to suppliers, trucking companies, spoil trucks as part of the contract and induction. Non frequent drivers of large vehicles will be required to call to site prior to approach and will be directed to use the prescribe route to approach site. Once non frequent delivery vehicles enter site, it will be guided by foreman or traffic control to their required location.

5.14 OVERFLOW QUEUEING AND EMERGENCY MANAGEMENT

In the event of any significant queueing of trucks or in the event of a site emergency, trucks will be diverted to alternative sites during any queueing events to await further instruction, such as The Bays, Burwood North, North Strathfield, or Sydney Olympic Park.

Heavy vehicle bookings are to be sufficiently staggered where possible.

Marshalling at spoil sites will be implemented where possible to spread out the returning spoil trucks. This will minimise the likelihood of queueing around the Five Dock construction sites.

The 'Loop' option and 'East to West site' options are only intended for irregular use if the above controls have been insufficient in preventing queuing. These options should be limited to approximately 1 heavy vehicle per hour, during peak times.

6. COMPLETION OF CTP WORKS AND HANDOVER TO SYDNEY METRO

AFJV's CTP works at Five Dock are scheduled to be completed on 8th May 2025. Following this date, the site will be handed over to Sydney Metro. It is also noted that AFJV may have some minor defect rectification and signage removal works that will occur after the handover date.

To facilitate handover of the site to Sydney Metro, AFJV will be removing the temporary traffic management measures across both the east and western sites. The intention is to have all the street signage and traffic arrangements consistent with the Local Area Works and Driveway designs. A copy of these designs have been included within Appendix H for reference purposes.

7. COMPLIANCE MANAGEMENT

7.1 ROLES AND RESPONSIBILITIES

The AFJV project team's organisational structure and key roles and responsibilities for managing traffic and transport relating to the construction activities and construction personnel are summarised in Table 8.

TABLE 8: AFJV ROLES AND RESPONSIBILITIES

Roles	Responsibilities
Project Wide Construction Manager Contact Name: [REDACTED] Contact Number: [REDACTED]	▪ Reports to the Project Director as part of the Project Management Team. ▪ Accountable for the overall construction delivery of the Surface Works. ▪ Directs the Traffic Manager and ensures work is prioritised to ensure safety of all road users, the community and construction personnel.
Traffic Manager Contact Name: [REDACTED] Contact Number: [REDACTED]	▪ Reports to the Project Wide Construction Manager. ▪ Leads the traffic management team. ▪ Implements the CTMP and ensure it is followed. ▪ Ensures risk assessments are done. ▪ Reviews Construction Traffic Management Plans (CTMPs)/ Traffic Guidance Schemes (TGSs or formerly known as Traffic Control Plans)/ Road Occupancy Licence (ROLs) prior to submission to the stakeholders. ▪ Ensures that sub-contractors meet the requirements of the CTMP. ▪ Defines the requirements for traffic management and ensures that they are satisfied through spot checks and audits.
Traffic Coordinator Contact Name: [REDACTED] Contact Number: [REDACTED]	▪ Reports to the Traffic Manager. ▪ Develops CTMP/ TGS/ ROL submission. ▪ Ensures that long-term layouts are implemented in accordance with the CTMP/ TGS/ ROL, are safe and are maintained appropriately. ▪ Responsible for safety checks and inspections to ensure that the road is maintained in accordance with the CTMP.

7.2 TRAFFIC AND TRANSPORT LIAISON GROUP

AFJV Traffic Manager will present at the monthly Traffic and Transport Liaison Group (TTLG) meetings for the Project. The TTLG will primarily include representatives from:

- Sydney Metro Delivery Office
- Transport for NSW (TfNSW)

- Customer Journey Management (formerly known as TMC)
- Customer Journey Planning (formerly known as SCO)
- NSW Police
- City of Canada Bay Council
- Representative of any other authority or road user group affected by the Project.

The AFJV Traffic Manager is a member of the TTLG and will act as the authorised representative for the Project in matters related to traffic and transport. The AFJV Traffic Manager provides the following information and related updates to the TTLG:

- Construction site operations and activities
- Traffic operations, including changes in local road network
- Community concerns and comments or feedback
- Issues relating to pedestrians and cyclists or mobility impaired road users.

7.3 COMMUNICATIONS TO LOCAL RESIDENTS AND BUSINESSES

Consultation with residents started in late November 2021 with an online meeting with residents/owners of 110 Great North Road. Notification outlining all the proposed traffic and parking changes around Five Dock is being distributed to community within 500m of the Five Dock site on 15 December. Nearby businesses/residents of Second Avenue are also be doorknocked throughout December. So far, concerns raised included workers parking in local streets of Five Dock and inconvenience associated with the proposal to make a section of Second Avenue to one-way . AFJV explained that offsite park and ride arrangement for workforce and staff will be implemented. AFJV also clearly outlined the safety reasons for proposing the one-way change for a section of Second Avenue.

VMS boards were installed on 10 December 2021 to advice of Second Avenue carpark closure in January 2022. VMS will be installed to advice of the one-way conversion two weeks prior to the switch and remain in place for an additional 2 weeks afterward. To further communicate and assist in the familiarisation of the new configuration traffic controllers were positioned at the following locations daily for one week to ensure no vehicles enter the one-way arrangements in the wrong direction.

- Great North Road and Second Avenue
- Second Avenue and Waterview Street
- Waterview Street and carpark Access (where Waterview becomes one-way).

Community consultation and updates will continue, for the duration of the project.

7.4 KEY SITE CONTACTS

Key site contact details are listed in Table 9.

TABLE 9: KEY SITE CONTACT DETAILS

Name	Role	Contract Details

8. CONCLUSION

This CTMP has been prepared to document the proposed construction activities and operations at Five Dock metro station east and west construction sites for the construction period between January 2022 and approximately late 2024. The CTMP details measures to mitigate the identified traffic and transport impacts that would occur.

Based on the findings of the CTMP, it is concluded that:

- The construction activities and operations at Five Dock metro station construction site will generate the following traffic movements per day during the peak days:
 - Eastern construction site
 - 164 light vehicle movements at the east construction site
 - 240 heavy vehicle movements at the east construction site (12.5m long HRV)
 - Western construction site
 - 108 light vehicle movements at the east construction site
 - 308 heavy vehicle movements at the west construction site (12.5m long HRV)
- The daily and peak hour construction traffic generation would be an increase to the EIS for the east site and consistent with the EIS for the west site.
- AFJV has reassessed the current reversing method of entry into the western site. The assessment has identified that Installation of a turntable at the western station box will reduce reversing movements by facilitating forward in and out movements for the majority of construction vehicles, this occurred as further detailed within Section 5.2.6.
- While installation of a turntable at the western site has resulted in a significant reduction in truck reversing movements. It's noted that some truck reversing movements will still be required, primarily during:
 - During demobilisation of the eastern site where all construction works at Five Dock would need to be carried out from the western site. This is expected to take place between December 2024 and April 2025.
 - During the demobilisation of the Five Dock western site, expected to occur between February 2025 and April 2025.
- The one-way conversion will result in diversion of Waterview Street southbound traffic and Second Avenue eastbound around the surrounding roads. The one-way conversion will improve manoeuvring space for construction heavy vehicles travelling in and out of the sites, but travel distance for general traffic will increase slightly due to traffic detour to alternative routes.
- Removal of up to 22 on-street parking spaces at specific locations. Given the existing parking demand in the affected road section is mostly generated by the existing residential premises that will be demolished, no parking displacement is proposed as the parking demand associated with the adjacent properties will be reduced during construction period.
- Moveable pedestrian gates to be used at the construction site driveways to manage pedestrian movements while AFJV heavy vehicles are entering and exiting the construction site.
- Additional traffic controllers will be located at each construction site driveway on Great North road, during truck reversing movements.
- The proposed construction activities will not impact existing local bus route services along Great North Road and First Avenue.
- AFJV will conduct regular inspections and monitor the traffic management measures detailed in this CTMP. Any deficiencies identified will be recorded and rectified accordingly.

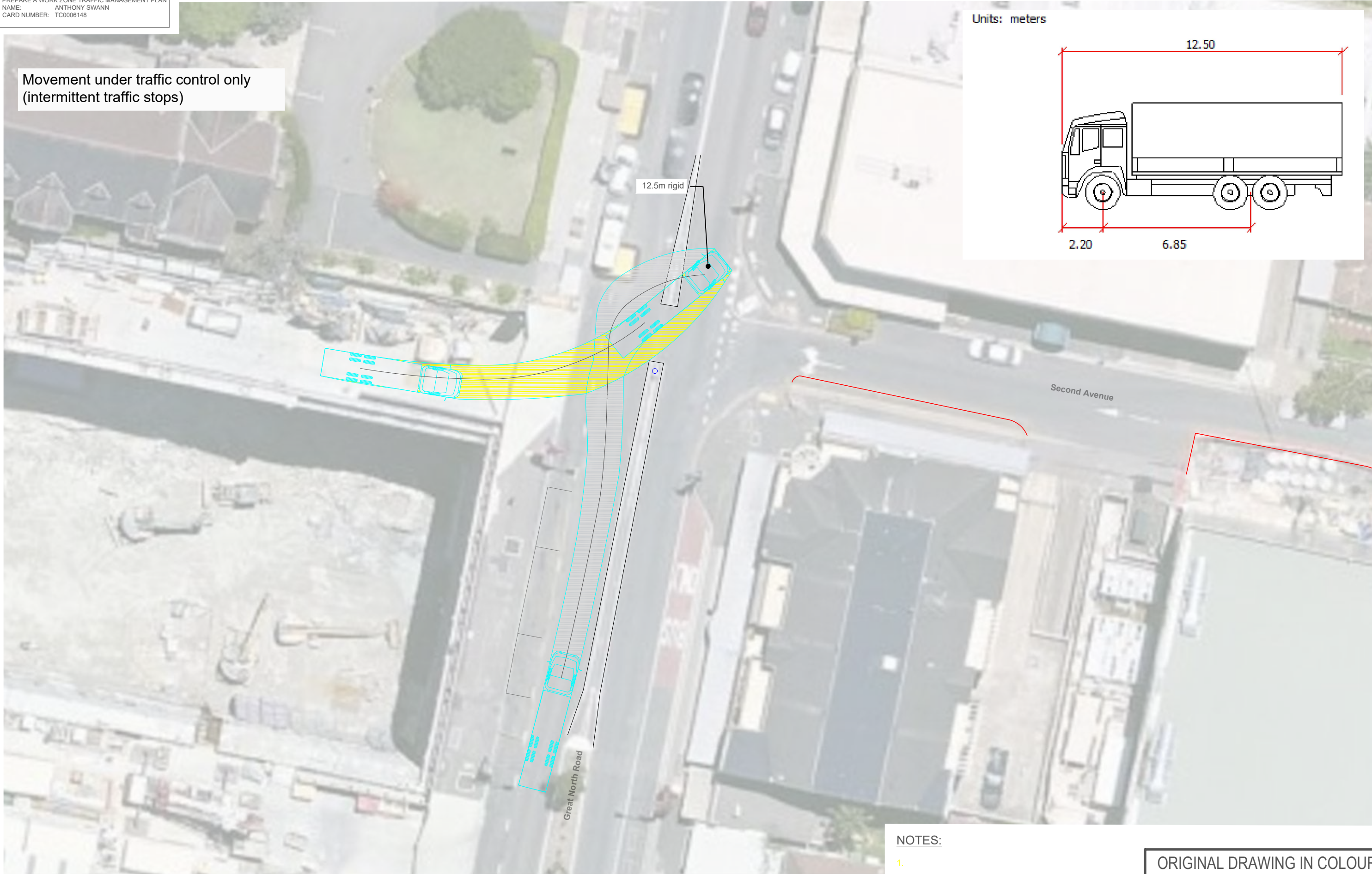
APPENDIX A - CONSTRUCTION SITE LAYOUT AND VEHICLE TURN PATHS

	Fencing location
	B Class Hoarding
	Acoustic Shed
	Heavy vehicles gate
	Controlled areas
	B Class Hoarding

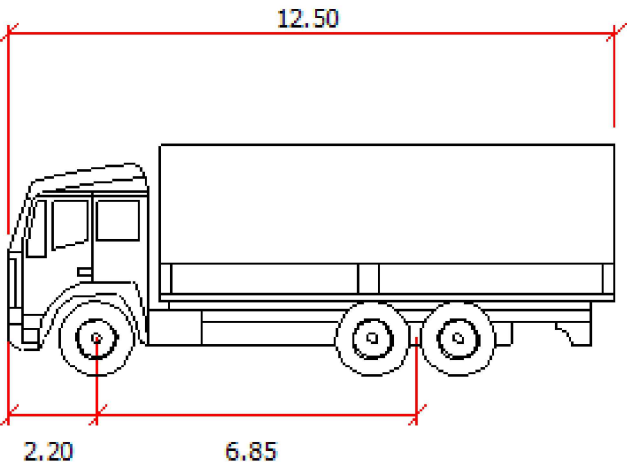




Movement under traffic control only
(intermittent traffic stops)



Units: meters



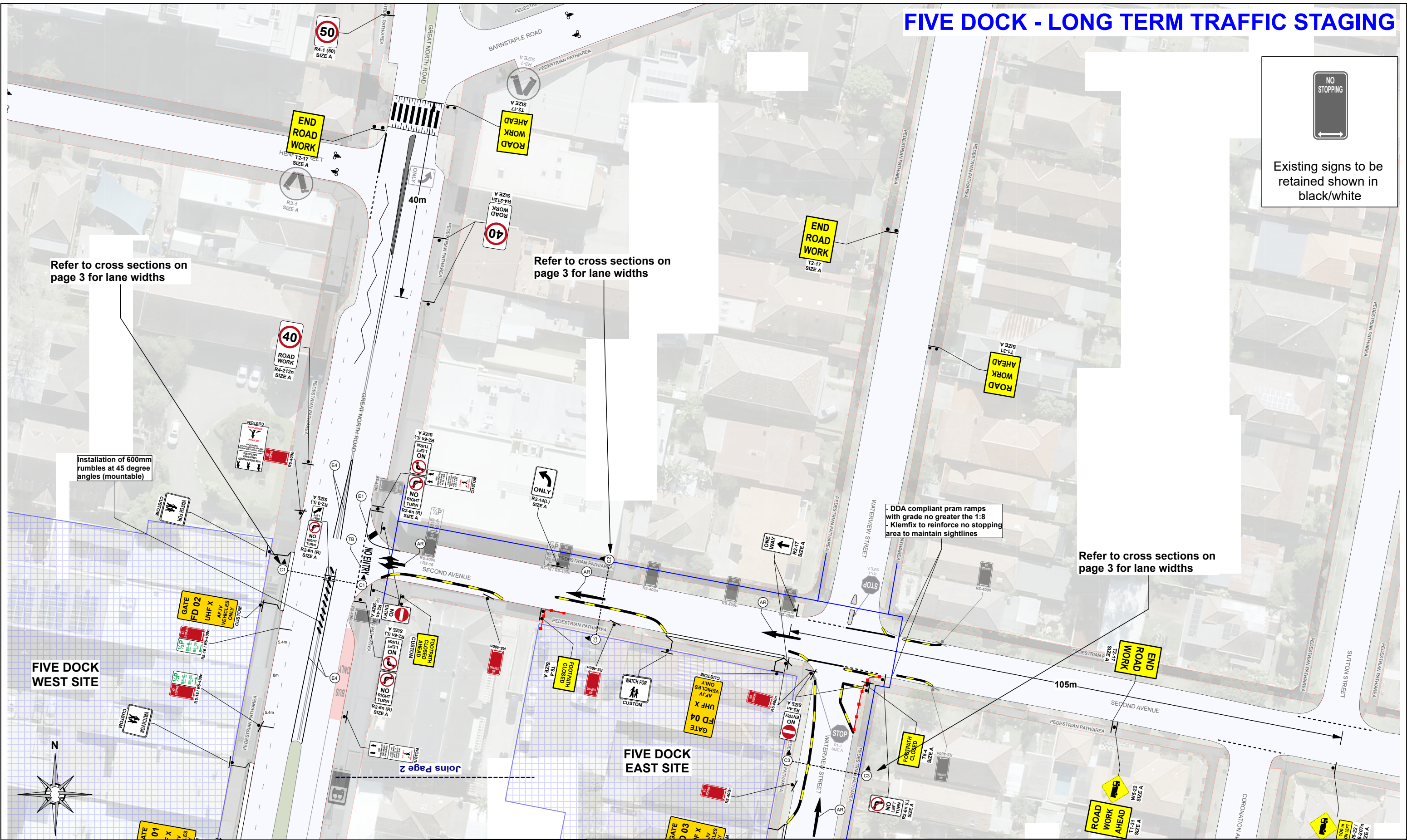
NOTES:

1.

ORIGINAL DRAWING IN COLOUR

APPENDIX B - TRAFFIC STAGING DRAWINGS

FIVE DOCK - LONG TERM TRAFFIC STAGING



PROJECT: SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND

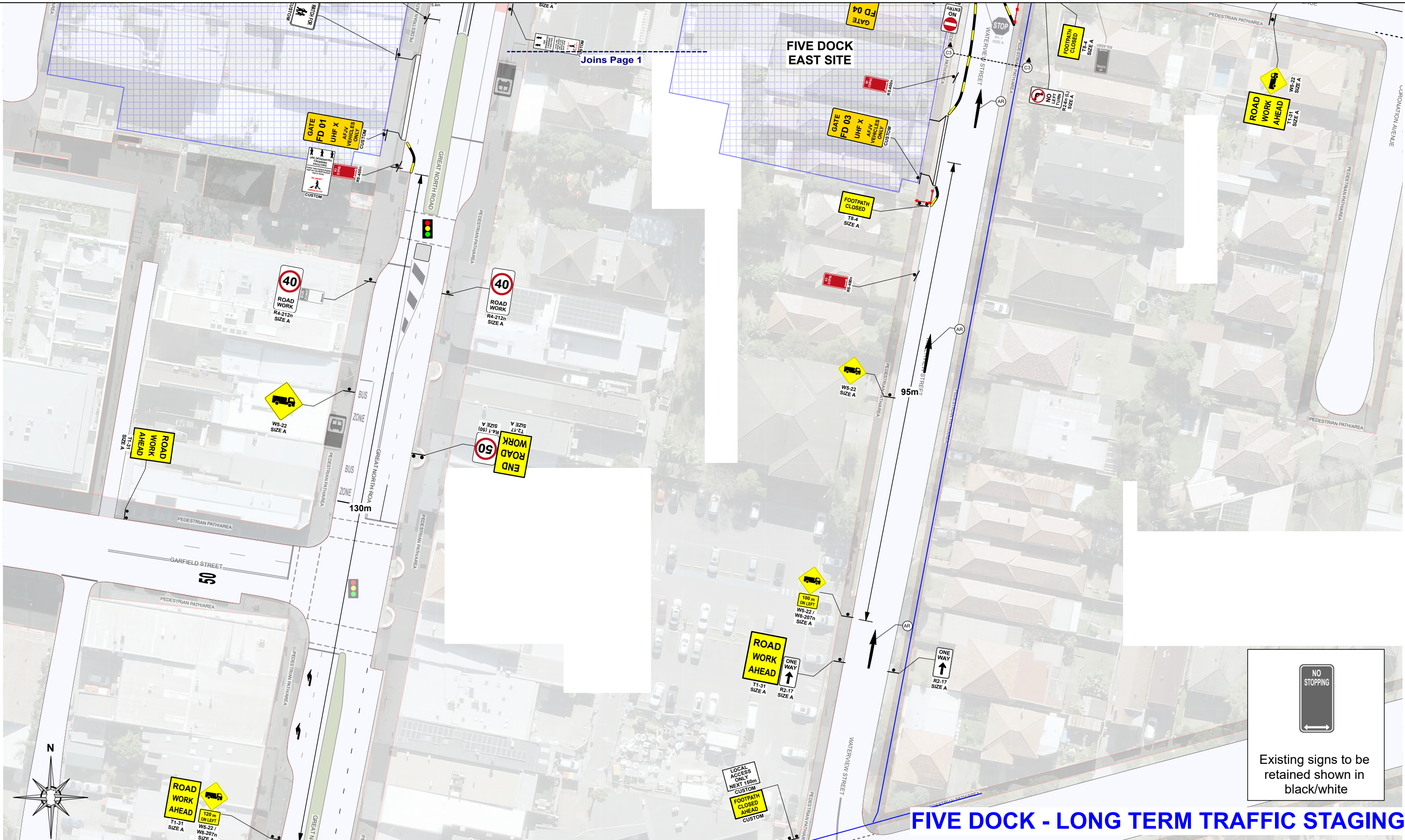
- Workzone
- Traffic Controller
- Traffic Cones
- Pedestrian Route
- Sign (2 posts)
- Signalised intersection
- Temporary Kerb



Comments:

- THIS IS A SHORT TERM TGS, NOT TO SCALE
- THE CONTRACTOR SHALL ENSURE ALL ROL AND SZA REQUIREMENTS ARE SATISFIED DURING IMPLEMENTATION OF THIS TGS
- ANY EXISTING SIGNAGE THAT CONFLICTS WITH THIS TGS MUST BE COVERED AT THE START OF SHIFT AND UNCOVERED AT THE END OF SHIFT
- ANY CHANGES REQUIRED, SPEAK TO THE SITE FOREMAN AND THEN MODIFY THIS PLAN IF NECESSARY. ANY CHANGES TO THIS PLAN SHALL BE MARKED ON THIS TGS & SIGNED OFF BY A PWZTMP HOLDER.
- A LANE WIDTH OF 3.5m (MINIMUM) IS TO BE MAINTAINED AT ALL TIMES UNLESS NOTED OTHERWISE
- SHOULDER WIDTH / EDGE CLEARANCE TO TRAFFIC CONES OF 0.5m IS TO BE PROVIDED AT ALL TIMES UNLESS NOTED OTHERWISE

- ALL SIGNAGE TO BE 'B' SIZE UNLESS NOTED OTHERWISE
- SIGNS TO BE POSITIONED IN ACCORDANCE WITH THE TCAWS MANUAL 2022 Issue 6.1
- DIMENSION 'D' IS DETERMINED IN ACCORDANCE WITH THE TCAWS MANUAL 2022 Issue 6.1
- BOLLARDS AND TRAFFIC CONES ARE TO BE INSTALLED IN ACCORDANCE WITH THE 2022 Issue 6.1
- TAPER LENGTHS ARE TO BE IN ACCORDANCE WITH THE TCAWS MANUAL 2022 Issue 6.1
- THE SITE MUST COMPLY WITH THE TCAWS MANUAL 2022 Issue 6.1 AND A.S. 1742.3
- REGULATORY SPEED / ROADWORK SIGNS TO BE REPEATED EVERY 400m UNLESS NOTED OTHERWISE



PROJECT: SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND

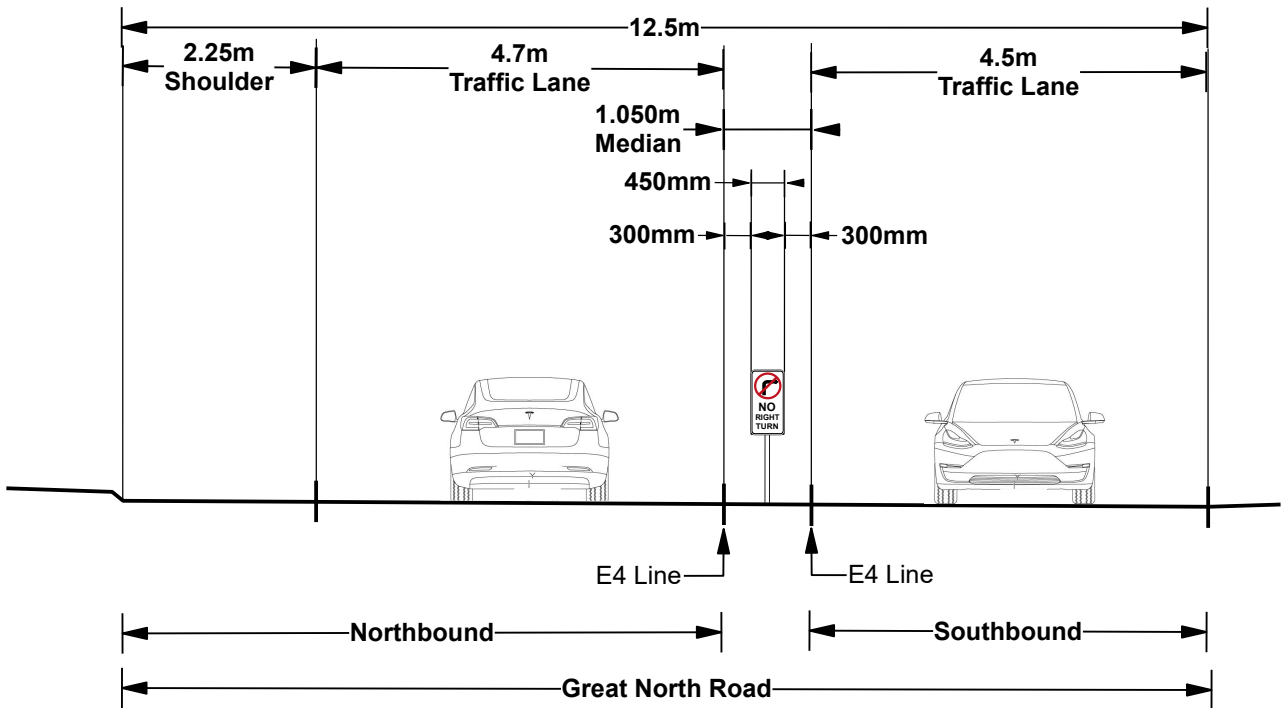
- Workzone
- Traffic Controller
- Traffic Cones
- Pedestrian Route
- Sign (2 posts)
- Signalised intersection
- Temporary Kerb



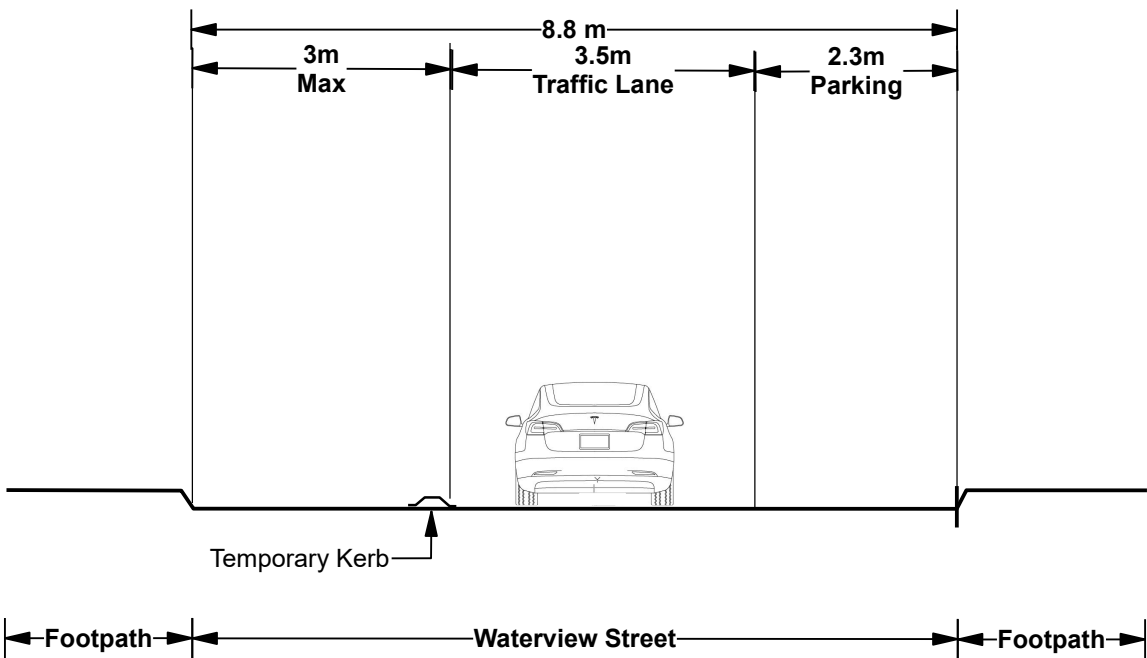
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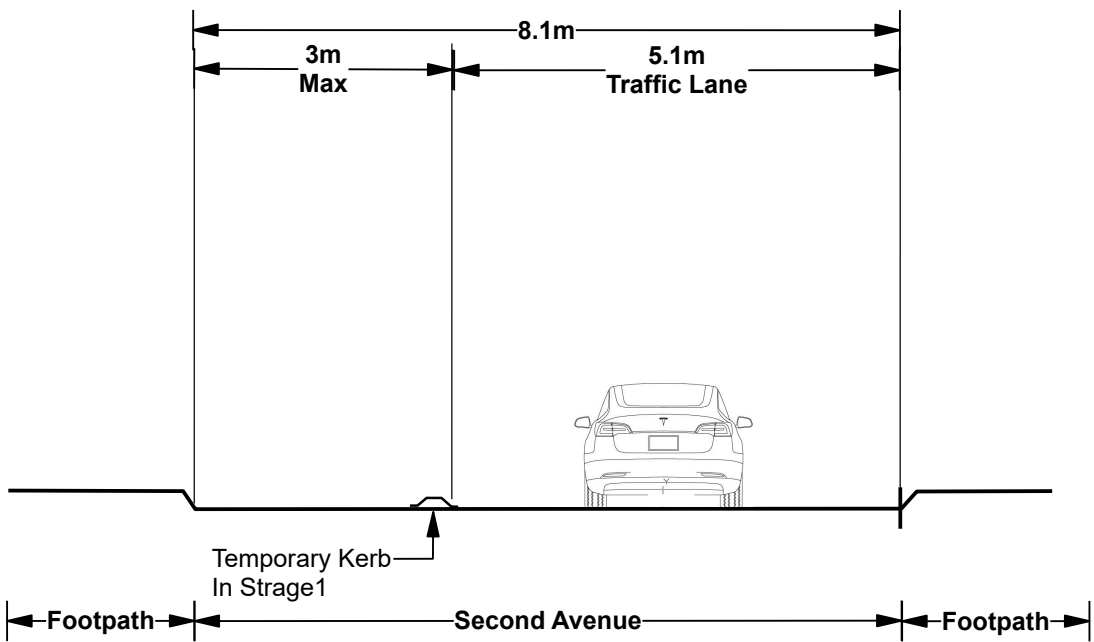
Cross Section 1 (C1)



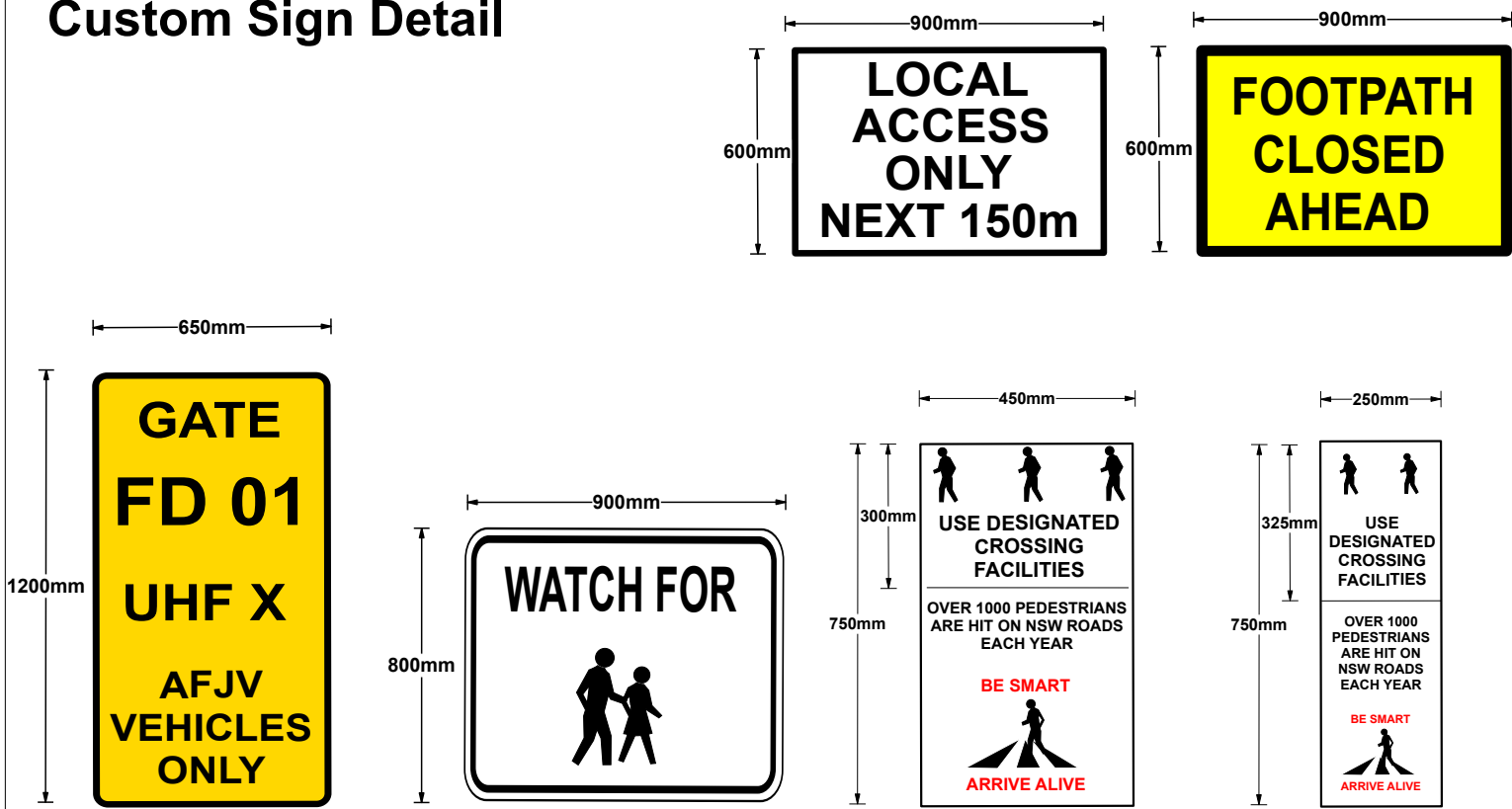
Cross Section 3 (C3)



Cross Section 2 (C2)

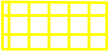


Custom Sign Detail



PROJECT: SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND



Workzone



Traffic Controller



Traffic Cones



Pedestrian Route



Sign (2 posts)



Signalised intersection



Temporary Kerb

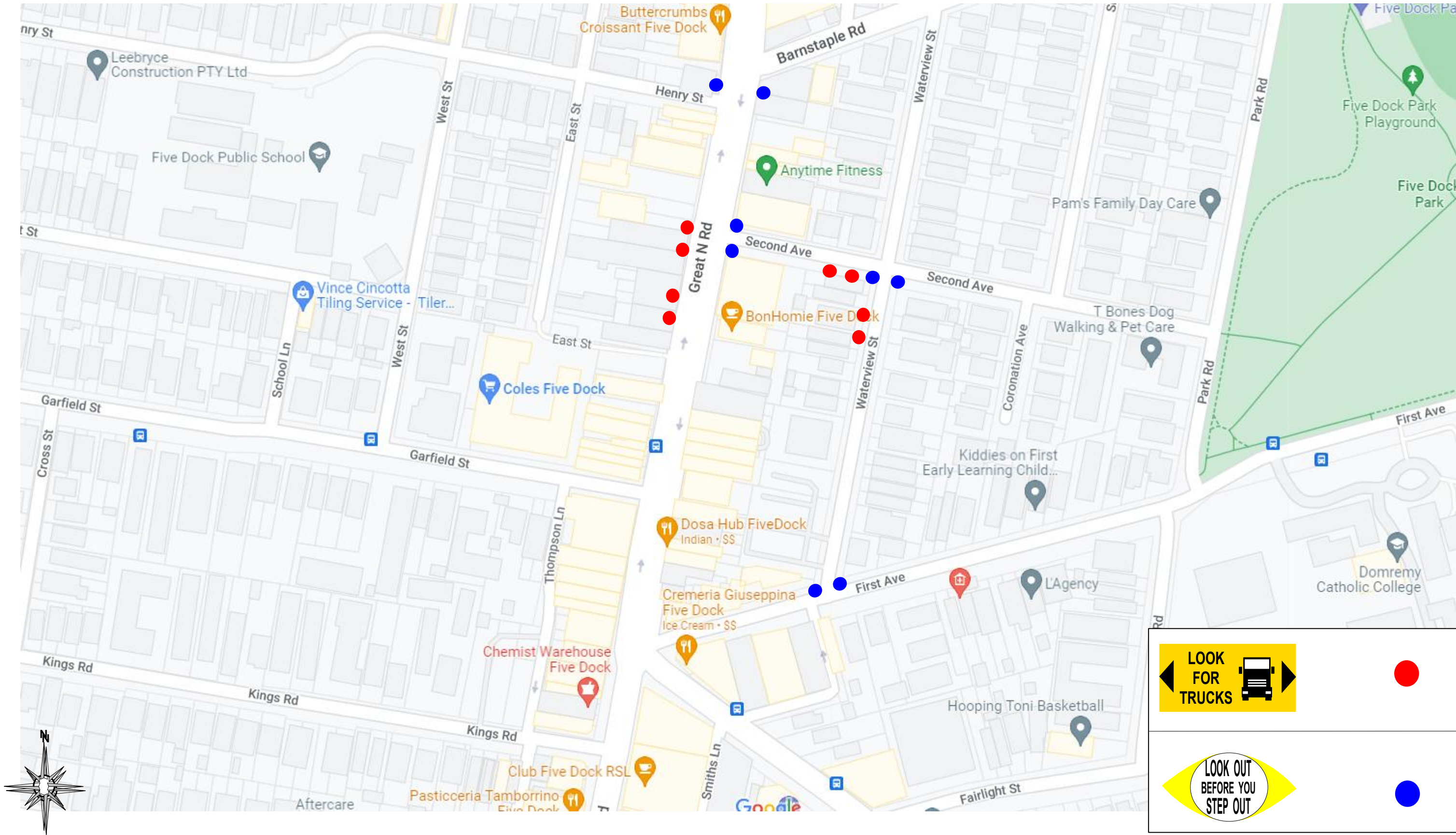


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- REGULATORY SPEED / ROADWORK SIGNS TO BE REPEATED EVERY 400m UNLESS NOTED OTHERWISE

Footpath pavement decals



PROJECT: SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE	LEGEND	Workzone	Traffic Controller	Traffic Cones	Pedestrian Route	Sign (2 posts)	Signalised intersection	Temporary Kerb
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	Comments: - THIS IS A SHORT TERM TGS, NOT TO SCALE - THE CONTRACTOR SHALL ENSURE ALL ROL AND SZA REQUIRMENTS ARE SATISFIED DURING IMPLEMENTATION OF THIS TGS - ANY EXISTING SIGNAGE THAT CONFLICTS WITH THIS TGS MUST BE COVERED AT THE START OF SHIFT AND UNCOVERED AT THE END OF SHIFT - ANY CHANGES REQUIRED, SPEAK TO THE SITE FOREMAN AND THEN MODIFY THIS PLAN IF NECESSARY. ANY CHANGES TO THIS PLAN SHALL BE MARKED ON THIS TGS & SIGNED OFF BY A PWZTMP HOLDER. - A LANE WIDTH OF 3.5m (MINIMUM) IS TO BE MAINTAINED AT ALL TIMES UNLESS NOTED OTHERWISE - SHOULDER WIDTH / EDGE CLEARANCE TO TRAFFIC CONES OF 0.5m IS TO BE PROVIDED AT ALL TIMES UNLESS NOTED OTHERWISE - ALL SIGNAGE TO BE 'B' SIZE UNLESS NOTED OTHERWISE - SIGNS TO BE POSITIONED IN ACCORDANCE WITH THE TCAWS MANUAL 2022 Issue 6.1 - DIMENSION 'D' IS DETERMINED IN ACCORDANCE WITH THE TCAWS MANUAL 2022 Issue 6.1 - BOLLARDS AND TRAFFIC CONES ARE TO BE INSTALLED IN ACCORDANCE WITH THE 2022 Issue 6.1 - TAPER LENGTHS ARE TO BE IN ACCORDANCE WITH THE TCAWS MANUAL 2022 Issue 6.1 - THE SITE MUST COMPLY WITH THE TCAWS MANUAL 2022 Issue 6.1 AND A.S. 1742.3 - REGULATORY SPEED / ROADWORK SIGNS TO BE REPEATED EVERY 400m UNLESS NOTED OTHERWISE
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Location Details

Road

Multiple - Five Dock

Suburb

Five Dock

Side Street

Various

Direction

N

E

S

W

Speed of road

50

 km/hSpeed of Side Streets

50

 km/h

Options Assessment

Method selected

Around

Past

Through

Reason for selection

Traffic can pass while maintaining sufficient worker/traffic offset.

Risk Assessment

Section 1 - Does the TGS Involve Detours of traffic?

YES

NO

(If answered no proceed to section 2)

	YES	NO	Enter description of risks if answered no to any question	Enter Risk Rating
1.1 Are detour routes suitable for all vehicle classes being detoured?	☐	☐		
1.2 Is access to local residence and business maintained	☐	☐		
1.3 Are detour signs located at decision points, to clearly guide motorists through the detour?	☐	☐		
1.4 Can roads and intersections used as detour routes, accommodate the additional traffic volumes?	☐	☐		
1.5 Is the same level of safety maintained for turn movements? e.g. Traffic using signalized intersections being sent through a detour route that involves turn movements at non-signalized intersections.	☐	☐		

Section 2 - Does the TGS involve Stop/Slow arrangements?

YES

NO

(If answered no proceed to section 3)

	YES	NO	Enter description of risks if answered no to any question	Enter Risk Rating
2.1 Are escape routes clearly defined on the TGS, clear and safe to use?	☐	☐	*	
2.2 Is a PTCD used in place of a manual Traffic Controller where existing speed is greater then 45km/h?	☐	☐		
2.3 Is the operating speed of the road 60km/h or less where Traffic Control or PTCD are in use?	☐	☐		
2.4 Are x4 traffic cones placed on the edge or center line, approaching the traffic controller or PTCD?	☐	☐		
2.5 Is prepare to stop and Traffic Control or PTCD symbolic signs installed?	☐	☐		
2.6 Do Traffic Control and PTCD positions have adequate lighting during low light conditions	☐	☐		
2.7 Does sight distance of at least 1.5D exist on approach to Traffic Control or PTCD	☐	☐		

Section 3 - General

	YES	NO	Enter description of risks if answered no to any question	Enter Risk Rating
3.1 Does the TGS define minimum clearances required of workers to live traffic, are distances compliant?	☐	☐	NA	
3.2 Are worker symbolic signs to be placed in advance of areas where workers will be visible to traffic?	☐	☐	NA	
3.3 Are all signs placed at correct distances? i.e. D for multiple signs, 2D for single sign above 60km/h	☐	☒	Some sign distances adjusted due to, side streets, Driveways, trees, overhead conflicts and underground utilities. Risk of motorists not seeing signs with enough time to react	L
3.4 Are taper lengths compliant and not placed in areas with poor sight distance?	☐	☐	NA	
3.5 Are lane status signs placed in advance of a lane merge?	☐	☐	NA	
3.6 Are the correct tapers being used? i.e. merge taper, traffic control taper, lateral shift taper.	☐	☐	NA	
3.7 Does the TGS clearly define transition zones between tapers on multilane roads, are they compliant?	☐	☐	NA	
3.8 Does the TGS clearly define Buffer areas, are they compliant and at least 30m in length?	☐	☐	NA	
3.9 Does the TGS clearly define site access and egress for work vehicles, is impact to traffic, managed?	☒	☐		
3.10 Does the TGS clearly define pedestrian routes, are the routes suitable for all pedestrians?	☒	☐		
3.11 Does the TGS consider Cyclists, can Cyclists transverse the site safely?	☒	☐		

Section 4 - Do the works involve excavations

YES

NO

(If answered no proceed to section 5)

	YES	NO	Enter description of risks if answered no to any question	Enter Risk Rating
4.1 Are excavations to be less then 200mm in depth?	☐	☐		
4.2 Are excavations to be less then 500mm in depth?	☐	☐	*	

Section 5 - Other Hazards & Risks

	5.1	Increased risk of pedestrian interface by reinstating parking	H
	5.2	Increased risk of nose to tail type incidents when vehicles attempt to park in the reinstated parking	M
	5.3		
	5.4		

Risk Management

Any Risks Identified identified during the above Risk Assessment must be assessed, with control measures listed below. Control measures must meet the WHS Risk Management Hierarchy of controls framework.

Item	Control Measures	Remaining Risk Rating
3.3	Regular monitoring of effectiveness, place signs as close to D as able	L
5.1	Only install 3 spaces, speed reduction to 40km/h, minimal works to be performed from western site	L
5.2	Speed reduction to 40km/h, middle space to be 8m in length, as per AS standard to provide easier entry to parking space	L

Risk evaluation Matrix

Risk ratings:	Very high - VH High - H Medium - M Low - L	Consequence						
		Insignificant	Minor	Moderate	Major	Severe	Catastrophic	
								C6
Likelihood	Almost certain	L1	M	H	H	VH	VH	VH
	Very likely	L2	M	M	H	H	VH	VH
	Likely	L3	L	M	M	H	H	VH
	Unlikely	L4	L	L	M	M	H	H
	Very unlikely	L5	L	L	L	M	M	H
	Almost unprecedented	L6	L	L	L	L	M	M

Refer to TCAWS Table 3-4 for descriptions of Likelihood and Consequence measures

APPENDIX C - VEHICLE MOVMENT PLANS

VEHICLE MOVEMENT PLAN

Traffic Control 'Gate Keeper' must be in place any time these driveways are being used by heavy vehicles.
x2 Traffic Controllers are required during reversing movements.
The primary duty of the Traffic Controller is to maintain safe pedestrian & vehicle interface.
Refer to the PMP for further details.

Northbound permitted ONLY

do NOT attempt to head southbound during or after exiting the southern driveway.

Refer to relevant VMP for West site access & egress.

FIVE DOCK WEST SITE

Revers movement into site

ONLY PERMITTED UNDER TRAFFIC STOPS, REFER TO RELAVENT TGS FOR DETAILS OF TRAFFIC SETUP

FIVE DOCK EAST SITE



Comments:

- Drivers must be briefed on this VMP
- Gatekeeper/s must be in position when gates are in use and the VMP requires it.
- Drivers must adhere to Gatekeepers directions
- Vehicles entering and exiting site must:
 1. Activate roof mounted beacons on approach
 2. radio intention via UHF
 3. Indicate intentions
 4. Turn into/out of site
 5. Exit with caution, ensuring the safety of pedestrian and other road users
 6. Disable roof mounted beacons after egress and speed has reached normal traffic flow.
 7. follow all road rules and speed limits.
- Use only approved haul routes

VMP Approved by



PROJECT:

SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND



Workzone



Access



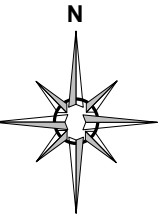
Egress



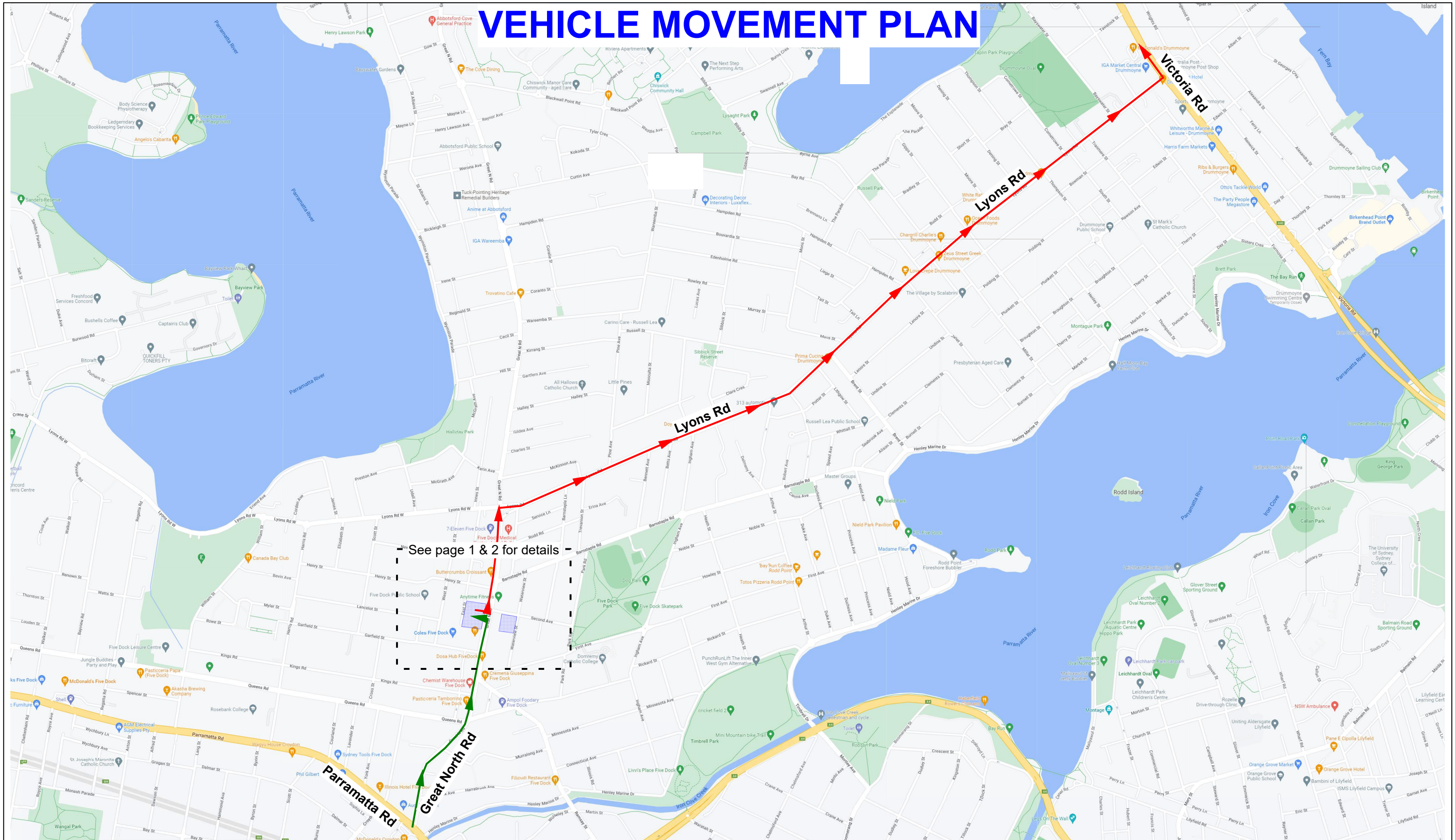
Signalised intersection



Special movement



VEHICLE MOVEMENT PLAN



- See page 1 & 2 for details -

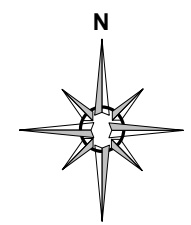
- Drivers must be briefed on this VMP
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 6. Disable roof mounted beacons after egress and speed has reached normal traffic flow.
 7. follow all road rules and speed limits.
- Use only approved haul routes



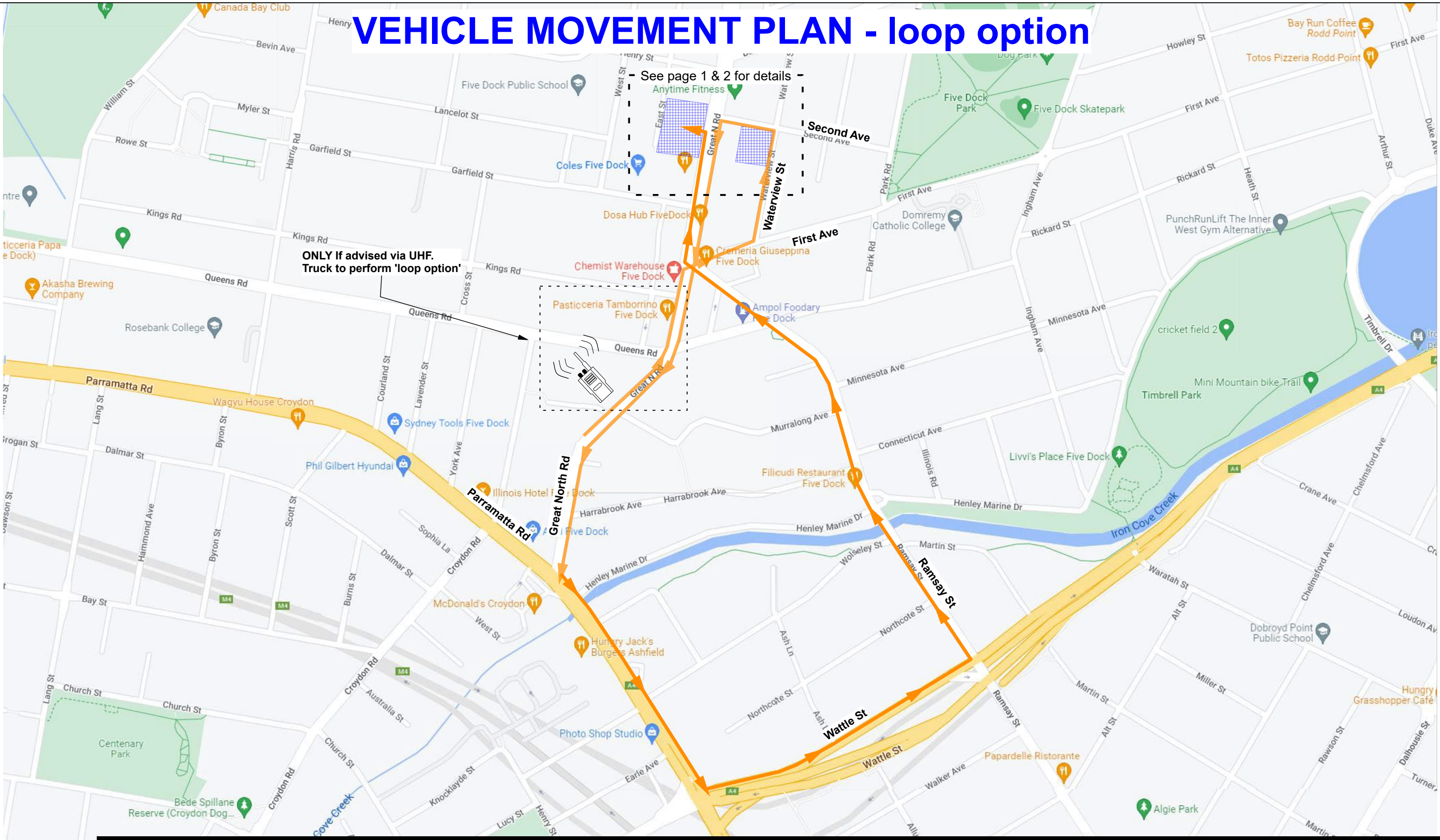
PROJECT: SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND

	Workzone		Signalised intersection
	Access		Special movement
	Egress		



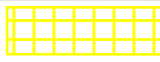
VEHICLE MOVEMENT PLAN - loop option

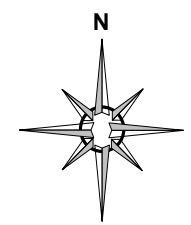


- Comments:**
- Drivers must be briefed on this VMP
 - Gatekeeper/s must be in position when gates are in use and the VMP requires it.
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 1. Activate roof mounted beacons on approach
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 6. Disable roof mounted beacons after egress and speed has reached normal traffic flow.
 7. follow all road rules and speed limits.
 - Use only approved haul routes

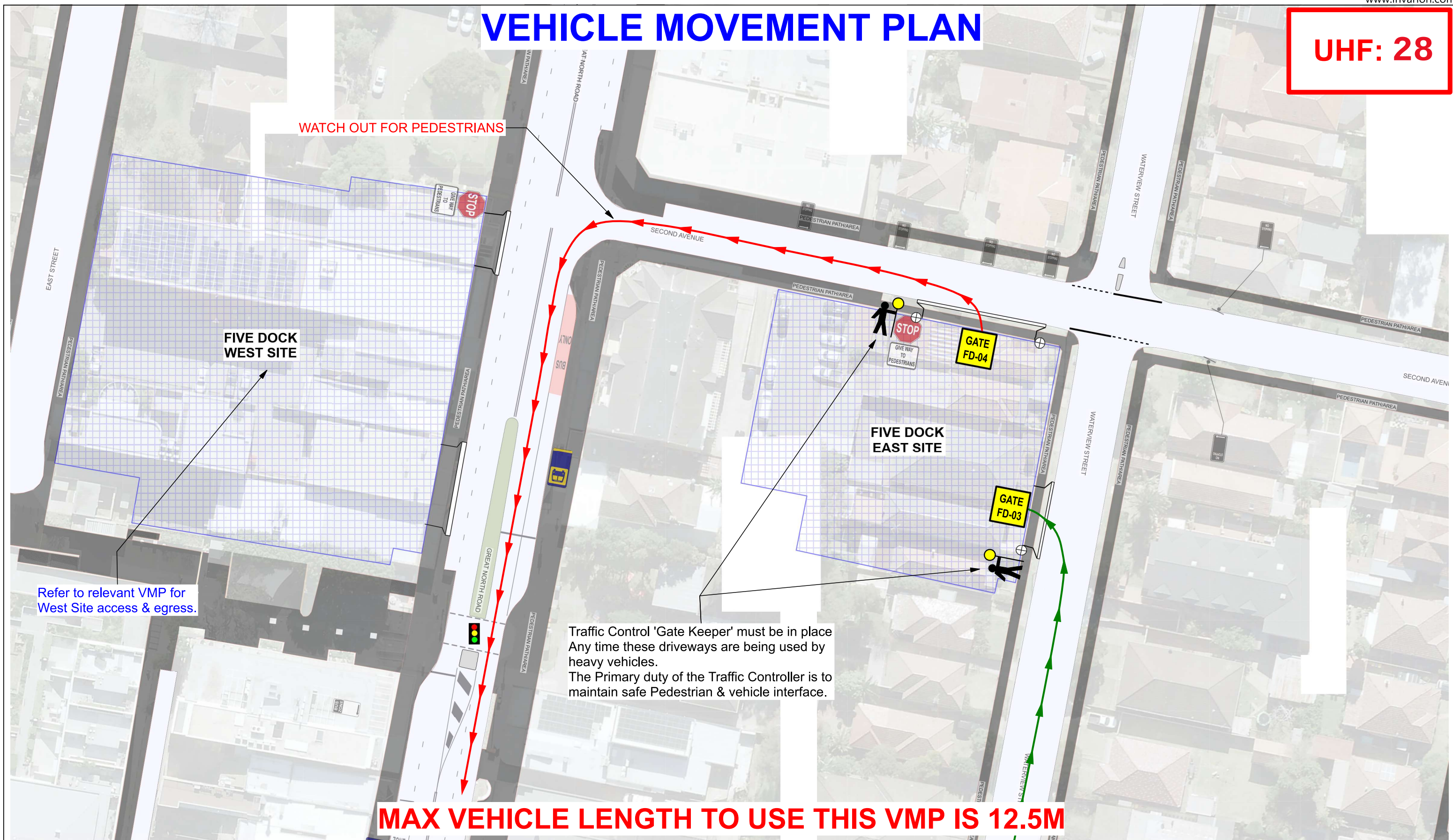
PROJECT: SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND

	Workzone		Signalised intersection
	Access		Special movement
	Egress		



VEHICLE MOVEMENT PLAN

UHF: 28

Comments:

- Drivers must be briefed on this VMP
- Gatekeeper/s must be in position when gates are in use and the VMP requires it.
- Drivers must adhere to Gatekeepers directions
- Vehicles entering and exiting site must:
 1. Activate roof mounted beacons on approach
 2. radio intention via UHF
 3. Indicate intentions
 4. Turn into/out of site
 5. Exit with caution, ensuring the safety of pedestrian and other road users
 6. Disable roof mounted beacons after egress and speed has reached normal traffic flow.
 7. follow all road rules and speed limits.
- Use only approved haul routes

VMP Approved by
PROJECT:

SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

REV - 00
LEGEND

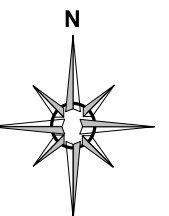
-  Station Site Boundary
-  Access
-  Egress



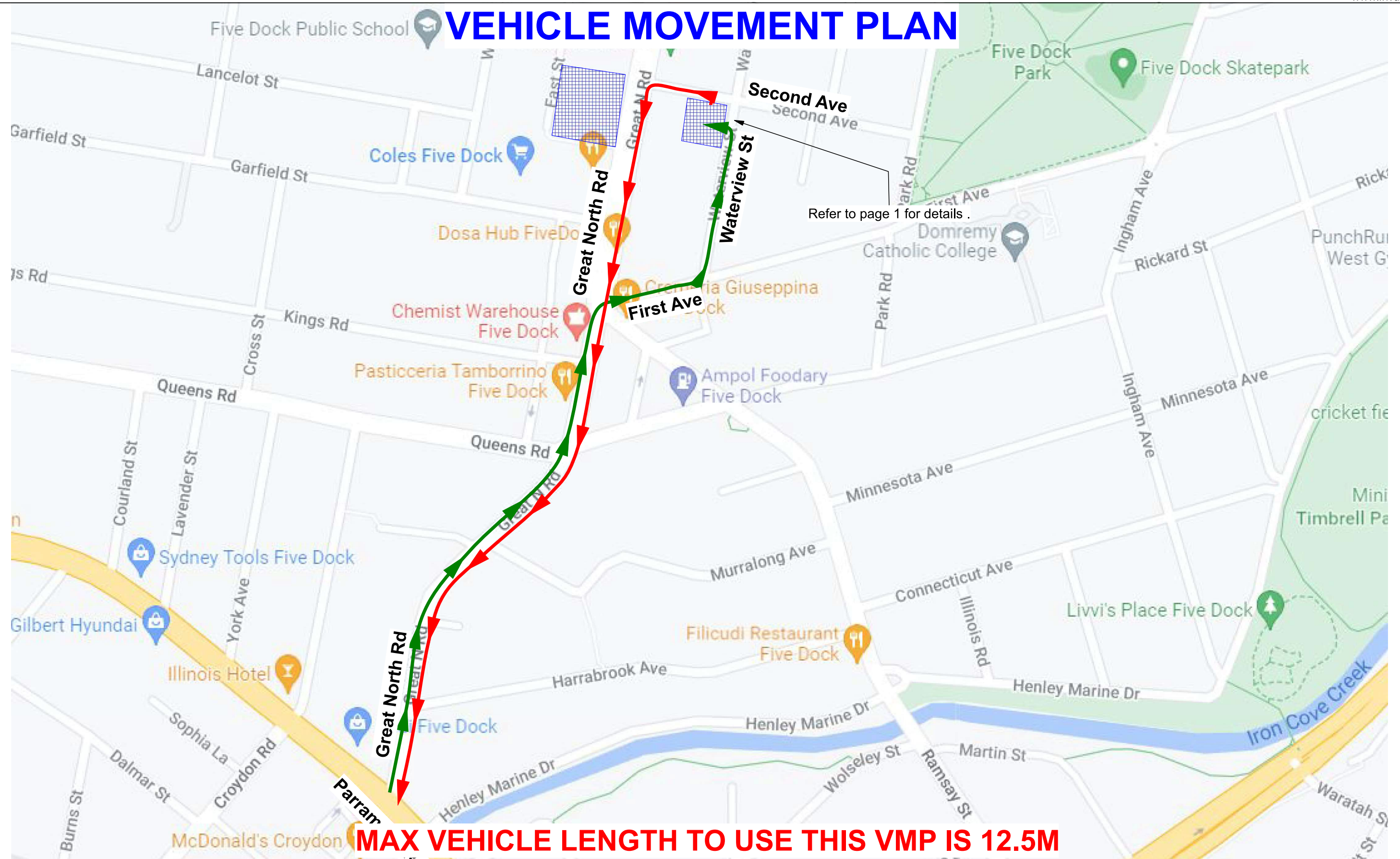
Signalised Intersection



Loop Option



VEHICLE MOVEMENT PLAN



MAX VEHICLE LENGTH TO USE THIS VMP IS 12.5M

Comments:

- Drivers must be briefed on this VMP
- Gatekeeper/s must be in position when gates are in use and the VMP requires it.
- Drivers must adhere to Gatekeepers directions
- Vehicles entering and exiting site must:
 1. Activate roof mounted beacons on approach
 2. radio intention via UHF
 3. Indicate intentions
 4. Turn into/out of site
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 6. Disable roof mounted beacons after egress and speed has reached normal traffic flow.
 7. follow all road rules and speed limits.
- Use only approved haul routes

PROJECT:

SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND



Workzone



Access



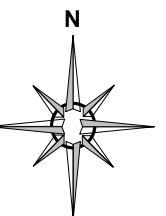
Egress



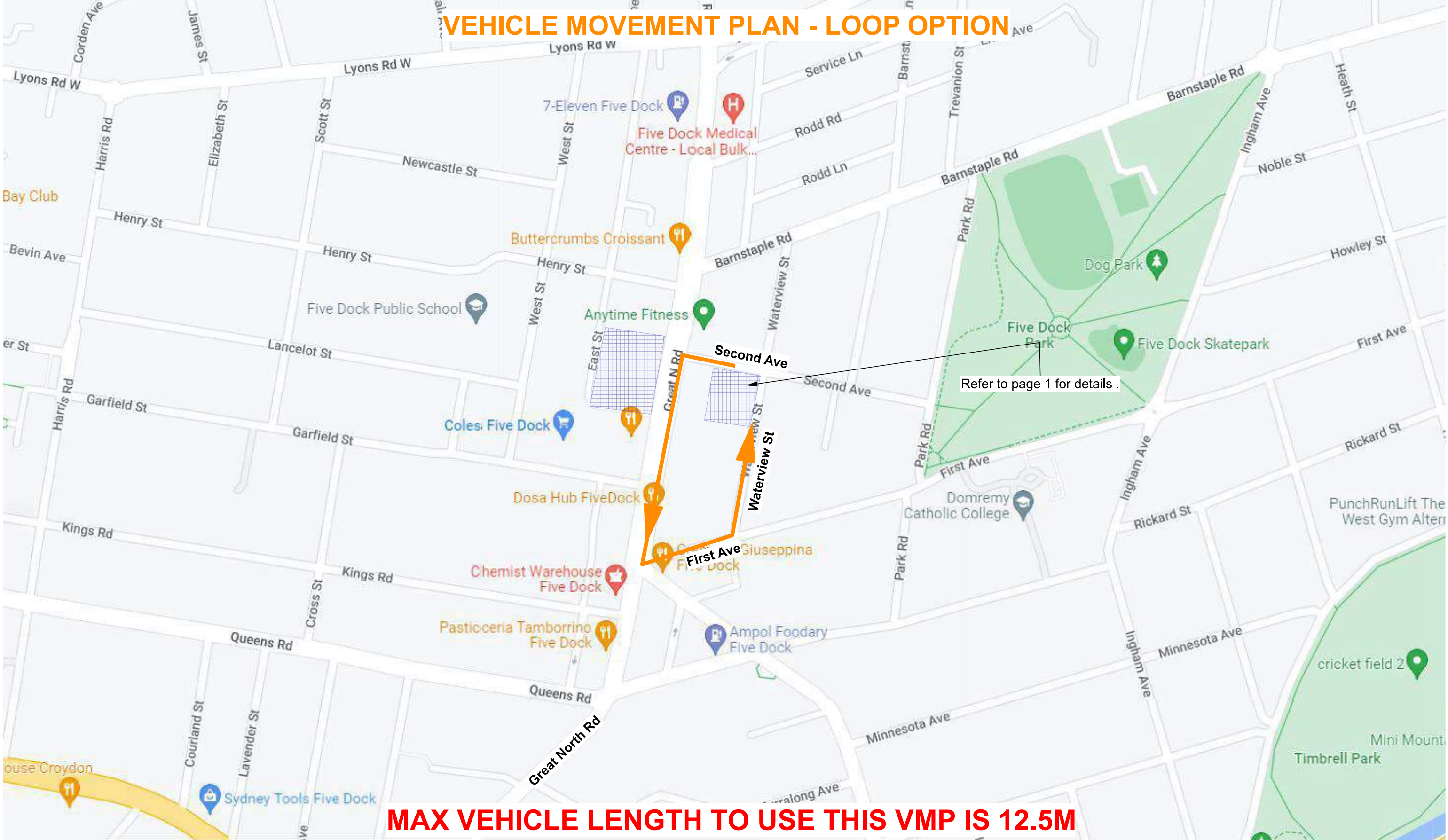
Signalised intersection



Restricted/other movement



VEHICLE MOVEMENT PLAN - LOOP OPTION



MAX VEHICLE LENGTH TO USE THIS VMP IS 12.5M



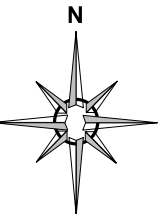
Comments:

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- Drivers must adhere to Gatekeepers directions
- Vehicles entering and exiting site must:
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 3. Indicate intentions
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 7. follow all road rules and speed limits.
- Use only approved haul routes

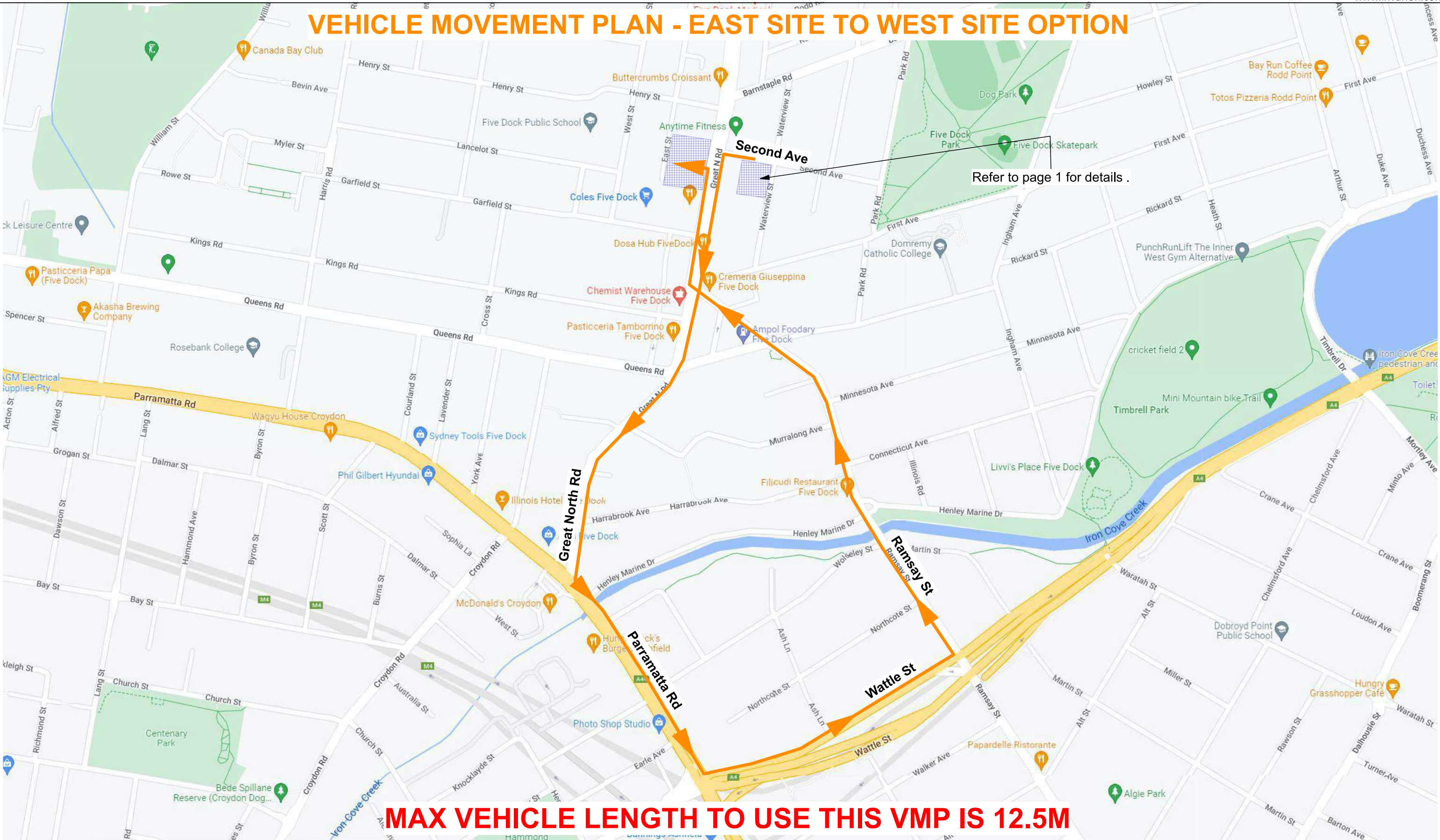
PROJECT: SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND

	Station Site Boundary		Signalised Intersection
	Access		Loop Option
	Egress		



VEHICLE MOVEMENT PLAN - EAST SITE TO WEST SITE OPTION



MAX VEHICLE LENGTH TO USE THIS VMP IS 12.5M



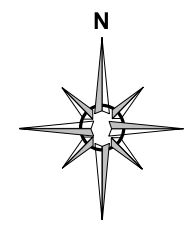
Comments:

- Drivers must be briefed on this VMP
- Gatekeeper/s must be in position when gates are in use and the VMP requires it.
- Drivers must adhere to Gatekeepers directions
- Vehicles entering and exiting site must:
 1. Activate roof mounted beacons on approach
 2. radio intention via UHF
 3. Indicate intentions
 4. Turn into/out of site
 5. Exit with caution, ensuring the safety of pedestrian and other road users
 6. Disable roof mounted beacons after egress and speed has reached normal traffic flow.
 7. follow all road rules and speed limits.
- Use only approved haul routes

PROJECT: SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND

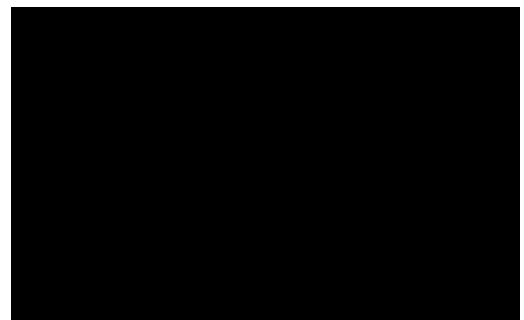
	Station Site Boundary		Signalised Intersection
	Access		Loop Option
	Egress		



APPENDIX D - ROAD SAFETY AUDITS

PRECONSTRUCTION - DESKTOP ROAD SAFETY AUDIT

ACCIONA/FERROVIAL JOINT VENTURE (AFJV)
CENTRAL TUNNELLING PROJECT – FIVE DOCK SITE





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PRECONSTRUCTION - DESKTOP ROAD SAFETY AUDIT

ACCIONA FERROVIAL JOINT VENTURE

CENTRAL TUNNELLING PROJECT – FIVE DOCK SITE



Document Control

Title:	Description
Ref No.:	20240301 – AFJV-CTP-RSA-0005-00
Description:	Roadworks – Traffic Guidance Scheme Road Safety Audit – Five Dock construction site (AFJV)

Role	Name	Position
Author:		Level 3 Road Safety Auditor

Document Revisions

No.	Date	Issue / Description
00	01.03.2024	ORIGINAL ISSUE

PRECONSTRUCTION - DESKTOP ROAD SAFETY AUDIT

ACCIONA FERROVIAL JOINT VENTURE

CENTRAL TUNNELLING PROJECT – FIVE DOCK SITE



Executive Summary

Audited Project:	Preconstruction – Desktop Road Safety Audit
Audit for:	
Email Address:	
Clients Contact:	
Auditors:	
Audit Type:	Roadworks Road Safety Audit
Commencement Meeting:	29 th February 2024
Site Visit:	Not required by AFJV
Completion Meeting:	To be advised
Previous Audit:	9 th February 2024

This Roadworks Road Safety Audit reviewed the proposed long-term TGS at Five Dock associated with the Central Tunnelling Project as part of the Sydney Metro West Project. The audit checked that the long-term temporary arrangement is suitable for the intended purpose and so conducive to a safe road environment for all types of road users.

This report documents the identified audit findings dated 1st of March 2024.

The road safety audit identified some possible deficiencies, each of which have been listed in Section 4 - Audit Findings.



1. Introduction

1.1 Purpose of Audit

This report presents findings of a Preconstruction Desktop Road Safety Audit of the proposed long-term traffic strategies. The audit has reviewed the site at both day and night time driving conditions. An inspection on foot was also conducted on the accessible paths and crossings adjacent the site.

The audit is conducted to verify the manifestation of the documentation and planning for works within road related areas, and within the specified area affected by the project works. The audit scrutinizes the 'safe system' approach to road design and the traffic management planning, targeting roadside hazards including (but not limited to) signage and pavement marking, pedestrian & cyclists' facilities, delineation, sight distances, intersection controls and safety barriers.

The site being audited covers the area affected by the Sydney Metro Central Tunnelling project construction area shown in the red circle on the plan below, in Figure 1;

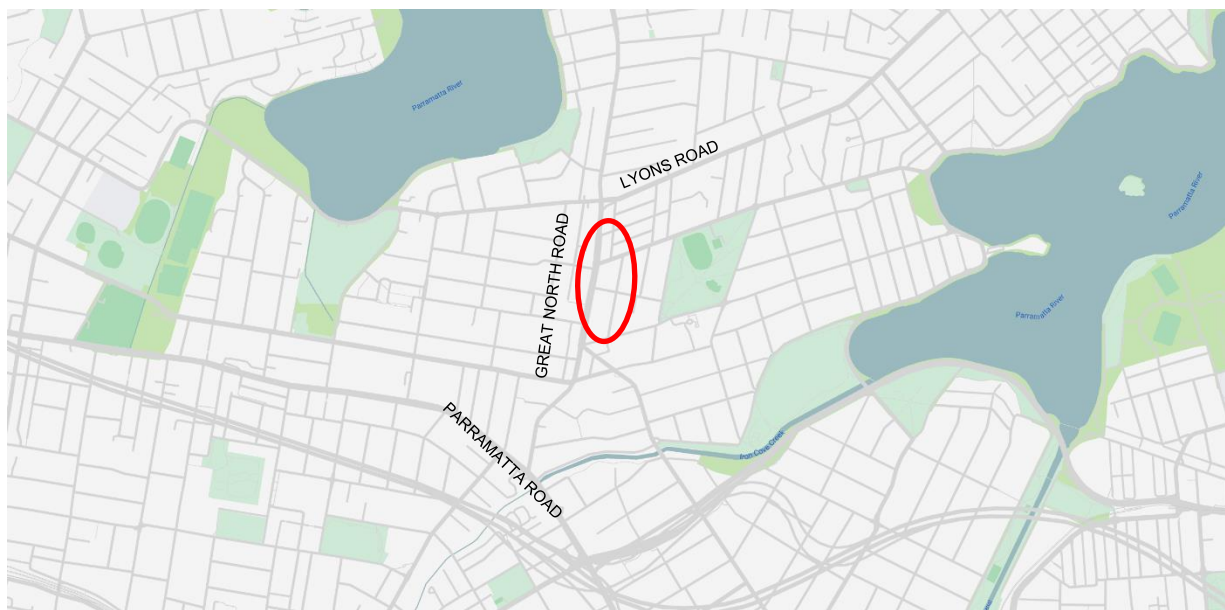


Figure 1: Site Location

[Source: Google Maps]

1.2 Audit Objectives

The objective of this road safety audit was to identify relevant road safety deficiencies on site which, if addressed, would improve safety for road users.

The other objectives of this Desktop Road Safety Audit were to:

- Check the compatibility between the traffic management's safety features and the functional classification of the roads.
- Identify any feature's that can, either now or with time, create a traffic safety issue.
- identify additional design's features at the site that pose a safety hazard or risk to any of the road users
- Determine the extent of the deficiencies in the design, considering all road user groups.



1.3 Procedures and reference material

The procedures used are those in the Austroads Guide to Road Safety Part 6: Road Safety Audit (2022) and RMS Guidelines for Road Safety Audit Practices 2011.

Technical reference documents for Traffic Guidance Schemes is the Traffic Control at Worksites Manual (TCAWS) Version 6.1, 2022.

1.4 Audit Team

This Audit Team consisted of:

- a) [REDACTED] has 12 years construction and traffic experience and is a registered Level 3 (Lead) Road Safety Auditor in NSW and senior auditor in both VIC & QLD. Louis has worked on several major construction projects within New Zealand and Australia with a combined project value of over \$2 billion.
- b) [REDACTED] has worked in the traffic management sector across Qld and NSW for 17 years with experience in civil design and temporary traffic management. Dustin is registered Level 2 road safety auditor in NSW

2. Road Safety Audit Program

2.1 Commencement Meeting

On Thursday the 29th of February 2024 a commencement email was received from [REDACTED] requesting a field audit be conducted on the arrangement at the Five Dock site currently in place as part of the Central Tunnelling Project. The audit was to be conducted by [REDACTED] Lead Road Safety Auditor [REDACTED] with the assistance of [REDACTED]. The audit was to be conducted on the implementation of the existing conditions at the site and the associated impacts and changes introduced by the project.

2.2 Completion meeting

Project representatives are to advise of the need for a Completion meeting.

2.3 Responding to the audit report

The responsibility for the design and implementation of this project rests with the client's project management team, not with the auditors. The project manager is under no obligation to accept the audit findings. Also, it is not the role of the auditor to agree or to approve the project manager's responses to the audit. Rather, the audit provides the opportunity to highlight potential road safety problems and have them formally considered by the project manager or design manager in conjunction with all other project considerations.

2.4 Corrective action response

The road safety audit is a formal process. The road safety audit report is by no means the end of the audit process. The audit report documents the audit teams' identified concerns made to improve the safety of the roads. This report must be responded to by the client with a written response to each audit finding.

2.5 Disclaimer

The findings and opinions in the report are based on the examination of the construction site area outlined in the audit brief. The audit report may not cover all hazards at the time of the audit. The

PRECONSTRUCTION - DESKTOP ROAD SAFETY AUDIT

ACCIONA FERROVIAL JOINT VENTURE

CENTRAL TUNNELLING PROJECT – FIVE DOCK SITE



auditors have endeavoured to identify features of the arrangement that could be modified or removed in order to improve safety, although it must be recognised that safety cannot be guaranteed since no road can be regarded as safe. The problems identified have been noted in this report and should be considered for improving road safety. Where corrective actions are not taken, this should be reported in writing, providing the reason for the decision. Readers are urged to seek specific advice on matters and not to rely solely on this report. While every effort has been made to ensure the accuracy of this report, it is made available strictly on the basis that everyone relying on it does so at their own risk without any liability to the Auditors.



3. Risk Assessment Approach

This audit identified and rated risks per the Austroads recommendation using the assessment process below. Potential safety hazards were identified and categorised based on the frequency of occurrence and severity (consequence of crash). A preliminary risk rating for each identified issue has been assigned in Section 4 which were determined via a subjective judgement by the Auditor guided by the Austroads “Guide to Road Safety, Part 6: Road Safety Audit”.

Austroads’ provides an indication of the level of risk and what response may be appropriate – refer to the tables below.

3.1 Likelihood

Description	
Almost Certain	Occurrence once per quarter
Likely	Occurrence once per quarter to once per year
Possible	Occurrence once per year to once every three years
Unlikely	Occurrence once every three years to once every seven years
Rare	Occurrence less than once every seven years

3.2 Severity

Description	
Insignificant	Property damage
Minor	Minor first aid
Moderate	Major first aid and/or presents to hospital (not admitted)
Serious	Admitted to hospital
Fatal	At scene or within 30 days of the crash

3.3 Risk Rating

		Severity				
		Insignificant	Minor	Moderate	Serious	Fatal
Likelihood	Almost Certain	Medium	High	High	Extreme	Extreme
	Likely	Medium	Medium	High	Extreme	Extreme
	Possible	Low	Medium	High	High	Extreme
	Unlikely	Negligible	Low	Medium	High	Extreme
	Rare	Negligible	Negligible	Low	Medium	High

3.4 Treatment

Risk	Suggested treatment approach
Negligible	No action required
Low	Should be corrected or the risk reduced if the treatment cost is low
Medium	Should be corrected or the risk significantly reduced, if the treatment cost is moderate but not high
High	Should be corrected or the risk significantly reduced, even if the treatment cost is high
Extreme	Must be corrected regardless of cost

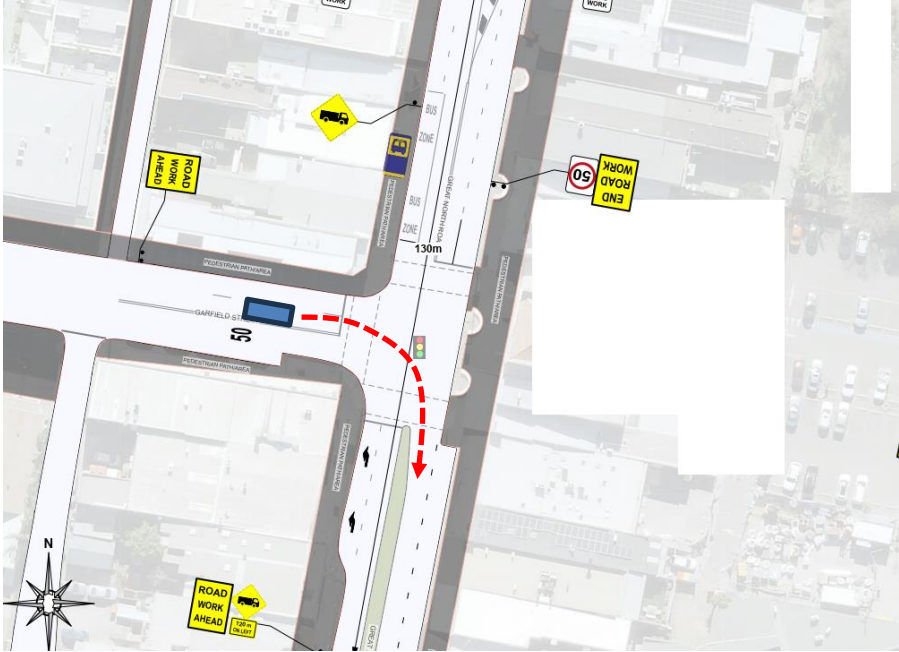
ROADWORKS - ROAD SAFETY AUDIT

ACCIONA FERROVIAL JOINT VENTURE

CENTRAL TUNNELLING PROJECT – FIVE DOCK SITE



4. Audit Findings

No.	Drawing No.	Description of Deficiency / Observation	Risk level
1	Stage 1 - AFJVCTP-TGS-00455 (page 2 of 11)	The audit team observed that right turning motorists travelling EB on Garfield St on approach to Gt North Road will not pass an “END ROAD WORK” sign on departure of the site. As such, motorists may perceive that they are still within the vicinity of the work area which may increase the risk of motorist confusion. Furthermore, credibility may be decreased, motorists non-compliance and motorists confusion may be increased. Consequently, the risk of an incident occurring may be increased. 	Likelihood – Unlikely Severity – Minor Risk Rating – Low

ROADWORKS - ROAD SAFETY AUDIT

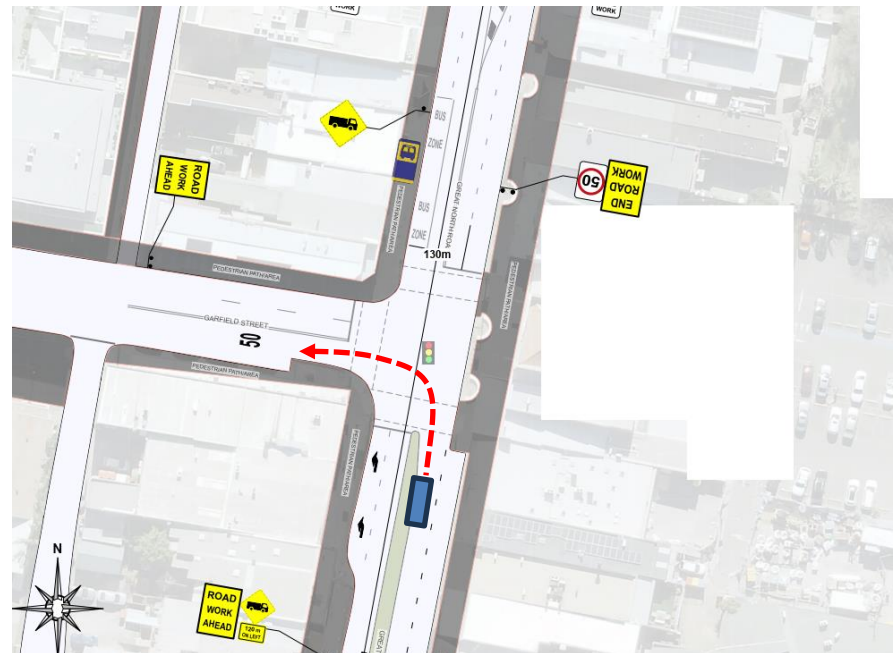
ACCIONA FERROVIAL JOINT VENTURE

CENTRAL TUNNELLING PROJECT – FIVE DOCK SITE



- 2 Stage 1 - AFJVCTP-TGS-00455 (page 1 of 11) Similar to finding #1, NB motorists on Great North Road turning left into Garfield Street do not seem to pass an “END ROAD WORK” sign which may have the same effect as explained in finding #1.

Likelihood – Unlikely
Severity – Minor
Risk Rating – Low



ROADWORKS - ROAD SAFETY AUDIT

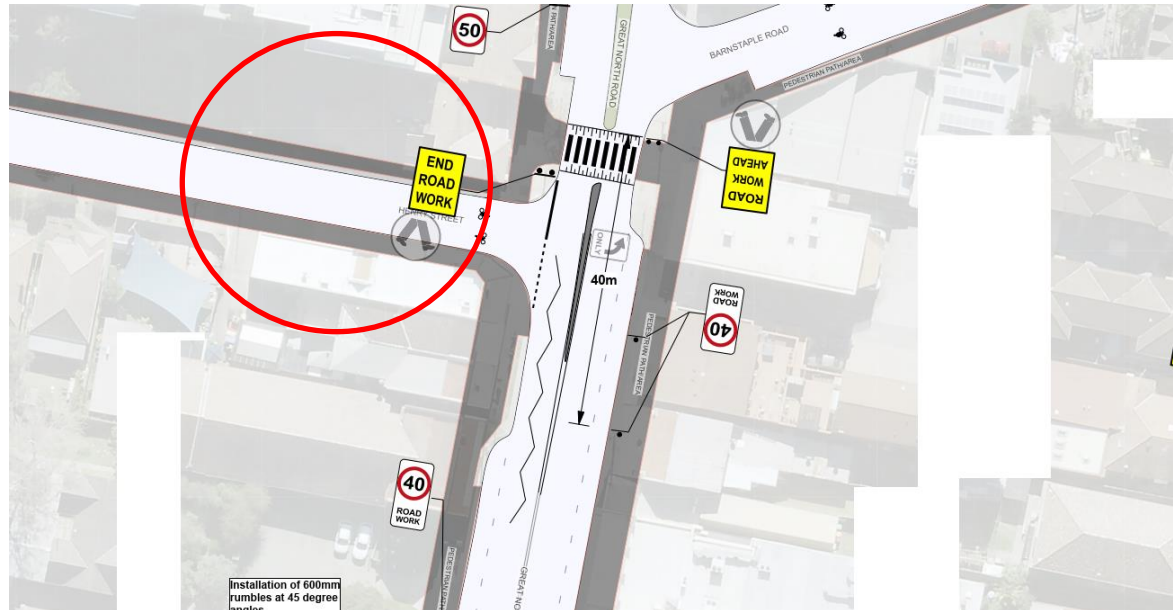
ACCIONA FERROVIAL JOINT VENTURE

CENTRAL TUNNELLING PROJECT – FIVE DOCK SITE



- 3 Stage 1 - AFJVCTP-TGS-00455 (page 1 of 11)

There appears to be an absence of site gate way signage within Henry Street. Consequently, motorists approaching or departing the site at Henry Street may not perceive the work zone which may increase motorists confusion (similar to findings #1 & #2) which may increase the risk of an incident occurring.



Likelihood – Rare
Severity – Moderate
Risk Rating – Low

ROADWORKS - ROAD SAFETY AUDIT

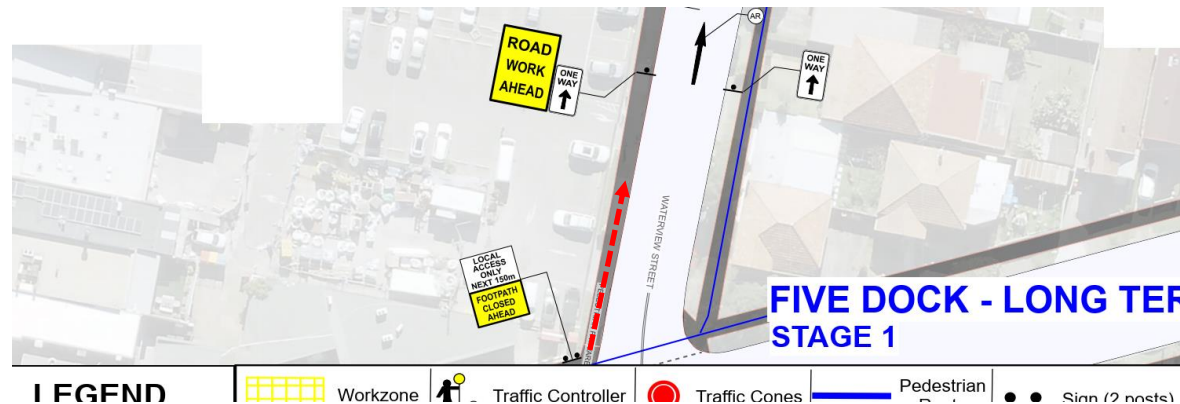
ACCIONA FERROVIAL JOINT VENTURE

CENTRAL TUNNELLING PROJECT – FIVE DOCK SITE



4 Stage 1 - AFJVCTP-TGS-00455 (page 2 of 11)

The audit team observed that the footpath on the NB side of Waterview St is closed from the intersection with First Ave. As the work area is over 100m away from the footpath closure, Pedestrians may be inclined to walk up the footpath on the NB side of Waterview Street. This may be more prevalent as no physical barricade is proposed here.



If pedestrians do walk north to the AFJV work area, they will either:

1. walk into the closed footpath area at Waterview St / Second Ave
2. have to cross at an informal crossing location prior to the work area at Waterview St / Second Ave

Both results will likely increase the risk exposure to pedestrians walking on the NB side of Waterview Street toward the proposed work area. See below depiction of each of the scenarios stated above.

Likelihood – Unlikely

Severity – Serious

Risk Rating – High

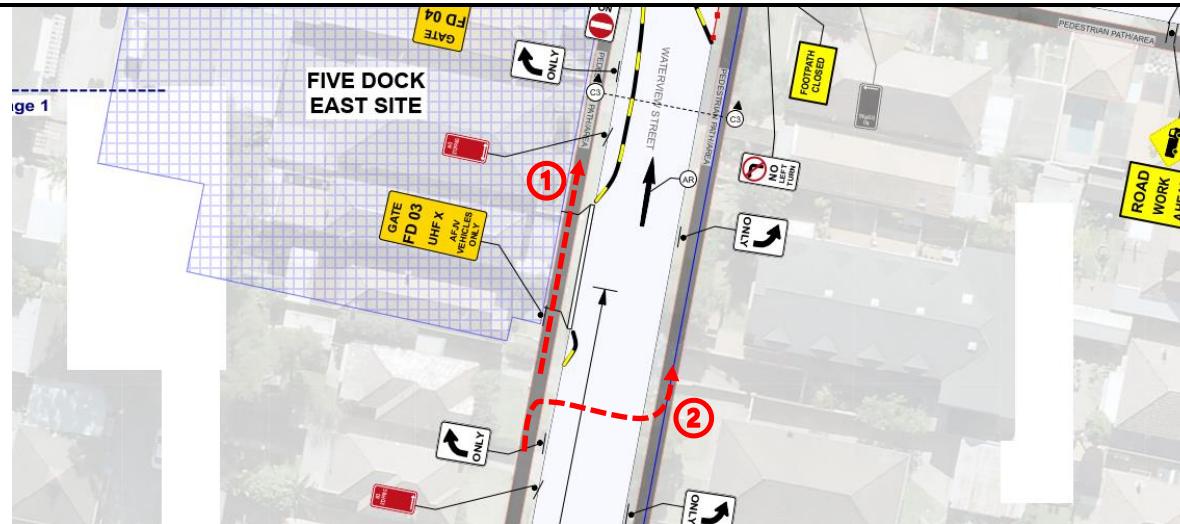
ROADWORKS - ROAD SAFETY AUDIT

ACCIONA FERROVIAL JOINT VENTURE

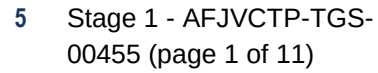
CENTRAL TUNNELLING PROJECT – FIVE DOCK SITE



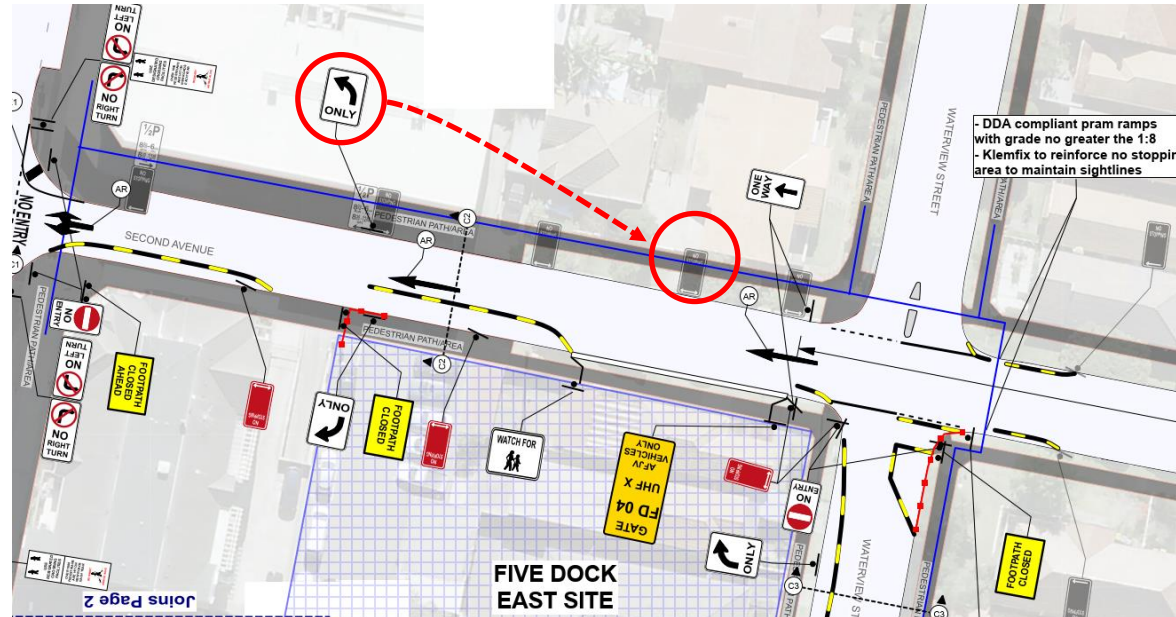
4 continued



CENTRAL TUNNELLING PROJECT – FIVE DOCK SITE



To Note Only





5. Conclusion

The report outlines where potential deficiencies have been identified for consideration by the project manager, designer and/or engineer.

The findings and opinions in the report are based on the examination of the site areas outlined in the audit brief as part of the Central Tunnelling Project at Five Dock. The Auditors have endeavoured to identify features of the design that could be modified or removed to improve safety, although it must be recognised that safety cannot be guaranteed since no road can be regarded as safe. While every effort has been made to ensure the accuracy of this report, it is made available strictly on the basis that anyone relying on it does so at their own risk without any liability to the Auditors.

Date: 01.03.2024

Date: 01.03.2024

ACCIONA FERROVIAL JV**Project:** Central Tunnelling Project - Five Dock**Issued Date:** 01/03/2024

Item	Location	Comment	Client's Response/Action for Resolution
1	Stage 1 - AFJVCTP-TGS-00455 (page 2 of 11)	The audit team observed that right turning motorists travelling EB on Garfield St on approach to Gt North Road will not pass an "END ROAD WORK" sign on departure of the site. As such, motorists may perceive that they are still within the vicinity of the work area which may increase the risk of motorist confusion. Furthermore, credibility may be decreased, motorists non-compliance and motorists confusion may be increased. Consequently, the risk of an incident occurring may be increased.	Noted, all roadwork signage has been specifically placed in locations that allow, the available location of these signs is limited due to multiple overhead (shop front awnings, trees, etc), below ground (utilities) and footpath width conflicts. This does mean x2 side streets do not pass an end roadwork sign.
2	Stage 1 - AFJVCTP-TGS-00455 (page 1 of 11)	Similar to finding #1, NB motorists on Great North Road turning left into Garfield Street do not seem to pass an "END ROAD WORK" sign which may have the same effect as explained in finding #1.	As noted in item 1
3	Stage 1 - AFJVCTP-TGS-00455 (page 1 of 11)	There appears to be an absence of site gate way signage within Henry Street. Consequently, motorists approaching or departing the site at Henry Street may not perceive the work zone which may increase motorists confusion (similar to findings #1 & #2) which may increase the risk of an incident occurring.	As noted in item 1
4	Stage 1 - AFJVCTP-TGS-00455 (page 2 of 11)	The audit team observed that the footpath on the NB side of Waterview St is closed from the intersection with First Ave. As the work area is over 100m away from the footpath closure, Pedestrians may be inclined to walk up the footpath on the NB side of Waterview Street. This may be more prevalent as no physical barricade is proposed here. If pedestrians do walk north to the AFJV work area, they will either: 1.walk into the closed footpath area at Waterview St / Second Ave 2.have to cross at an informal crossing location prior to the work area at Waterview St / Second Ave Both results will likely increase the risk exposure to pedestrians walking on the NB side of Waterview Street toward the proposed work area. See below depiction of each of the scenarios stated above.	Noted, this was a drafting error and has now been rectified. Footpath closed signage and fencing is to be installed.
5	Stage 1 - AFJVCTP-TGS-00455 (page 1 of 11)	It was observed that a left turn only sign has not been proposed to face the access / egress point on Second Avenue for the Five Dock East Site. The audit team is not aware if this is intentional but concluded that it should be mentioned in the RSA report.	The location of this sign is intentional. The sign is intended for traffic exiting the carpark of the apartment building. No 'left only' sign is proposed adjacent to the site egress due to the nearby line marking, and the construction traffic coming from the driveway is guided by a gate-keeper/traffic-controller



Five Dock – Revised Long Term Design Detailed Design Road Safety Audit

Prepared for:
Acciona Ferrovial Joint Venture

29 May 2023

The Transport Planning Partnership

Five Dock – Revised Long Term Design

Detailed Design Road Safety Audit

Client: Acciona Ferrovia Joint Venture

Version: V02

Date: 29 May 2023

TTPP Reference: 21319

Quality Record

Version	Date	Prepared by	Reviewed by	Approved by	Signature
V02	29/5/2023				

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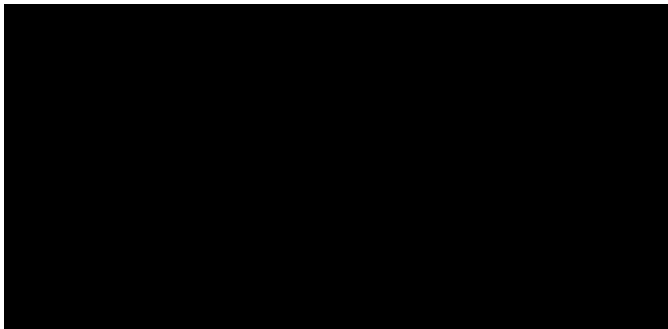
Tables

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APPENDICES

A. TGS PLANS

1 Road Safety Audit Summary

Audited project:	Five Dock – Revised Long Term Design
Client:	Acciona Ferrovia Joint Venture
Project manager:	
Email address:	
Telephone:	
Audit Team:	
Audit type:	Design (Detailed)
Commencement meeting:	N/A
Audit date:	29 May 2023
Completion meeting:	Not required

2 Introduction

2.1 Background

This report has been prepared on behalf of Acciona Ferrovia Joint Venture (AFJV) for the traffic management plans as part of the Sydney Metro West construction.

This audit addresses the updated long-term traffic staging plan (TGS 0455 and TGS0147) and pedestrian management plan (TGS0562) to be implemented at Five Dock construction east and west sites on Great North Road, Waterview Street and Second Avenue.

2.2 Audit Objective

The objective of this audit was to identify and report on aspects of the design that may result in unnecessary or unreasonable hazards for all road users.

2.3 Procedures and Reference Material

The procedures used are described in the following guidelines:

- Transport for NSW's 2011 Guidelines for Road Safety Audit Practices
- Austroads Guide to Road Safety 2022: Part 6 Road Safety Audits

Following information was supplied and referenced prior to undertaking Road safety Audit:

Table 2.1: Information Supplied

Documentation	Date	Document Reference
Traffic Guidance Scheme Plan	06 April 2023	AFJVCTP-TGS-0147
Five Dock – Long Term traffic Staging	14 March 2023	AFJVCTP-TGS-0455
Pedestrian Management Plan	20 March 2023	AFJVCTP-TGS-0562

2.4 Audit Team

The RSA was carried out by the following team:

- [REDACTED] – level 3 road safety auditor (lead auditor)
- [REDACTED] – level 2 road safety auditor (team member)
- [REDACTED] – level 3 road safety auditor (team member)

██████████ are registered road safety auditors with the NSW Centre for Road Safety and are experienced in traffic engineering and design/ inspection of traffic management schemes.

3 Road Safety Audit Program

3.1 Commencement Meeting

A formal meeting was not held.

3.2 Site and Field Audit

A site inspection was undertaken on 14 December 2022 in day and night conditions for the area covered in the scope of this audit. There was light rain during the site inspection, but visibility was good. The site visit was recorded through photographs and video dashcam recordings. There have been no significant changes to the road environment since this site inspection.

Previous day and night site inspections were also undertaken on:

- 19 April 2022
- 10 May 2022

3.3 Completion Meeting

Not required.

4 Road Safety Audit Findings

4.1 Introduction

Table 4.1 provides specific details of the road safety deficiencies and a risk rating as extreme, high, medium, low, or negligible. The risk ratings have been based on the risk matrix presented in Table 4.1, which has been adopted from the latest Austroads Guide to Road Safety: Road Safety Audit (2022).

Table 4.1: Risk Matrix

			Severity				
			Insignificant	Minor	Moderate	Serious	Fatal
			Property damage	Minor first aid	Major first aid and/or presents to hospital (not admitted)	Admitted to hospital	Death within 30 days of the crash
Likelihood (includes exposure)	Almost Certain	One per quarter	Medium	High	High	Extreme (FSI)	Extreme (FSI)
	Likely	Quarter to 1-year	Medium	Medium	High	Extreme (FSI)	Extreme (FSI)
	Possible	1 to 3 years	Low	Medium	High	High (FSI)	Extreme (FSI)
	Unlikely	3 to 7 years	Negligible	Low	Medium	High (FSI)	Extreme (FSI)
	Rare	7 years+	Negligible	Negligible	Low	Medium (FSI)	High (FSI)

The terms in Table 4.1 are described below.

Likelihood:

- Almost certain – occurrence once per quarter
- Likely – occurrence once per quarter to once per year
- Possible – occurrence once per year to once every three years
- Unlikely – occurrence once every three years to once every seven years
- Rare – occurrence less than once every seven years.

Severity:

- Insignificant – property damage
- Minor – minor first aid
- Moderate – major first aid and/or presents to hospital (not admitted)
- Serious – admitted to hospital
- Fatal – at scene or within 30 days of the crash.

Priority:

- Negligible – no action required
- Low – should be corrected or the risk reduced if the treatment cost is low
- Medium – should be corrected or the risk significantly reduced, if the treatment cost is moderate, but not high
- High – should be corrected or the risk significantly reduced, even if the treatment cost is high
- Extreme – must be corrected regardless of cost.

4.2 Responding to the Audit Report

As set out in the road safety audit guidelines, the responsibility for the road rests with the project manager, not with the auditor. The project manager is under no obligation to accept the audit findings. Neither is it the role of the auditor to agree to or approve the project manager's responses to the audit.

The audit provides the opportunity to highlight potential road safety problems and have them formally considered by the project manager in conjunction with all other project considerations.

4.3 Road Safety Audit Findings

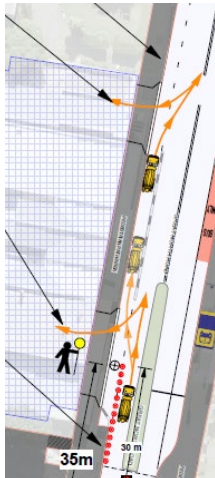
The audit findings are documented in Table 4.2 which provides:

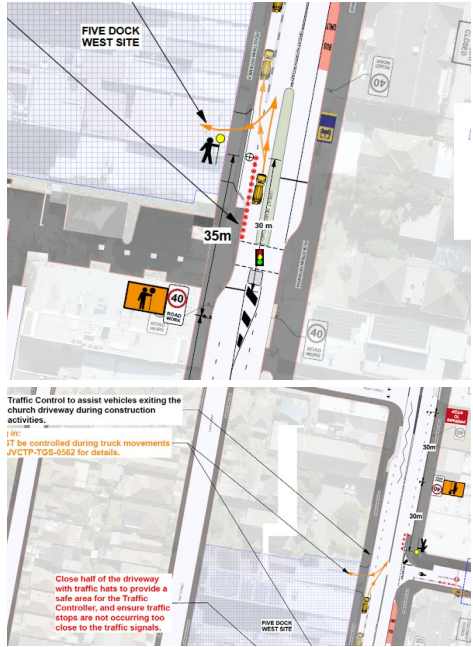
- specific details of the road safety issues identified during the audit
- a risk level rating for each of the road safety audit findings.

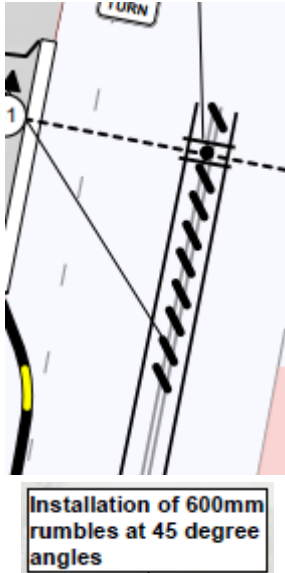
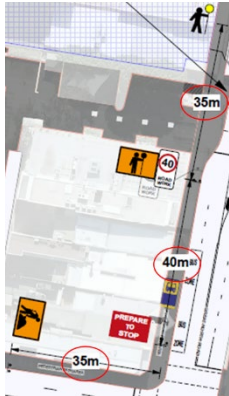
It should be acknowledged that positive attributes of the audited road section have not been discussed. Deficiencies that do not cause a safety problem are also not listed.

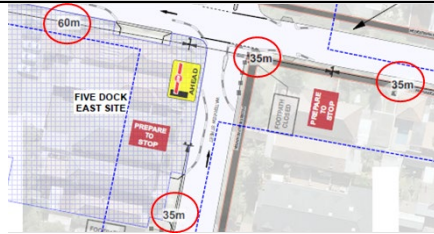
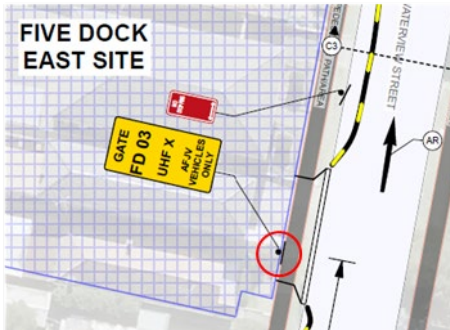
In-line with TfNSW's best practice recommendations have not been included in the road safety audit findings.

Table 4.2: Road Safety Audit Findings

Item No.	Location	Descriptions of Findings	Design/ Photo	Likelihood	Severity	Risk Rating	Designer Response
1.	Garfield Street, Henry Street, Waterview Street	TGS 0147 - A "Road Work on Side Road" sign in TGS plan is missing on Garfield Street, Henry Street and Waterview Street. Motorists on Garfield St, Henry Street and Waterview Street may not be aware of the road works on Great North Road prior to turning onto Great North Road which could result in confusion and erratic driver behaviour.		Rare	Moderate	Low	Noted: - Roadwork Haeed signs are not required for the nature of this work. - Additionally; long term roadwork signage is installed on all approaches as per TGS 0455
2.	West Site	TGS 0147 - The plan indicates trucks reversing into the West Site. Reverse movements of a truck into a construction site is considered unsafe, especially under the existing site conditions where a high number of vehicular and pedestrian movements are present in the area. It is uncertain what additional measures will be in place to control the risk associated with reversing truck movements, except the presence of traffic controllers to control pedestrians and traffic on Great North Road. Any misjudgement in reversing trucks could potentially result in a crash with medium to severe injury. It is noted a traffic controller is not shown at the north site access point although text says a traffic controller will assist vehicles.	 Trucks reversing in: Pedestrians MUST be controlled during truck movements refer to PMP: AFJVCTP-TGS-0562 for details.	Possible	Moderate	High	Noted; contoies include: - Traffic stops as per TGS 0815 - Pedestrian controls as per TGS 0562 Rev01

Item No.	Location	Descriptions of Findings	Design/ Photo	Likelihood	Severity	Risk Rating	Designer Response
3.	West Site	TGS0147 Traffic in the northbound direction may queue across the signalised pedestrian crossing. Vehicles queued across the crossing may restrict visibility between pedestrians and oncoming motorists.		Unlikely	Moderate	Medium	Noted; traffic stops will be short in duration and will be timed with the traffic signals. Trucks will be instructed to pull into the shoulder to release traffic if queuing occurs.
4.	East Site	TGS 0562 - A pedestrian management plan has only been provided for the West site. It is uncertain what measures are in place for the East Site in terms of pedestrian management. Failing to implement proper measures at the East Site could potentially expose pedestrians to the construction hazards while walking across the frontage of the East Site access.		Possible	Minor	Medium	The east sight will be managed as per SMWSTCTP0AFJ-1NL-TF-TGS-Gate-PMP-001_2. Found within appendix E of the CTMP

Item No.	Location	Descriptions of Findings	Design/ Photo	Likelihood	Severity	Risk Rating	Designer Response
5.	Great North Road south of Second Avenue	TGA 0455 - The Long Term Traffic Staging plan indicates '600mm rumbles' in the median. These raised bars in the median may create a trip hazard for pedestrians crossing the road at this location. There is a risk of a pedestrian tripping on the rumble bars while crossing the road. The likelihood is considered to be rare as it is not a marked crossing and there are controlled crossings within 100m either side of this location. The chances of someone crossing at this location and tripping are low. However, falls may result in the need for first aid or presentation to hospital. Noted that these bars have already been installed on site.	 Installation of 600mm rumbles at 45 degree angles	Rare	Moderate	Low	This was installed as part of a previous revision, the area has good lighting and rumbles are clearly visible. Additional custom signage will be installed to advise public to use only designated crossing points. Ongoing monitoring of this item will be undertaken with any further concerns addressed.
6.	General	TGS 0147 – Distance between the construction zone signs shown on the plan appear to be incorrect and not in accordance with Traffic Control at Work Sites Technical Manual.		-	-	Note only	Noted, distances have been adjusted to accommodate site constraints to ensure best visibility and effectiveness of the signs

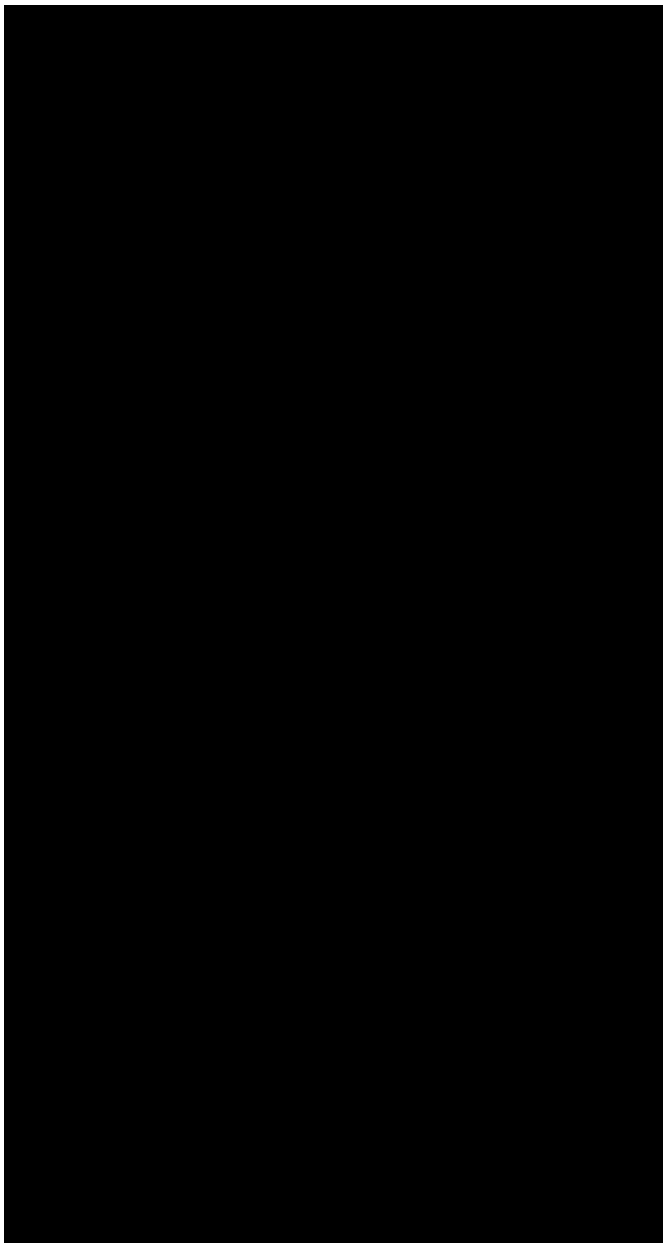
Item No.	Location	Descriptions of Findings	Design/ Photo	Likelihood	Severity	Risk Rating	Designer Response
							
7.	General	TGS 0455 - 'Roadwork Ahead' signs are typically placed as a standalone sign at a distance or dimension (D) prior to the second sign (i.e., Trucks symbolic sign in this instance). It is noted that similar sign has been placed as standalone sign at other locations. The D value is the speed limit in the preceding zone to determine the position of signs and devices etc.		-	-	Note only	Noted, this sign arrangement has been selected and installed as part of a previous revision, for reasons of both under and above ground conflicts a suitable alternative could not be identified.
8.	Waterview Street, Gate FD 03	TGS 0455 - The construction gate signpost has been installed incorrectly within the driveway and can potentially obstruct ingress and egress movement of construction vehicles.		-	-	Note only	Noted, this sign position has been adjusted

5 Concluding Statement

The findings and opinions in the report are based on the examination of the specific road and environs and might not address all concerns existing at the time of the audit.

The auditors have endeavoured to identify features of the road that could be modified in order to improve safety, although it must be recognised that safety cannot be guaranteed since no road can be regarded as absolutely safe.

While every effort has been made to ensure the accuracy of this report, it is made available strictly on the basis that anyone relying on it does so at their own risk without any liability to the Auditors.



Appendix A

TGS Plans

TRAFFIC GUIDANCE SCHEME

Worker offset from traffic	
Within 1.5m	- Speed reduced to 40km/h or below - Delineation of worksite - Shadow vehicle or reduce speed BELOW 40km/h
1.5m to 3m	- Speed reduction to 60km/h or below - Delineation of worksite - Shadow vehicle or reduce speed BELOW 60km/h
3m to 6m	- Speed reduction to 80km/h or below - delineation of worksite - Shadow vehicle or reduce speed BELOW 80km/h
Each location of work is to be assessed to consider site conditions, including: Driver compliance, road configuration and geometry. If deemed required, additional controls are to be implemented, and noted within the Risk Assessment.	

Excavation works	
Depth less than 200mm	- Address within the risk assessment on the last page of this plan - Delineate the area - Separate the area from pedestrians and the public
Depth over 200mm but less than 500mm	- Address within the risk assessment on the last page of this plan - Delineate the area - Separate the area from pedestrians and the public - Traffic speed 40km/h or below if within 3m of the traffic lane - Traffic speed 60km/h or below if more than 3m from traffic lane
Depth over 500mm	- Traffic Manager approval - A number of other controls will be required and detailed on the plan, this may include: barriers, lane closures, speed reductions and other controls, as determined by the Traffic Manager in consultation with the Construction Team.

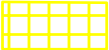


Comments:

- THIS IS A SHORT TERM TGS, NOT TO SCALE
- THE CONTRACTOR SHALL ENSURE ALL ROL AND SZA REQUIRMENTS ARE SATISFIED DURING IMPLEMENTATION OF THIS TGS
- ANY EXISTING SIGNAGE THAT CONFLICTS WITH THIS TGS MUST BE COVERED AT THE START OF SHIFT AND UNCOVERED AT THE END OF SHIFT
- ANY CHANGES REQUIRED, SPEAK TO THE SITE FOREMAN AND THEN MODIFY THIS PLAN IF NECESSARY. ANY CHANGES TO THIS PLAN SHALL BE MARKED ON THIS TGS & SIGNED OFF BY A PWZTMP HOLDER.
- A LANE WIDTH OF 3.5m (MINIMUM) IS TO BE MAINTAINED AT ALL TIMES UNLESS NOTED OTHERWISE
- SHOULDER WIDTH / EDGE CLEARANCE TO TRAFFIC CONES OF 0.5m IS TO BE PROVIDED AT ALL TIMES UNLESS NOTED OTHERWISE

PROJECT: SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND

 Workzone

 Traffic Controller

 Traffic Cones

 Pedestrian Route

 Sign (2 posts)

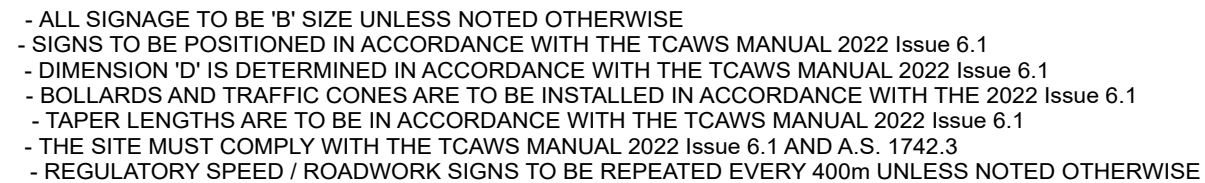
 Signalised intersection

 Arrow-board location

REV - 02

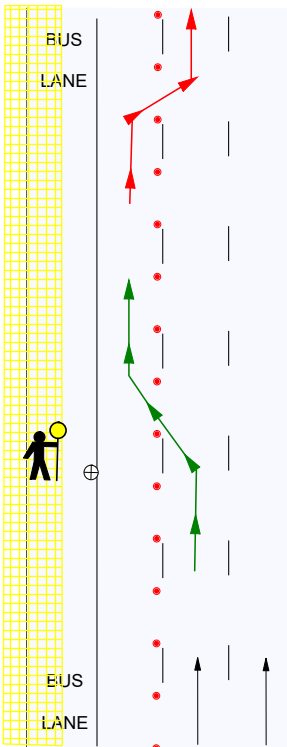
- ALL SIGNAGE TO BE 'B' SIZE UNLESS NOTED OTHERWISE
- SIGNS TO BE POSITIONED IN ACCORDANCE WITH THE TCAWS MANUAL 2022 Issue 6.1
- DIMENSION 'D' IS DETERMINED IN ACCORDANCE WITH THE TCAWS MANUAL 2022 Issue 6.1
- BOLLARDS AND TRAFFIC CONES ARE TO BE INSTALLED IN ACCORDANCE WITH THE 2022 Issue 6.1
- TAPER LENGTHS ARE TO BE IN ACCORDANCE WITH THE TCAWS MANUAL 2022 Issue 6.1
- THE SITE MUST COMPLY WITH THE TCAWS MANUAL 2022 Issue 6.1 AND A.S. 1742.3
- REGULATORY SPEED / ROADWORK SIGNS TO BE REPEATED EVERY 400m UNLESS NOTED OTHERWISE

 Arrow-board location

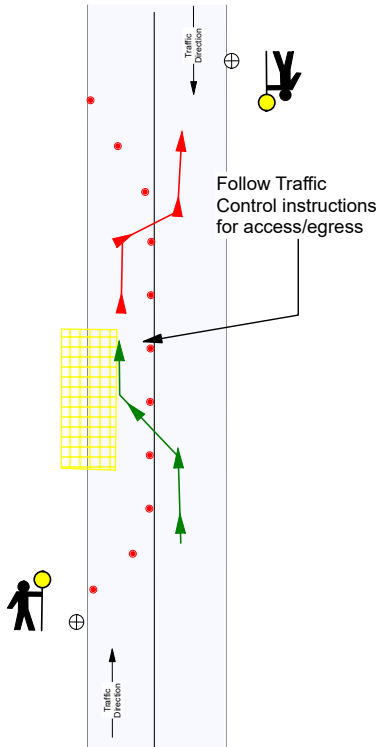


Site Access & Egress, generic examples

MULTI LANE ROAD



SIGNLE LANE ROAD



Access:

1. Any vehicles entering site, must be fitted with at-least x1 flashing/rotating beacon and a working UHF radio.
2. Vehicle entering site is to activate the beacon and announce intent via use of UHF radio min 100m in advance of the access location.
3. Vehicle entering site must activate the indicator (blinker).
4. Vehicle entering site is to steadily reduce speed (no sudden breaking) before entering site.

Traffic Control are ensure access point has been determined at prestart, and is controlled to ensure safe movements.

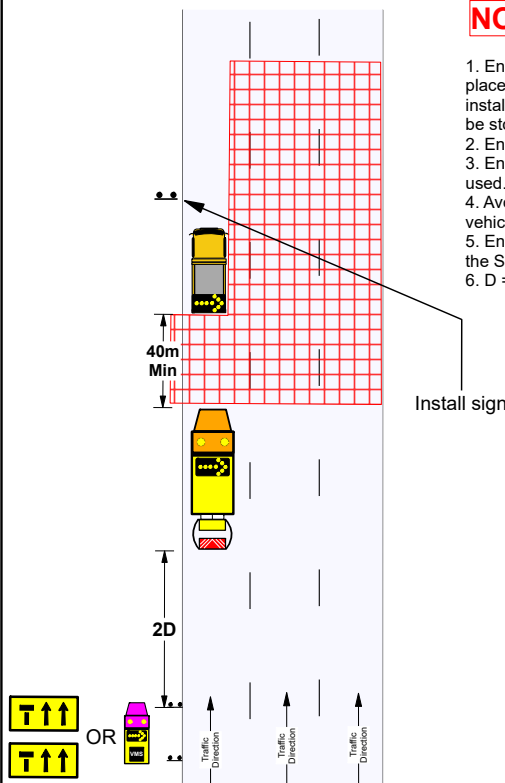
Egress:

1. Any vehicles exiting site, must be fitted with at-least x1 flashing/rotating beacon and a working UHF radio.
2. Vehicle exiting site is to ensure the beacon has been activated and announce intent via use of UHF radio, prior to attempting egress.
3. Vehicle exiting site must activate the indicator (blinker).
4. Vehicle exiting site is to Give-Way to public traffic and only exit site, when a clear gap exists AND Traffic Control has advised 'safe to do so'.
5. Vehicle exiting site is to ensure the beacon has been deactivated, AFTER exiting site and the vehicle speed has increased to match the speed limit.

Traffic Control are ensure Egress point has been determined at prestart, and is controlled to ensure safe movements.

Traffic Control site setup, generic examples

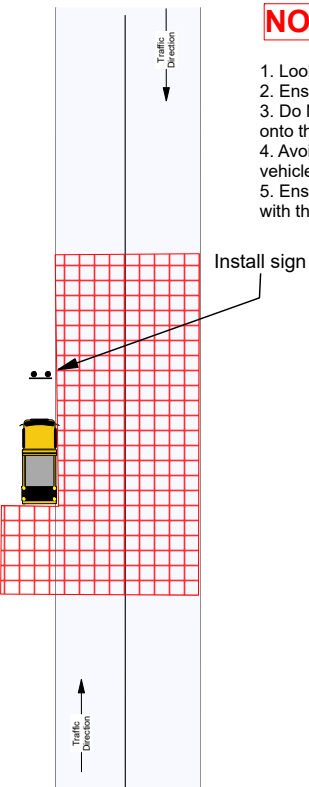
MULTI LANE ROAD 60km/h or below



NOTES:

1. Ensure advance warning VMS vehicle is in place, or x2 static lane status signs have been installed, in advance of the area where the TMA will be stopping.
2. Ensure vehicle mounted warning devices are on
3. Ensure vehicle mounted arrow boards are on and used.
4. Avoid entering areas behind the traffic control vehicle or on the road (as shown in red).
5. Ensure you have read, understand and comply with the Safe Work Method Statement.
6. D = speed limit in meters

SIGNLE LANE ROAD 60km/h or below



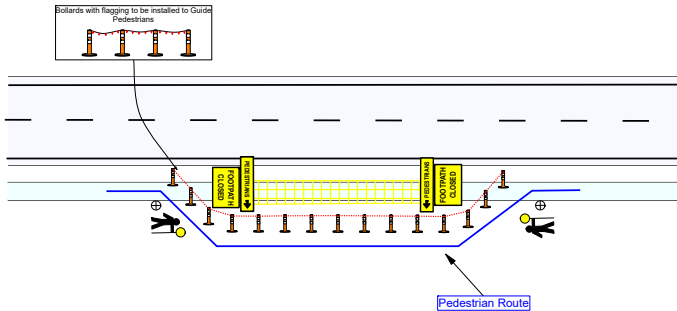
NOTES:

1. Look for a safe location to pull over
2. Ensure vehicle mounted warning devices are on
3. Do NOT use the arrow board to direct vehicles onto the incorrect side of the road.
4. Avoid entering areas behind the traffic control vehicle or on the road (as shown in red).
5. Ensure you have read, understand and comply with the Safe Work Method Statement.

Pedestrian management, generic examples

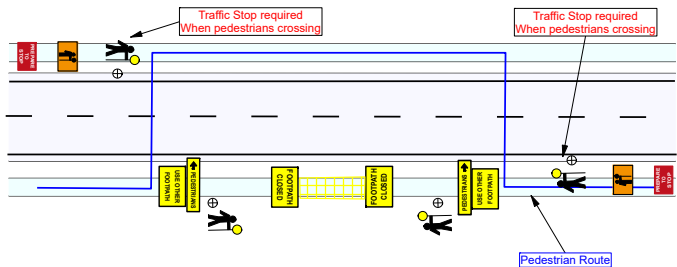
Option 1: Divert Pedestrians around the worksite

- THIS IS NOT A TRAFFIC CONTROL PLAN this is a Pedestrian Management plan only, refer to a Traffic Control Plan for setup on roadway.
- Bollards and flagging to be used to guide pedestrians.
- Traffic Controllers to guide pedestrians around the worksite
- Pedestrian diversion area MUST be clear, level, easily traversable for all pedestrians and free from any hazards



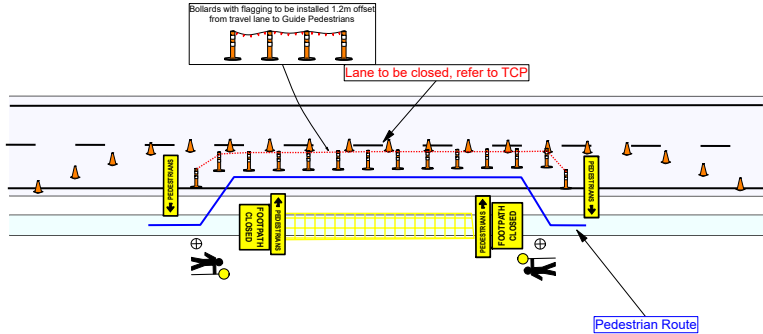
Option 2: Divert Pedestrians onto the adjacent footpath

- THIS IS NOT A TRAFFIC CONTROL PLAN this is a Pedestrian Management plan only, refer to a Traffic Control Plan for setup on roadway.
- Traffic Controllers to Stop traffic in accordance with an approved Traffic Control Plan when pedestrians cross the road.
- Traffic Controllers to guide pedestrians.
- Pedestrian diversion area MUST be clear, level, easily traversable for all pedestrians and free from any hazards



Option 3: Divert Pedestrians around the worksite using the roadway

- THIS IS NOT A TRAFFIC CONTROL PLAN this is a Pedestrian Management plan only, refer to a Traffic Control Plan for setup on roadway.
- Bollards and flagging to be used to guide Pedestrians, Bollards and flagging to be offset Minimum of 1.5m from the travel lane.
- Traffic speed to be reduced to 40km/h
- Traffic Controllers to guide pedestrians around the worksite
- Pedestrians diversion area MUST be clear, level, easily traversable for all pedestrians and free from any hazards
- Traffic Lane or Shoulder to be closed in accordance with an approved Traffic Control Plan.



IMPORTANT:

1. For Shared Paths - minimum 3m width must be maintained.
2. For Footpaths - minimum 1.5m width must be maintained.
3. If the existing width of a Shared Path or Footpath is less then 3m or 1.5m respectively, the existing width must be maintained.
4. When the above is not possible, changes to Paths must be detailed on the TGS.

PROJECT: SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND



Workzone



Traffic Controller



Traffic Cones



Pedestrian Route



Sign (2 posts)



Signalised intersection



Arrow-board location



Comments:

- THIS IS A SHORT TERM TGS, NOT TO SCALE
- THE CONTRACTOR SHALL ENSURE ALL ROL AND SZA REQUIRMENTS ARE SATISFIED DURING IMPLEMENTATION OF THIS TGS
- ANY EXISTING SIGNAGE THAT CONFLICTS WITH THIS TGS MUST BE COVERED AT THE START OF SHIFT AND UNCOVERED AT THE END OF SHIFT
- ANY CHANGES REQUIRED, SPEAK TO THE SITE FOREMAN AND THEN MODIFY THIS PLAN IF NECESSARY. ANY CHANGES TO THIS PLAN SHALL BE MARKED ON THIS TGS & SIGNED OFF BY A PWZTMP HOLDER.
- A LANE WIDTH OF 3.5m (MINIMUM) IS TO BE MAINTAINED AT ALL TIMES UNLESS NOTED OTHERWISE
- SHOULDER WIDTH / EDGE CLEARANCE TO TRAFFIC CONES OF 0.5m IS TO BE PROVIDED AT ALL TIMES UNLESS NOTED OTHERWISE

- ALL SIGNAGE TO BE 'B' SIZE UNLESS NOTED OTHERWISE
- SIGNS TO BE POSITIONED IN ACCORDANCE WITH THE TCAWS MANUAL 2022 Issue 6.1
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- BOLLARDS AND TRAFFIC CONES ARE TO BE INSTALLED IN ACCORDANCE WITH THE 2022 Issue 6.1
- TAPER LENGTHS ARE TO BE IN ACCORDANCE WITH THE TCAWS MANUAL 2022 Issue 6.1
- THE SITE MUST COMPLY WITH THE TCAWS MANUAL 2022 Issue 6.1 AND A.S. 1742.3
- REGULATORY SPEED / ROADWORK SIGNS TO BE REPEATED EVERY 400m UNLESS NOTED OTHERWISE

Location Details

Road Great North Rd / Waterview St Suburb Five Dock Side Street Second Ave

Direction N E S W Speed of road 50 / 50 km/h Speed of Side Streets 50 km/h

Options Assessment

Method selected Around Past Through

Reason for selection Traffic can pass while maintaining sufficient worker/traffic offset.

Risk Assessment

Section 1 - Does the TGS Involve Detours of traffic? YES NO (If answered no proceed to section 2)

	YES	NO	Enter description of risks if answered no to any question	Enter Risk Rating
1.1 Are detour routes suitable for all vehicle classes being detoured?	☐	☐		
1.2 Is access to local residence and business maintained	☐	☐		
1.3 Are detour signs located at decision points, to clearly guide motorists through the detour?	☐	☐		
1.4 Can roads and intersections used as detour routes, accommodate the additional traffic volumes?	☐	☐		
1.5 Is the same level of safety maintained for turn movements? e.g. Traffic using signalized intersections being sent through a detour route that involves turn movements at non-signalized intersections.	☐	☐		

Section 2 - Does the TGS involve Stop/Slow arrangements? YES NO (If answered no proceed to section 3)

	YES	NO	Enter description of risks if answered no to any question	Enter Risk Rating
2.1 Are escape routes clearly defined on the TGS, clear and safe to use?	☒	☐		
2.2 Is a PTC D used in place of a manual Traffic Controller where existing speed is greater then 45km/h?	☐	☒	* Risk of TC being struck by vehicle (see notes below for further detail)	M
2.3 Is the operating speed of the road 60km/h or less where Traffic Control or PTC D are in use?	☒	☐		
2.4 Are x4 traffic cones placed on the edge or center line, approaching the traffic controller or PTC D?	☒	☐		
2.5 Is prepare to stop and Traffic Control or PTC D symbolic signs installed?	☒	☐		
2.6 Do Traffic Control and PTC D positions have adequate lighting during low light conditions	☒	☐		
2.7 Does sight distance of at least 1.5D exist on approach to Traffic Control or PTC D	☒	☐		

Section 3 - General

	YES	NO	Enter description of risks if answered no to any question	Enter Risk Rating
3.1 Does the TGS define minimum clearances required of workers to live traffic, are distances compliant?	☒	☐		
3.2 Are worker symbolic signs to be placed in advance of areas where workers will be visible to traffic?	☒	☐		
3.3 Are all signs placed at correct distances? i.e. D for multiple signs, 2D for single sign above 60km/h	☐	☒	Risk of vehicle driving past stop point and driving into reversing truck.	M
3.4 Are taper lengths compliant and not placed in areas with poor sight distance?	☐	☐	NA	
3.5 Are lane status signs placed in advance of a lane merge?	☐	☐	NA	
3.6 Are the correct tapers being used? i.e. merge taper, traffic control taper, lateral shift taper.	☐	☐	NA	
3.7 Does the TGS clearly define transition zones between tapers on multilane roads, are they compliant?	☐	☐	NA	
3.8 Does the TGS clearly define Buffer areas, are they compliant and at least 30m in length?	☐	☒	Risk of vehicle driving through workzone.	M
3.9 Does the TGS clearly define site access and egress for work vehicles, is impact to traffic, managed?	☒	☐		
3.10 Does the TGS clearly define pedestrian routes, are the routes suitable for all pedestrians?	☒	☐		
3.11 Does the TGS consider Cyclists, can Cyclists transverse the site safely?	☒	☐		

Section 4 - Do the works involve excavations YES NO (If answered no proceed to section 5)

	YES	NO	Enter description of risks if answered no to any question	Enter Risk Rating
4.1 Are excavations to be less then 200mm in depth?	☐	☐		
4.2 Are excavations to be less then 500mm in depth?	☐	☐	*	

Section 5 - Other Hazards & Risks	5.1		Notes on item 2.2: Boom gates not used due to insufficient gaps in traffic for this to occur safely. Lowering the boom without a sufficient gap in traffic may result in: Sudden breaking increasing risk of nose to tail type accidents Vehicle colliding with the boom gate	
	5.2			
	5.3			
	5.4			

Risk Management Any risks identified during the above Risk Assessment must be assessed, with control measures listed below. Control measures must meet the WHS Risk Management Hierarchy of Controls framework.

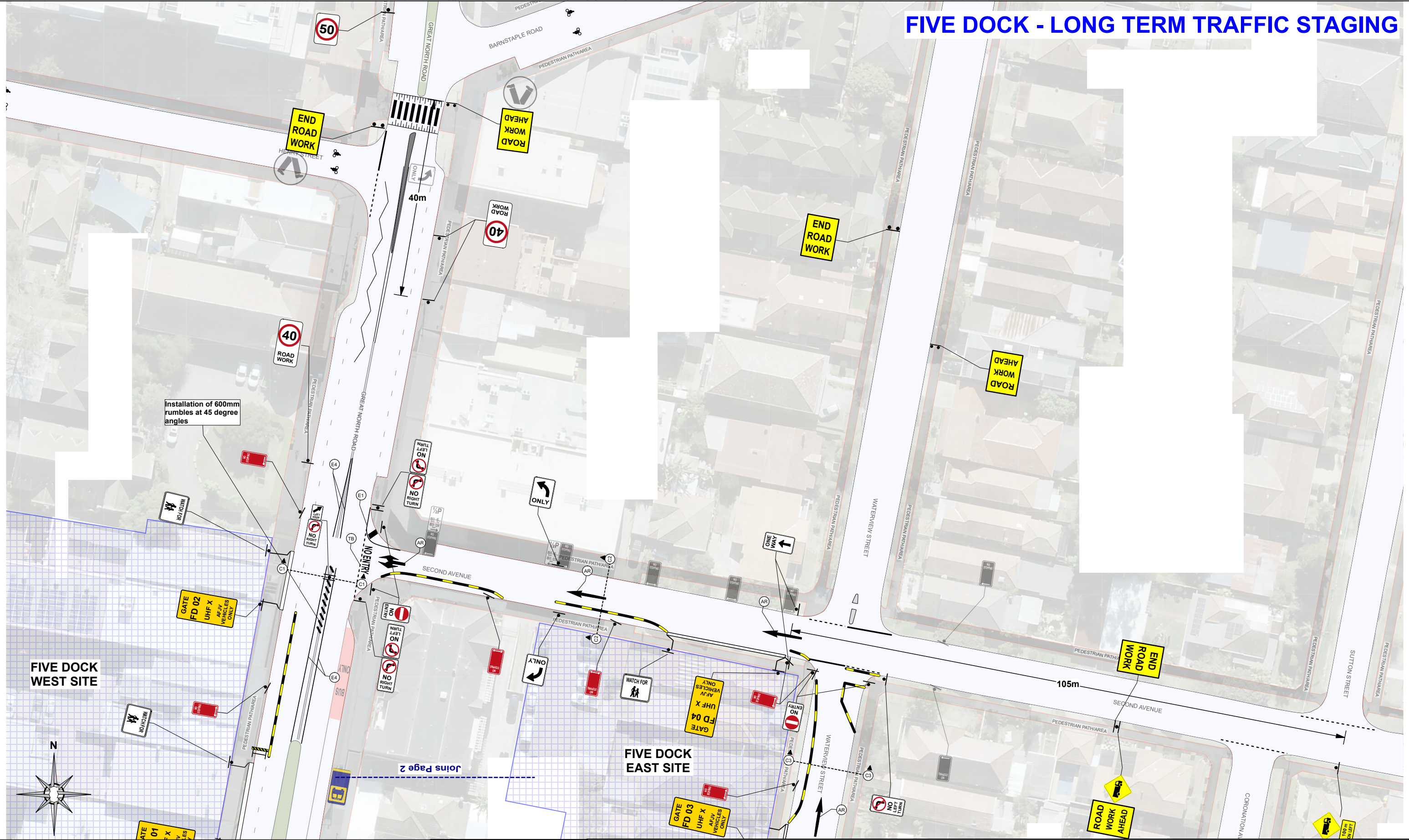
Item	Control Measures	Remaining Risk Rating
3.3 & 3.8	Reduced speed to 40km/h (long term TGS). Additional delineation leading up to PTC D and/or TC for additional advanced warning. Road configuration should also naturally slow traffic.	L
2.2	Reduced speed to 40km/h (long term TGS), additional 40 repeater signs, TC not to stand in travel path when stopping traffic, traffic hats to be installed on approac to stop point	L

Risk evaluation Matrix

Risk ratings:	Very high - VH High - H Medium - M Low - L	Consequence						
		Insigificant	Minor	Moderate	Major	Severe	Catastrophic	
		C6	C5	C4	C3	C2	C1	
Likelihood	Almost certain	L1	M	H	H	VH	VH	VH
	Very likely	L2	M	M	H	H	VH	VH
	Likely	L3	L	M	M	H	H	VH
	Unlikely	L4	L	L	M	M	H	H
	Very unlikely	L5	L	L	L	M	M	H
	Almost unprecedented	L6	L	L	L	L	M	M

Refer to TCAWS Table 3-4 for descriptions of Likelihood and Consequence measures

FIVE DOCK - LONG TERM TRAFFIC STAGING



PROJECT: SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND



Workzone



Traffic Controller



Traffic Cones



Pedestrian Route



Sign (2 posts)



Signalled intersection



Temporary Kerb



Comments:

- THIS IS A SHORT TERM TGS, NOT TO SCALE
- THE CONTRACTOR SHALL ENSURE ALL ROL AND SZA REQUIRMENTS ARE SATISFIED DURING IMPLEMENTATION OF THIS TGS
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- ALL SIGNAGE TO BE 'B' SIZE UNLESS NOTED OTHERWISE
- SIGNS TO BE POSITIONED IN ACCORDANCE WITH THE TCAWS MANUAL 2022 Issue 6.1
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- REGULATORY SPEED / ROADWORK SIGNS TO BE REPEATED EVERY 400m UNLESS NOTED OTHERWISE

REV: 06

LEGEND

Workzone



Traffic Controller



Traffic Cones



Pedestrian Route



Sign (2 posts)



Signalised intersection



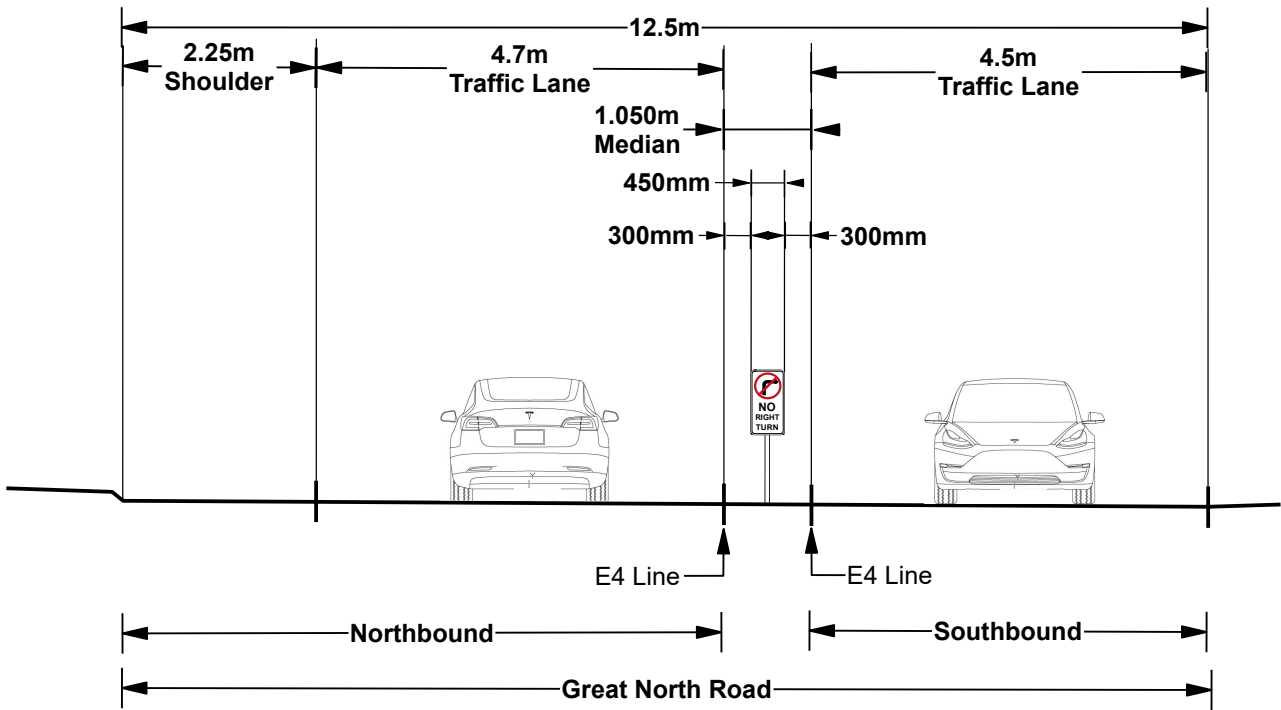
Temporary Kerb

Comments:

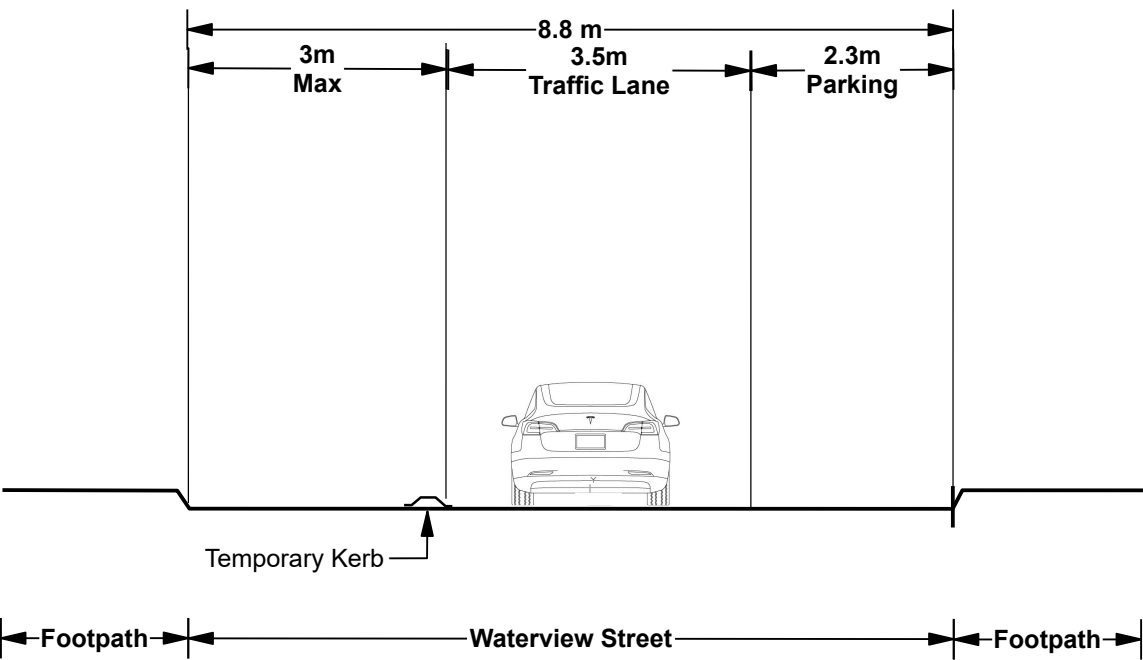
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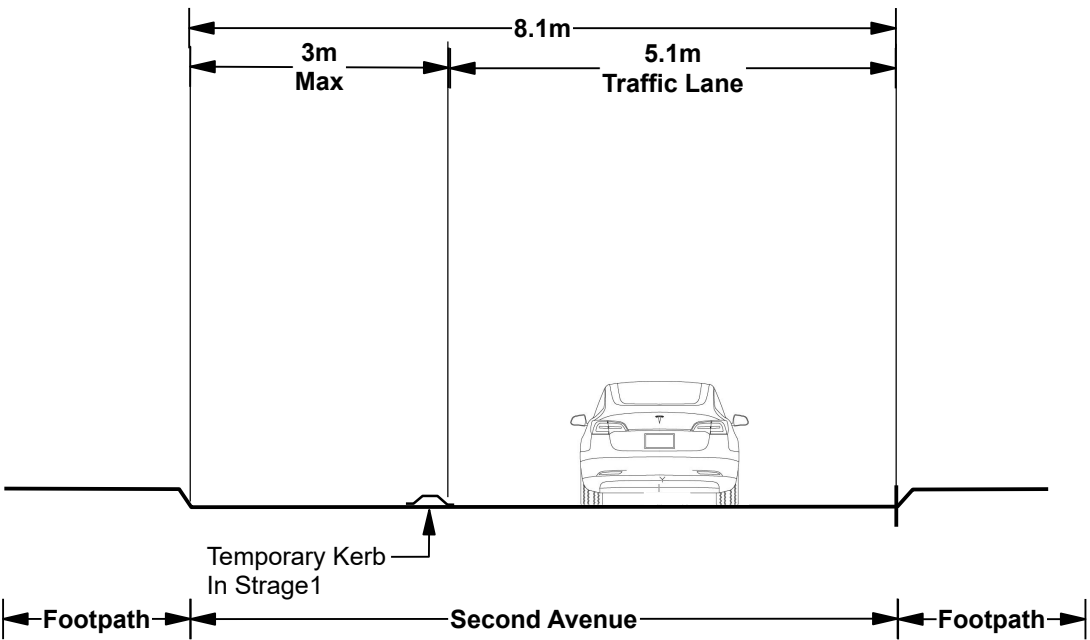
Cross Section 1 (C1)



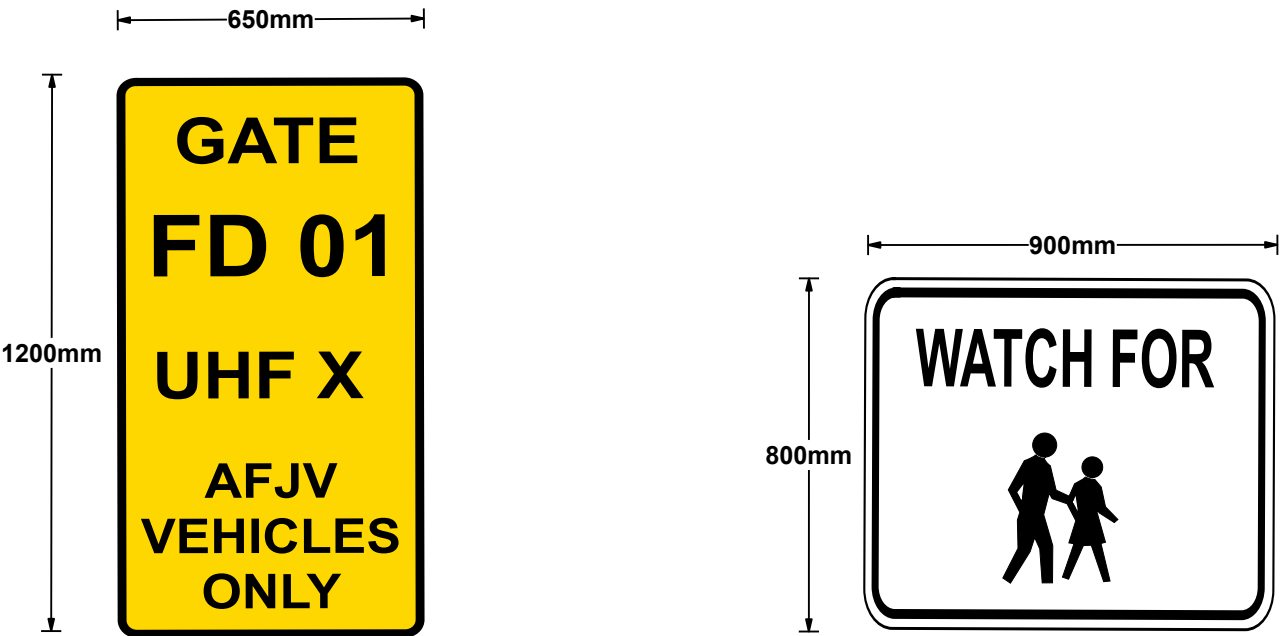
Cross Section 3 (C3)



Cross Section 2 (C2)



Custom Sign Detail



PROJECT: SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND

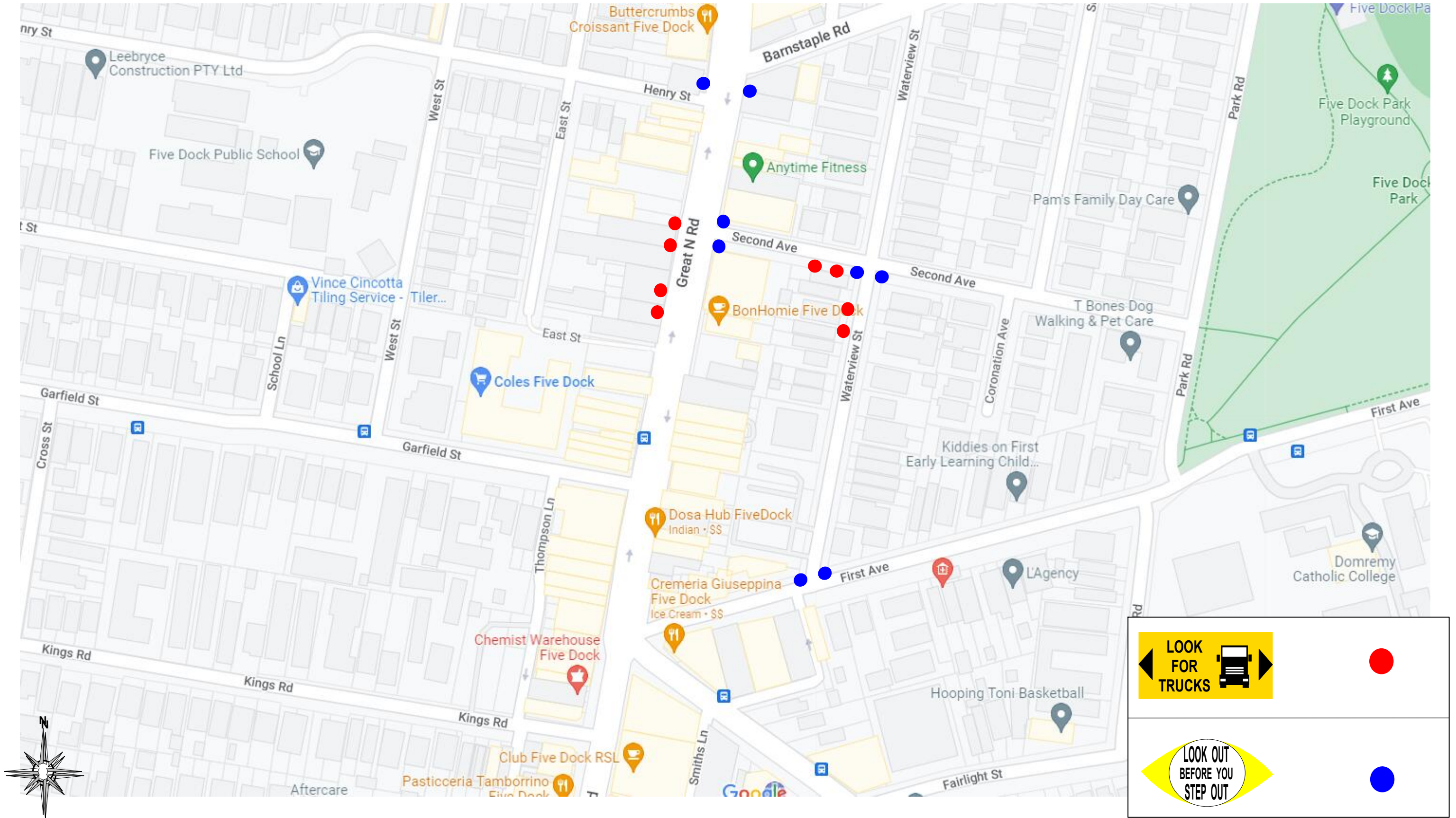
- Workzone
- Traffic Controller
- Traffic Cones
- Pedestrian Route
- Sign (2 posts)
- Signalised intersection
- Temporary Kerb



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Footpath pavement decals



PROJECT: SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND



Workzone



Traffic Controller



Traffic Cones



Pedestrian Route



Sign (2 posts)



Signalised intersection



Temporary Kerb

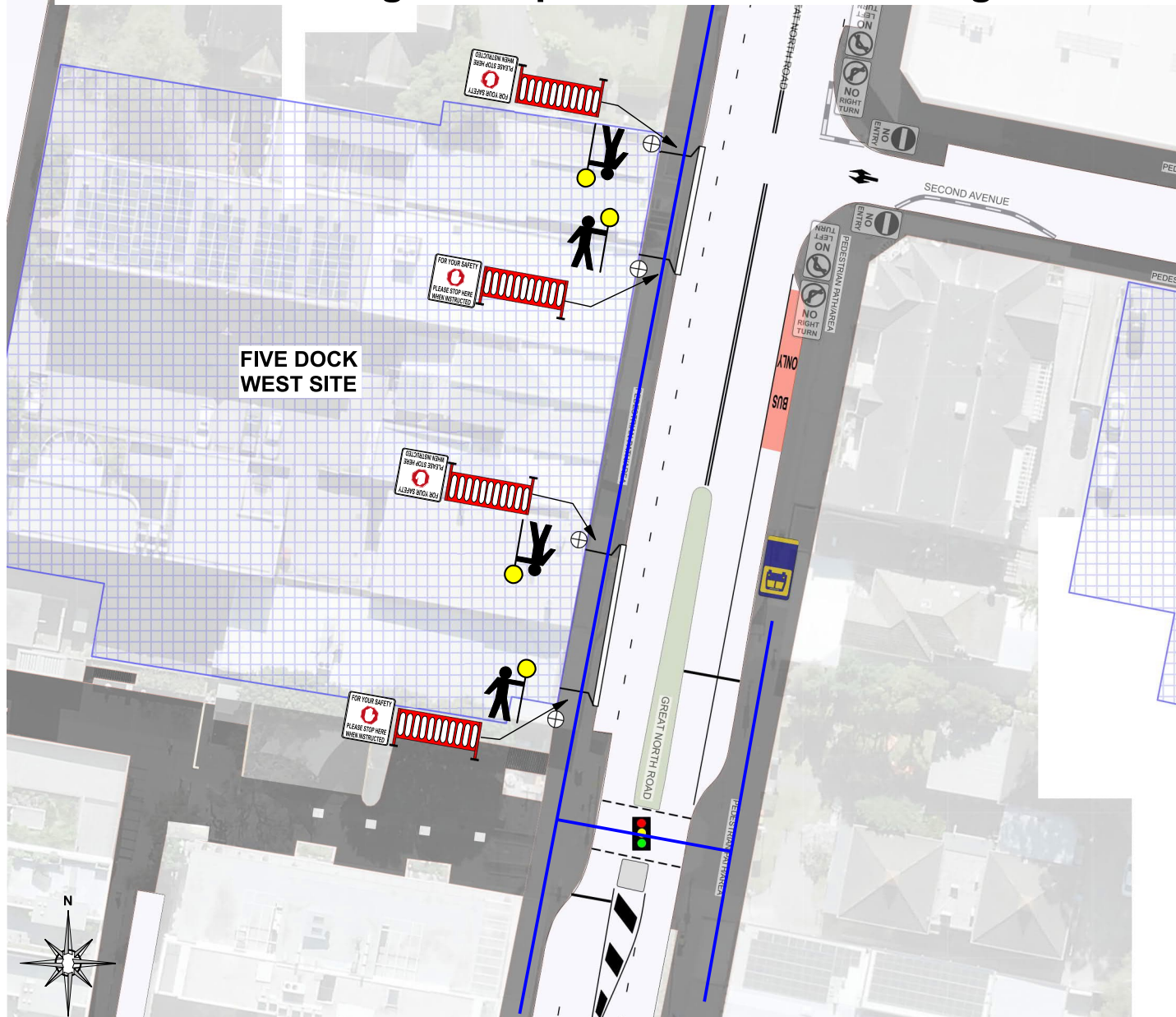


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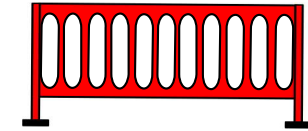
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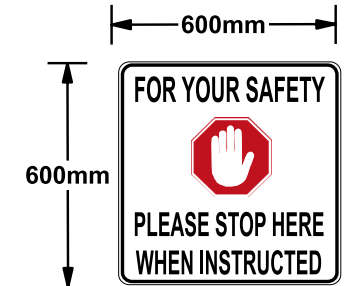
Pedestrian management plan - to be used during bulk haulage activities at the west site



Retractable pedestrian fence - Traffic Control gate keeper to extend fence across footpath when a truck is entering or exiting a driveway



Custom sign detail - sign to be place on non-road side of the footpath next to each pedestrian gate



WORK INSTRUCTIONS:

- Pedestrians are to be given priority.
 - Pedestrians are only to be stopped if a gap in pedestrian flows can not be achieved, or the truck takes longer the enter or exit the site then expected.
- Pedestrian gates must be opened once the truck has cleared the footpath (do NOT leave them across the footpath).
- Signs must be packed up at the end of each shift.

PROJECT: SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND



Workzone



Traffic Controller



Traffic Cones



Pedestrian Route



Sign (2 posts)



Signalised intersection



Arrow-board location

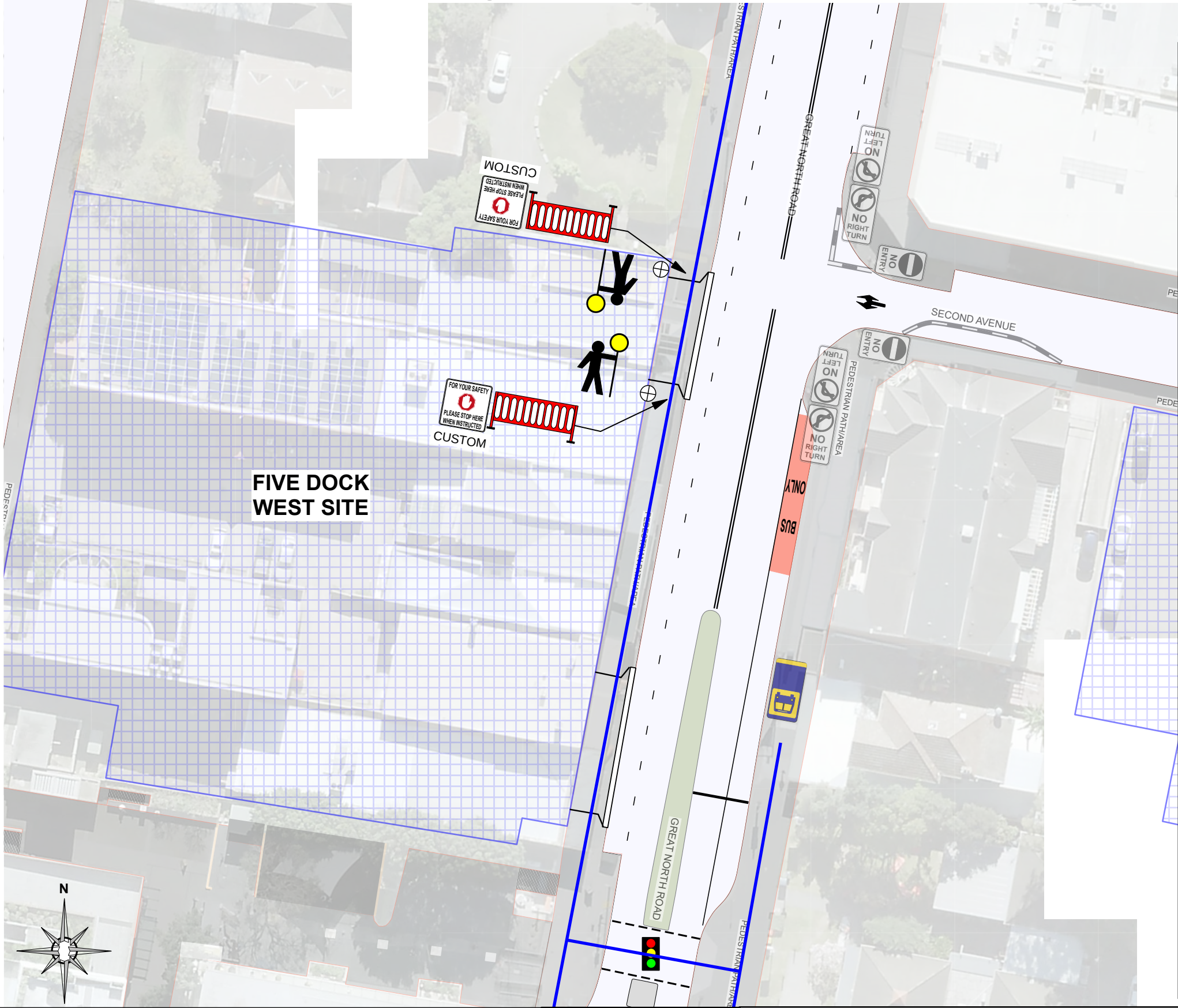
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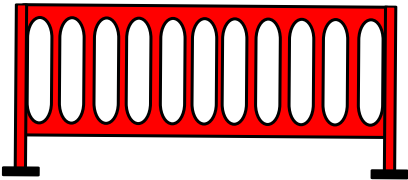
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APPENDIX E - PEDESTRIAN MANAGEMENT PLAN

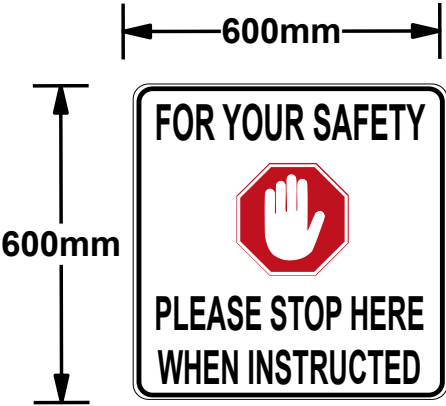
Pedestrian management plan - to be used during truck reversing movements



Retractable pedestrian fence - Traffic Control gate keeper to extend fence across footpath when a truck is entering or exiting a driveway



Custom sign detail - sign to be place on non-road side of the footpath next to each pedestrian gate

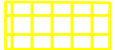


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- Signs must be packed up at the end of each shift.

PROJECT: SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND



Workzone



Traffic Controller



Traffic Cones



Pedestrian Route



Sign (2 posts)



Signalised intersection



Arrow-board location



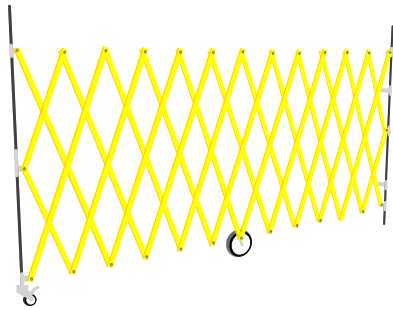
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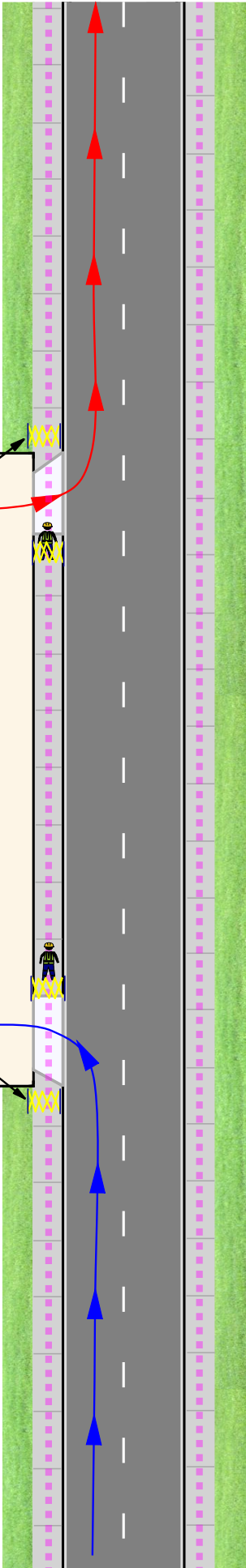
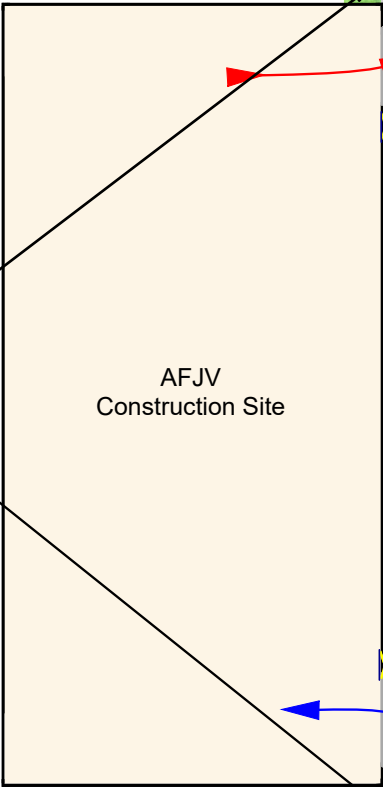
Rev01

Pedestrian management plan - to be used outside of bulk haulage activities at the west site, and during bulk haulage at the east site



Example of Retractable Gate

When vehicles make contact on UHF in advance to their approach of the entrance/exit driveways, Gatekeepers must temporarily hold pedestrian movements by extending the retractable-gate at one side of the driveway and hold pedestrians on the other side of the driveway before approving the vehicles to approach. Once vehicle enters/exits the driveway, Gatekeepers are to pull back the gate to resume footpath movements.



Legend

- Gatekeeper
- T8-1 PEDESTRIANS WATCH YOUR STEP
- T2-25 TRUCKS
- Truck Route - Inbound
- Truck Route - Outbound
- Pedestrian Route
- Retractable Gate
- Retractable Gate (Large Scaled)

Project:	SYDNEY METRO WEST, CENTRAL TUNNELLING PACKAGE
Metro Station Site:	NON LOCATION SPECIFIC
Drawing Number:	SMWSTCTP-AFJ-1NL-TF-TGS-GATES-PMP-001
Issue	02



APPENDIX F – PEDESTRIAN COUNTS

Great North Road - Pedestrians (western footpath)

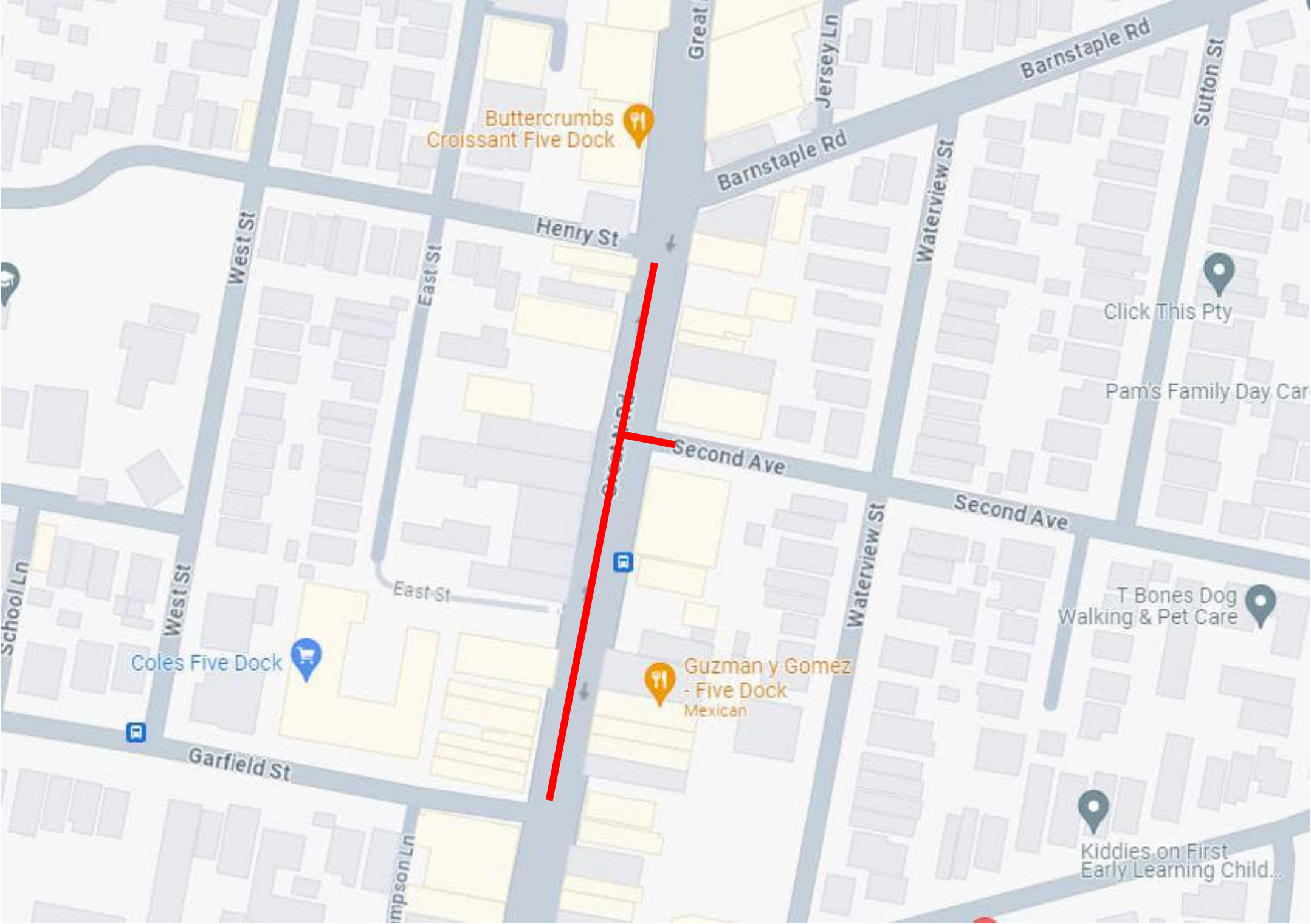
Day Date Direction		Monday 10/10/2022		Tuesday 11/10/2022		Wednesday 12/10/2022		Thursday 13/10/2022		Friday 14/10/2022		Saturday 15/10/2022	
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
Time	0600-0630	5	8	1	4	6	0	4	3	1	3	1	1
	0630-0700	1	6	1	4	3	2	3	4	5	1	5	6
	0700-0730	4	8	6	9	7	4	5	9	11	10	12	10
	0730-0800	3	10	15	13	5	7	7	5	12	13	16	11
	0800-0830	5	11	16	18	10	10	15	15	11	14	17	19
	0830-0900	17	30	11	13	28	20	13	6	14	11	28	20
	0900-0930	17	32	14	13	14	25	16	14	18	32	51	52
	0930-1000	5	23	14	17	20	13	14	11	28	16	41	65
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	1030-1100	31	19	10	23	17	21	21	22	18	21	56	62
	1100-1130	19	16	22	18	21	32	21	18	18	30	47	49
	1130-1200	16	29	12	19	15	17	20	20	31	27	57	43
	1200-1230	15	21	25	12	22	27	34	39	26	30	51	41
	1230-1300	34	22	29	21	18	24	32	35	31	37	32	28
	1300-1330	22	26	30	20	25	26	43	23	37	41	28	40
	1330-1400	17	14	20	25	23	27	28	27	15	30	25	9
	1400-1430	26	12	10	16	15	24	13	8	25	20		
	1430-1500	23	19	16	14	8	16	25	27	28	28		
	1500-1530	21	18	26	25	18	13	27	26	20	20		
	1530-1600	41	19	20	18	28	19	43	23	41	30		
	1600-1630	22	19	35	30	17	22	45	21	20	18		
	1630-1700	16	14	27	24	13	13	30	18	24	21		
	1700-1730	24	16	25	29	14	33	16	24	13	15		
	1730-1800	6	16	6	20	8	10	11	14	22	13		
Daily total		413	425	410	423	364	430	505	437	496	501	530	509

APPENDIX G – TRAFFIC GUIDANCE SCHEME (TGS)

TRAFFIC GUIDANCE SCHEME

Worker offset from traffic	
Within 1.5m	- Speed reduced to 40km/h or below - Delineation of worksite - Shadow vehicle or reduce speed BELOW 40km/h
1.5m to 3m	- Speed reduction to 60km/h or below - Delineation of worksite - Shadow vehicle or reduce speed BELOW 60km/h
3m to 6m	- Speed reduction to 80km/h or below - delineation of worksite - Shadow vehicle or reduce speed BELOW 80km/h
Each location of work is to be assessed to consider site conditions, including: Driver compliance, road configuration and geometry. If deemed required, additional controls are to be implemented, and noted within the Risk Assessment.	

Excavation works	
Depth less than 200mm	- Address within the risk assessment on the last page of this plan - Delineate the area - Separate the area from pedestrians and the public
Depth over 200mm but less than 500mm	- Address within the risk assessment on the last page of this plan - Delineate the area - Separate the area from pedestrians and the public - Traffic speed 40km/h or below if within 3m of the traffic lane - Traffic speed 60km/h or below if more than 3m from traffic lane
Depth over 500mm	- Traffic Manager approval - A number of other controls will be required and detailed on the plan, this may include: barriers, lane closures, speed reductions and other controls, as determined by the Traffic Manager in consultation with the Construction Team.



PROJECT: SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND



Workzone



Traffic Controller



Traffic Cones



Pedestrian Route



Sign (2 posts)



Signalled intersection



Arrow-board location



Comments:

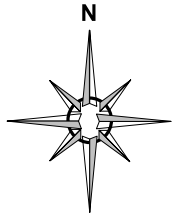
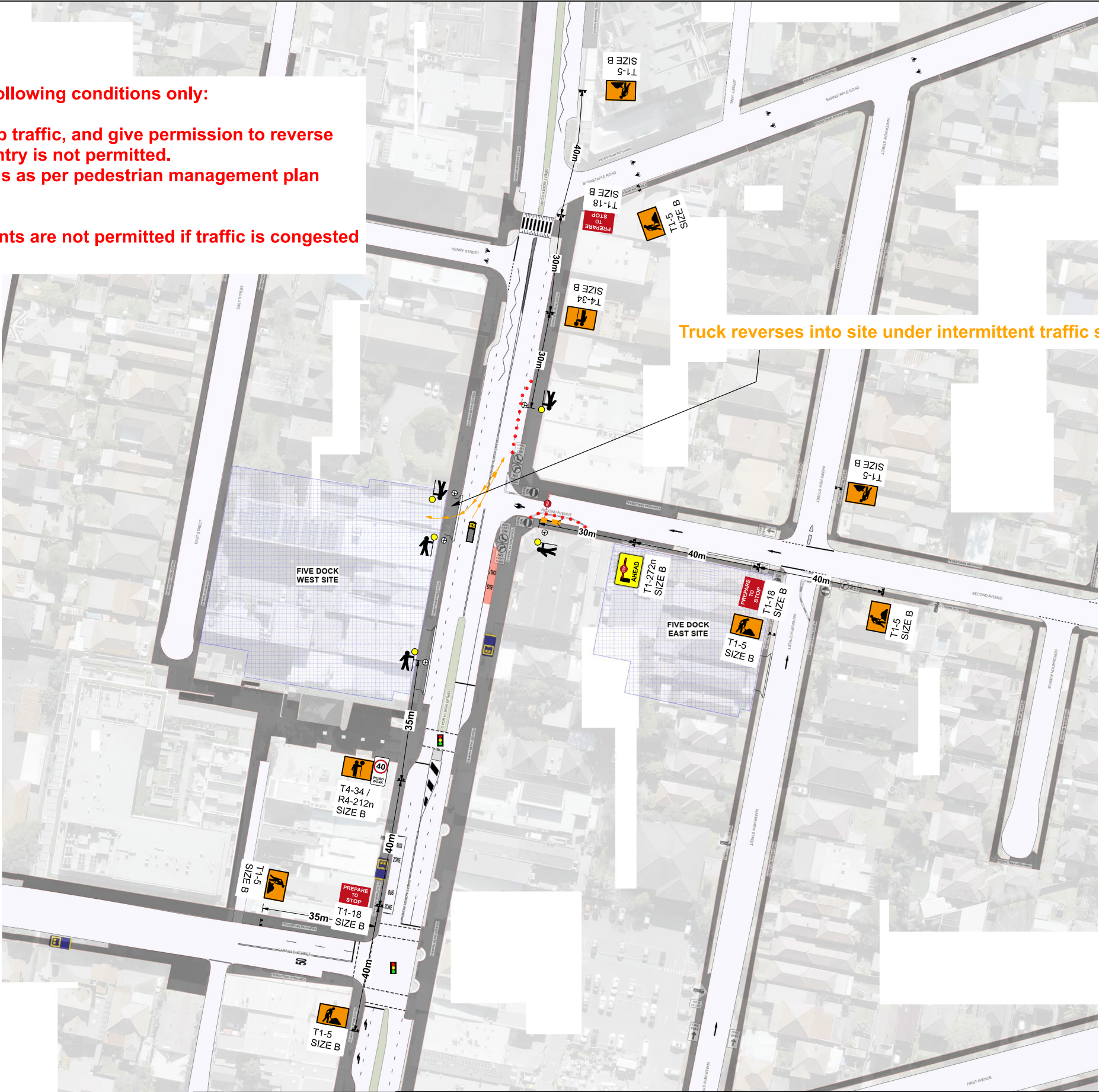
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- DIMENSION 'D' IS DETERMINED IN ACCORDANCE WITH THE TCAWS MANUAL 2022 Issue 6.1
- BOLLARDS AND TRAFFIC CONES ARE TO BE INSTALLED IN ACCORDANCE WITH THE 2022 Issue 6.1
- TAPER LENGTHS ARE TO BE IN ACCORDANCE WITH THE TCAWS MANUAL 2022 Issue 6.1
- THE SITE MUST COMPLY WITH THE TCAWS MANUAL 2022 Issue 6.1 AND A.S. 1742.3
- REGULATORY SPEED / ROADWORK SIGNS TO BE REPEATED EVERY 400m UNLESS NOTED OTHERWISE

REV - 01

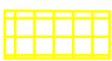
Truck to reverse into site, under the following conditions only:

- * Rigid vehicles only (no semies)
- * Traffic Control must be in place, stop traffic, and give permission to reverse into site. If permission is not given, entry is not permitted.
- * Traffic control to manage pedestrians as per pedestrian management plan AFJVCTP-TGS-0562
- * Buses are to be given priority
- * Traffic stops and reversing movements are not permitted if traffic is congested



PROJECT: SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND



Workzone



Traffic Controller



Traffic Cones



Pedestrian Route



Sign (2 posts)



Signalised intersection



Arrow-board location



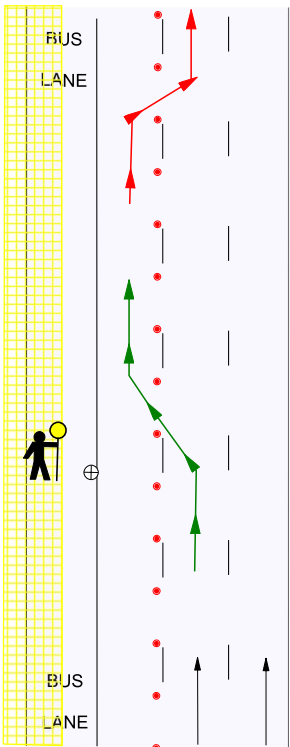
Comments:

- THIS IS A SHORT TERM TGS, NOT TO SCALE
- THE CONTRACTOR SHALL ENSURE ALL ROL AND SZA REQUIRMENTS ARE SATISFIED DURING IMPLEMENTATION OF THIS TGS
- ANY EXISTING SIGNAGE THAT CONFLICTS WITH THIS TGS MUST BE COVERED AT THE START OF SHIFT AND UNCOVERED AT THE END OF SHIFT
- ANY CHANGES REQUIRED, SPEAK TO THE SITE FOREMAN AND THEN MODIFY THIS PLAN IF NECESSARY. ANY CHANGES TO THIS PLAN SHALL BE MARKED ON THIS TGS & SIGNED OFF BY A PWZTMP HOLDER.
- A LANE WIDTH OF 3.5m (MINIMUM) IS TO BE MAINTAINED AT ALL TIMES UNLESS NOTED OTHERWISE
- SHOULDER WIDTH / EDGE CLEARANCE TO TRAFFIC CONES OF 0.5m IS TO BE PROVIDED AT ALL TIMES UNLESS NOTED OTHERWISE

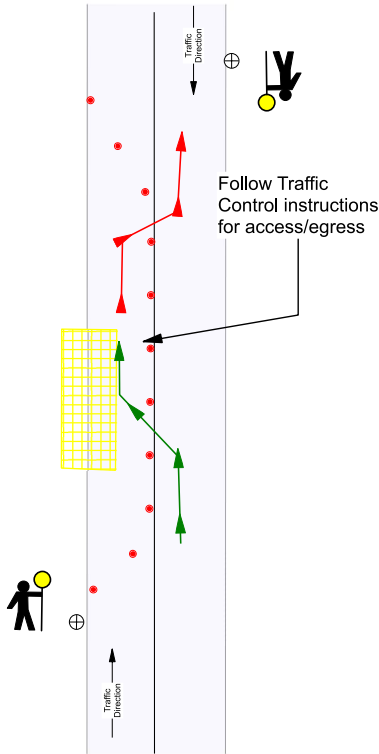
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Site Access & Egress, generic examples

MULTI LANE ROAD



SIGNLE LANE ROAD



Access:

1. Any vehicles entering site, must be fitted with at-least x1 flashing/rotating beacon and a working UHF radio.
2. Vehicle entering site is to activate the beacon and announce intent via use of UHF radio min 100m in advance of the access location.
3. Vehicle entering site must activate the indicator (blinker).
4. Vehicle entering site is to steadily reduce speed (no sudden breaking) before entering site.

Traffic Control are ensure access point has been determined at prestart, and is controlled to ensure safe movements.

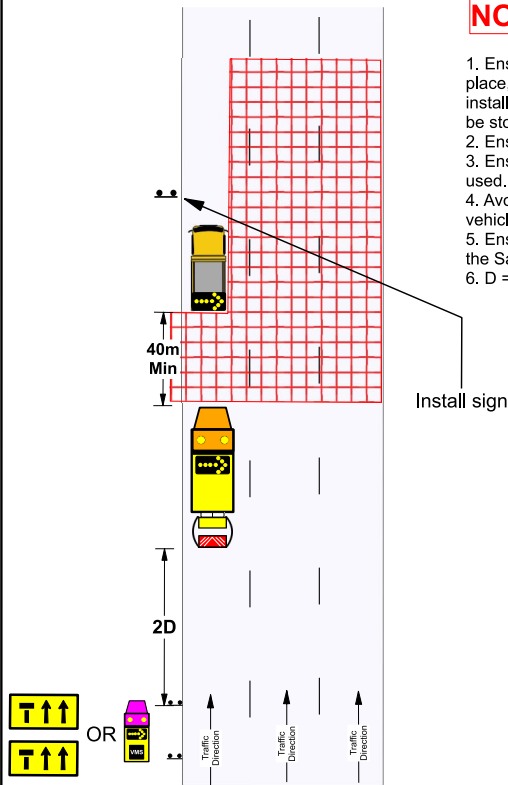
Egress:

1. Any vehicles exiting site, must be fitted with at-least x1 flashing/rotating beacon and a working UHF radio.
2. Vehicle exiting site is to ensure the beacon has been activated and announce intent via use of UHF radio, prior to attempting egress.
3. Vehicle exiting site must activate the indicator (blinker).
4. Vehicle exiting site is to Give-Way to public traffic and only exit site, when a clear gap exists AND Traffic Control has advised 'safe to do so'.
5. Vehicle exiting site is to ensure the beacon has been deactivated, AFTER exiting site and the vehicle speed has increased to match the speed limit.

Traffic Control are ensure Egress point has been determined at prestart, and is controlled to ensure safe movements.

Traffic Control site setup, generic examples

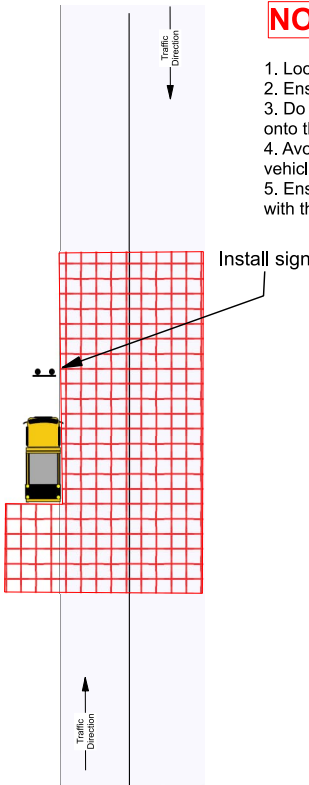
MULTI LANE ROAD 60km/h or below



NOTES:

1. Ensure advance warning VMS vehicle is in place, or x2 static lane status signs have been installed, in advance of the area where the TMA will be stopping.
2. Ensure vehicle mounted warning devices are on
3. Ensure vehicle mounted arrow boards are on and used.
4. Avoid entering areas behind the traffic control vehicle or on the road (as shown in red).
5. Ensure you have read, understand and comply with the Safe Work Method Statement.
6. D = speed limit in meters

SIGNLE LANE ROAD 60km/h or below



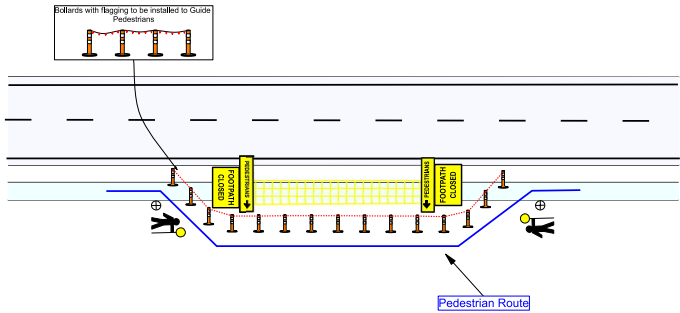
NOTES:

1. Look for a safe location to pull over
2. Ensure vehicle mounted warning devices are on
3. Do NOT use the arrow board to direct vehicles onto the incorrect side of the road.
4. Avoid entering areas behind the traffic control vehicle or on the road (as shown in red).
5. Ensure you have read, understand and comply with the Safe Work Method Statement.

Pedestrian management, generic examples

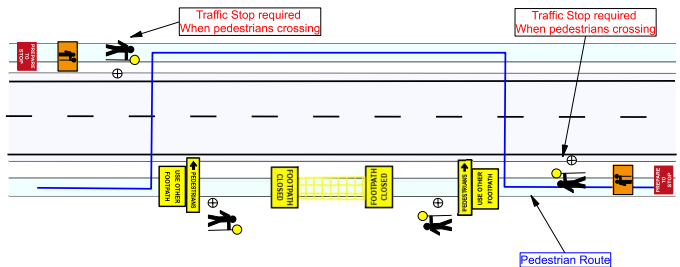
Option 1: Divert Pedestrians around the worksite

- THIS IS NOT A TRAFFIC CONTROL PLAN this is a Pedestrian Management plan only, refer to a Traffic Control Plan for setup on roadway.
- Bollards and flagging to be used to guide pedestrians.
- Traffic Controllers to guide pedestrians around the worksite
- Pedestrian diversion area MUST be clear, level, easily traversable for all pedestrians and free from any hazards



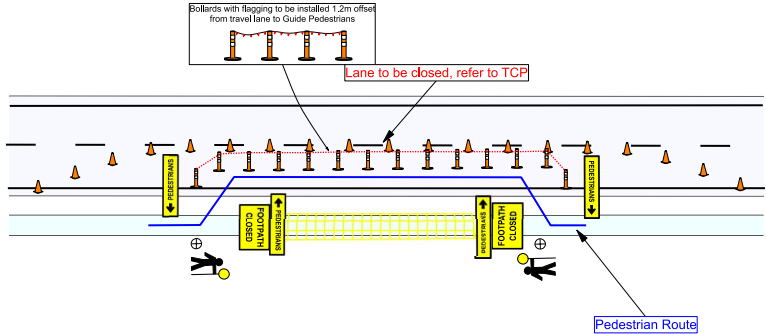
Option 2: Divert Pedestrians onto the adjacent footpath

- THIS IS NOT A TRAFFIC CONTROL PLAN this is a Pedestrian Management plan only, refer to a Traffic Control Plan for setup on roadway.
- Traffic Controllers to Stop traffic in accordance with an approved Traffic Control Plan when pedestrians cross the road.
- Traffic Controllers to guide pedestrians.
- Pedestrian diversion area MUST be clear, level, easily traversable for all pedestrians and free from any hazards



Option 3: Divert Pedestrians around the worksite using the roadway

- THIS IS NOT A TRAFFIC CONTROL PLAN this is a Pedestrian Management plan only, refer to a Traffic Control Plan for setup on roadway.
- Bollards and flagging to be used to guide Pedestrians, Bollards and flagging to be offset Minimum of 1.5m from the travel lane.
- Traffic speed to be reduced to 40km/h
- Traffic Controllers to guide pedestrians around the worksite
- Pedestrians diversion area MUST be clear, level, easily traversable for all pedestrians and free from any hazards
- Traffic Lane or Shoulder to be closed in accordance with an approved Traffic Control Plan.



IMPORTANT:

1. For Shared Paths - minimum 3m width must be maintained.
2. For Footpaths - minimum 1.5m width must be maintained.
3. If the existing width of a Shared Path or Footpath is less then 3m or 1.5m respectively, the existing width must be maintained.
4. When the above is not possible, changes to Paths must be detailed on the TGS.

PROJECT: SYDNEY METRO WEST - CENTRAL TUNNEL PACKAGE

LEGEND



Workzone



Traffic Controller



Traffic Cones



Pedestrian Route



Sign (2 posts)



Signalised intersection



Arrow-board location



Comments:

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- SHOULDER WIDTH / EDGE CLEARANCE TO TRAFFIC CONES OF 0.5m IS TO BE PROVIDED AT ALL TIMES UNLESS NOTED OTHERWISE

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[illegible]

APPENDIX H – LOCAL AREA WORKS AND DRIVEWAY DESIGNS

These designs have been included to show the intended conditions at completion of CTP works and handover of the sites to Sydney Metro. Approval of these documents are obtained outside of this CTMP.

METRO ENABLING WORKS

CITY OF CANADA BAY METRO ENABLING WORKS

FIVE DOCK STATION -DRIVEWAYS COVER SHEET

CTPPW5101

NOTE:

This plan is the 'Red Line Markup'(RLM), this shows the design with any adjustments made during the construction shown in red.

Some works (primarily sign installations) are yet to be finalised and included within the final RLM. For this reason, this plan has been marked-up in blue to clearly show any changes to what is shown on this design, compared to what is intended to be handed over at completion of CTP works.

Any changes from the design will follow the established procedures for Red Line Markups and Request For Information (RFIs) where required. This marked-up design does not replace these procedures

NOTE:

UTILITIES SHOWN ON THE DRAWINGS ARE EXISTING ONLY AND DO NOT SHOW THE DESIGN FOR ANY PROPOSED UTILITIES. REFER TO RELEVANT UTILITIES DESIGN PACKAGES FOR THE PROPOSED UTILITIES DESIGN. CONSTRUCTION IS NOT TO COMMENCE UNTIL THE PROPOSED UTILITY DESIGN IS ISSUED FOR CONSTRUCTION.

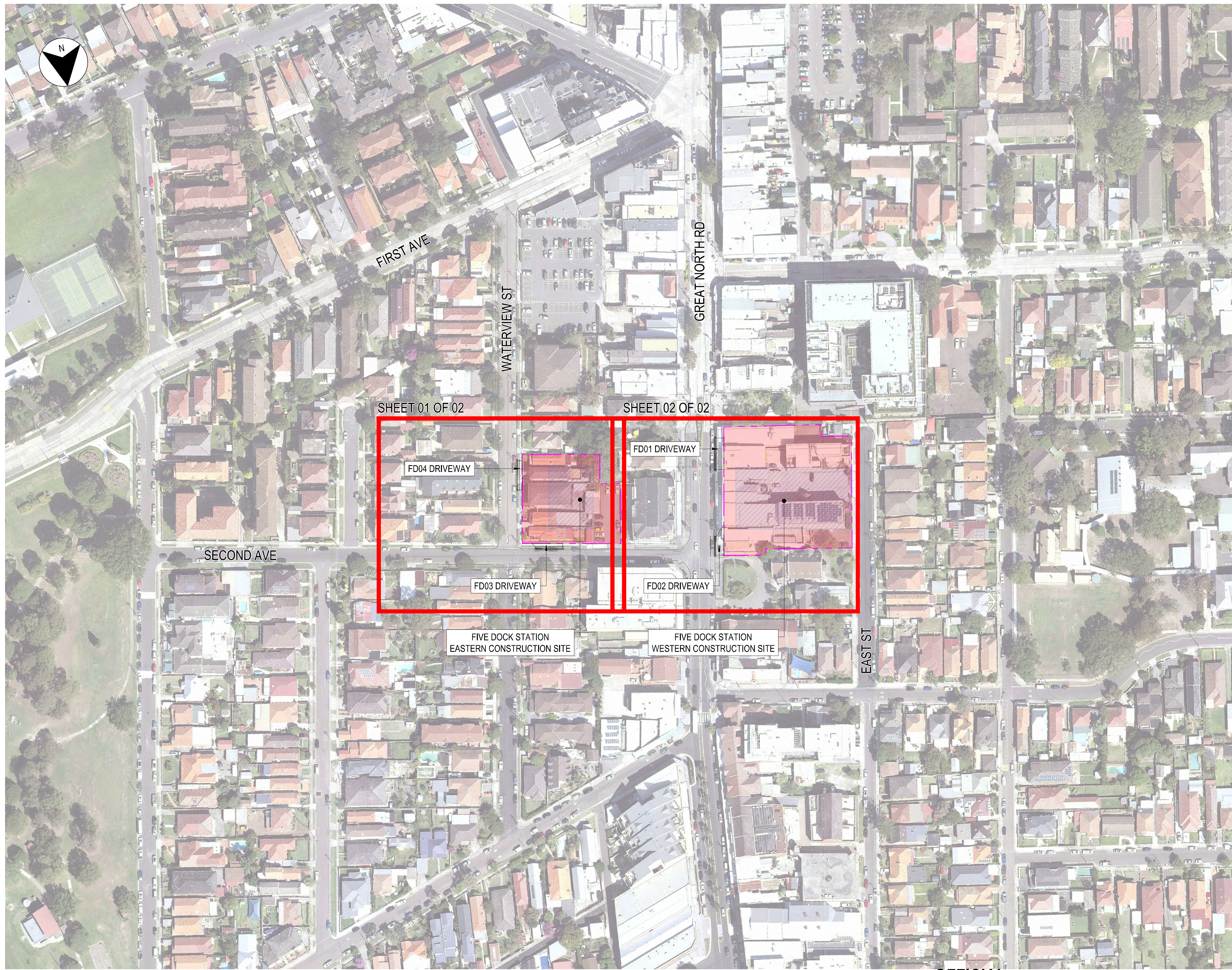
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NOTE TO BE REMOVED



OFFICIAL

RED LINE MARKUP



- LEGEND**
- SITE BOUNDARY
 - SYDNEY METRO CONSTRUCTION SITE
 - EXCAVATION EXTENTS

NOTE:
UTILITIES SHOWN ON THE DRAWINGS ARE EXISTING ONLY AND DO NOT SHOW THE DESIGN FOR ANY PROPOSED UTILITIES. REFER TO RELEVANT UTILITIES DESIGN PACKAGES FOR THE PROPOSED UTILITIES DESIGN. CONSTRUCTION IS NOT TO COMMENCE UNTIL THE PROPOSED UTILITY DESIGN IS ISSUED FOR CONSTRUCTION.

50
NOTE TO BE REMOVED

OFFICIAL

RED LINE MARKUP

DRAWING INDEX

DRAWING LIST	
SHEET	TITLE
SMWSTCTP-AFJ-FDK-SN250-CV-DRG-030001	COVER SHEET SHEET 1 OF 1
SMWSTCTP-AFJ-FDK-SN250-CV-DRG-030002	OVERALL LAYOUT PLAN SHEET 1 OF 1
SMWSTCTP-AFJ-FDK-SN250-CV-DRG-030003	DRAWING INDEX SHEET 1 OF 1
SMWSTCTP-AFJ-FDK-SN250-CV-DRG-030004	GENERAL NOTES SHEET 1 OF 1
SMWSTCTP-AFJ-FDK-SN250-CV-DRG-030005	LEGEND SHEET 1 OF 1
SMWSTCTP-AFJ-FDK-SN250-FN-DRG-030005	SIGNAGE SCHEDULE SHEET 1 OF 1
SMWSTCTP-AFJ-FDK-SN250-PV-DRG-030001	PAVEMENT PROFILES SHEET 1 OF 1
SMWSTCTP-AFJ-FDK-SN250-PV-DRG-030002	PAVEMENT EDGE DETAILS SHEET 1 OF 1
SMWSTCTP-AFJ-FDK-SN250-RW-DRG-030001	GENERAL ARRANGEMENT PLAN SHEET 1 OF 2
SMWSTCTP-AFJ-FDK-SN250-RW-DRG-030002	GENERAL ARRANGEMENT PLAN SHEET 2 OF 2
SMWSTCTP-AFJ-FDK-SN250-RW-DRG-030009	LONGITUDINAL SECTION SHEET 1 OF 2
SMWSTCTP-AFJ-FDK-SN250-RW-DRG-030010	LONGITUDINAL SECTION SHEET 2 OF 2
SMWSTCTP-AFJ-FDK-SN250-RW-DRG-030011	CROSS SECTION SHEET 1 OF 2
SMWSTCTP-AFJ-FDK-SN250-RW-DRG-030012	CROSS SECTION SHEET 2 OF 2
SMWSTCTP-AFJ-FDK-SN250-SD-DRG-030001	STORMWATER MANAGEMENT PLAN SHEET 1 OF 2
SMWSTCTP-AFJ-FDK-SN250-SD-DRG-030002	STORMWATER MANAGEMENT PLAN SHEET 2 OF 2

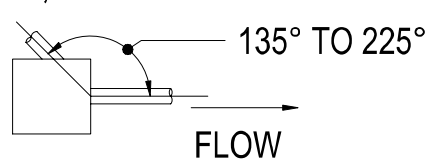
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UTILITIES SHOWN ON THE DRAWINGS ARE EXISTING ONLY AND DO NOT SHOW THE DESIGN FOR ANY PROPOSED UTILITIES. REFER TO RELEVANT UTILITIES DESIGN PACKAGES FOR THE PROPOSED UTILITIES DESIGN. CONSTRUCTION IS NOT TO COMMENCE UNTIL THE PROPOSED UTILITY DESIGN IS ISSUED FOR CONSTRUCTION.

GENERAL NOTES

- ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE TNSW SPECIFICATION FOR THE WORKS TOGETHER WITH THE REQUIREMENTS OF ALL RELEVANT CODES OF PRACTICE REFERRED TO THEREIN AND THE REQUIREMENTS OF ALL STATUTORY AUTHORITIES WHERE APPLICABLE.
- DRAWINGS TO BE READ IN CONJUNCTION WITH ALL OTHER SPECIFICATIONS FOR THE PROJECT.
- LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).
- CO-ORDINATES ARE TO GDA 2020 MAP GRID AUSTRALIA (MGA) CO-ORDINATE SYSTEM (ZONE 56).
- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE (UNO). ALL LEVELS, CHAINAGES, STATIONS AND CO-ORDINATES ARE EXPRESSED IN METRES.
- WHERE REFERENCE IS MADE TO PROPRIETARY COMPONENT NAMES ON THE DRAWINGS THE CONTRACTOR MAY PROPOSE AN ALTERNATIVE PRODUCT PROVIDED THE ALTERNATIVE IS EQUIVALENT AND SATISFIES THE REQUIREMENTS OF THE SPECIFICATION AND IS APPROVED BY THE PRINCIPAL.
- ACCESS TO PROPERTIES TO BE MADE AVAILABLE BY THE CONTRACTOR AT ALL TIMES DURING CONSTRUCTION.
- ALL WORK TO BE UNDERTAKEN IN ACCORDANCE WITH THE VERSION OF TNSW STANDARDS LATEST AT THE TIME OF TENDER UNO.
- WHERE AREAS ARE SHOWN AS BEING "ON HOLD" ON PLANS, ALL CORRESPONDING LONGITUDINAL SECTIONS, CROSS SECTIONS, DRAINAGE, PAVEMENTS AND OTHER DETAILS RELATING TO THAT AREA SHALL ALSO BE DEEMED TO BE "ON HOLD" UNO.
- ALL PROPERTY WORKS WITHIN PROPERTY BOUNDARY SUBJECT TO AGREEMENT WITH PROPERTY OWNER AND THE PRINCIPAL.
- DRAWING REFERENCES QUOTED ARE ONLY SHOWING THE LAST SIX DIGITS FOR SIMPLICITY.
- ALL LOCATIONS, ORIENTATION AND LEVELS SHALL BE VERIFIED ON SITE BY THE CONTRACTOR BEFORE COMMENCING ANY WORK. REFER DISCREPANCIES TO THE PRINCIPAL. DO NOT OBTAIN DIMENSIONS FROM SCALING. EXISTING SURFACE LEVELS ON THE DRAWINGS ARE INDICATIVE ONLY.
- ALL WORKS ARE TO BE IN ACCORDANCE WITH CITY OF CANADA BAY COUNCIL SPECIFICATIONS, RELEVANT AUSTRALIAN STANDARDS AND TNSW SPECIFICATIONS.

DRAINAGE - GENERAL

- THE DOCUMENTED DRAINAGE SYSTEM IS DETAILED ONLY FOR THE PERMANENT ROAD CONFIGURATION UNO. CONSTRUCTION REQUIREMENTS SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- PIPES THROUGH PITS ARE TO BE ALIGNED WITH UPSTREAM PIPE CENTRELINE TO OUTLET PIPE CENTRELINE AT DOWNSTREAM PIT FACE AS SHOWN;


- ANY PERMITS FOR DIVERSION WORKS REQUIRED DURING CONSTRUCTION SHALL BE OBTAINED PRIOR TO CONSTRUCTION WORKS BY THE CONTRACTOR FROM THE PRINCIPAL.
- IN LOCATIONS WHERE NEW PAVEMENT OR ROAD WIDENING WORKS ARE PROPOSED, ANY NEW PIPES WITH LESS THAN 600 MM COVER BELOW FINISHED ROAD LEVEL SHALL BE CONCRETE ENCASED.
- DURING CONSTRUCTION EXCAVATIONS SHALL BE SECURELY SHORED AND BENCHED TO PREVENT THE SIDES OF THE EXCAVATION FROM COLLAPSING. AS REQUIRED ON NSW WORK COVER EXCAVATIONS WORK CODE OF PRACTICE.
- NO DETAILED LEVEL A DRAINAGE SURVEY HAS BEEN PROVIDED AND THEREFORE THE LOCATION, SIZE AND TYPE OF EXISTING DRAINAGE STRUCTURES HAS BEEN DESIGNED BASED ON AVAILABLE COUNCIL GIS INFORMATION AND LEVEL C SURVEY. LOCATION, SIZE AND TYPE OF EXISTING PITS AND PIPES TO CONFIRMED WITH LEVEL A DRAINAGE PRIOR TO CONSTRUCTION.

DRAINAGE - LONGITUDINAL AND TRANSVERSE DRAINAGE

- ALL PIPES ARE TO BE STEEL REINFORCED SPUN CONCRETE UNO. ALL CONCRETE PIPES SHALL HAVE HS3 TYPE INSTALLATION AS PER TFNSW R0240-01.
- BEDDING AND SUPPORT FILL MATERIAL FOR ALL NEW LONGITUDINAL DRAINAGE TRENCHES SHALL BE IN ACCORDANCE WITH TFNSW SPEIFICATION R11 AND R44.
- CONCRETE PIPE CLASSES HAVE BEEN DETERMINED BASED ON TYPE HS3 SUPPORT, FINISHED SURFACE LEVEL AND TRENCH OR EMBANKMENT CONDITION INSTALLATION TO AS3725 AND SPECIFICATION UNO. CONCRETE PIPES ARE TO BE RUBBER RING JOINTED SPIGOT AND SOCKET TYPE UNO. THERMAL ENVIRONMENT CONDITION OF TABLE 3.1 OF AS/NZS 4058:2007 APPLIES. MINIMUM COVER FOR REINFORCEMENT IS 10 MM.
- MINIMUM COVER TO ALL NEW PIPES TO BE 300 MM BELOW THE UNDERSIDE OF THE SELECTED MATERIAL ZONE UNO.
- CONNECTION BETWEEN PIPES AND STRUCTURES TO BE UNDERTAKEN IN ACCORDANCE WITH TFNSW SPECIFICATION AND DRAWINGS UNO.
- PIPE LENGTHS PROVIDED IN DRAINAGE LONG SECTIONS ARE CALCULATED FROM PIT REFERENCE POINT TO PIT REFERENCE POINT.

DRAINAGE - EXISTING STORMWATER PIPES

- EXISTING STORMWATER DRAINAGE PIPE AND PIT LAYOUT SHOWN IN THE DRAWINGS ARE INDICATIVE ONLY. ALL LOCATIONS, ORIENTATION AND LEVELS OF EXISTING SHALL BE VERIFIED ON SITE BY THE CONTRACTOR BEFORE COMMENCING ANY WORK.
- IN LOCATIONS WHERE NEW PAVEMENT OR ROAD WIDENING WORKS ARE PROPOSED, ANY EXISTING RETAINED PIPES WITH LESS THAN 600 MM COVER BELOW FINISHED ROAD LEVEL SHALL BE CONCRETE ENCASED.
- WHERE A CONNECTION IS MADE TO AN EXISTING DRAINAGE PIPE OR PIT, THEN THE LEVEL OF THAT ELEMENT MUST BE SURVEYED AND ANY DISCREPANCIES SUBMITTED TO THE PRINCIPAL PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAINAGE STRUCTURES

- CONCRETE DRAINAGE STRUCTURES TO BE IN ACCORDANCE WITH TNSW QA SPECIFICATION R53 UNO
- DRAINAGE STRUCTURES HAVE BEEN DESIGNED IN ACCORDANCE WITH AS3600-2018 UNO
- DESIGN LIFE OF NEW CONCRETE DRAINAGE STRUCTURES IS 50 YEARS UNO.
- DESIGN LIFE OF NEW INACCESSIBLE CONCRETE STRUCTURES IS 100 YEARS UNO.
- DESIGN LOADS HAVE BEEN DETERMINED IN ACCORDANCE WITH ASS100.2 – 2017.
- THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND PROVISION OF ANY TEMPORARY BRACING, PROPPING, ETC. REQUIRED DURING CONSTRUCTION. STRUCTURES SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED.
- FOUNDATION SUPPORT FOR DRAINAGE STRUCTURES TO BE PROVIDED IN ACCORDANCE WITH TNSW QA SPECIFICATION R11.
- INADEQUATE FOUNDING MATERIAL FOR PIPES AND STRUCTURES SHALL BE REMOVED OR IMPROVED IN ACCORDANCE WITH TNSW QA SPECIFICATION R11.
- TNSW STANDARD DETAILS TO BE ADOPTED ONLY WHERE REFERENCED.
- ALL PITS DEEPER THAN 600 TO BE FITTED WITH STEP IRONS IN ACCORDANCE WITH TNSW DRAWING R0220-45
- STEEL GRATES AND FRAMES ARE TO BE FABRICATED FROM MILD STEEL AND HOT DIPPED GALVANISED. ALL GRATES AND FRAMES TO BE "MEDIUM / HEAVY TRAFFICABLE" CLASS D UNO. GRATES AND FRAMES WITHIN THE PAVEMENT SURFACE (INCLUDES ADJOINING SO GUTTER) ARE TO BE BICYCLE SAFE IN ACCORDANCE WITH AS 3996 UNO.
- ALL WELDS TO COMPLY WITH AUSTRALIAN STANDARD AS 1554.1. FILLET WELDS TO BE NOT LESS THAN 6 mm UNO.
- ALL EXPOSED STEEL TO BE GALVANISED IN ACCORDANCE WITH AS/NZS 2312 AND AS/NZS 4680. GALVANISING TO THREADED FASTENERS TO BE IN ACCORDANCE WITH AS 1214. MINIMUM GALVANISING 600 G / SQM OTHER THAN ON FASTENERS.
- GRATE SUPPORT TO BE CONSTRUCTED LEVEL TO ENSURE THAT THE GRATE DOES NOT ROCK AFTER INSTALLATION.
- FOR LOCATION AND LEVEL OF PITS AND HEADWALLS REFER TO DRAINAGE DRAWING LONG SECTIONS AND SCHEDULES.
- CONSTRUCTION JOINT PREPARATION: EXISTING CONCRETE SURFACE TO BE CLEANED, SCABBLED AND ROUGHENED IN ACCORDANCE WITH TNSW QA SPECIFICATION R53 PRIOR TO CASTING OF NEW PIT SECTION
- CONCRETE EXPOSURE CLASSIFICATION B1 UNO.
- MINIMUM 28-DAY CONCRETE COMPRESSIVE STRENGTH AND NOMINAL COVER TO REINFORCEMENT FOR DRAINAGE PITS UNO :

CAST IN-SITU – CAST AGAINST GROUND:	32 MPa / 75 mm
CAST IN-SITU – CAST ELSEWHERE:	32 MPa / 40 mm
- EDGES SHALL BE CHAMFERED 20 x 20
- EXPOSED SAWCUT REINFORCEMENT BARS TO BE TREATED WITH CORROSION INHIBITING COATING
- PIT BASE TO BE CLEANED, SCABBLED AND ROUGHENED IN ACCORDANCE WITH TNSW QA SPECIFICATION R53 PRIOR TO PLACING MASS CONCRETE BENCHING.
- MINIMUM 28 DAY CONCRETE COMPRESSIVE STRENGTH AND NOMINAL COVER TO REINFORCEMENT FOR CONCRETE CASING TO PIPES UNO. 25 MPa / 60 mm. CONCRETE TO BE PLACED USING MECHANICAL VIBRATION.

SIGNAGE AND LINEMARKING

- TO ELIMINATE EXCESSIVE GLARE FROM THE SURFACE OF A SIGN IT IS TO BE TURNED APPROXIMATELY 5° AWAY FROM THE NORMAL TO THE HEADLIGHT BEAM / LINE OF SIGHT.
- ALL SIGNAGE TO BE CLEAR OF ALL VEGETATION AND OBSTRUCTIONS.
- SIGNS TO BE INSTALLED IN ACCORDANCE WITH AS1742.
- THE LOCATION OF ALL EXISTING SIGNS TO BE CONFIRMED PRIOR TO COMMENCING WORK. ENSURE ADOPTED METHOD OF CONSTRUCTION WILL AVOID DAMAGE TO ALL SERVICES.
- CONDITION ASSESSMENT TO BE UNDERTAKEN ON ALL EXISTING SIGN FACES TO BE RELOCATED PRIOR TO BEING REUSED IN ACCORDANCE WITH RELEVANT SPECIFICATIONS AND STANDARDS OR AS DIRECTED BY THE PRINCIPAL.
- ALL EXISTING LINEMARKING EFFECTED BY THE NEW WORKS AND NOT OTHERWISE CONFLICTING WITH NEW LINEMARKING IS TO BE REINSTATED.
- ALL LINEMARKING TO BE THERMOPLASTIC IN ACCORDANCE WITH TNSW SPECIFICATION R145.
- FOR NOTES ON PAVEMENTS REFER TO TNSW DELINEATION GUIDELINE SECTION 9.
- FOR REMOVAL OF LINEMARKING REFER TO TNSW DELINEATION GUIDELINE SECTION 14.
- RAISED PAVEMENT MARKERS SHALL BE PLACED ON ALL LANE, EDGE AND BARRIER LINES. SPACING OF RAISED PAVEMENT MARKERS SHALL BE IN ACCORDANCE WITH TNSW DELINEATION GUIDE AND TNSW SPECIFICATION R142.
- SIGNAGE AND LINEMARKING PLANS TO BE READ IN CONJUNCTION WITH TCS PLANS.
- ALL REGULATORY SIGNPOSTING AND LINEMARKING SHOWN ON THESE DRAWINGS WILL NEED TO BE APPROVED BY WRITTEN AUTHORISATION FROM AN OFFICER AUTHORISED UNDER SECTION 5.9 OF THE TNSW DELEGATIONS MANUAL.
- UNLESS OTHERWISE INDICATED, ALL SIGN FACES TO BE SIZE TYPE A IN ACCORDANCE WITH AS1742.
- SIGN POSITIONS TO BE CONFIRMED WITH PRINCIPAL PRIOR TO MOUNTING.
- REFER TO TNSW R103 AND TNSW R145 FOR HIGH PRESSURE WATER BLASTING LINEMARKING REMOVAL.
- TYPICAL SIGN MOUNTING IN ACCORDANCE WITH AS1742 - MOUNTING HEIGHT:

- MINIMUM 2.0 m ABOVE FOOTPATH
 - 0.2 m ABOVE ROAD SURFACEKERB OFFSET: 0.3 m FROM FACE OF KERB.

SAFETY - IN - DESIGN INFORMATION

- THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH TNSW SPECIFICATION G22. THIS DOCUMENT LISTS SOME DESIGN RELATED WORK HEALTH AND SAFETY HAZARDS ASSOCIATED WITH THE PROJECT DESIGN, CONSTRUCTION AND OPERATION. THERE MAY BE OTHER HAZARDS AND RISKS NOT STATED IN THIS DOCUMENT. THIS DOCUMENT DOES NOT RELIEVE THE CONTRACTOR OF ITS OBLIGATIONS UNDER THE CONTRACT AND RELEVANT LEGISLATION.
- REFER TO SID REPORT AND DESIGN REPORT.

UTILITIES

- IN ORDER TO AVOID DAMAGE TO THE UTILITIES THE CONTRACTOR SHALL BE RESPONSIBLE FOR CO-ORDINATING THE WORKS ADJACENT TO ANY UTILITY WITH THE RELEVANT UTILITY AUTHORITY IN ACCORDANCE WITH THE AUTHORITY REQUIREMENTS.
- THE CONTRACTOR SHALL CO-ORDINATE WITH THE RELEVANT UTILITY AUTHORITIES AND THE PRINCIPAL WITH RESPECT TO ANY TEMPORARY DIVERSIONS NECESSARY FOR CONSTRUCTION STAGING WORKS.
- LOCATION AND LEVEL OF ALL SERVICES CROSSING NEW DRAINAGE MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ALL LEVELS MUST BE CHECKED FOR CONFLICT WITH ANY SERVICES, AND ANY CONFLICTS TO BE RESOLVED WITH THE PRINCIPAL.
- THE LOCATION OF EXISTING PROPERTY CONNECTIONS TO UTILITIES LOCATED WITHIN THE ROAD RESERVE HAVE NOT BEEN LOCATED AND SURVEYED. IT WILL BE THE CONTRACTORS RESPONSIBILITY TO LOCATE EACH PROPERTY CONNECTION AND ARRANGE ANY REQUIREMENT FOR RECONNECTION TO NEW LINES. THE CONTRACTOR SHALL ALSO PROTECT ALL PROPERTY CONNECTIONS DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL MANAGE ANY DISRUPTION TO SUPPLY TO PRIVATE PROPERTY AND ENSURE THAT SUPPLY IS AVAILABLE AT THE END OF EACH DAYS ACTIVITIES.
- SERVICES SHOWN ARE INDICATIVE ONLY AND IS NOT GUARANTEED COMPLETE NOR CORRECT. CONTRACTOR TO CONFIRM LOCATION OF ALL SERVICES PRIOR TO COMMENCING WORK. CONTRACTOR TO ENSURE ADOPTED METHOD OF CONSTRUCTION WILL AVOID DAMAGE TO ALL SERVICES.
- SERVICE AUTHORITIES ARE TO BE CONTACTED PRIOR TO THE COMMENCEMENT OF WORKS FOR ARRANGEMENTS TO BE MADE REGARDING THE PROTECTION, ADJUSTMENT OR RELOCATION OF SERVICES IF NECESSARY. INFORMATION PROVIDED ON THE DRAWINGS WITH RESPECT TO SERVICES IS FOR GUIDANCE ONLY.
- PRIOR TO THE START OF EXCAVATION, ALL NEW TEMPORARY EXCAVATIONS FOR UTILITIES NEAR CUT OR FILL BATTERS ARE TO BE ASSESSED ON SITE BY THE CONTRACTOR'S EXPERIENCED GEOTECHNICAL ENGINEER FOR THEIR POTENTIAL IMPACT ON BATTER STABILITY DURING CONSTRUCTION.
- ALL TRENCH BACKFILL ASSOCIATED WITH UTILITIES TO BE UNDERTAKEN IN ACCORDANCE WITH RELEVANT UTILIT AUTHORITIES' STANDARDS.

PROPERTY WORKS CONSTRUCTION

- MAKE GOOD ANY DISTURBANCE TO EXISTING LAWNS AND TOP SOIL. TURF AND RESHAPE ALL DISTURBED AREAS INCLUDING REPLACEMENT OF EXISTING SHRUBS, HEDGES ETC. AS SHOWN ON DRAWINGS AND AGREED WITH THE PROPERTY OWNER AND THE PRINCIPAL.
- CLEAN UP AND REMOVE CONTRACTOR'S WASTE FROM THE SITE CAUSED DURING THE ADJUSTMENT WORK.
- RELOCATE / REMOVE AND REPLACE EXISTING FENCES, GATES, LETTERBOX AS SHOWN ON THE DRAWING. PRINCIPAL TO CONFIRM EXACT INSTRUCTION WITH PROPERTY OWNER.
- EXISTING PRIVATE PROPERTY SERVICE CONNECTIONS AND DRAINAGE ARE NOT INDICATED ON THESE DRAWINGS. THESE NEED TO BE LOCATED AND ADJUSTED AS REQUIRED. MAINTAIN EXISTING ALIGNMENT WHERE POSSIBLE.
- ACCESS TO PROPERTIES TO BE MAINTAINED BY THE CONTRACTOR AT ALL TIMES DURING CONSTRUCTION, OR AS OTHERWISE AGREED WITH THE PROPERTY OWNER AND THE PRINCIPAL.
- ALL REDUNDANT FENCING TO BE REMOVED AND RECYCLED WHERE POSSIBLE.
- THE CADASTRAL BOUNDARY IS SUBJECT TO CONFIRMATION ON SITE BY THE CONTRACTOR USING A REGISTERED LAND SURVEYOR.
- SIGNIFICANT TREES HAVE BEEN IDENTIFIED ON THE DRAWINGS FOR REMOVAL WHERE REQUIRED, WHERE REMOVAL OF ADDITIONAL UNIDENTIFIED TREES ARE REQUIRED TO CONSTRUCT THE PROPERTY WORKS, OBTAIN APPROVAL FROM THE PRINCIPAL BEFORE REMOVING ADDITIONAL TREES.
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH RMS SPECIFICATION R204.

STANDARD DRAWINGS

- CITY OF CANADA BAY STANDARD DRAWINGS CAN BE FOUND AT THE BELOW LOCATION:
<https://www.canadabay.nsw.gov.au/development/plans-policies-and-controls/planning-controls-LEP-DCP>

COUNCIL STANDARD DRAWINGS			
STANDARD DRAWING NUMBER	DESCRIPTION	COUNCIL	LAST AMENDED
6A - KERB & GUTTER DETAILS 1	STANDARD KERB AND GUTTER DETAILS SHEET 1 OF 2	CITY OF CANADA BAY	September-2014
1A - CONCRETE VEHICULAR LAYBACK	CONCRETE VEHICLUAR LAYBACK DETAILS	CITY OF CANADA BAY	September-2014
C10	DETAILS SHEET 2 - RAMPED CROSSING	CITY OF CANADA BAY	September-2016

NOTE:
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OFFICIAL

RED LINE MARKUP

NOTE:
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NOTE TO BE REMOVED

LEGEND SHEET

SURVEY (EXISTING)

	CABLE JUNCTION BOX (PEJB)		POWER SERVICE PILLAR UNDERGROUND (PEUP)
	LARGE SIGN (SI)		G 1 PIPE (PGPI)
	ELECTRICAL CABLE MANHOLE (PEMH)		FIRE HYDRANT (WATER)
	SIGN POST (PSIN)		OPTICAL FIBRE PIT (POFP)
	DRILL HOLE AND WING (PDHL)		BOLLARD (AC)
	EXISTING VALVE BOX		TOP OF CONCRETE JUNCTION BOX
	POLE LIGHT (PLPL)		UNIDENTIFIED POLE
	STOP VALVE (WATER)		BUS STOP (PBUS)
	KERB INLET (KI)		
	WATER HYDRANT		PETROL PUMP
	SURVEY MARKS (BOLTS, PEGS, NAILS)		DRAINAGE PIPE INVERT
	TRAFFIC SIGNAL JUNCTION BOX (PSJX)		OPTICAL FIBRE JUNCTION BOX (POFJ)
	TRAFFIC CONTROL SIGNAL (PSGL)		SPEED ZONE LINEMARKING
	RUBBISH BIN (PBIN)		ARROW RIGHT TURN (AR)
	TELEPHONE SINGLE CONCRETE PIT (PTSP)		ARROW LEFT TURN (AL)
	TELEPHONE TWIN CONCRETE PIT (PTTP)		ARROW STRAIGHT AHEAD (AS)
	PIER COLUMN POINT (PBPI)		EXISTING POST - DOUBLE SIDED (PSDS)
	DRAINAGE JUNCTION MANHOLE (PDJM)		TRANSFORMER CABINET CENTRE (PETC)
	TELEPHONE BOX POINT (PTBX)		FENCE POST OR GUIDE POST (POST)
	TELEPHONE DISTRIBUTION PILLAR (PTDP)		WATER MAIN MARKER (PWMM)
	TELEPHONE SUMP (TS)		EXISTING STD 1.1m BY 1.1m MAIN PIT (PTMP)
	UNIDENTIFIED SERVICE		EXISTING TRAFFIC MARKER (SILENT COP) (PTMX)
	DISTRIBUTION FUSE POINT (PEFP)		EXISTING GULLY PIT (PGUL)
	TRAFFIC SIGNAL CONTROLLER (TCS)		EXISTING PIPE - 375 DIA (U3)
	WATER HYDRANT (PWHY)		EXISTING PIPE - 525 DIA (U5)
	POLE POWER (PPPL)		EXISTING LAMPHOLES (PSLH)
	LUMINAIRE		EXISTING VENT PIPE (PSVP)
	MAIL BOX		EXISITING ALIGNMENT PIN (PAPN)
	POWER POLE AND LIGHT (PPLP)		EXISTING GARDEN LIGHT (PLGN)
	MANHOLE COVER (PSMH)		EXISTING DRAIN SUBSOIL FLUSH POINT (PSFP)
	EXISTING PIPE - 450 DIA (U4)		EXISTING AIR VALVE (PWAV)
	EXISTING LIGHT WITH OUTREACH (LI)		EXISTING CAMERA - FLASH UNIT (PCFU)
	EXISTING ABOVE GROUND JOINING POST (PTJP)		EXISTING RED LIGHT-SPEED-TRAFFIC CAMERA (PCAM)
	EXISTING PIPE - 300 DIA (U2)		
	EXISTING INLET TO SUMP (PILT)		
	EXISTING METER (PWMR)		
	EXISTING DISH DRAIN (DD)		
	EXISTING PARKING METER (PKME)		

	EXISTING INVERT - 300 DIA (PI02)
	EXISTING TOPO SPOT HEIGHT
	EXISTING DRAIN TABLE
	EXISTING SIGN WITH OUTREACH
	EXISTING TRAFFIC LIGHT WITH OUTREACH (TO)
	EXISTING HISTORICAL POINT OF INTEREST (PHIS)
	TREE TRUNK - 1200mm DIA PT11
	TREE TRUNK - 1000mm DIA PT10
	TREE TRUNK - 900mm DIA PT09
	TREE TRUNK - 800mm DIA PT08
	TREE TRUNK - 700mm DIA PT07
	TREE TRUNK - 600mm DIA PT06
	TREE TRUNK - 500mm DIA PT05
	TREE TRUNK - 400mm DIA PT04
	TREE TRUNK - 300mm DIA PT03
	TREE TRUNK - 200mm DIA PT02
	TREE TRUNK - 100mm DIA PT01
	TREE FOLIAGE - 1M SPREAD (PF01)
	TREE FOLIAGE - 2M SPREAD (PF02)
	TREE FOLIAGE - 4M SPREAD (PF03)
	TREE FOLIAGE - 6M SPREAD (PF04)
	TREE FOLIAGE - 7M SPREAD (PF05)
	TREE FOLIAGE - 8M SPREAD (PF06)
	TREE FOLIAGE - 10M SPREAD (PF07)
	TREE FOLIAGE - 12M SPREAD (PF08)
	TREE FOLIAGE - 15M SPREAD (PF09)

ABBREVIATIONS

BCC	BURWOOD CITY COUNCIL
CCB	CITY OF CANADA BAY
TCS	TRAFFIC CONTROL SIGNAL
DRG	DRAWING(S)
RCP	STEEL REINFORCED CONCRETE PIPE
STD	STANDARD

OFFICIAL

RED LINE MARKUP

EXISTING SIGN SCHEDULE								
SIGN TAG X - EXISTING R - RELOCATED	EXISTING LOCATION	CODE	SIGN DESCRIPTION	TREATMENT	NEW LOCATION		MOUNTING	REMARKS
					CONTROL	CHAINAGE		
X1	GREAT NORTH ROAD - SHEET 2	R5-400(L)	NO STOPPING (L)	REMOVE				
X2	SECOND AVENUE - SHEET 2	R4-1	SPEED LIMIT (SYMBOLIC)	RETAIN				
X3	SECOND AVENUE - SHEET 2	R5-1(R)	PARKING SERIES (1/2 HOUR)	RETAIN				
X4	SECOND AVENUE - SHEET 2	R5-400(L)	NO STOPPING (L)	RETAIN				
X5	SECOND AVENUE - SHEET 2	R5-1(L)	PARKING SERIES (1/2 HOUR)	RETAIN				
X6	SECOND AVENUE - SHEET 2	R5-400(R)	NO STOPPING (R)	RETAIN				
X7	SECOND AVENUE - SHEET 2	R5-400(LR)	NO STOPPING (LR)	RETAIN				
X8	SECOND AVENUE - SHEET 1	R5-400(LR)	NO STOPPING (LR)	RETAIN				
X9	SECOND AVENUE - SHEET 1	R5-400(LR)	NO STOPPING (LR)	RETAIN				
X10	SECOND AVENUE - SHEET 1	R5-400(LR)	NO STOPPING (LR)	RETAIN				
X11	SECOND AVENUE - SHEET 1	R5-400(R)	NO STOPPING (R)	REMOVE				
X12	SECOND AVENUE - SHEET 1	R5-1(L)	PARKING SERIES (1 HOUR)	REMOVE				
X13	SECOND AVENUE - SHEET 1	R5-1(R)	PARKING SERIES (1 HOUR)	REMOVE				
X14	SECOND AVENUE - SHEET 1	R5-400(L)	NO STOPPING	REMOVE				
X15	WATERVIEW STREET - SHEET 1	R1-1	STOP SIGN	RETAIN				
X16	WATERVIEW STREET - SHEET 1	R5-400(R)	NO STOPPING (R)	REMOVE				
X17	SECOND AVENUE - SHEET 2	R5-20(R)	BUS ZONE	RETAIN				

NEW SIGN SCHEDULE												
SIGN TAG N - NEW SIGN	PROPOSED LOCATION	CODE	SIGN DESCRIPTION	SIGN FACE SIZE			MOUNTED HEIGHT H (m)	NO. OF POSTS	POST SIZE	FOUNDATION	POST TYPE	REMARK
				WIDTH A (mm)	HEIGHT B (mm)	AREA (m²)						
N1	GREAT NORTH ROAD - SHEET 2	R5-400(LR)	NO STOPPING (LR)	225	450	0.10125	2.5	ATTACH TO EXISTING LIGHT POLE AND REPLACE X1				ATTACH TO EXISTING LIGHT POLE - REPLACE 'X1'
N2	GREAT NORTH ROAD - SHEET 2	R5-400(LR)	NO STOPPING (LR)	225	450	0.10125	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE	
N3	GREAT NORTH ROAD - SHEET 2	R5-400(R)	NO STOPPING (L)	225	450	0.10125	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE	
N4	SECOND AVENUE - SHEET 2	R5-400(L)	NO STOPPING (L)	225	450	0.10125	2.5	ATTACH TO EXISTING LIGHT POLE WITH X17				ATTACH TO EXISTING LIGHT POLE - MOUNT TO THE LEFT OF 'X17'
N5	SECOND AVENUE - SHEET 1	R5-400(LR)	NO STOPPING (LR)	225	450	0.10125	2.5	ATTACH TO EXISTING LIGHT POLE AND REPLACE X11 AND X12				ATTACH TO EXISTING LIGHT POLE - REPLACE 'X11 AND X12'
N6	SECOND AVENUE - SHEET 1	R5-400(LR)	NO STOPPING (LR)	225	450	0.10125	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE	
N7	WATERVIEW STREET - SHEET 1	R5-400(LR)	NO STOPPING (LR)	225	450	0.10125	2.5	USE EXISTING FROM X16				
N8	WATERVIEW STREET - SHEET 1	R5-400(LR)	NO STOPPING (LR)	225	450	0.10125	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE	
N9	WATERVIEW STREET - SHEET 1	R5-400(R)	NO STOPPING (R)	225	450	0.10125	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE	

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NOTE TO BE REMOVED

OFFICIAL

RED LINE MARKUP

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. MATERIAL SUPPLY AND CONSTRUCTION:

a. ASPHALT TO CONFORM TO TNSW R116.

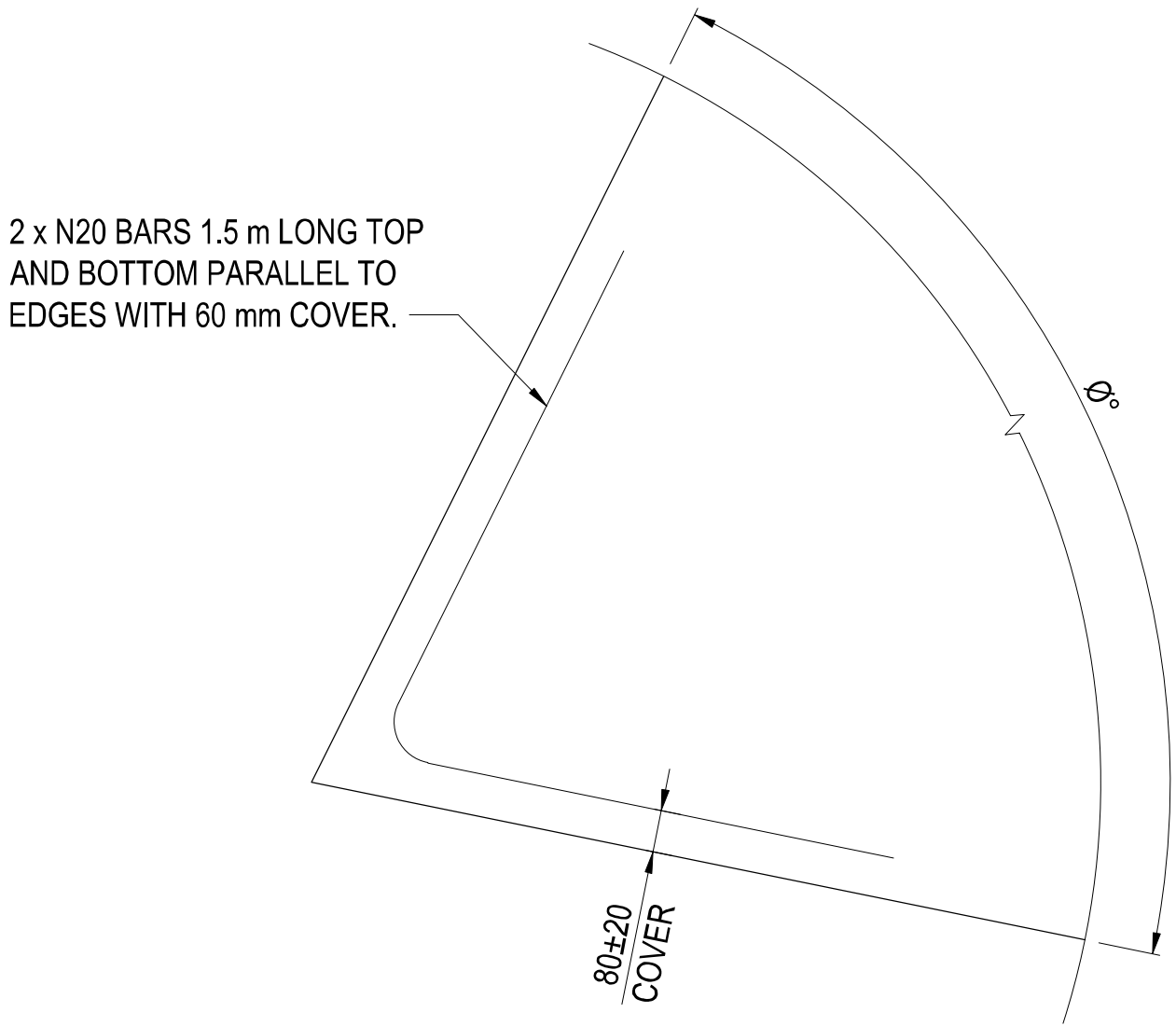
b. CONCRETE FOR MEDIAN INFILL TO CONFORM TO TNSW R54.

c. JOINT FILLER TO COMPLY WITH TNSW 3204.
3. PAVEMENT PROFILES SUBJECT TO CHANGE DEPENDING ON LOCATION OF EXISTING UTILITIES. CONTRACTOR TO COORDINATE PAVEMENT DESIGNS WITH UTILITIES.
4. JOINTING FOR THE CONCRETE FOOTPATH SHALL BE IN ACCORDANCE WITH THE CITY OF CANADA BAY COUNCIL ENGINEERING SPECIFICATIONS AND DRAWINGS.
5. ALL PROFILING OPERATIONS SHALL BE IN ACCORDANCE WITH TNSW R101
6. MILL AND CORRECT: AFTER MILLING THE TOP 50 mm OF THE EXISTING PAVEMENT, THE EXPOSED SURFACE MAY REQUIRE A CORRECTIVE LAYER IF DEPTH TO FINISHED SURFACE LEVEL IS GREATER THAN 70 mm.
CORRECTIVE LAYER SHALL BE A MINIMUM 20 mm AC7 (A15E). ASPHALT TYPES SHOULD COMPLY WITH TNSW R116 ON COMPLETION OF THE MILLING OPERATION FOR THE PAVEMENT TYPE M&C, THE REMAINING ASPHALT LAYER SHALL BE INSPECTED. IF IT IS CRACKED, STRIPPED OR DELAMINATED AND IF THE REMAINING LAYER IS LESS THAN 30 mm THICK IT SHALL BE REMOVED AS WELL. CRACKS WIDER THAN 3 mm SHALL BE SEALED IN ACCORDANCE WITH TNSW M211, PRIOR TO CONSTRUCTION OF THE NEW ASPHALT LAYERS.
8. ALL ASPHALT LAYERS INCLUDING THE CORRECTIVE LAYER SHALL BE WITHIN THE RANGE OF THE ALLOWABLE ASPHALT LAYER THICKNESS LISTED IN TABLE 1:

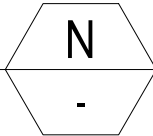
TABLE 1 : ALLOWABLE ASPHALT LAYER THICKNESS

ASPHALT TYPE	ALLOWABLE ASPHALT LAYER THICKNESS FOR DIFFERENT NOMINAL ASPHALT SIZE (mm)				
	5	7	10	14	20
DENSE GRADED ASPHALT (DGA)	15 - 25	21 - 35	30 - 50	42 - 70	60 - 100

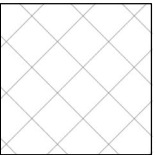
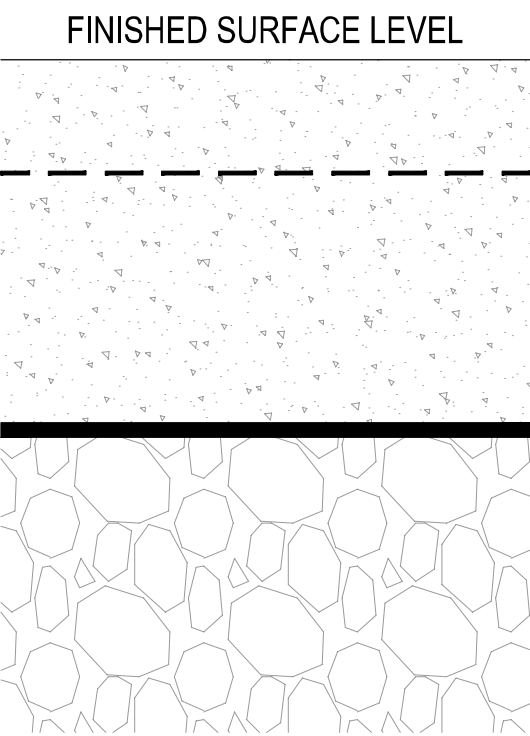
9. ASPHALT WARM MIX SHALL BE COMPACTED AT TEMPERATURES APPROXIMATELY AROUND 125°C. COMPACTION TEMPERATURES SHALL BE CONFIRMED AFTER FOLLOWING METHODOLOGY INCLUDED IN APPENDIX B OF AS2891.2.2.



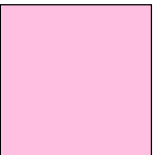
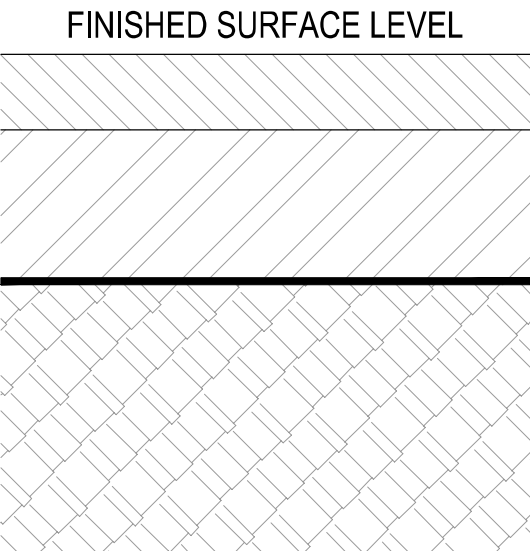
DETAIL
NTS



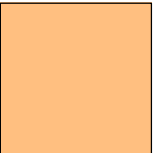
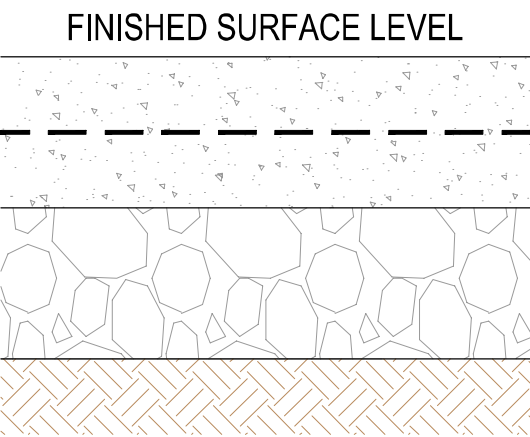
CORNER REINFORCEMENT IN SLABS
WITH CORNER ANGLE $\phi < 75^\circ$



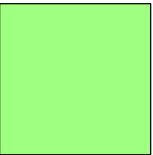
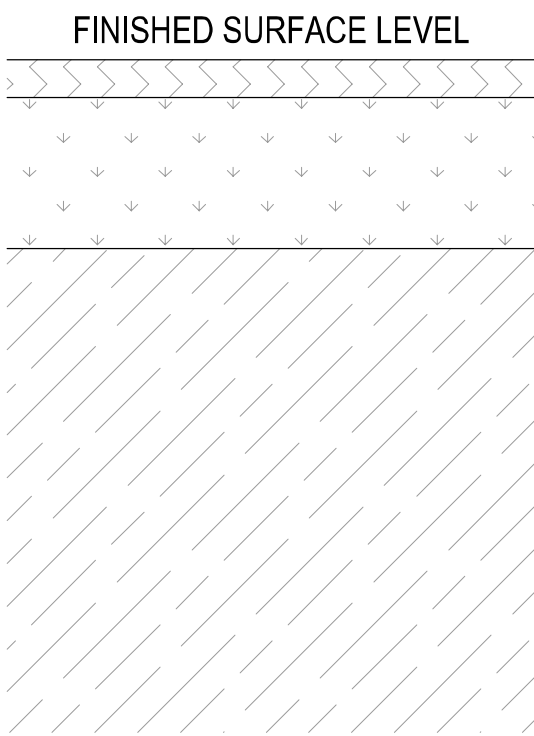
PAVEMENT TYPE - DW
DRIVEWAYS



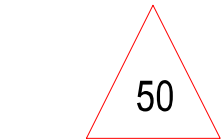
PAVEMENT TYPE - M&C
MILL AND CORRECTION



PAVEMENT TYPE - FP
CONCRETE FOOTPATH
(SEE NOTE 4)



PAVEMENT TYPE - TF
TURF



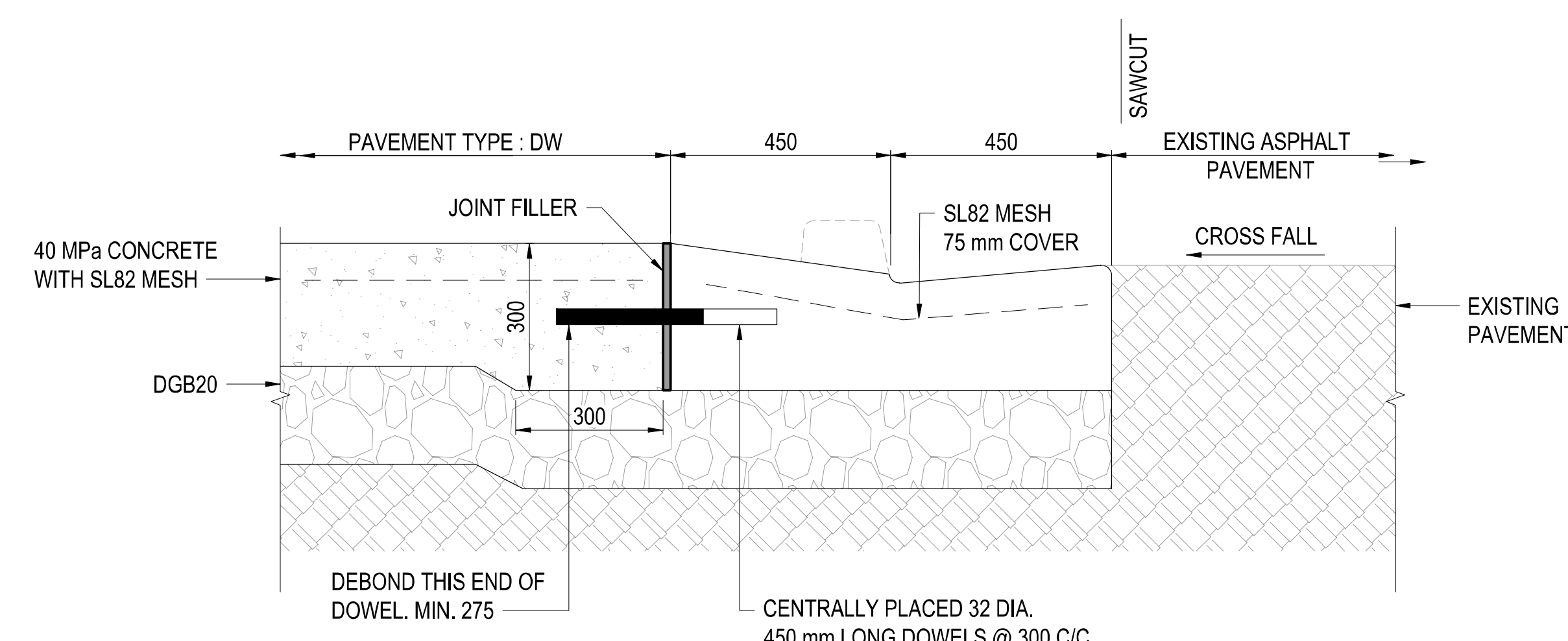
NOTE TO BE REMOVED

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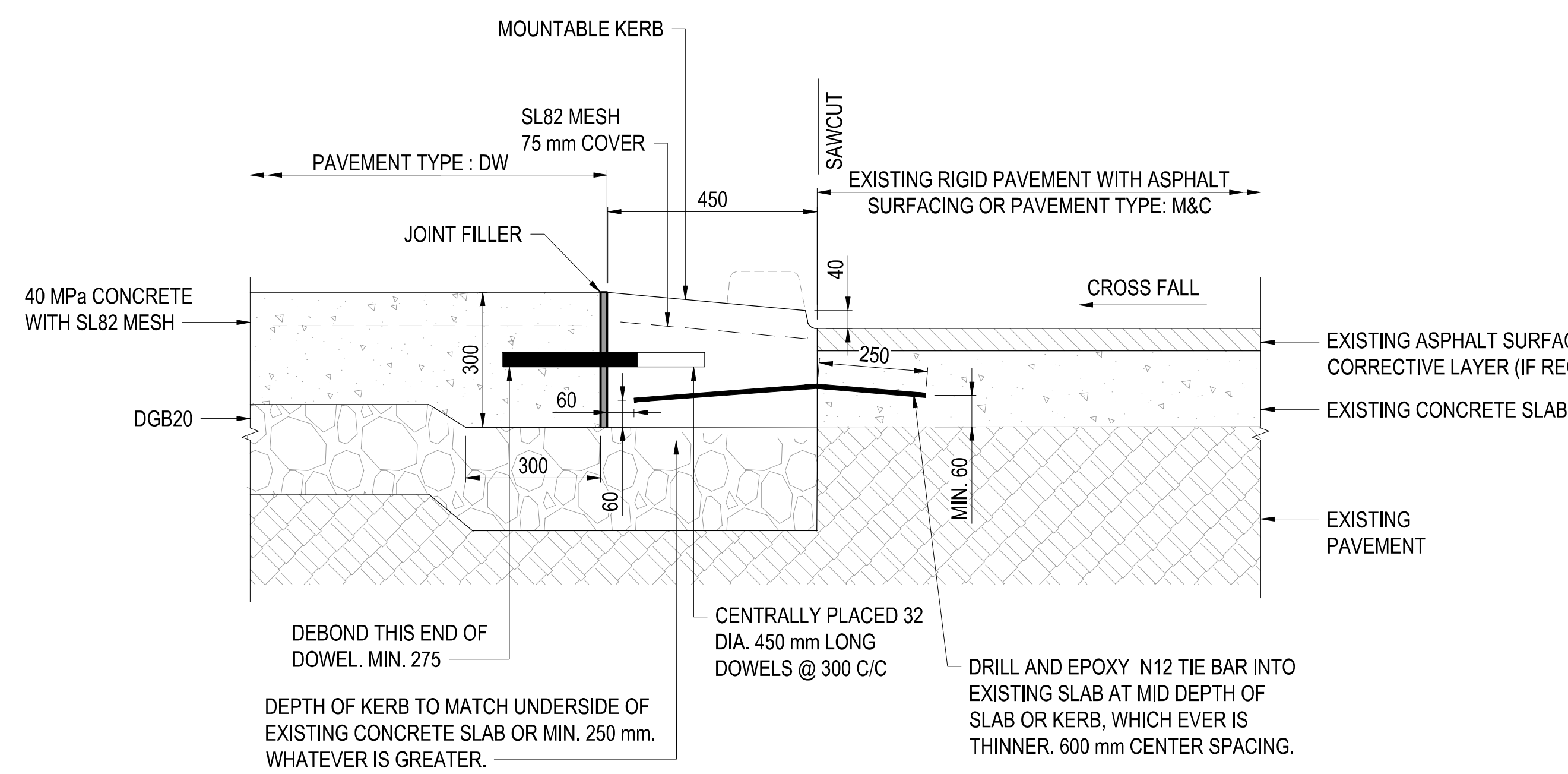
OFFICIAL

RED LINE MARKUP

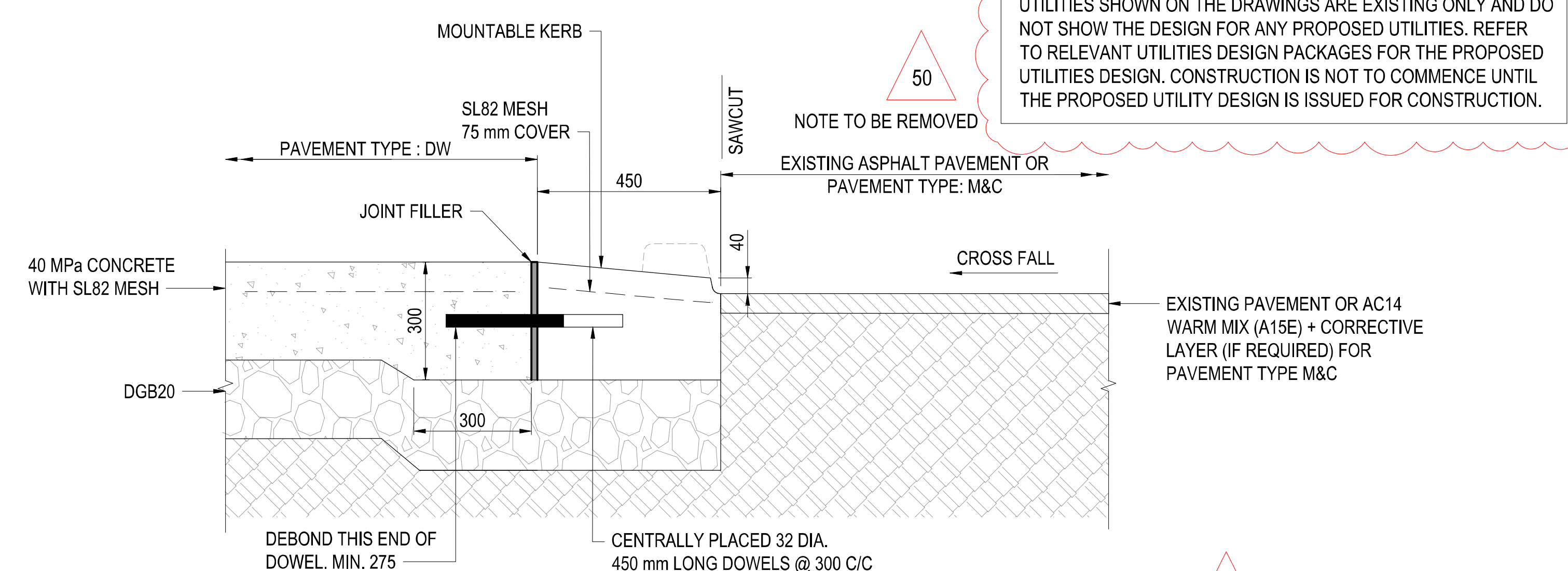
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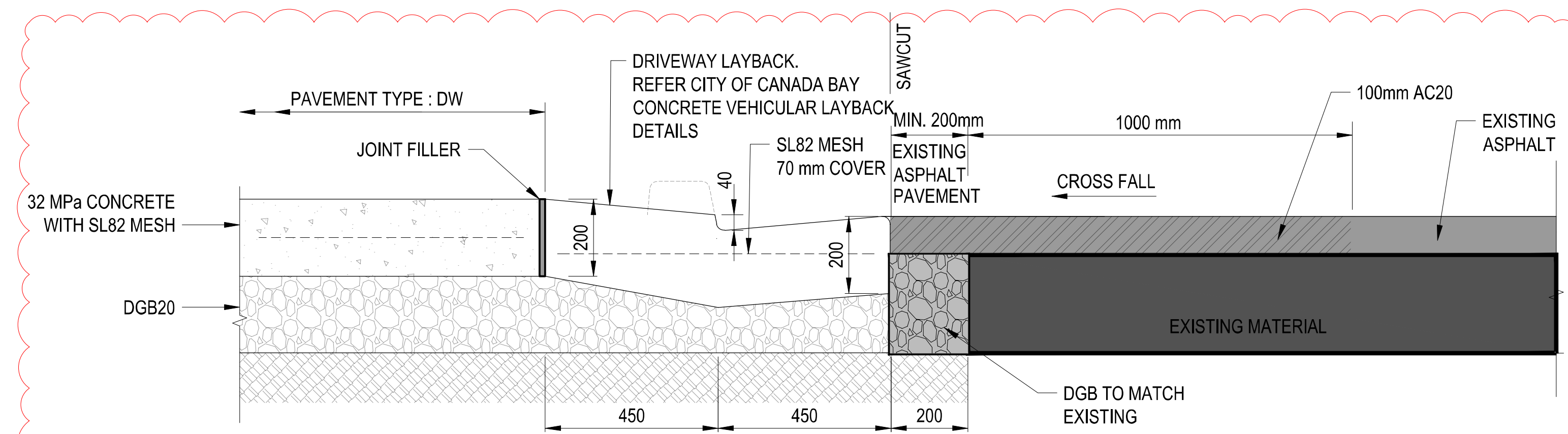
EDGE DETAIL E-1
PAVEMENT TYPE DW WITH EXISTING ASPHALT PAVEMENT
NTS



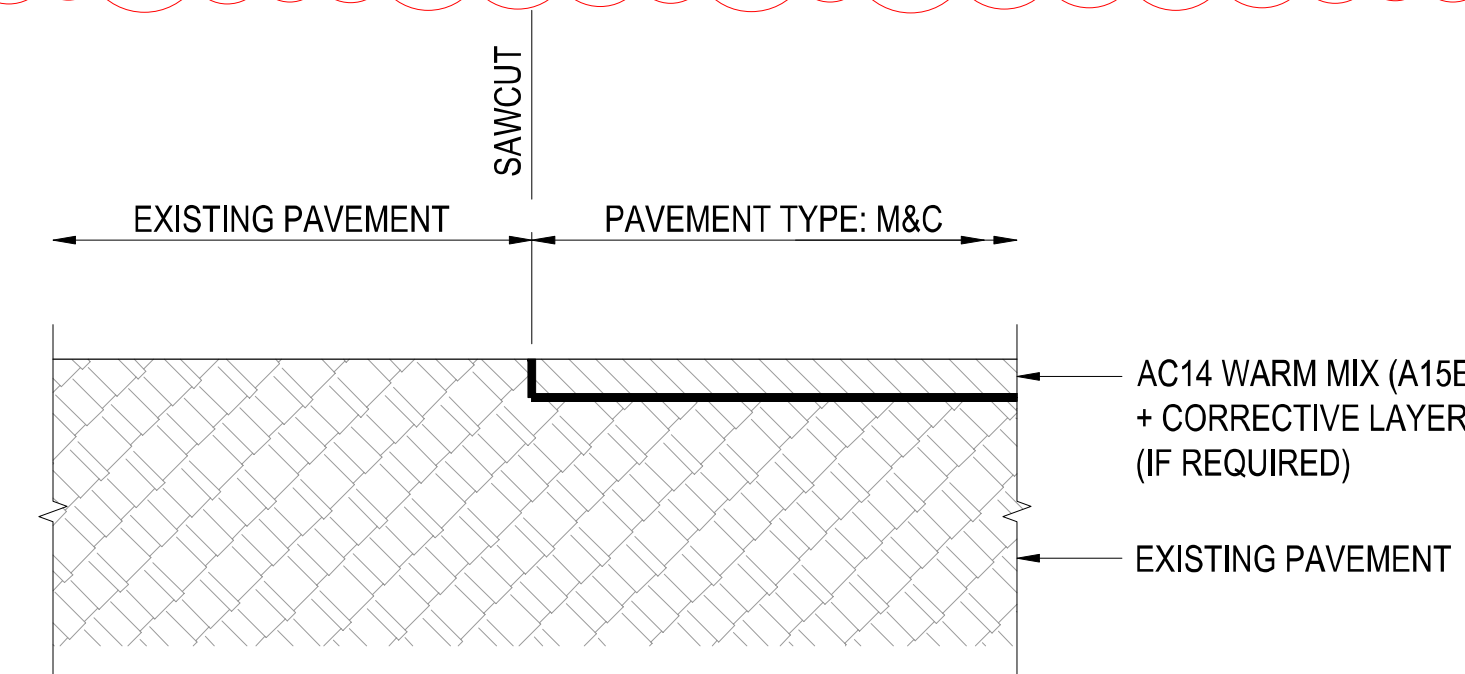
EDGE DETAIL E-3
PAVEMENT TYPE DW AND EXISTING RIGID PAVEMENT WITH ASPHALT SURFACING (NO GUTTER)
NTS



EDGE DETAIL E-2
PAVEMENT TYPE DW WITH EXISTING ASPHALT PAVEMENT (NO GUTTER)
NTS



EDGE DETAIL E-4
PAVEMENT TYPE DW WITH VEHICULAR CROSSING AND PAVEMENT TYPE HP
NTS

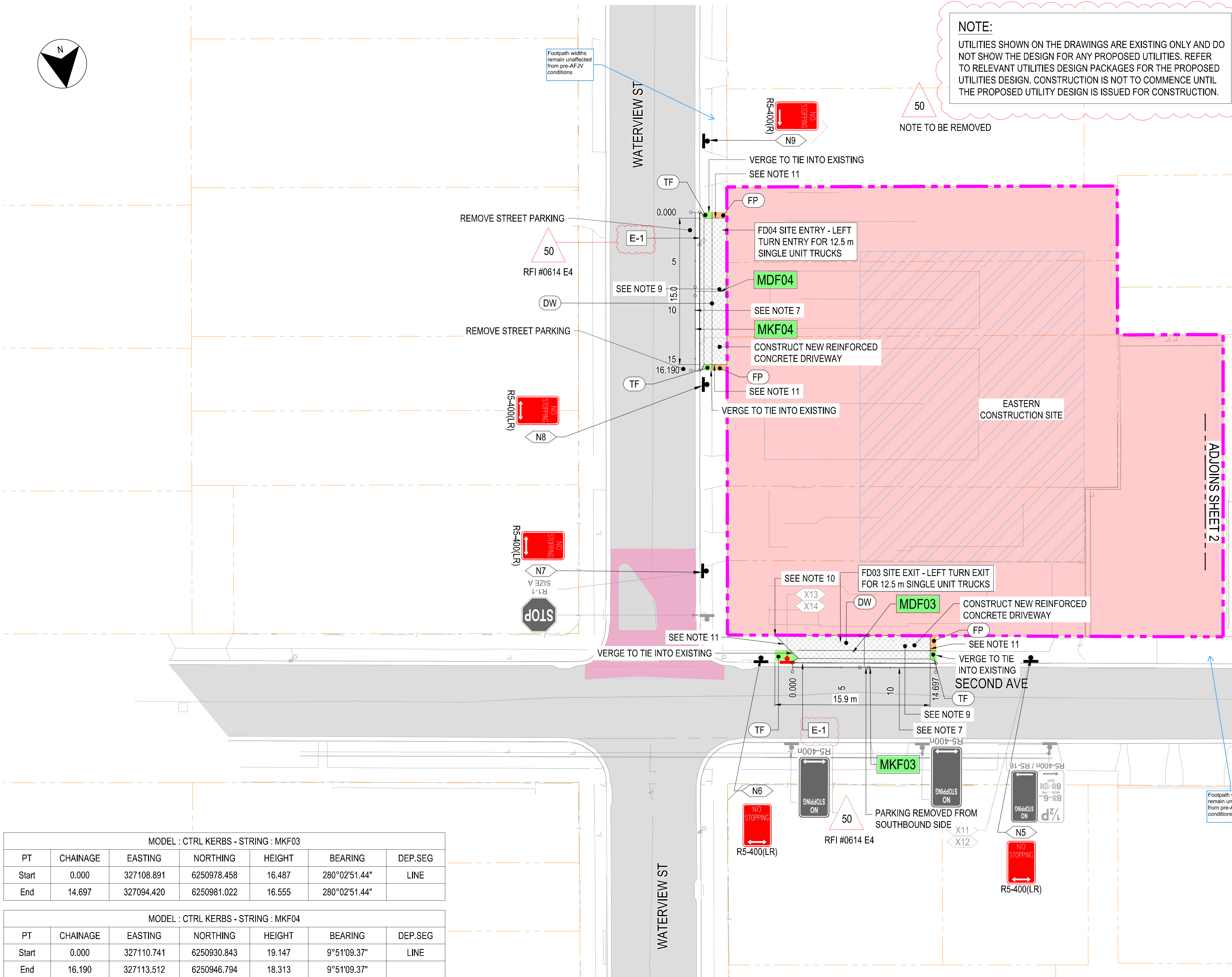
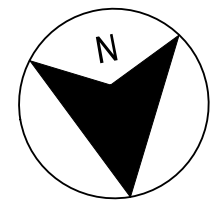


INTERFACE DETAIL I-1
EXISTING PAVEMENT AND PAVEMENT TYPE M&C
NTS

- NOTES:**
1. ALL DIMENSIONS SHOWN IN MILLIMETERS UNO
 2. REFER TO PAVEMENT PLANS FOR LOCATION OF EDGE JOINTS
 3. REFER TO SN250-PV-DRG-030001 FOR PAVEMENT PROFILE DETAILS
 4. PAVEMENT EDGE DETAILS SUBJECT TO CHANGE DEPENDING ON LOCATION OF EXISTING UTILITIES.
 5. CONTRACTOR TO COORDINATE PAVEMENT DESIGNS WITH UTILITIES.

OFFICIAL

RED LINE MARKUP



NOTE:
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LEGEND

CONTROL LINE

BOUNDARY / LOT PROPERTY

METRO SITE BOUNDARY

EXISTING SURVEY

EXISTING PAVEMENT

METRO CONSTRUCTION SITE

PAVEMENT TYPE DW

PAVEMENT TYPE M&C

PAVEMENT TYPE FP

PAVEMENT TYPE TF

PAVEMENT TAG

CONTROL LINE LABEL

EDGE DETAILS

NEW SIGN ID

EXISTING SIGN ID

LOCATION OF EXISTING SIGN TO BE RETAINED

LOCATION OF EXISTING SIGN TO BE REMOVE / RELOCATED

LOCATION OF PROPOSED SIGN / RELOCATED SIGN

NEW SIGNS

NOTES

1. ALL DIMENSIONS SHOWN IN METRES UNLESS NOTED OTHERWISE.

2. REFER TO SN250-CV-DRG-030004 FOR GENERAL NOTES.

3. REFER TO SN250-CV-DRG-030005 FOR LEGEND.

4. REFER TO SN250-PV-DRG-030001 FOR PAVEMENT PROFILE DETAILS.

5. REFER TO SN250-PV-DRG-030002 FOR EDGE DETAILS.

6. MINIMUM PAVING WIDTH SHALL BE 1.2 m TO ENABLE MACHINE COMPACTION.

7. SAWCUT ALONG LIP OF EXISTING GUTTER (FULL DEPTH) AND CAREFULLY REMOVE EXISTING KERB AND GUTTER WITHOUT DAMAGING EXISTING ADJACENT PAVEMENT. REINSTATE PAVEMENT TO MATCH EXISTING IF PAVEMENT IS DAMAGED DURING KERB AND GUTTER REMOVAL.

8. CONTRACTOR TO CONTACT DESIGNER IF EXISTING PAVEMENT ADJACENT TO DRIVEWAYS VARY WITH THE DESIGN.

9. SLAB WIDTHS LIMITED TO 4.3 m BY CONSTRUCTING LONGITUDINAL TIED AND SAWN JOINTS. REFER TO JOINT TYPE J1 ON SHEET 08 OF THE TNSW JRCP STANDARD DRAWINGS FOR JOINT DETAILS.

10. 2 x N20 1.5 m LONG BARS T&B PARALLEL TO EDGES WITH 60 mm COVER. SEE DETAIL N ON SN300-PV-DRG-030001.

11. APPROVED FULL DEPTH JOINT FILLER TO BE PLACED BETWEEN DRIVEWAY AND EXISTING FOOTPATH.

12. REFER TO SN250-FN-DRG-030001 FOR EXISTING SIGN SCHEDULE AND FOR NEW SIGN SCHEDULE.

13. TYPICAL SIGN MOUNTING

- MOUNTING HEIGHT: a) MINIMUM 2.5 m ABOVE FOOTPATH
- KERB OFFSET: 0.3 m FROM FACE OF KERB

KEYPLAN

MODEL : CTRL KERBS - STRING : MKF03

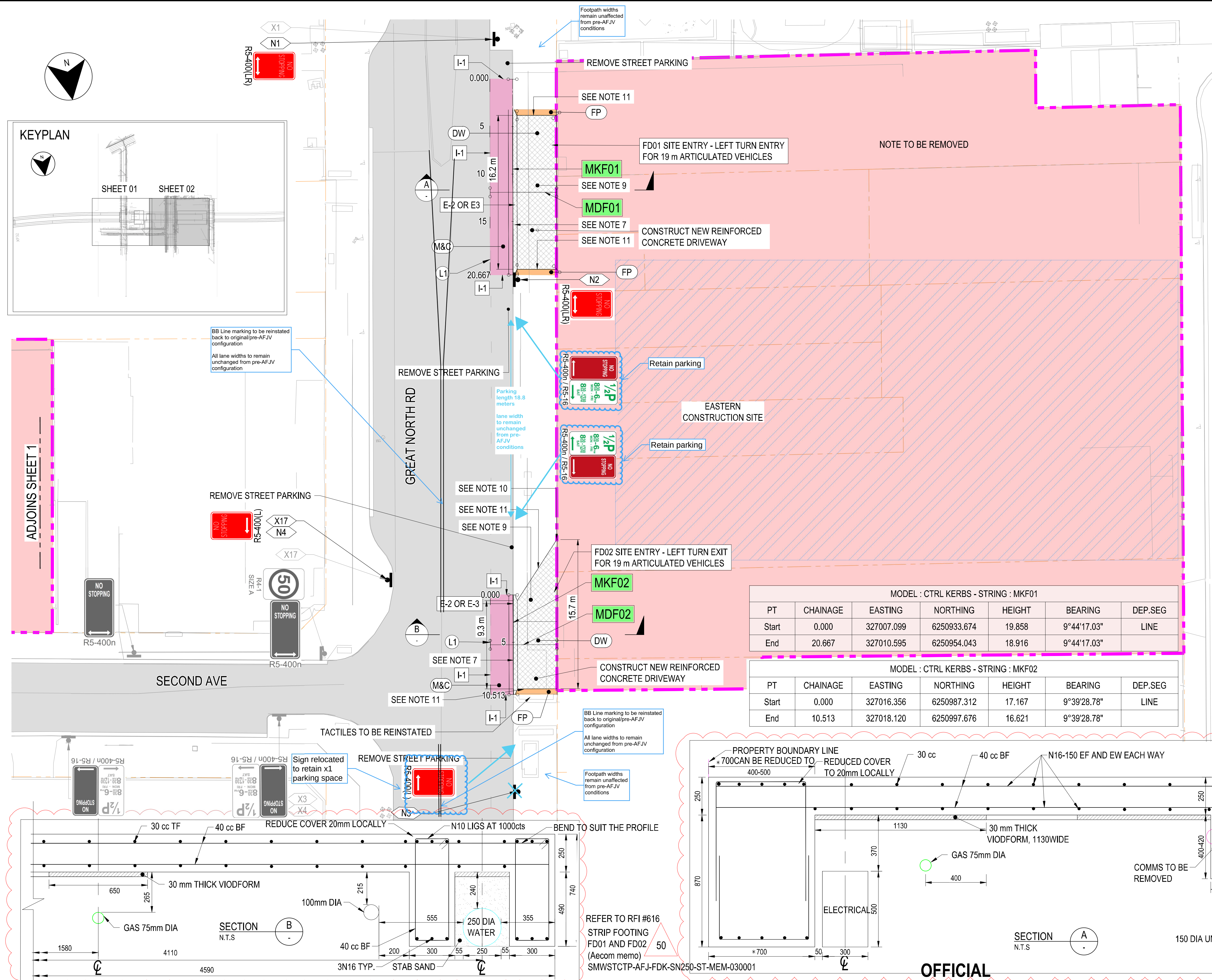
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG
Start	0.000	327108.891	6250978.458	16.487	280°02'51.44"	LINE
End	14.697	327094.420	6250981.022	16.555	280°02'51.44"	

MODEL : CTRL KERBS - STRING : MKF04

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG
Start	0.000	327110.741	6250930.843	19.147	9°51'09.37"	LINE
End	16.190	327113.512	6250946.794	18.313	9°51'09.37"	

OFFICIAL

RED LINE MARKUP



LEGEND

000'0

CONTROL LINE

BOUNDARY / LOT PROPERTY

METRO SITE BOUNDARY

EXISTING SURVEY

EXISTING PAVEMENT

METRO CONSTRUCTION SITE

PAVEMENT TYPE DW

PAVEMENT TYPE M&C

PAVEMENT TYPE FP

PAVEMENT TYPE TF

XXXX

PAVEMENT TAG

MXXX

CONTROL LINE LABEL

E-1

EDGE DETAILS

Nxx

NEW SIGN ID

Xxx

EXISTING SIGN ID

LOCATION OF EXISTING SIGN TO BE RETAINED

LOCATION OF EXISTING SIGN TO BE REMOVE / RELOCATED

LOCATION OF PROPOSED SIGN / RELOCATED SIGN

NO STOPPING

NEW SIGNS

NOTES

1. ALL DIMENSIONS SHOWN IN METRES UNLESS NOTED OTHERWISE.

2. REFER TO SN250-CV-DRG-030004 FOR GENERAL NOTES.

3. REFER TO SN250-CV-DRG-030005 FOR LEGEND.

4. REFER TO SN250-PV-DRG-030001 FOR PAVEMENT PROFILE DETAILS.

5. REFER TO SN250-PV-DRG-030002 FOR EDGE DETAILS.

6. MINIMUM PAVING WIDTH SHALL BE 1.2 m TO ENABLE MACHINE COMPACTION.

7. SAWCUT ALONG LIP OF EXISTING GUTTER (FULL DEPTH) AND CAREFULLY REMOVE EXISTING KERB AND GUTTER WITHOUT DAMAGING EXISTING ADJACENT PAVEMENT. REINSTATE PAVEMENT TO MATCH EXISTING IF PAVEMENT IS DAMAGED DURING KERB AND GUTTER REMOVAL.

8. CONTRACTOR TO CONTACT DESIGNER IF EXISTING PAVEMENT ADJACENT TO DRIVEWAYS VARY WITH THE DESIGN.

9. SLAB WIDTHS LIMITED TO 4.3 m BY CONSTRUCTING LONGITUDINAL TIED AND SAWN JOINTS. REFER TO JOINT TYPE J1 ON SHEET 08 OF THE TNSW JRCP STANDARD DRAWINGS FOR JOINT DETAILS.

10. 2 x N20 1.5 m LONG BARS T&B PARALLEL TO EDGES WITH 60 mm COVER. SEE DETAIL N ON SN300-PV-DRG-030001.

11. APPROVED FULL DEPTH JOINT FILLER TO BE PLACED BETWEEN DRIVEWAY AND EXISTING FOOTPATH.

12. REFER TO SN250-FN-DRG-030001 FOR EXISTING SIGN SCHEDULE AND FOR NEW SIGN SCHEDULE.

13. TYPICAL SIGN MOUNTING

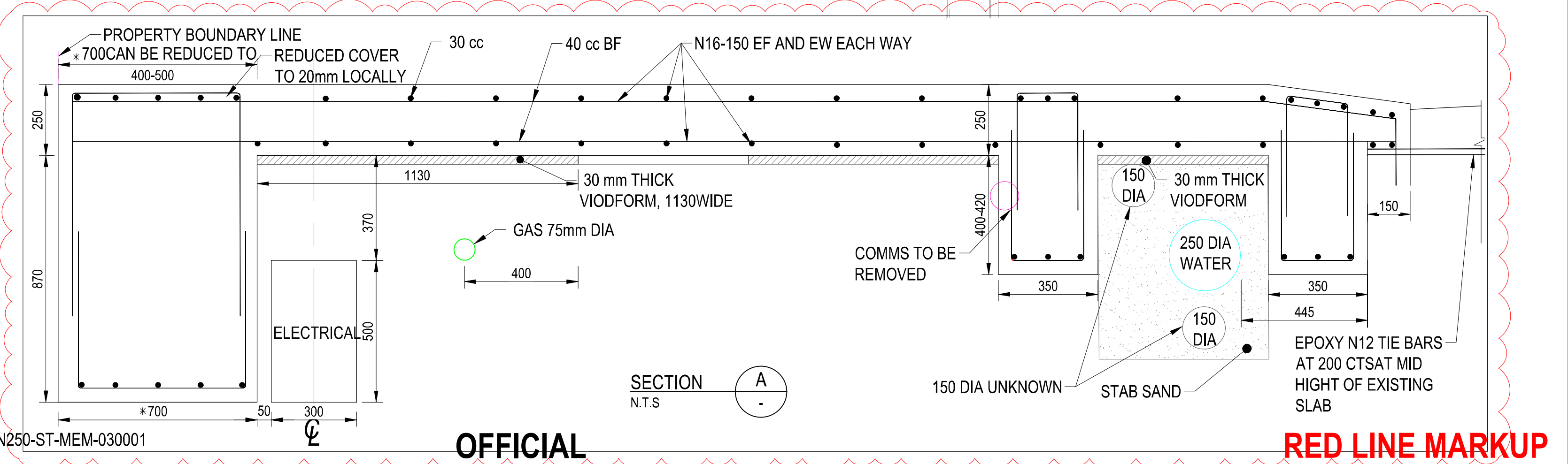
- MOUNTING HEIGHT: a) MINIMUM 2.5 m ABOVE FOOTPATH
- KERB OFFSET: 0.3 m FROM FACE OF KERB

MODEL : CTRL KERBS - STRING : MKF01

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG
Start	0.000	327007.099	6250933.674	19.858	9°44'17.03"	LINE
End	20.667	327010.595	6250954.043	18.916	9°44'17.03"	

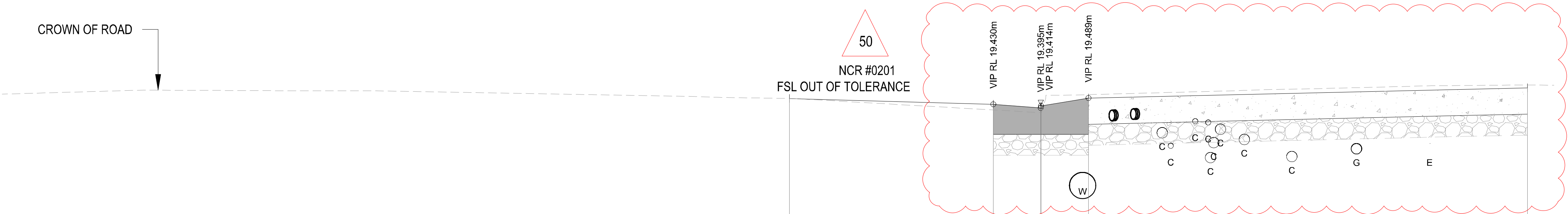
MODEL : CTRL KERBS - STRING : MKF02

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG
Start	0.000	327016.356	6250987.312	17.167	9°39'28.78"	LINE
End	10.513	327018.120	6250997.676	16.621	9°39'28.78"	



OFFICIAL

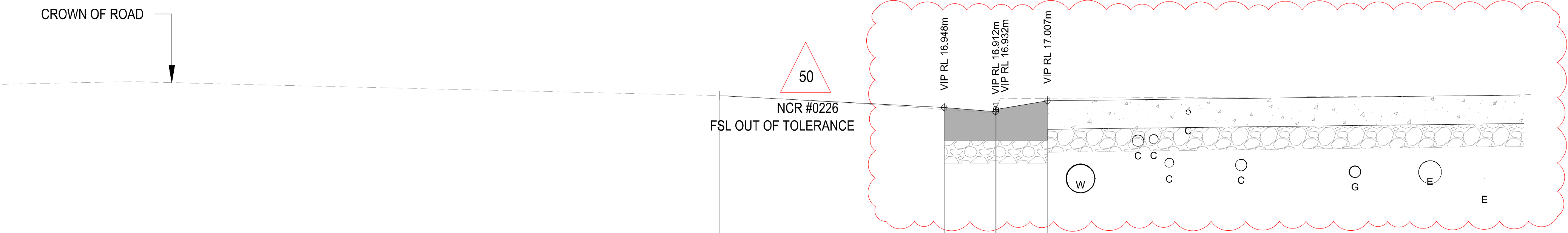
RED LINE MARKUP



DATUM R.L. (m) 17.0						
VERTICAL GEOMETRY						
HORIZONTAL GEOMETRY						
DESIGN LEVELS						
EXISTING LEVELS						
CHAINAGE						

LONGITUDINAL SECTION - MDF01 - FIVE DOCK GATE 01

A3 HORIZONTAL SCALE 1:50
A3 VERTICAL SCALE 1:50



DATUM R.L. (m) 15.0						
VERTICAL GEOMETRY						
HORIZONTAL GEOMETRY						
DESIGN LEVELS						
EXISTING LEVELS						
CHAINAGE						

LONGITUDINAL SECTION - MDF02 - FIVE DOCK GATE 02

A3 HORIZONTAL SCALE 1:50
A3 VERTICAL SCALE 1:50

LEGEND

DESIGN SURFACE LEVELS

EXISTING SURFACE LEVELS

UTILITY (COMMS)

UTILITY (ELECTRICAL)

UTILITY (GAS)

UTILITY (SEWER)

UTILITY (WATER)

UTILITY (STORMWATER INVERT)

50

UTILITIES TO BE REMOVED
FROM LEGEND AND SECTIONS

NOTES

1. FOR PAVEMENT PROFILES AND EDGE DETAILS, REFER TO SN250-PV-DRG-030001 AND SN250-PV-DRG-030002.

NOTE:

UTILITIES SHOWN ON THE DRAWINGS ARE EXISTING ONLY AND DO NOT SHOW THE DESIGN FOR ANY PROPOSED UTILITIES. REFER TO RELEVANT UTILITIES DESIGN PACKAGES FOR THE PROPOSED UTILITIES DESIGN. CONSTRUCTION IS NOT TO COMMENCE UNTIL THE PROPOSED UTILITY DESIGN IS ISSUED FOR CONSTRUCTION.

50
NOTE TO BE REMOVED

OFFICIAL

RED LINE MARKUP

LEGEND

DESIGN SURFACE LEVELS

--- EXISTING SURFACE LEVELS

UTILITY (COMMS)

 UTILITY (ELECTRICAL)

 UTILITY (GAS)

UTILITY (SEWER)

UTILITY (WATER)

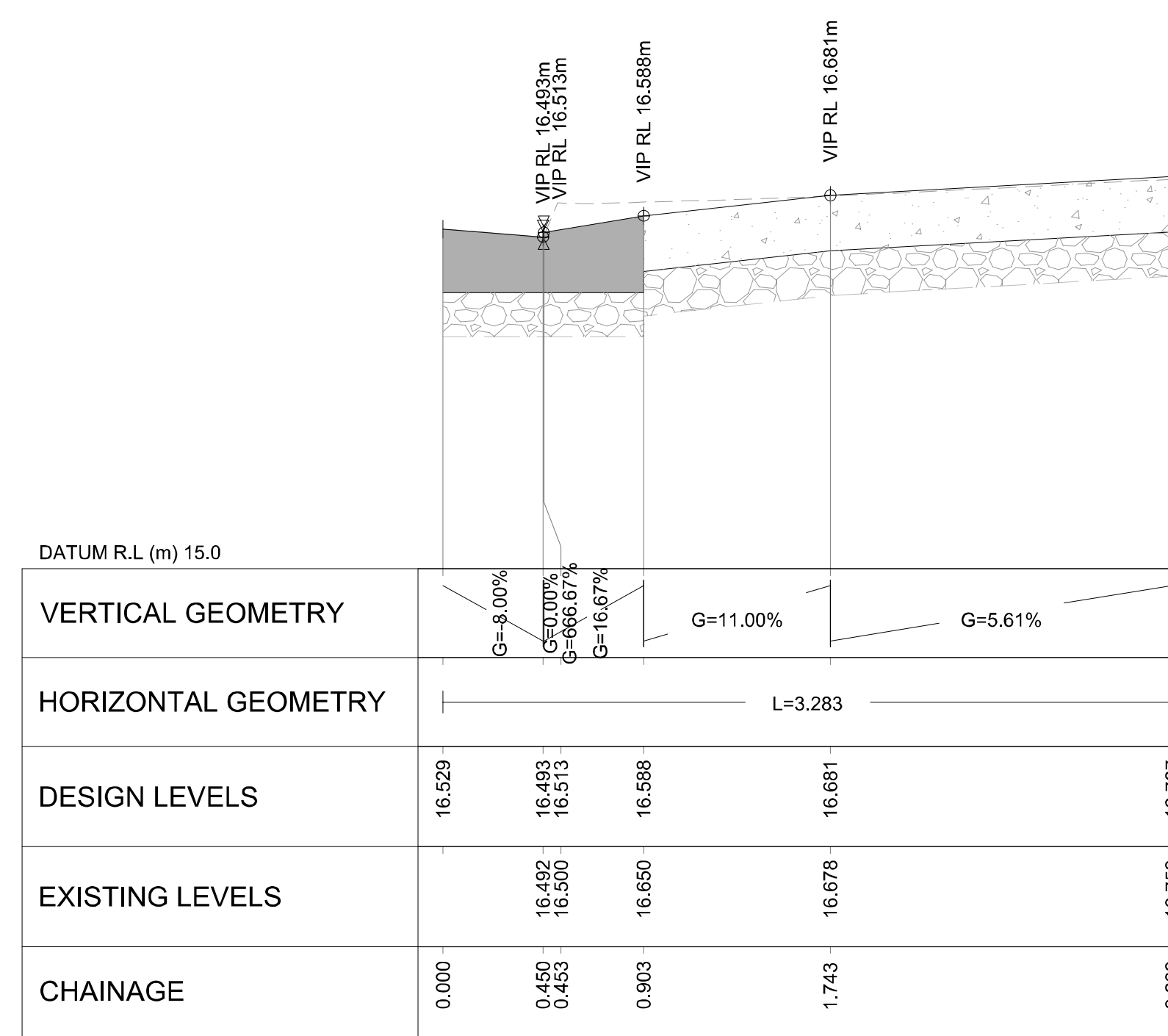
UTILITY (STORMWATER INVERT)

50

UTILITIES TO BE REMOVED
FROM LEGEND AND SECTIONS

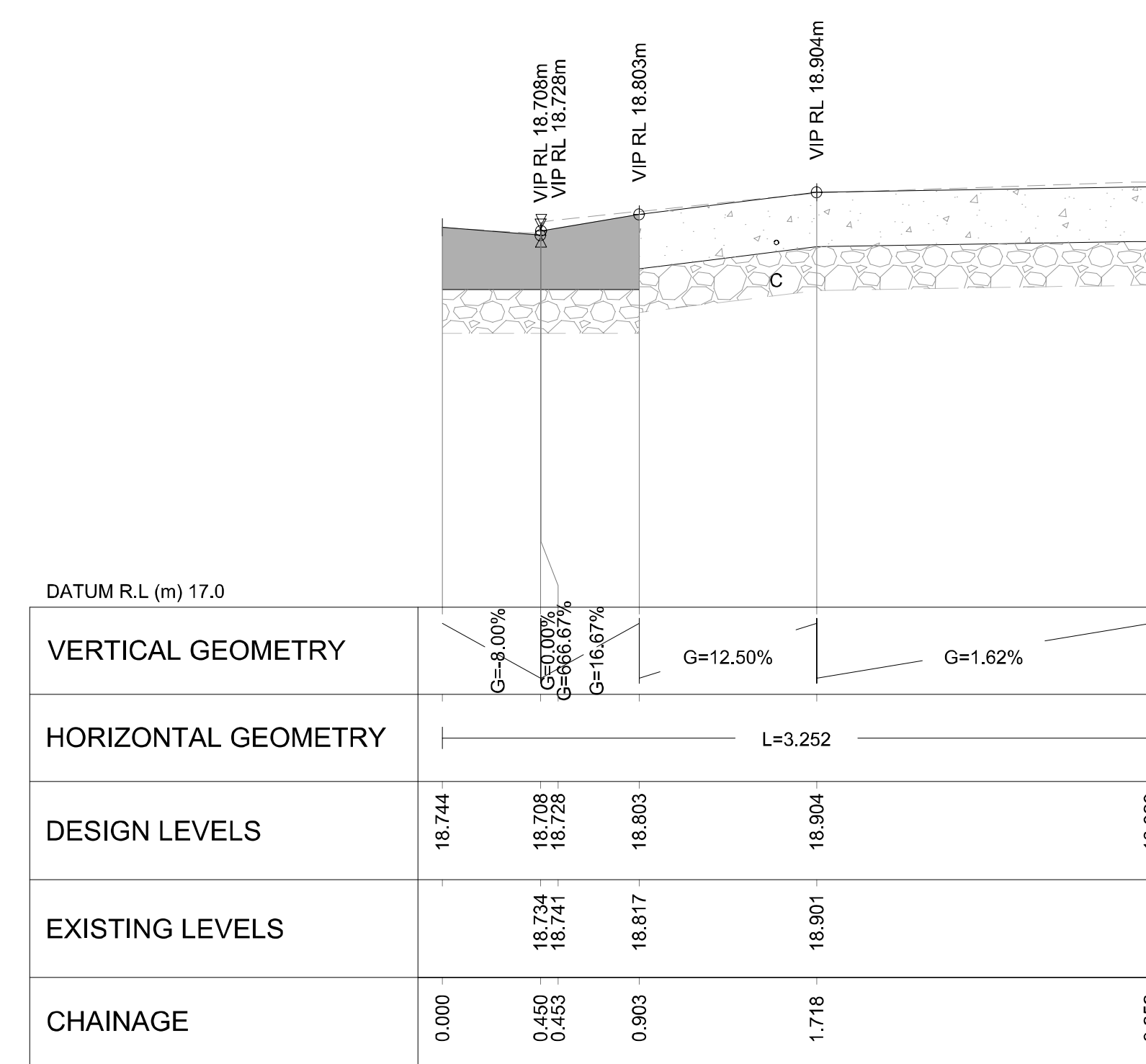
NOTES

1. FOR PAVEMENT PROFILES AND EDGE DETAILS, REFER TO SN250-PV-DRG-030001 AND SN250-PV-DRG-030002.



LONGITUDINAL SECTION - MDF03 - FIVE DOCK GATE 03

A3 HORIZONTAL SCALE 1:50
A3 VERTICAL SCALE 1:50



LONGITUDINAL SECTION - MDF04 - FIVE DOCK GATE 04

A3 HORIZONTAL SCALE 1:50
A3 VERTICAL SCALE 1:50

1:50
OFFICIAL

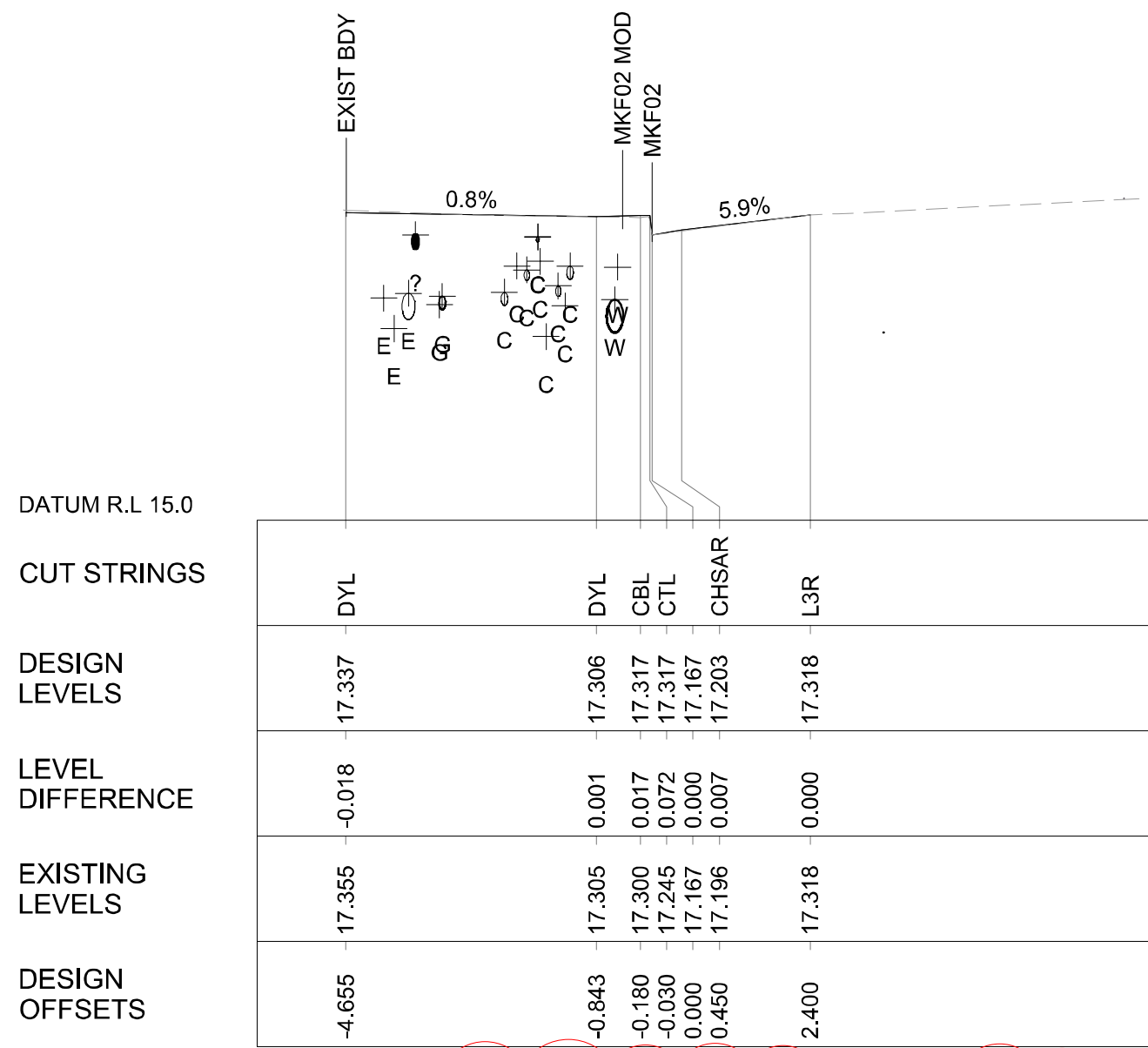
NOTE:

UTILITIES SHOWN ON THE DRAWINGS ARE EXISTING ONLY AND DO NOT SHOW THE DESIGN FOR ANY PROPOSED UTILITIES. REFER TO RELEVANT UTILITIES DESIGN PACKAGES FOR THE PROPOSED UTILITIES DESIGN. CONSTRUCTION IS NOT TO COMMENCE UNTIL THE PROPOSED UTILITY DESIGN IS ISSUED FOR CONSTRUCTION.

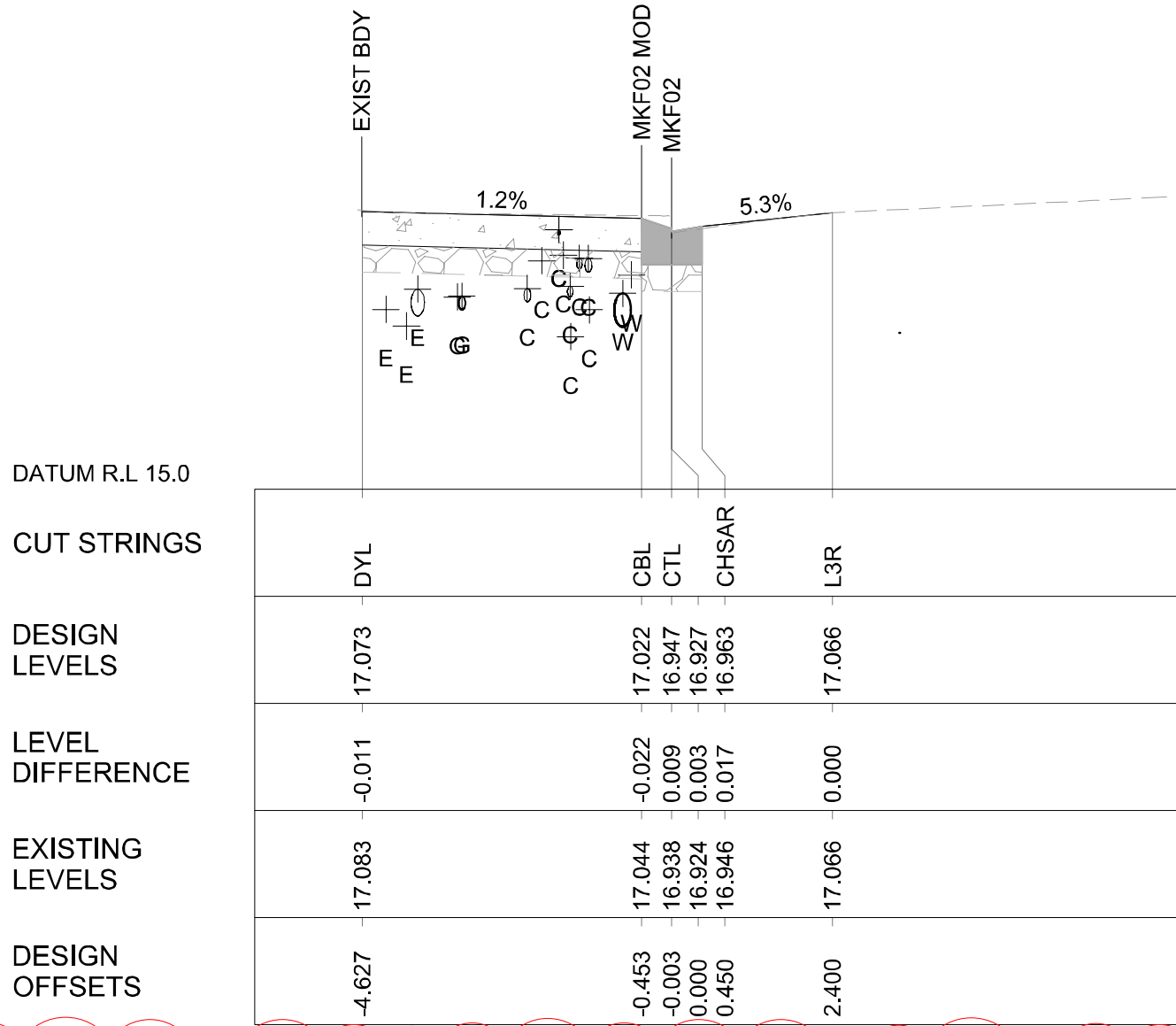
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NOTE TO BE REMOVED

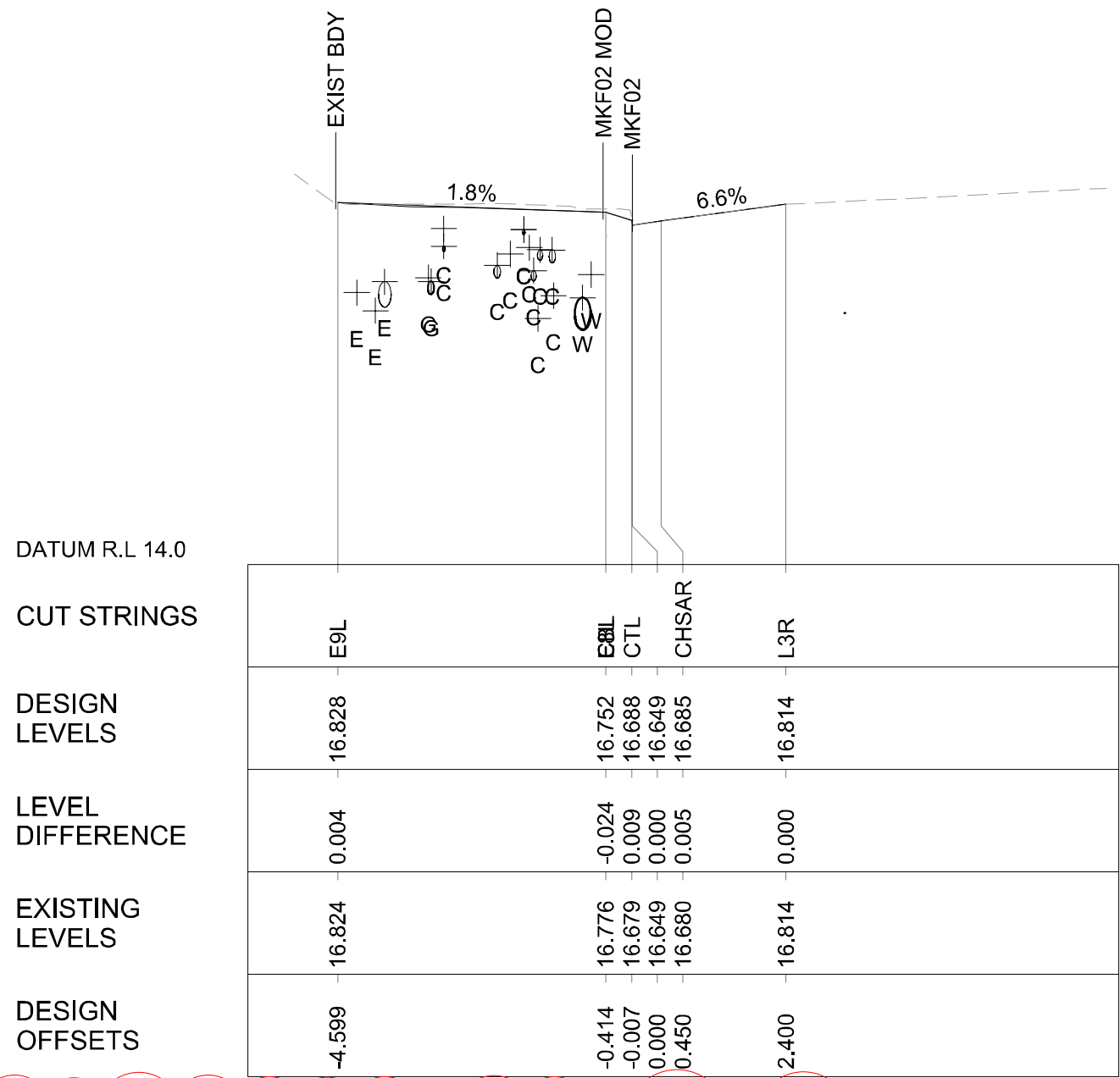
RED LINE MARKUP



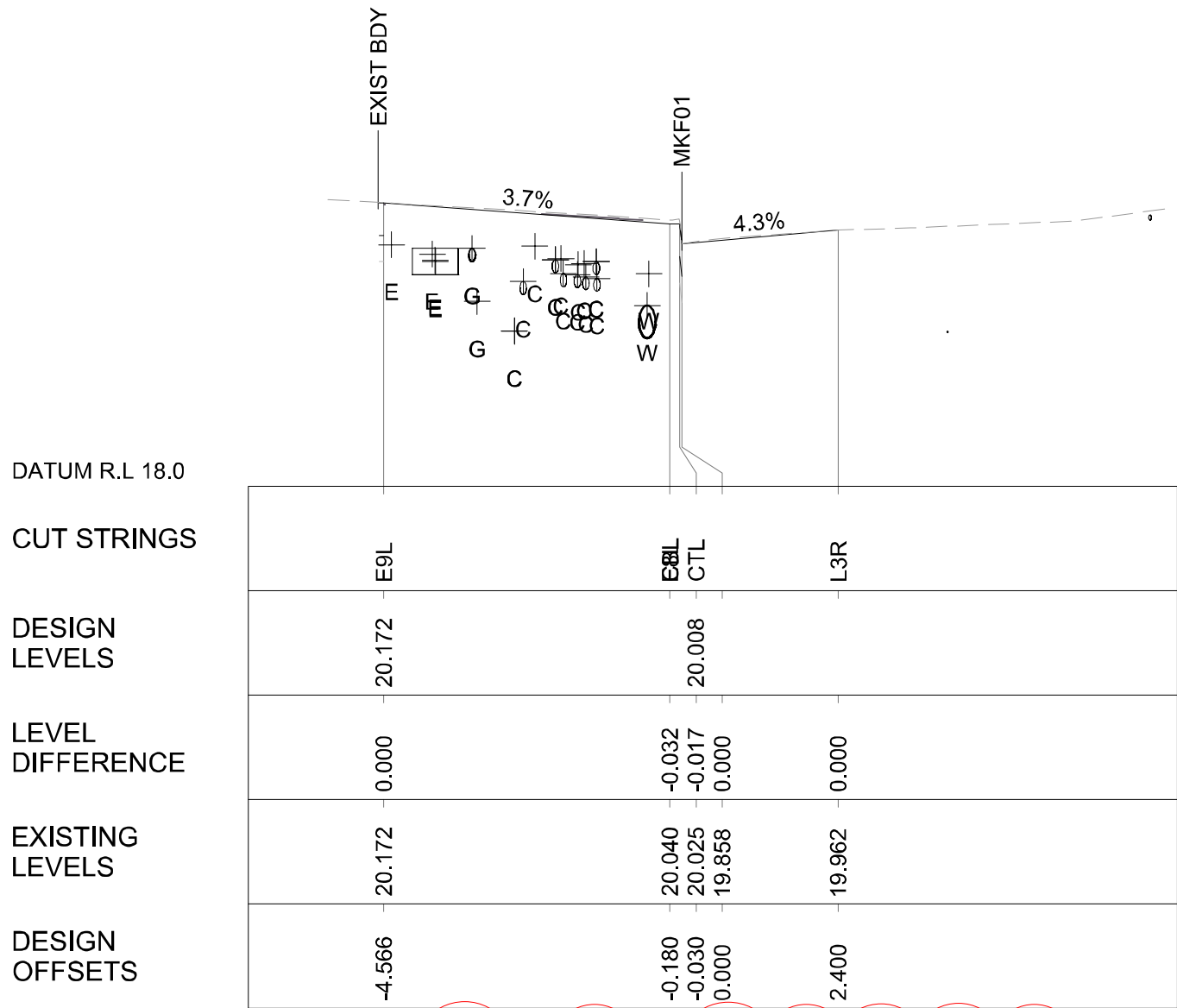
MKF02 - CH 0.000
A1 HORIZONTAL SCALE 1:100
A1 VERTICAL SCALE 1:50



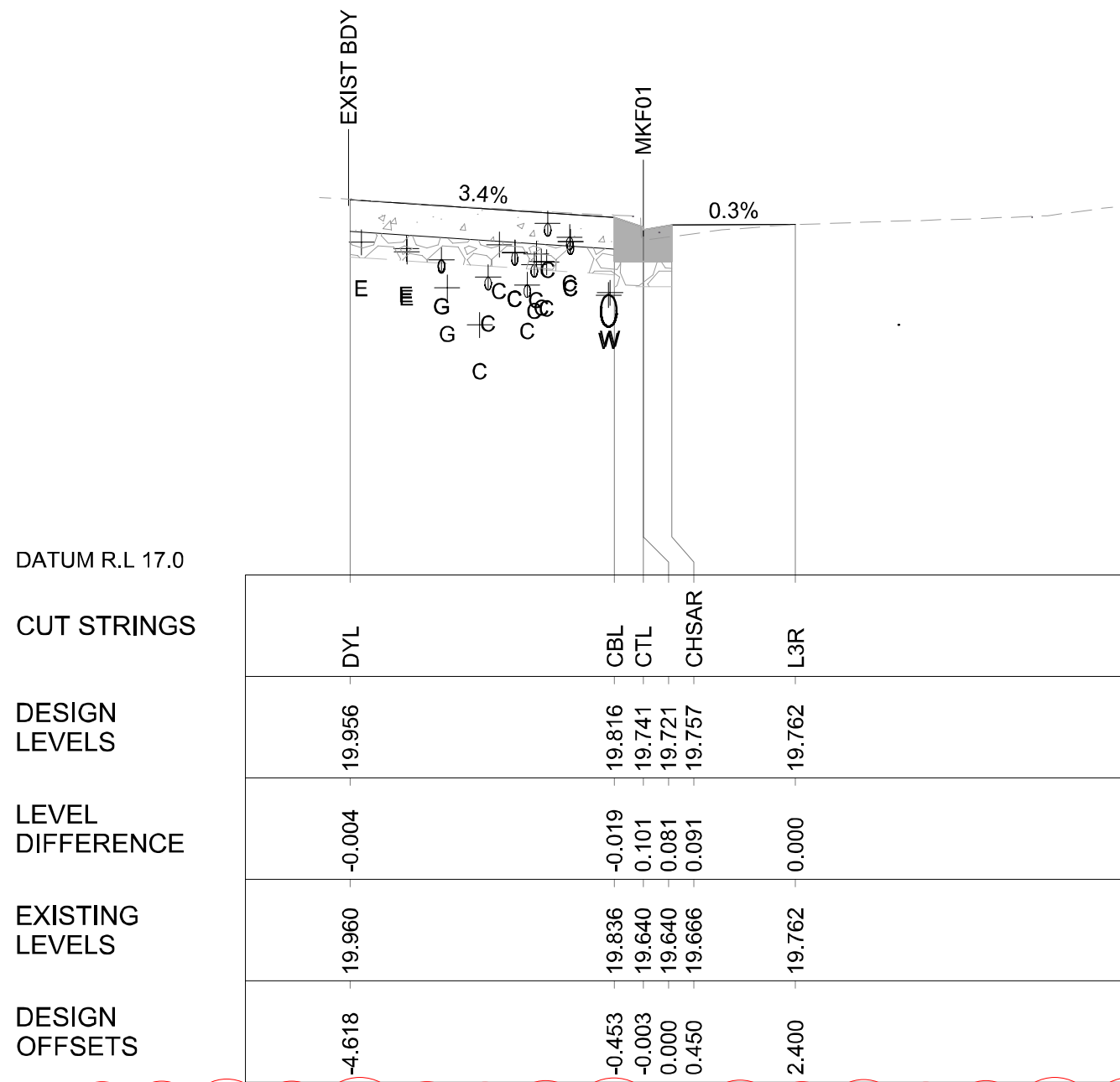
MKF02 - CH 5.000
A1 HORIZONTAL SCALE 1:100
A1 VERTICAL SCALE 1:50



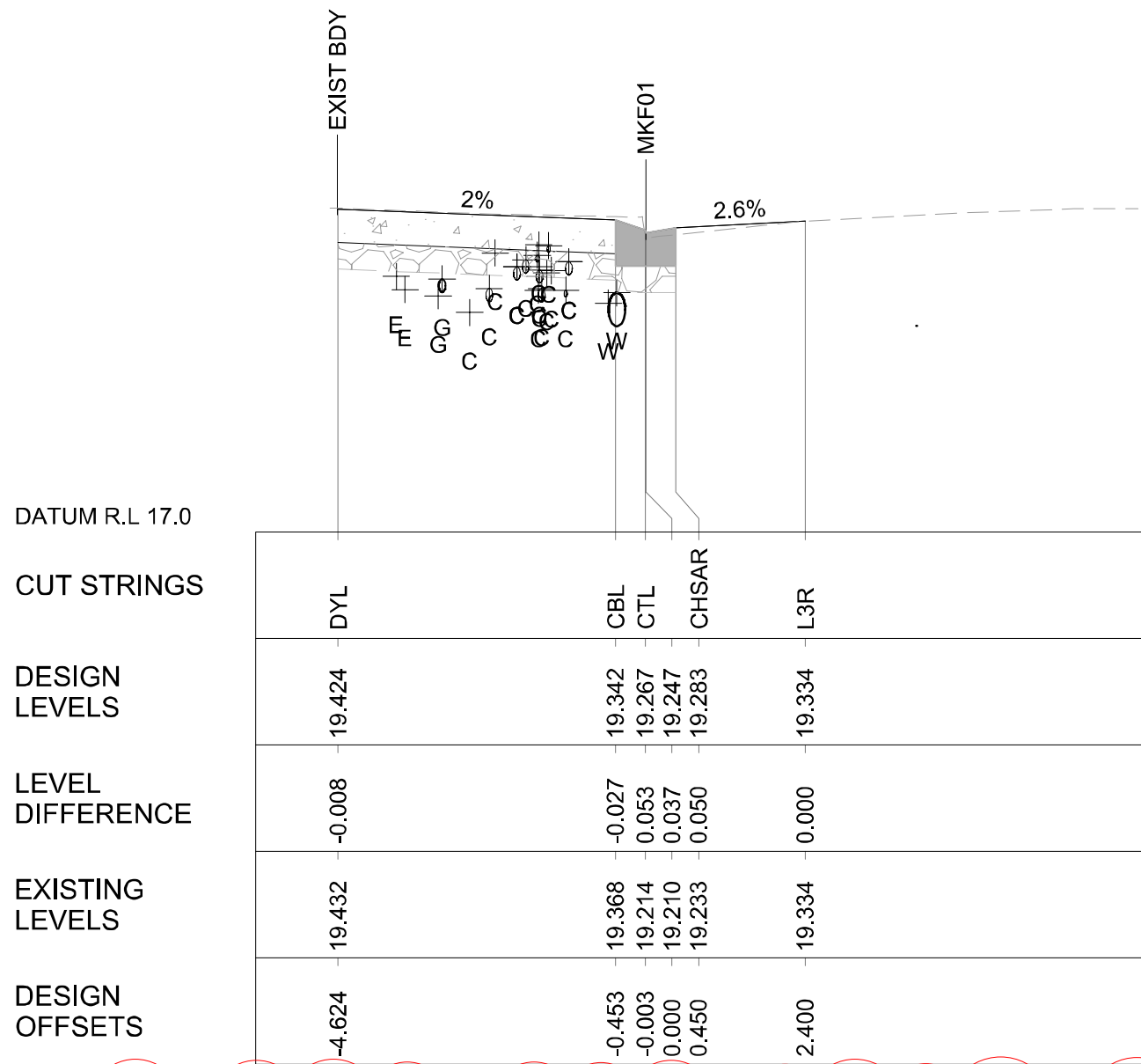
MKF02 - CH 10.000
A1 HORIZONTAL SCALE 1:100
A1 VERTICAL SCALE 1:50



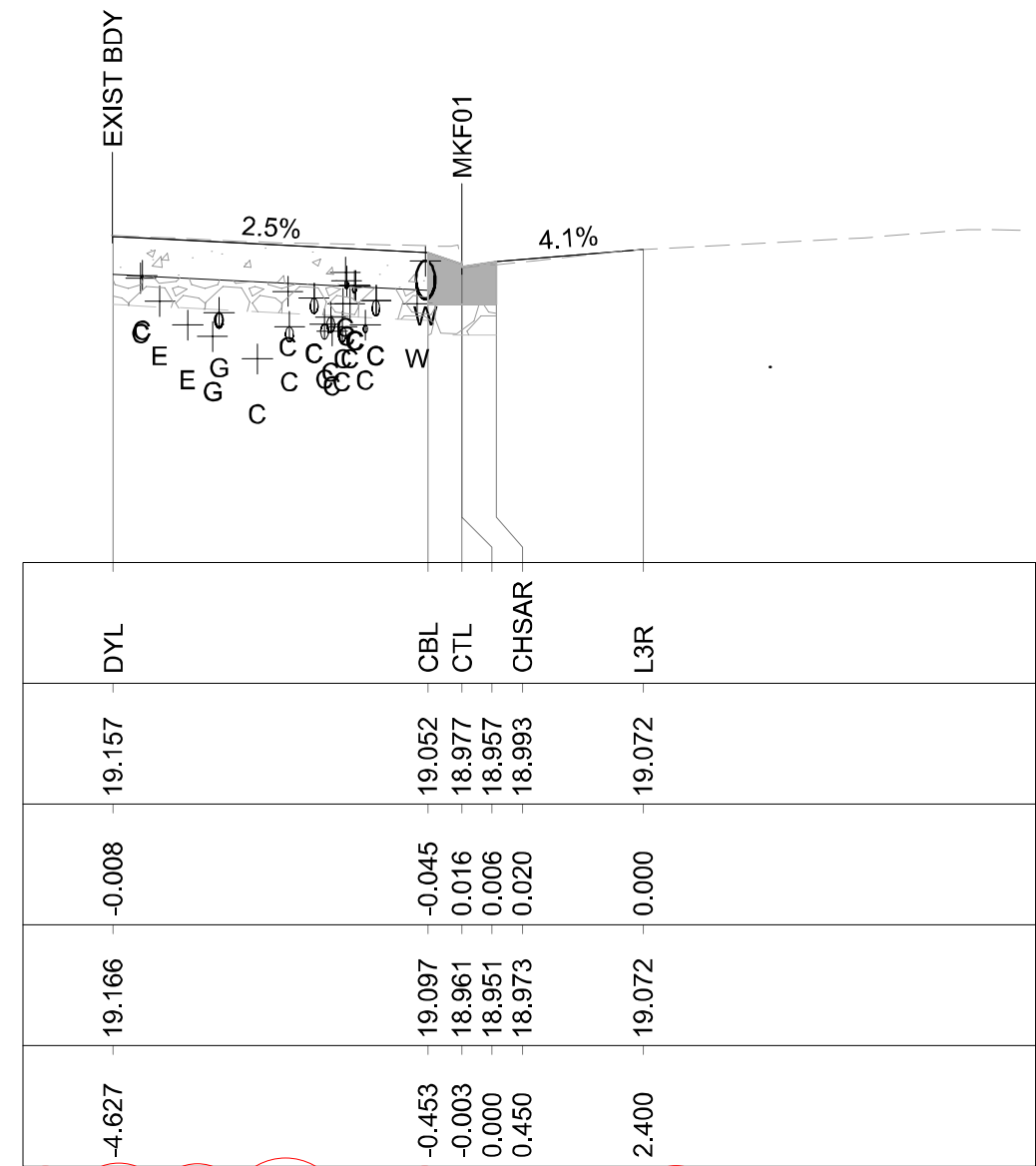
MKF01 - CH 0.000
A1 HORIZONTAL SCALE 1:100
A1 VERTICAL SCALE 1:50



MKF01 - CH 10.000
A1 HORIZONTAL SCALE 1:100
A1 VERTICAL SCALE 1:50



MKF01 - CH 15.000
A1 HORIZONTAL SCALE 1:100
A1 VERTICAL SCALE 1:50



MKF01 - CH 20.000
A1 HORIZONTAL SCALE 1:100
A1 VERTICAL SCALE 1:50

NOTE:

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LEGEND

- DESIGN SURFACE LEVELS
- EXISTING SURFACE LEVELS
- UTILITY (COMMS)
- UTILITY (ELECTRICAL)
- UTILITY (GAS)
- UTILITY (SEWER)
- UTILITY (WATER)
- UTILITY (STORMWATER INVERT)

NOTES

- FOR PAVEMENT PROFILES AND EDGE DETAILS, REFER TO SN250-PV-DRG-030001 AND SN250-PV-DRG-030002.

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NCR #0226

FSL OUT OF TOLERANCE

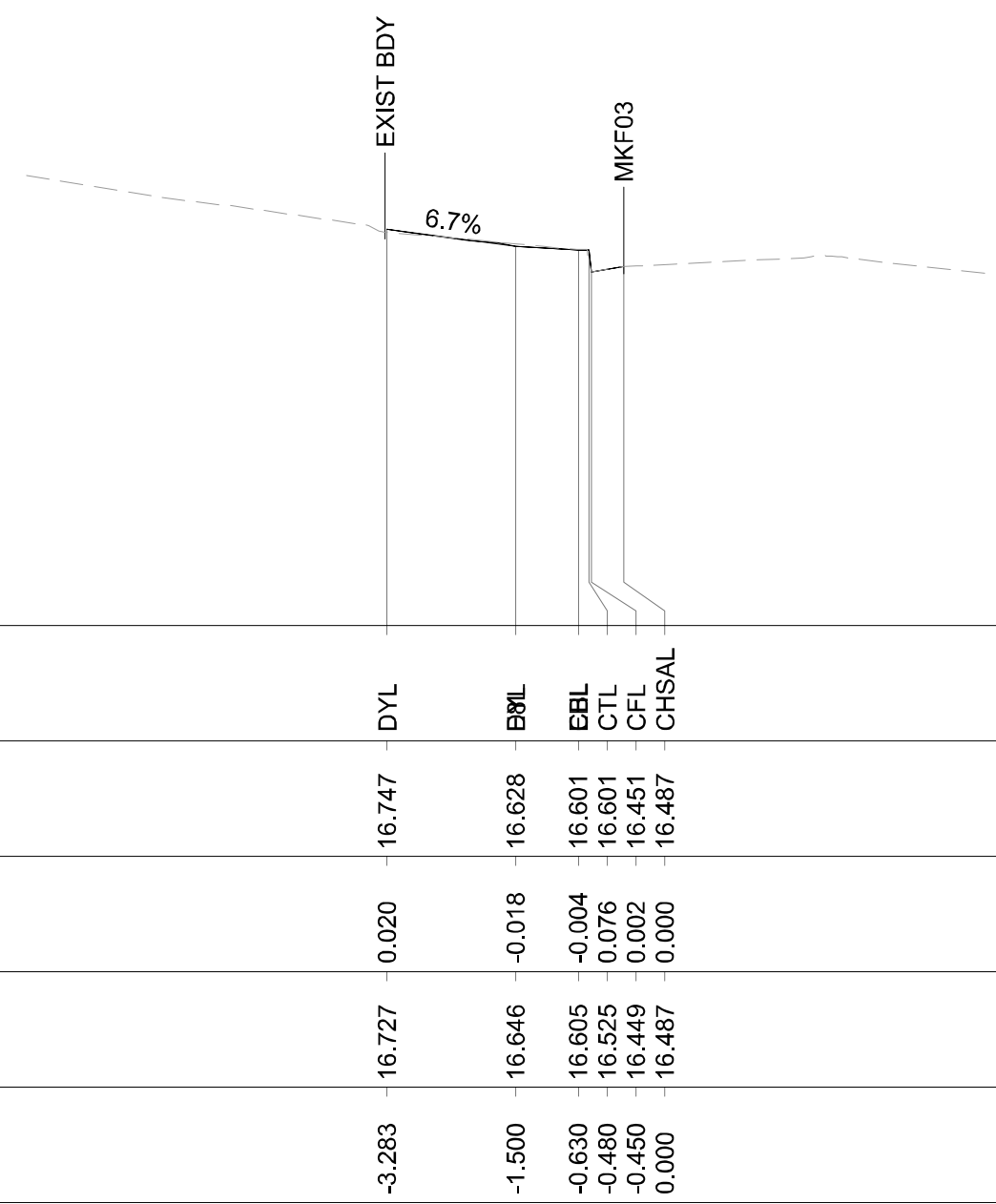
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NCR #0201

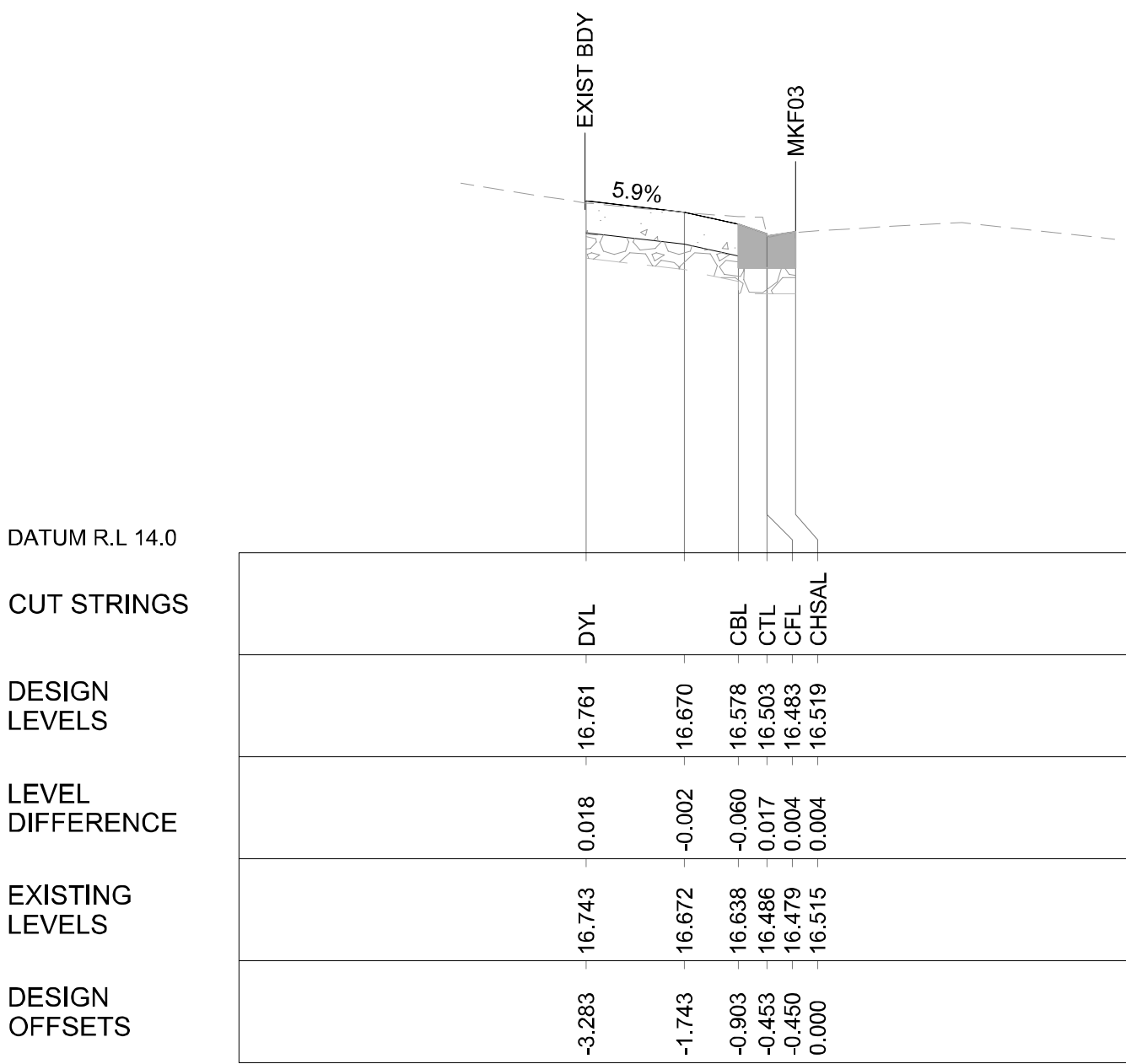
FSL OUT OF TOLERANCE

OFFICIAL

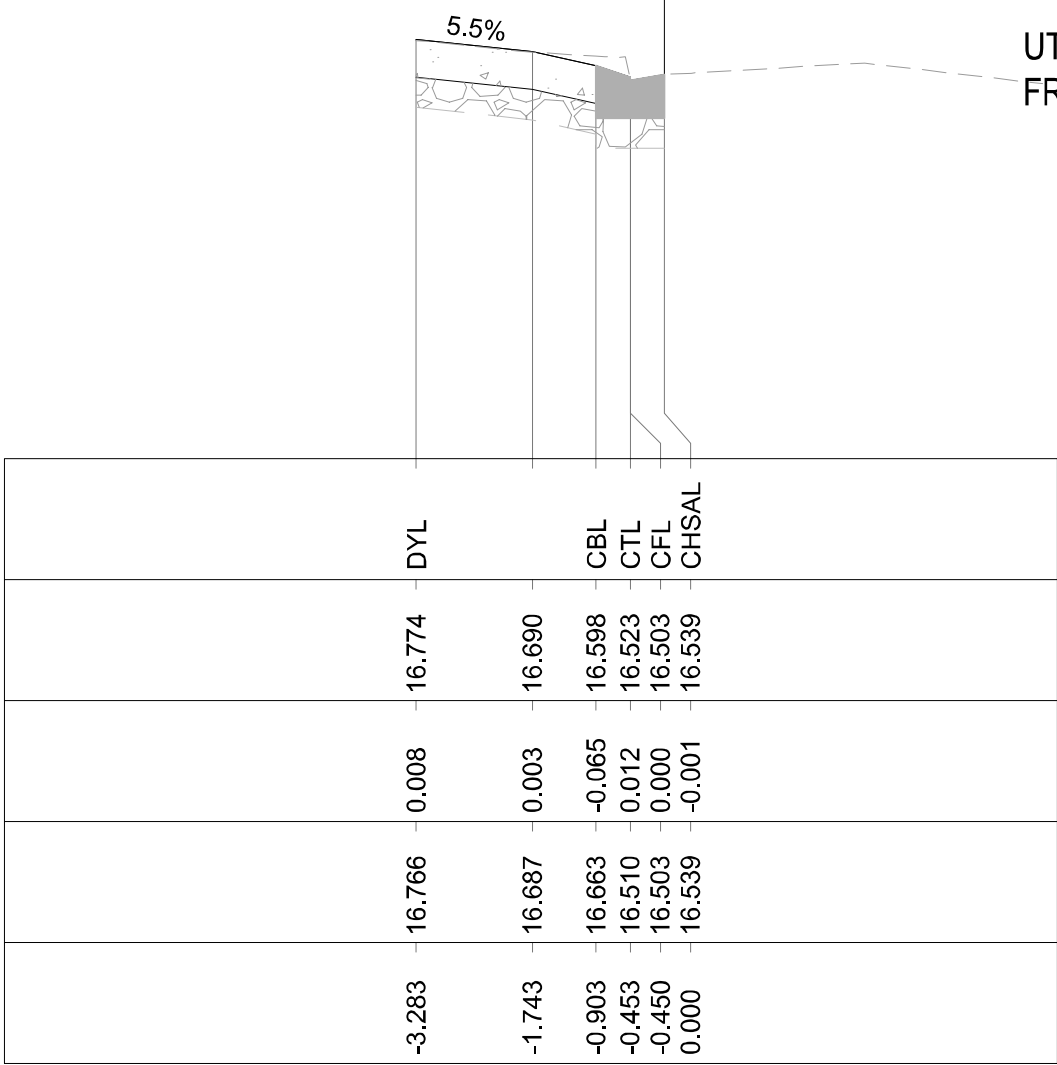
RED LINE MARKUP



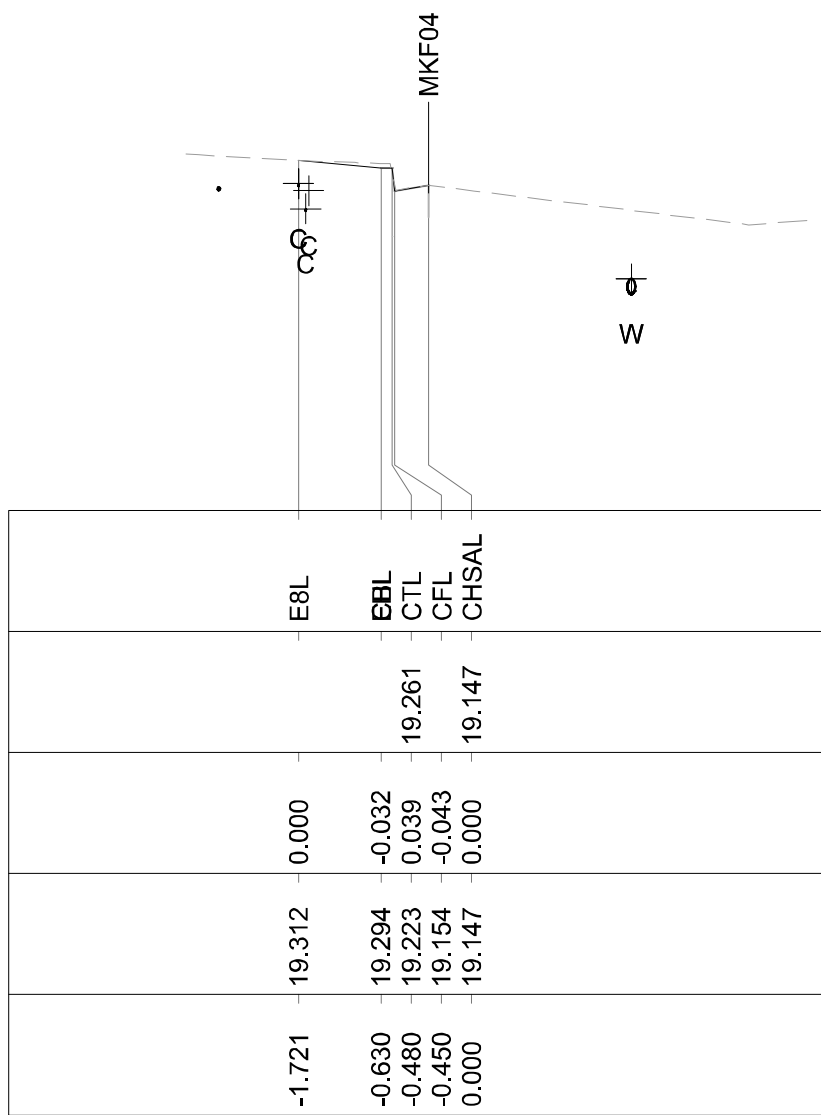
MKF03 - CH 0.000
A1 HORIZONTAL SCALE 1:100
A1 VERTICAL SCALE 1:50



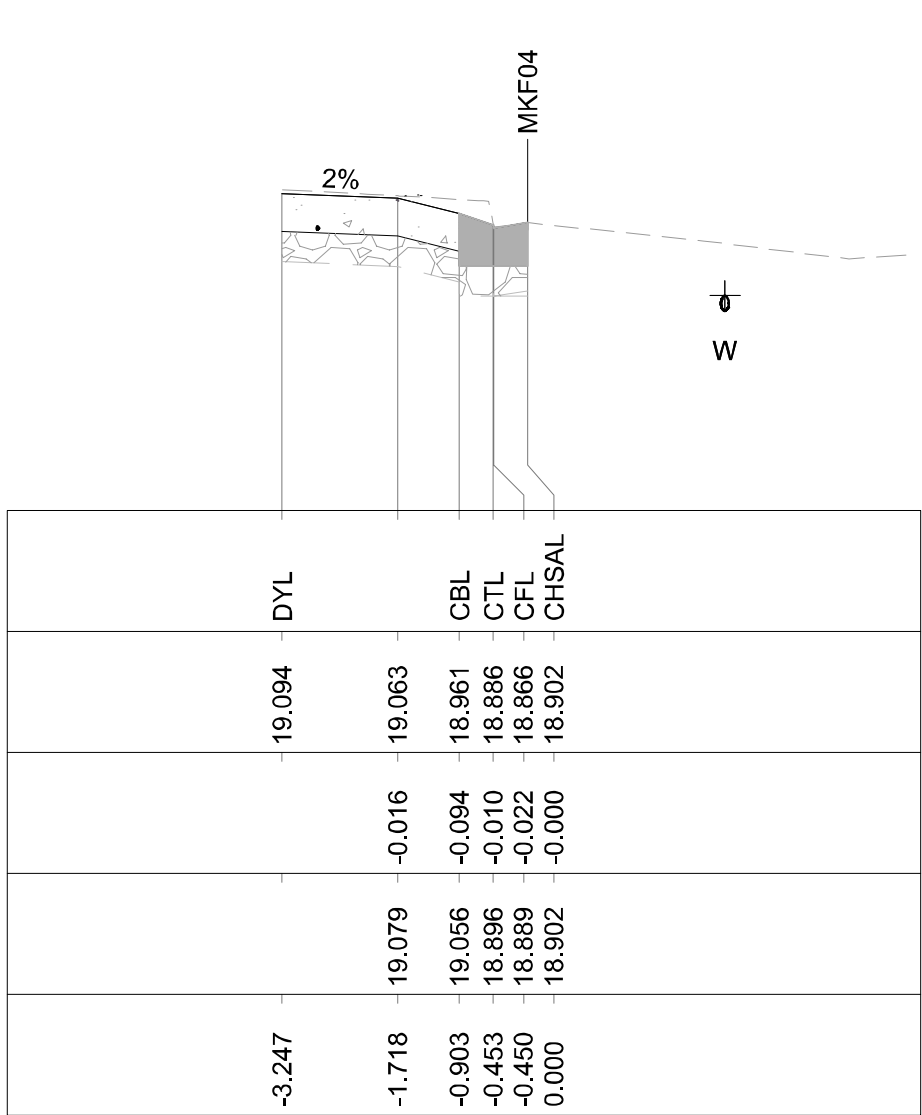
MKF03 - CH 5.000
A1 HORIZONTAL SCALE 1:100
A1 VERTICAL SCALE 1:50



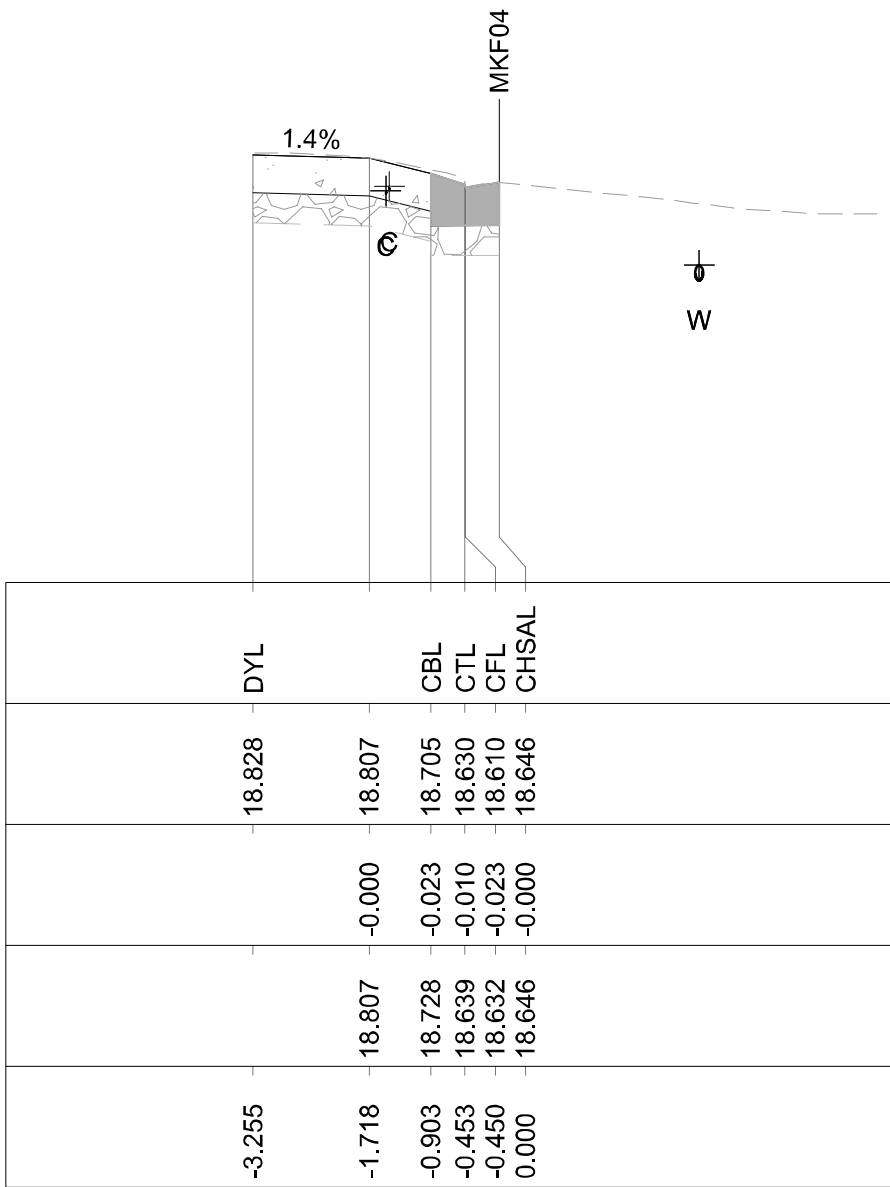
MKF03 - CH 10.000
A1 HORIZONTAL SCALE 1:100
A1 VERTICAL SCALE 1:50



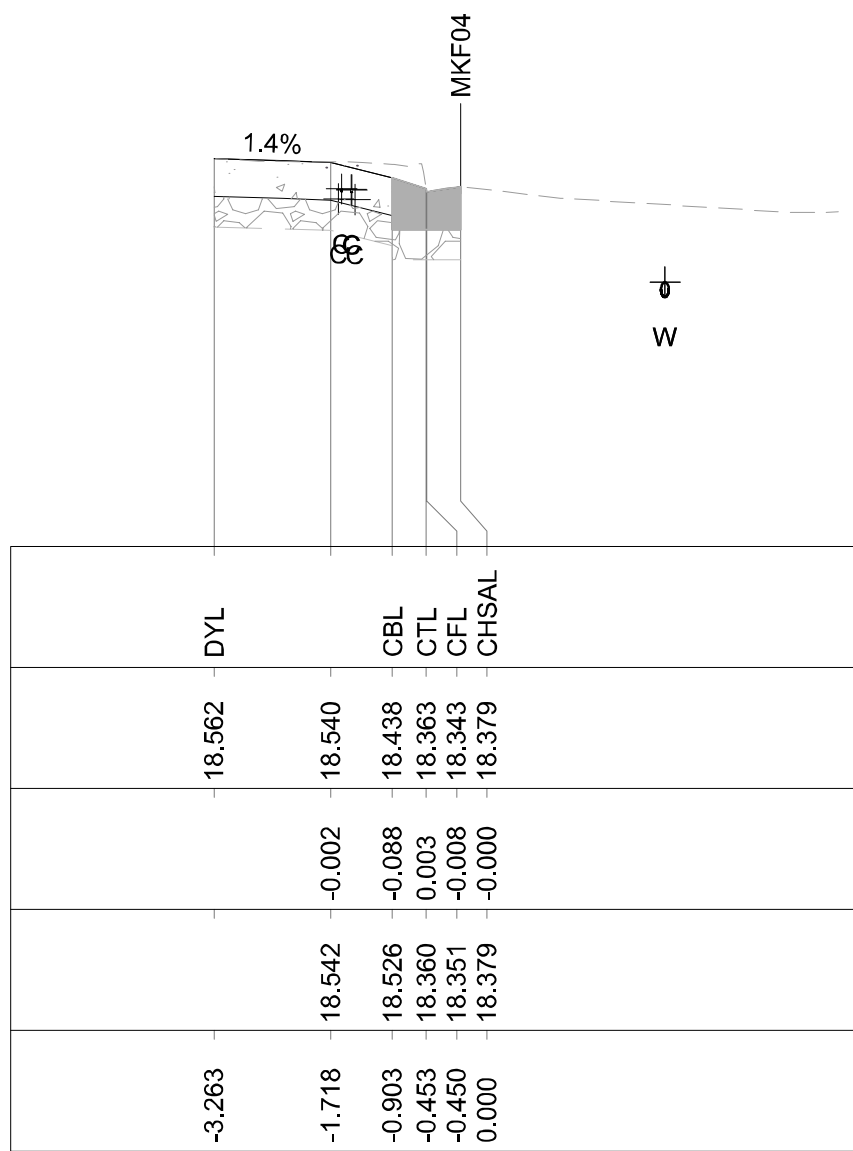
MKF04 - CH 0.000
A1 HORIZONTAL SCALE 1:100
A1 VERTICAL SCALE 1:50



MKF04 - CH 5.000
A1 HORIZONTAL SCALE 1:100
A1 VERTICAL SCALE 1:50



MKF04 - CH 10.000
A1 HORIZONTAL SCALE 1:100
A1 VERTICAL SCALE 1:50



MKF04 - CH 15.000
A1 HORIZONTAL SCALE 1:100
A1 VERTICAL SCALE 1:50

NOTE:

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NOTE TO BE REMOVED

LEGEND

- DESIGN SURFACE LEVELS
- EXISTING SURFACE LEVELS
- UTILITY (COMMS)
- UTILITY (ELECTRICAL)
- UTILITY (GAS)
- UTILITY (SEWER)
- UTILITY (WATER)
- UTILITY (STORMWATER INVERT)

EXISTING

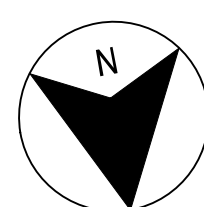
UTILITIES TO BE REMOVED
FROM LEGEND AND SECTIONS

NOTES

- FOR PAVEMENT PROFILES AND EDGE DETAILS, REFER TO SN250-PV-DRG-030001 AND SN250-PV-DRG-030002.

OFFICIAL

RED LINE MARKUP



NOTE:

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NOTE TO BE REMOVED

FD04 SITE ENTRY - LEFT
TURN ENTRY FOR 12.5 m
SINGLE UNIT TRUCKS

EASTERN
CONSTRUCTION SITE

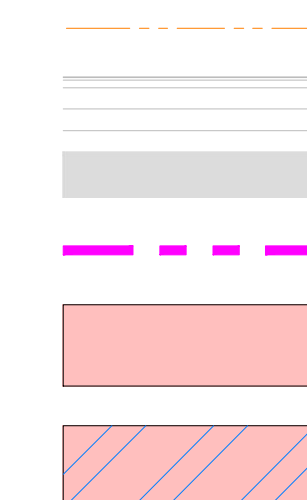
FD03 SITE EXIT - LEFT TURN EXIT
FOR 12.5 m SINGLE UNIT TRUCKS

SECOND AVE

WATERVIEW ST

WATERVIEW ST

LEGEND



EXISTING PROPERTY BOUNDARY

EXISTING SURVEY

EXISTING PAVEMENT

SITE BOUNDARY

SYDNEY METRO CONSTRUCTION SITE

EXCAVATION EXTENTS

EX01\01

EXISTING PIT LABEL

EXISTING PIPE TO PIPE CONNECTION

EXISTING OUTLET

EXISTING BLIND PIT

EXISTING STORMWATER PIT

EXISTING GRATED TRENCH DRAIN
(LARGE SLOT)

CONCRETE ENCASE EXISTING PIPE

EXISTING STORMWATER PIPE

MAJOR - CONTOURS

MINOR - CONTOURS

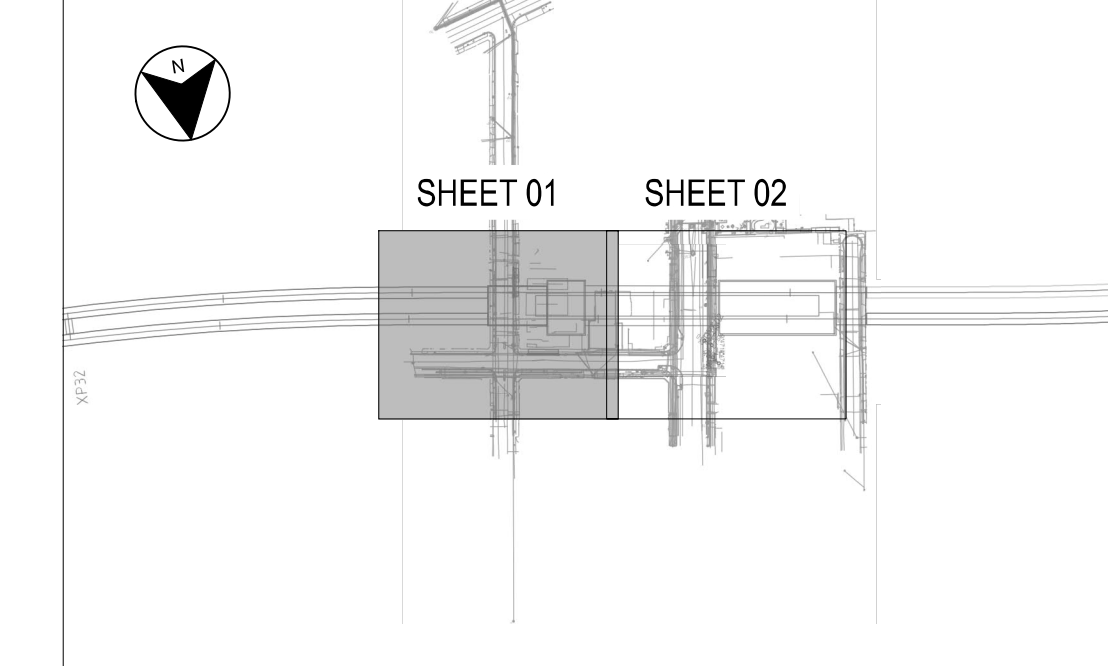
EXISTING MAJOR - CONTOURS

EXISTING MINOR - CONTOURS

NOTES

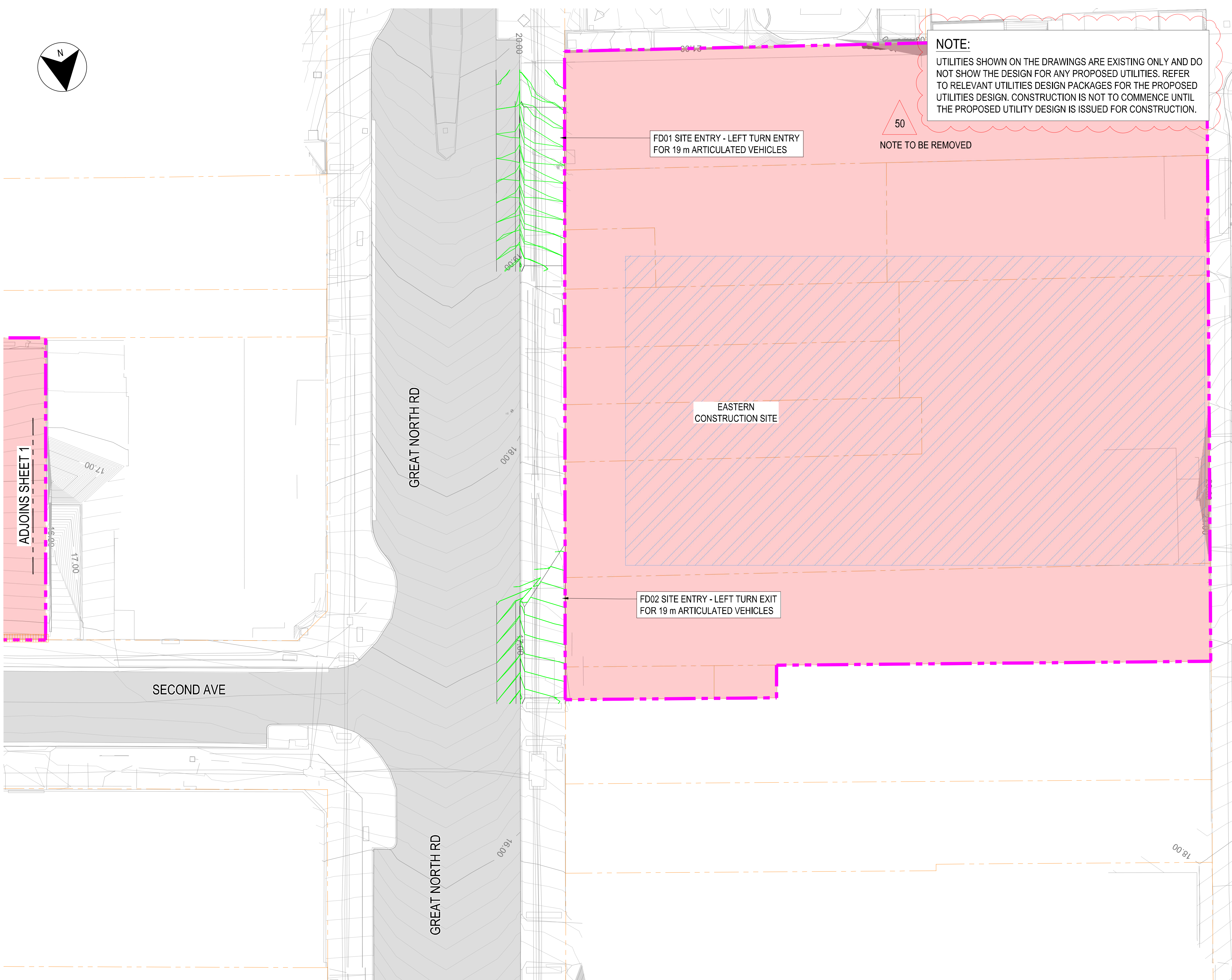
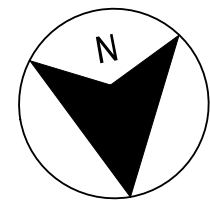
1. REFER SN250-CV-DRG-030014 FOR GENERAL NOTES.
2. REFER SN250-CV-DRG-030015 FOR SURVEY LEGEND.

KEYPLAN



OFFICIAL

RED LINE MARKUP

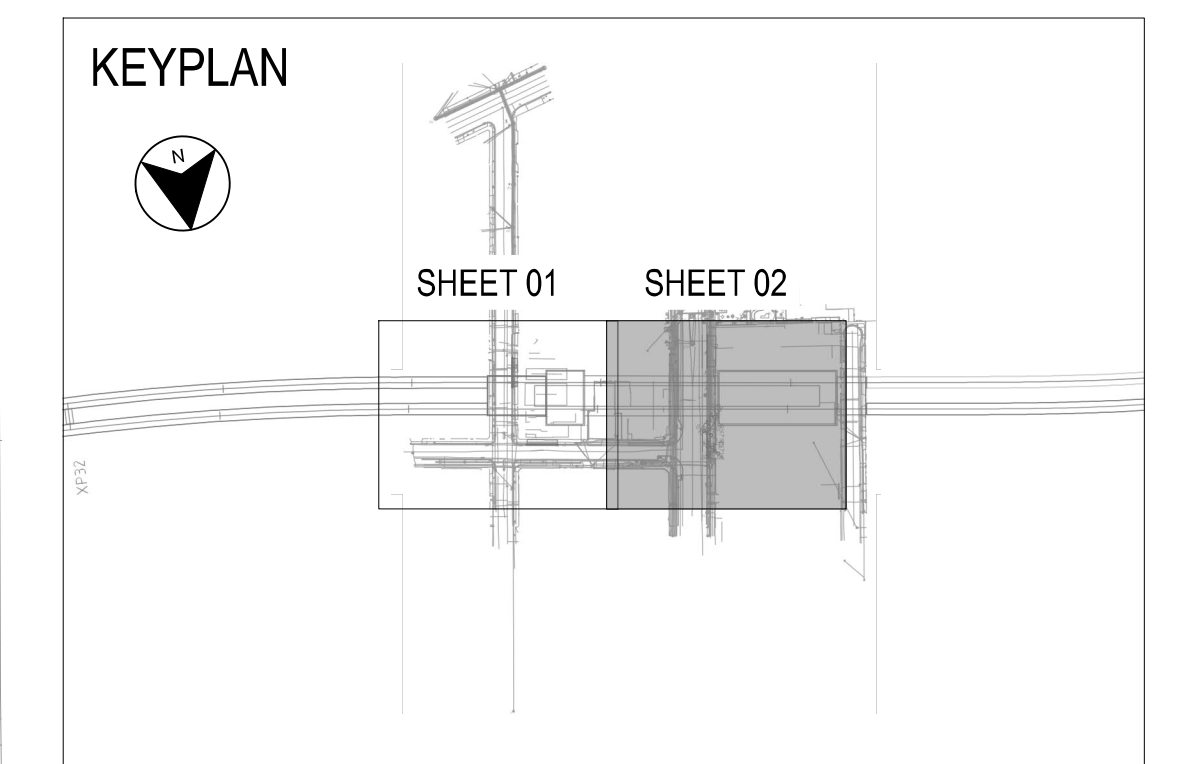


LEGEND

- EXISTING PROPERTY BOUNDARY
- EXISTING SURVEY
- EXISTING PAVEMENT
- SITE BOUNDARY
- SYDNEY METRO CONSTRUCTION SITE
- EXCAVATION EXTENTS
- EXISTING PIT LABEL
- EXISTING PIPE TO PIPE CONNECTION
- EXISTING OUTLET
- EXISTING BLIND PIT
- EXISTING STORMWATER PIT
- EXISTING GRATED TRENCH DRAIN (LARGE SLOT)
- CONCRETE ENCASE EXISTING PIPE
- EXISTING STORMWATER PIPE
- MAJOR - CONTOURS
- MINOR - CONTOURS
- EXISTING MAJOR - CONTOURS
- EXISTING MINOR - CONTOURS

NOTES

- REFER SN250-CV-DRG-030014 FOR GENERAL NOTES.
- REFER SN250-CV-DRG-030015 FOR SURVEY LEGEND.



OFFICIAL

RED LINE MARKUP

METRO ENABLING WORKS

CITY OF CANADA BAY

SYDNEY METRO WEST - THIRD PARTY WORKS - LOCAL AREA WORKS

FIVE DOCK STATION - LOCAL ADJUSTMENTS

DETAILED DESIGN STAGE 3

CTPPW5104

NOTE:
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NOTE:

Some works (primarily sign installations) are yet to be finalised and included within the final RLM. For this reason, this plan has been marked-up in blue to clearly show any changes to what is shown on this design, compared to what is intended to be handed over at completion of CTP works.

Any changes from the design will follow the established procedures for Red Line Markups and Request For Information (RFIs) where required. This marked-up design does not replace these procedures



OFFICIAL

FOR CONSTRUCTION



LEGEND

 SITE BOUNDARY

 SYDNEY METRO CONSTRUCTION SITE

 EXCAVATION EXTENTS

NOTE:
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OFFICIAL

FOR CONSTRUCTION

DRAWING INDEX

DRAWING LIST	
SHEET	TITLE
SMWSTCTP-AFJ-FDK-SN250-CV-DRG-030011	COVER SHEET SHEET 1 OF 1
SMWSTCTP-AFJ-FDK-SN250-CV-DRG-030012	OVERALL LAYOUT PLAN SHEET 1 OF 1
SMWSTCTP-AFJ-FDK-SN250-CV-DRG-030013	DRAWING INDEX SHEET 1 OF 1
SMWSTCTP-AFJ-FDK-SN250-CV-DRG-030014	GENERAL NOTES SHEET 1 OF 1
SMWSTCTP-AFJ-FDK-SN250-CV-DRG-030015	LEGEND SHEET 1 OF 1
SMWSTCTP-AFJ-FDK-SN250-FN-DRG-030011	SIGNAGE SCHEDULE SHEET 1 OF 3
SMWSTCTP-AFJ-FDK-SN250-FN-DRG-030012	SIGNAGE SCHEDULE SHEET 2 OF 3
SMWSTCTP-AFJ-FDK-SN250-FN-DRG-030013	SIGNAGE SCHEDULE SHEET 3 OF 3
SMWSTCTP-AFJ-FDK-SN250-PV-DRG-030011	PAVEMENT PROFILES SHEET 1 OF 1
SMWSTCTP-AFJ-FDK-SN250-PV-DRG-030012	PAVEMENT INTERFACE AND EDGE DETAILS SHEET 1 OF 1
SMWSTCTP-AFJ-FDK-SN250-RW-DRG-030021	ISLAND ALIGNMENT SET-OUT PLAN SHEET 1 OF 1
SMWSTCTP-AFJ-FDK-SN250-RW-DRG-030022	GENERAL ARRANGEMENT PLAN SHEET 1 OF 4
SMWSTCTP-AFJ-FDK-SN250-RW-DRG-030023	GENERAL ARRANGEMENT PLAN SHEET 2 OF 4
SMWSTCTP-AFJ-FDK-SN250-RW-DRG-030024	GENERAL ARRANGEMENT PLAN SHEET 3 OF 4
SMWSTCTP-AFJ-FDK-SN250-RW-DRG-030025	GENERAL ARRANGEMENT PLAN SHEET 4 OF 4
SMWSTCTP-AFJ-FDK-SN250-RW-DRG-030026	LONGITUDINAL SECTION SHEET 1 OF 1
SMWSTCTP-AFJ-FDK-SN250-RW-DRG-030027	CROSS SECTIONS SHEET SHEET 1 OF 1
SMWSTCTP-AFJ-FDK-SN250-SD-DRG-030011	STORMWATER MANAGEMENT PLAN SHEET 1 OF 4
SMWSTCTP-AFJ-FDK-SN250-SD-DRG-030012	STORMWATER MANAGEMENT PLAN SHEET 2 OF 4
SMWSTCTP-AFJ-FDK-SN250-SD-DRG-030013	STORMWATER MANAGEMENT PLAN SHEET 3 OF 4
SMWSTCTP-AFJ-FDK-SN250-SD-DRG-030014	STORMWATER MANAGEMENT PLAN SHEET 4 OF 4

NOTE:
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OFFICIAL

FOR CONSTRUCTION

GENERAL NOTES

- ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH COUNCIL'S SPECIFICATION FOR THE WORKS TOGETHER WITH THE REQUIREMENTS OF ALL RELEVANT CODES OF PRACTICE REFERRED TO THEREIN AND THE REQUIREMENTS OF ALL STATUTORY AUTHORITIES WHERE APPLICABLE.
- DRAWINGS TO BE READ IN CONJUNCTION WITH ALL OTHER SPECIFICATIONS FOR THE PROJECT.
- LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).
- CO-ORDINATES ARE TO GDA 2020 MAP GRID AUSTRALIA (MGA) CO-ORDINATE SYSTEM (ZONE 56).
- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE (UNO). ALL LEVELS, CHAINAGES, STATIONS AND CO-ORDINATES ARE EXPRESSED IN METRES.
- WHERE REFERENCE IS MADE TO PROPRIETARY COMPONENT NAMES ON THE DRAWINGS THE CONTRACTOR MAY PROPOSE AN ALTERNATIVE PRODUCT PROVIDED THE ALTERNATIVE IS EQUIVALENT AND SATISFIES THE REQUIREMENTS OF THE SPECIFICATION AND IS APPROVED BY THE PRINCIPAL.
- ACCESS TO PROPERTIES TO BE MADE AVAILABLE BY THE CONTRACTOR AT ALL TIMES DURING CONSTRUCTION.
- ALL WORK TO BE UNDERTAKEN IN ACCORDANCE WITH THE VERSION OF COUNCIL REQUIREMENTS AND TNSW STANDARDS LATEST AT THE TIME OF TENDER UNO.
- WHERE AREAS ARE SHOWN AS BEING "ON HOLD" ON PLANS, ALL CORRESPONDING LONGITUDINAL SECTIONS, CROSS SECTIONS, DRAINAGE, PAVEMENTS AND OTHER DETAILS RELATING TO THAT AREA SHALL ALSO BE DEEMED TO BE "ON HOLD" UNO.
- ALL PROPERTY WORKS WITHIN PROPERTY BOUNDARY SUBJECT TO AGREEMENT WITH PROPERTY OWNER AND THE PRINCIPAL.
- DRAWING REFERENCES QUOTED ARE ONLY SHOWING THE LAST SIX DIGITS FOR SIMPLICITY.
- ALL EXISTING LOCATIONS, ORIENTATION AND LEVELS SHALL BE VERIFIED ON SITE BY THE CONTRACTOR BEFORE FINAL DESIGN AND BEFORE COMMENCING ANY WORK. REFER DISCREPANCIES TO THE PRINCIPAL. DO NOT OBTAIN DIMENSIONS FROM SCALING. EXISTING SURFACE LEVELS ON THE DRAWINGS ARE INDICATIVE ONLY.
- ALL WORKS ARE TO BE IN ACCORDANCE WITH COUNCIL SPECIFICATIONS, RELEVANT AUSTRALIAN STANDARDS AND TNSW SPECIFICATIONS.

DRAINAGE - GENERAL

- THE DOCUMENTED DRAINAGE SYSTEM IS DETAILED ONLY FOR THE PERMANENT ROAD CONFIGURATION UNO. CONSTRUCTION REQUIREMENTS SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- PIPES THROUGH PITS ARE TO BE ALIGNED WITH UPSTREAM PIPE CENTRELINE TO OUTLET PIPE CENTRELINE AT DOWNSTREAM PIT FACE AS SHOWN;
- ANY PERMITS FOR DIVERSION WORKS REQUIRED DURING CONSTRUCTION SHALL BE OBTAINED FROM COUNCIL AND TNSW PRIOR TO CONSTRUCTION WORKS BY THE CONTRACTOR.
- IN LOCATIONS WHERE NEW PAVEMENT OR ROAD WIDENING WORKS ARE PROPOSED, ANY NEW PIPES WITH LESS THAN 600 MM COVER BELOW FINISHED ROAD LEVEL SHALL BE CONCRETE ENCASED.
- DURING CONSTRUCTION EXCAVATIONS SHALL BE SECURELY SHORED AND BENCHED TO PREVENT THE SIDES OF THE EXCAVATION FROM COLLAPSING. AS REQUIRED ON NSW WORK COVER EXCAVATIONS WORK CODE OF PRACTICE.
- NO DETAILED LEVEL A DRAINAGE SURVEY HAS BEEN PROVIDED AND THEREFORE THE LOCATION, SIZE AND TYPE OF EXISTING DRAINAGE STRUCTURES HAS BEEN DESIGNED BASED ON AVAILABLE COUNCIL GIS INFORMATION AND LEVEL C SURVEY. LOCATION, SIZE AND TYPE OF EXISTING PITS AND PIPES TO CONFIRMED WITH LEVEL A DRAINAGE PRIOR TO CONSTRUCTION. COUNCIL'S INFORMATION ARE ONLY INDICATIVE. THEREFORE DETAILED INVESTIGATION MUST BE UNDERTAKEN AND EXISTING CHARACTERISTICS VERIFIED PRIOR TO FINAL DESIGN.

DRAINAGE - LONGITUDINAL AND TRANSVERSE DRAINAGE

- ALL PIPES ARE TO BE STEEL REINFORCED SPUN CONCRETE UNO. ALL CONCRETE PIPES SHALL HAVE HS3 TYPE INSTALLATION AS PER TFNSW R0240-01.
- BEDDING AND SUPPORT FILL MATERIAL FOR ALL NEW LONGITUDINAL DRAINAGE TRENCHES SHALL BE IN ACCORDANCE WITH TFNSW SPEFICATION R11 AND R44.
- CONCRETE PIPE CLASSES HAVE BEEN DETERMINED BASED ON TYPE HS3 SUPPORT, FINISHED SURFACE LEVEL AND TRENCH OR EMBANKMENT CONDITION INSTALLATION TO AS3725 AND SPECIFICATION UNO. CONCRETE PIPES ARE TO BE RUBBER RING JOINTED SPIGOT AND SOCKET TYPE UNO. THERMAL ENVIRONMENT CONDITION OF TABLE 3.1 OF AS/NZS 4058:2007 APPLIES. MINIMUM COVER FOR REINFORCEMENT IS 10 MM.
- MINIMUM 600 mm COVER TO ALL NEW PIPES SHALL BE PROVIDED.
- ALL CONNECTION BETWEEN PIPES AND STRUCTURES TO BE UNDERTAKEN IN ACCORDANCE WITH COUNCIL'S SPECIFICATION AND REQUIREMENTS UNO.
- PIPE LENGTHS PROVIDED IN DRAINAGE LONG SECTIONS ARE CALCULATED FROM PIT REFERENCE POINT TO PIT REFERENCE POINT.

NOTE:
UTILITIES SHOWN ON THE DRAWINGS ARE EXISTING ONLY AND DO NOT SHOW THE DESIGN FOR ANY PROPOSED UTILITIES. REFER TO RELEVANT UTILITIES DESIGN PACKAGES FOR THE PROPOSED UTILITIES DESIGN. CONSTRUCTION IS NOT TO COMMENCE UNTIL THE PROPOSED UTILITY DESIGN IS ISSUED FOR CONSTRUCTION.

DRAINAGE - EXISTING STORMWATER PIPES

- EXISTING STORMWATER DRAINAGE PIPE AND PIT LAYOUT SHOWN IN THE DRAWINGS ARE INDICATIVE ONLY. ALL LOCATIONS, ORIENTATION AND LEVELS OF EXISTING SHALL BE VERIFIED ON SITE BY THE CONTRACTOR BEFORE FINAL DESIGN AND COMMENCING ANY WORK.
- IN LOCATIONS WHERE NEW PAVEMENT OR ROAD WIDENING WORKS ARE PROPOSED, ANY EXISTING RETAINED PIPES WITH LESS THAN 600 MM COVER BELOW FINISHED ROAD LEVEL SHALL BE CONCRETE ENCASED.
- WHERE A CONNECTION IS MADE TO AN EXISTING DRAINAGE PIPE OR PIT, THEN THE LEVEL OF THAT ELEMENT MUST BE SURVEYED AND ANY DISCREPANCIES SUBMITTED TO THE PRINCIPAL PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAINAGE STRUCTURES

- CONCRETE DRAINAGE STRUCTURES TO BE IN ACCORDANCE WITH TNSW QA SPECIFICATION R53 UNO
 - DRAINAGE STRUCTURES HAVE BEEN DESIGNED IN ACCORDANCE WITH AS3600-2018 UNO
 - DESIGN LIFE OF NEW CONCRETE DRAINAGE STRUCTURES IS 50 YEARS UNO.
 - DESIGN LIFE OF NEW INACCESSIBLE CONCRETE STRUCTURES IS 100 YEARS UNO.
 - DESIGN LOADS HAVE BEEN DETERMINED IN ACCORDANCE WITH AS5100.2 – 2017.
 - THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND PROVISION OF ANY TEMPORARY BRACING, PROPPING, ETC. REQUIRED DURING CONSTRUCTION. STRUCTURES SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED.
 - FOUNDATION SUPPORT FOR DRAINAGE STRUCTURES TO BE PROVIDED IN ACCORDANCE WITH TNSW QA SPECIFICATION R11.
 - INADEQUATE FOUNING MATERIAL FOR PIPES AND STRUCTURES SHALL BE REMOVED OR IMPROVED IN ACCORDANCE WITH TNSW QA SPECIFICATION R11.
 - TNSW STANDARD DETAILS TO BE ADOPTED ONLY WHERE REFERENCED.
 - ALL PITS DEEPER THAN 600 TO BE FITTED WITH STEP IRONS IN ACCORDANCE WITH TNSW DRAWING R0220-45
 - STEEL GRATES AND FRAMES ARE TO BE FABRICATED FROM MILD STEEL AND HOT DIPPED GALVANISED. ALL GRATES AND FRAMES TO BE "MEDIUM / HEAVY TRAFFICABLE" CLASS D UNO. GRATES AND FRAMES WITHIN THE PAVEMENT SURFACE (INCLUDES ADJOINING SO GUTTER) ARE TO BE BICYCLE SAFE IN ACCORDANCE WITH AS 3996 UNO.
 - ALL WELDS TO COMPLY WITH AUSTRALIAN STANDARD AS 1554.1. FILLET WELDS TO BE NOT LESS THAN 6 mm UNO.
 - ALL EXPOSED STEEL TO BE GALVANISED IN ACCORDANCE WITH AS/NZS 2312 AND AS/NZS 4680. GALVANISING TO THREADED FASTENERS TO BE IN ACCORDANCE WITH AS 1214. MINIMUM GALVANISING 600 G / SQM OTHER THAN ON FASTENERS.
 - GRATE SUPPORT TO BE CONSTRUCTED LEVEL TO ENSURE THAT THE GRATE DOES NOT ROCK AFTER INSTALLATION.
 - FOR LOCATION AND LEVEL OF PITS AND HEADWALLS REFER TO DRAINAGE DRAWING LONG SECTIONS AND SCHEDULES.
 - CONSTRUCTION JOINT PREPARATION: EXISTING CONCRETE SURFACE TO BE CLEANED, SCABBLED AND ROUGHENED IN ACCORDANCE WITH TNSW QA SPECIFICATION R53 PRIOR TO CASTING OF NEW PIT SECTION
 - CONCRETE EXPOSURE CLASSIFICATION B1 UNO.
 - MINIMUM 28-DAY CONCRETE COMPRESSIVE STRENGTH AND NOMINAL COVER TO REINFORCEMENT FOR DRAINAGE PITS UNO :

CAST IN-SITU – CAST AGAINST GROUND:	32 MPa / 75 mm
CAST IN-SITU – CAST ELSEWHERE:	32 MPa / 40 mm
 - EDGES SHALL BE CHAMFERED 20 x 20
 - EXPOSED SAWCUT REINFORCEMENT BARS TO BE TREATED WITH CORROSION INHIBITING COATING
 - PIT BASE TO BE CLEANED, SCABBLED AND ROUGHENED IN ACCORDANCE WITH TNSW QA SPECIFICATION R53 PRIOR TO PLACING MASS CONCRETE BENCHING.
 - MINIMUM 28 DAY CONCRETE COMPRESSIVE STRENGTH AND NOMINAL COVER TO REINFORCEMENT FOR CONCRETE CASING TO PIPES UNO. 25 MPa / 60 mm. CONCRETE TO BE PLACED USING MECHANICAL VIBRATION.
- SIGNAGE AND LINEMARKING**
- TO ELIMINATE EXCESSIVE GLARE FROM THE SURFACE OF A SIGN IT IS TO BE TURNED APPROXIMATELY 5° AWAY FROM THE NORMAL TO THE HEADLIGHT BEAM / LINE OF SIGHT.
 - ALL SIGNAGE TO BE CLEAR OF ALL VEGETATION AND OBSTRUCTIONS.
 - SIGNS TO BE INSTALLED IN ACCORDANCE WITH AS1742.
 - THE LOCATION OF ALL EXISTING SIGNS TO BE CONFIRMED PRIOR TO COMMENCING WORK. ENSURE ADOPTED METHOD OF CONSTRUCTION WILL AVOID DAMAGE TO ALL SERVICES.
 - CONDITION ASSESSMENT TO BE UNDERTAKEN ON ALL EXISTING SIGN FACES TO BE RELOCATED PRIOR TO BEING REUSED IN ACCORDANCE WITH RELEVANT SPECIFICATIONS AND STANDARDS OR AS DIRECTED BY THE PRINCIPAL.
 - ALL EXISTING LINEMARKING EFFECTED BY THE NEW WORKS AND NOT OTHERWISE CONFLICTING WITH NEW LINEMARKING IS TO BE REINSTATED.
 - ALL LINEMARKING TO BE THERMOPLASTIC IN ACCORDANCE WITH TNSW SPECIFICATION R145.
 - FOR NOTES ON PAVEMENTS REFER TO TNSW DELINEATION GUIDELINE SECTION 9.
 - FOR REMOVAL OF LINEMARKING REFER TO TNSW DELINEATION GUIDELINE SECTION 14.
 - RAISED PAVEMENT MARKERS SHALL BE PLACED ON ALL LANE, EDGE AND BARRIER LINES. SPACING OF RAISED PAVEMENT MARKERS SHALL BE IN ACCORDANCE WITH TNSW DELINEATION GUIDE AND TNSW SPECIFICATION R142.
 - SIGNAGE AND LINEMARKING PLANS TO BE READ IN CONJUNCTION WITH TCS PLANS.
 - ALL REGULATORY SIGNPOSTING AND LINEMARKING SHOWN ON THESE DRAWINGS WILL NEED TO BE APPROVED BY WRITTEN AUTHORISATION FROM AN OFFICER AUTHORISED UNDER SECTION 5.9 OF THE TNSW DELEGATIONS MANUAL.
 - UNLESS OTHERWISE INDICATED, ALL SIGN FACES TO BE SIZE TYPE A IN ACCORDANCE WITH AS1742.
 - SIGN POSITIONS TO BE CONFIRMED WITH PRINCIPAL PRIOR TO MOUNTING.
 - REFER TO TNSW R103 AND TNSW R145 FOR HIGH PRESSURE WATER BLASTING LINEMARKING REMOVAL.
 - TYPICAL SIGN MOUNTING IN ACCORDANCE WITH AS1742 - MOUNTING HEIGHT:

- a. MINIMUM 2.0 m ABOVE FOOTPATH
 - b. 0.2 m ABOVE ROAD SURFACEKERB OFFSET: 0.3 m FROM FACE OF KERB.

SAFETY - IN - DESIGN INFORMATION

- THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH TNSW SPECIFICATION G22. THIS DOCUMENT LISTS SOME DESIGN RELATED WORK HEALTH AND SAFETY HAZARDS ASSOCIATED WITH THE PROJECT DESIGN, CONSTRUCTION AND OPERATION. THERE MAY BE OTHER HAZARDS AND RISKS NOT STATED IN THIS DOCUMENT. THIS DOCUMENT DOES NOT RELIEVE THE CONTRACTOR OF ITS OBLIGATIONS UNDER THE CONTRACT AND RELEVANT LEGISLATION.
- REFER TO SMWSTCTP-AFJ-FDK-SN250-CV-RPT-030011 FOR THE DETAILED DESIGN REPORT AND REFER TO APPENDIX H OF THE REPORT FOR THE CONSTRUCTABILITY AND HSID WORKSHOP REPORT.

UTILITIES

- IN ORDER TO AVOID DAMAGE TO THE UTILITIES THE CONTRACTOR SHALL BE RESPONSIBLE FOR CO-ORDINATING THE WORKS ADJACENT TO ANY UTILITY WITH THE RELEVANT UTILITY AUTHORITY IN ACCORDANCE WITH THE AUTHORITY REQUIREMENTS.
- THE CONTRACTOR SHALL CO-ORDINATE WITH THE RELEVANT UTILITY AUTHORITIES AND THE PRINCIPAL WITH RESPECT TO ANY TEMPORARY DIVERSIONS NECESSARY FOR CONSTRUCTION STAGING WORKS.
- LOCATION AND LEVEL OF ALL SERVICES CROSSING NEW DRAINAGE MUST BE OBTAINED PRIOR TO FINAL DESIGN AND PRIOR TO CONSTRUCTION BY THE CONTRACTOR. ALL LEVELS MUST BE CHECKED FOR CONFLICT WITH ANY SERVICES, AND ANY CONFLICTS TO BE RESOLVED WITH THE PRINCIPAL.
- THE LOCATION OF EXISTING PROPERTY CONNECTIONS TO UTILITIES LOCATED WITHIN THE ROAD RESERVE HAVE NOT BEEN LOCATED AND SURVEYED. IT WILL BE THE CONTRACTORS RESPONSIBILITY TO LOCATE EACH PROPERTY CONNECTION AND ARRANGE ANY REQUIREMENT FOR RECONNECTION TO NEW LINES. THE CONTRACTOR SHALL ALSO PROTECT ALL PROPERTY CONNECTIONS DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL MANAGE ANY DISRUPTION TO SUPPLY TO PRIVATE PROPERTY AND ENSURE THAT SUPPLY IS AVAILABLE AT THE END OF EACH DAYS ACTIVITIES.
- SERVICES SHOWN ARE INDICATIVE ONLY AND IS NOT GUARANTEED COMPLETE NOR CORRECT. CONTRACTOR TO CONFIRM POSITION AND LOCATION OF ALL SERVICES PRIOR TO FINAL DESIGN AND PRIOR TO COMMENCING WORK. CONTRACTOR TO ENSURE ADOPTED METHOD OF CONSTRUCTION WILL AVOID DAMAGE TO ALL SERVICES.
- SERVICE AUTHORITIES ARE TO BE CONTACTED PRIOR TO THE COMMENCEMENT OF WORKS FOR ARRANGEMENTS TO BE MADE REGARDING THE PROTECTION, ADJUSTMENT OR RELOCATION OF SERVICES IF NECESSARY. INFORMATION PROVIDED ON THE DRAWINGS WITH RESPECT TO SERVICES IS FOR GUIDANCE ONLY.
- PRIOR TO THE START OF EXCAVATION, ALL NEW TEMPORARY EXCAVATIONS FOR UTILITIES NEAR CUT OR FILL BATTERS ARE TO BE ASSESSED ON SITE BY THE CONTRACTOR'S EXPERIENCED GEOTECHNICAL ENGINEER FOR THEIR POTENTIAL IMPACT ON BATTER STABILITY DURING CONSTRUCTION.
- ALL TRENCH BACKFILL ASSOCIATED WITH UTILITIES TO BE UNDERTAKEN IN ACCORDANCE WITH RELEVANT UTILITY AUTHORITIES' STANDARDS.

PROPERTY WORKS CONSTRUCTION

- MAKE GOOD ANY DISTURBANCE TO EXISTING LAWNS AND TOP SOIL. TURF AND RESHAPE ALL DISTURBED AREAS INCLUDING REPLACEMENT OF EXISTING SHRUBS, HEDGES ETC. AS SHOWN ON DRAWINGS AND AGREED WITH THE PROPERTY OWNER AND THE PRINCIPAL.
- CLEAN UP AND REMOVE CONTRACTOR'S WASTE FROM THE SITE CAUSED DURING THE ADJUSTMENT WORK.
- RELOCATE / REMOVE AND REPLACE EXISTING FENCES, GATES, LETTERBOX AS SHOWN ON THE DRAWING. PRINCIPAL TO CONFIRM EXACT INSTRUCTION WITH PROPERTY OWNER.
- THE POSITION OF ALL SERVICES IS TO BE CONFIRMED PRIOR TO FINAL DESIGN AND PRIOR TO COMMENCING ANY WORKS BY THE CONTRACTOR. EXISTING PRIVATE PROPERTY SERVICE CONNECTIONS AND DRAINAGE ARE NOT INDICATED ON THESE DRAWINGS. THESE NEED TO BE LOCATED AND ADJUSTED AS REQUIRED. MAINTAIN EXISTING ALIGNMENT WHERE POSSIBLE.
- ACCESS TO PROPERTIES TO BE MAINTAINED BY THE CONTRACTOR AT ALL TIMES DURING CONSTRUCTION, OR AS OTHERWISE AGREED WITH THE PROPERTY OWNER AND THE PRINCIPAL.
- ALL REDUNDANT FENCING TO BE REMOVED AND RECYCLED WHERE POSSIBLE.
- THE CADASTRAL BOUNDARY IS SUBJECT TO CONFIRMATION ON SITE BY THE CONTRACTOR USING A REGISTERED LAND SURVEYOR.
- WHERE REMOVAL OF TREES ARE REQUIRED, OBTAIN APPROVAL FROM THE RELEVANT AUTHORITY (SUCH AS COUNCIL, PLANNING SECRETARY, THE PRINCIPAL OR OTHER).
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH RMS SPECIFICATION R204.

STANDARD DRAWINGS

- CITY OF CANADA BAY STANDARD DRAWINGS CAN BE FOUND AT BELOW LOCATION:
<https://www.canadabay.nsw.gov.au/development/plans-policies-and-controls/planning-controls-LEP-DCP>
- TRANSPORT FOR NEW SOUTH WALES STANDARD DRAWINGS CAN BE FOUND AT BELOW LOCATION:
<https://roads-waterways.transport.nsw.gov.au/business-industry/partners-suppliers/document-types/standard-drawings/road/kerb-gutter.html>

TNSW STANDARD DRAWINGS			
STANDARD DRAWING NUMBER	DESCRIPTION	COUNCIL	LAST AMENDED
R0300-01	STANDARD KERB AND CHANNEL SHAPES	November-2017	
R0300-03	CYCLEWAY MEDIAN NOSE TREATMENT	January-2017	

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FOR CONSTRUCTION

NOTE:
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LEGEND SHEET

SURVEY (EXISTING)

	CABLE JUNCTION BOX (PEJB)		POWER SERVICE PILLAR UNDERGROUND (PEUP)
	LARGE SIGN (SI)		G 1 PIPE (PGPI)
	ELECTRICAL CABLE MANHOLE (PEMH)		FIRE HYDRANT (WATER)
	SIGN POST (PSIN)		OPTICAL FIBRE PIT (POFP)
	DRILL HOLE AND WING (PDHL)		BOLLARD (AC)
	EXISTING VALVE BOX		TOP OF CONCRETE JUNCTION BOX
	POLE LIGHT (PLPL)		UNIDENTIFIED POLE
	STOP VALVE (WATER)		BUS STOP (PBUS)
	KERB INLET (KI)		
	WATER HYDRANT		PETROL PUMP
	SURVEY MARKS (BOLTS, PEGS, NAILS)		DRAINAGE PIPE INVERT
	TRAFFIC SIGNAL JUNCTION BOX (PSJX)		OPTICAL FIBRE JUNCTION BOX (POFJ)
	TRAFFIC CONTROL SIGNAL (PSGL)		SPEED ZONE LINEMARKING
	RUBBISH BIN (PBIN)		ARROW RIGHT TURN (AR)
	TELEPHONE SINGLE CONCRETE PIT (PTSP)		ARROW LEFT TURN (AL)
	TELEPHONE TWIN CONCRETE PIT (PTTP)		ARROW STRAIGHT AHEAD (AS)
	PIER COLUMN POINT (PBPI)		EXISTING POST - DOUBLE SIDED (PSDS)
	DRAINAGE JUNCTION MANHOLE (PDJM)		TRANSFORMER CABINET CENTRE (PETC)
	TELEPHONE BOX POINT (PTBX)		FENCE POST OR GUIDE POST (POST)
	TELEPHONE DISTRIBUTION PILLAR (PTDP)		WATER MAIN MARKER (PWMM)
	TELEPHONE SUMP (TS)		EXISTING STD 1.1m BY 1.1m MAIN PIT (PTMP)
	UNIDENTIFIED SERVICE		EXISTING TRAFFIC MARKER (SILENT COP) (PTMX)
	DISTRIBUTION FUSE POINT (PEFP)		EXISTING GULLY PIT (PGUL)
	TRAFFIC SIGNAL CONTROLLER (TCS)		EXISTING PIPE - 375 DIA (U3)
	WATER HYDRANT (PWHY)		EXISTING PIPE - 525 DIA (U5)
	POLE POWER (PPPL)		EXISTING LAMPHOLES (PSLH)
	LUMINAIRE		EXISTING VENT PIPE (PSVP)
	MAIL BOX		EXISITING ALIGNMENT PIN (PAPN)
	POWER POLE AND LIGHT (PPLP)		EXISTING GARDEN LIGHT (PLGN)
	MANHOLE COVER (PSMH)		EXISTING DRAIN SUBSOIL FLUSH POINT (PSFP)
	EXISTING PIPE - 450 DIA (U4)		EXISTING AIR VALVE (PWAV)
	EXISTING LIGHT WITH OUTREACH (LI)		EXISTING CAMERA - FLASH UNIT (PCFU)
	EXISTING ABOVE GROUND JOINING POST (PTJP)		EXISTING RED LIGHT-SPEED-TRAFFIC CAMERA (PCAM)
	EXISTING PIPE - 300 DIA (U2)		
	EXISTING INLET TO SUMP (PILT)		
	EXISTING METER (PWMR)		
	EXISTING DISH DRAIN (DD)		
	EXISTING PARKING METER (PKME)		

	EXISTING INVERT - 300 DIA (PI02)
	EXISTING TOPO SPOT HEIGHT
	EXISTING DRAIN TABLE
	EXISTING SIGN WITH OUTREACH
	EXISTING TRAFFIC LIGHT WITH OUTREACH (TO)
	EXISTING HISTORICAL POINT OF INTEREST (PHIS)
	TREE TRUNK - 1200mm DIA PT11
	TREE TRUNK - 1000mm DIA PT10
	TREE TRUNK - 900mm DIA PT09
	TREE TRUNK - 800mm DIA PT08
	TREE TRUNK - 700mm DIA PT07
	TREE TRUNK - 600mm DIA PT06
	TREE TRUNK - 500mm DIA PT05
	TREE TRUNK - 400mm DIA PT04
	TREE TRUNK - 300mm DIA PT03
	TREE TRUNK - 200mm DIA PT02
	TREE TRUNK - 100mm DIA PT01
	TREE FOLIAGE - 1M SPREAD (PF01)
	TREE FOLIAGE - 2M SPREAD (PF02)
	TREE FOLIAGE - 4M SPREAD (PF03)
	TREE FOLIAGE - 6M SPREAD (PF04)
	TREE FOLIAGE - 7M SPREAD (PF05)
	TREE FOLIAGE - 8M SPREAD (PF06)
	TREE FOLIAGE - 10M SPREAD (PF07)
	TREE FOLIAGE - 12M SPREAD (PF08)
	TREE FOLIAGE - 15M SPREAD (PF09)

ABBREVIATIONS

BCC	BURWOOD CITY COUNCIL
CCB	CITY OF CANADA BAY
TCS	TRAFFIC CONTROL SIGNAL
DRG	DRAWING(S)
RCP	STEEL REINFORCED CONCRETE PIPE
STD	STANDARD

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FOR CONSTRUCTION

EXISTING SIGN SCHEDULE								
SIGN TAG X - EXISTING R - RELOCATED	EXISTING LOCATION	CODE	SIGN DESCRIPTION	TREATMENT	NEW LOCATION		MOUNTING	REMARKS
					CONTROL	CHAINAGE		
X1	LYONS ROAD - SHEET 1	R-41(L)	NO PARKING (SPECIFIED TIMES)	RETAIN				
X2	LYONS ROAD - SHEET 1	R5-400(R)	NO STOPPING(R)	RETAIN				
X3	LYONS ROAD - SHEET 1	R5-402(L)	NO STOPPING (SPECIFIED TIMES)	RETAIN				
X4	LYONS ROAD - SHEET 1	R5-400(R)	NO STOPPING(R)	RETAIN				
X5	LYONS ROAD - SHEET 1	R5-217(LR)	CLEARWAY (AM&PM) REPEATER	RETAIN				
X6	LYONS ROAD - SHEET 1	R5-402(R)	NO STOPPING (SPECIFIED TIMES)	RETAIN			ELECTRICAL POLE	
X7	LYONS ROAD - SHEET 1	R5-400(L)	NO STOPPING (L)	RETAIN			ELECTRICAL POLE	
X8	LYONS ROAD - SHEET 1	R5-217(LR)	CLEARWAY (AM&PM) REPEATER	RETAIN			ELECTRICAL POLE	
X9	LYONS ROAD - SHEET 1	R5-400(LR)	NO STOPPING(LR)	RETAIN				
X10	LYONS ROAD - SHEET 1	R5-400(LR)	NO STOPPING(LR)	RETAIN				
X11	LYONS ROAD - SHEET 1	COUNCIL SIGN	LYONS ROAD	RETAIN			ELECTRICAL POLE	
X12	LYONS ROAD - SHEET 1	COUNCIL SIGN	BRENT STREET	RETAIN			ELECTRICAL POLE	
X13	LYONS ROAD - SHEET 1	R5-400(LR)	NO STOPPING(LR)	RETAIN				
X14	LYONS ROAD - SHEET 1	R5-217(LR)	CLEARWAY (AM&PM) REPEATER	RETAIN				
X15	LYONS ROAD - SHEET 1	R5-400(L)	NO STOPPING(L)	RETAIN				
X16	LYONS ROAD - SHEET 1	R5-217(LR)	CLEARWAY (AM&PM) REPEATER	RETAIN				
X17	LYONS ROAD - SHEET 1	R5-20(R)	BUS ZONE(R)	RETAIN				
X18	LYONS ROAD - SHEET 1	R5-400(R)	NO STOPPING(R)	RETAIN				
X19	LYONS ROAD - SHEET 1	R5-217(LR)	CLEARWAY (AM&PM) REPEATER	RETAIN				
X20	LYONS ROAD - SHEET 1	R5-20(L)	BUS ZONE(L)	RETAIN				
X21	LYONS ROAD - SHEET 1	-	BUS ZONE SIGN	RETAIN				
X22	LYONS ROAD - SHEET 1	R5-400(R)	NO STOPPING(R)	RETAIN				
X23	LYONS ROAD - SHEET 1	R5-217(LR)	CLEARWAY (AM&PM) REPEATER	RETAIN				
X24	LYONS ROAD - SHEET 1	R5-20(L)	BUS ZONE (L)	RETAIN				
X25	HENRY MARINE DRIVE - SHEET 2	R2-209	KEEP LEFT	REINSTATE				RESUSE SIGN AND SIGN POST
X26	HENRY MARINE DRIVE - SHEET 2	R5-40(L)	NO PARKING(L)	RETAIN				
X27	HENRY MARINE DRIVE - SHEET 2	R5-40(L)	NO PARKING(L)	RETAIN				
X28	HENRY MARINE DRIVE - SHEET 2	W2-7	ROUNDABOUT	RETAIN				
X29	HENRY MARINE DRIVE - SHEET 2	R2-209	KEEP LEFT	RETAIN				
X30	HENRY MARINE DRIVE - SHEET 2	R5-40(R)	NO PARKING(R)	RETAIN				
X31	HENRY MARINE DRIVE - SHEET 2	R1-3	ROUNDABOUT (GIVEWAY)	RETAIN				
X32	WATERVIEW STREET - SHEET 3	R5-400(R)	NO STOPPING(R)	RETAIN				
X33	WATERVIEW STREET - SHEET 3	R5-400(L)	NO STOPPING(L)	RETAIN				
X34	WATERVIEW STREET - SHEET 3	R5-445(R)	FUNERAL VEHICLES EXCEPTED (R)	RETAIN				
X35	WATERVIEW STREET - SHEET 3	R5-2(R)	TIMED PARKING SERIES 2P(R)	RETAIN				
X36	WATERVIEW STREET - SHEET 3	R5-445(L)	FUNERAL VEHICLES EXCEPTED (L)	RETAIN				
X37	WATERVIEW STREET - SHEET 3	-	BUS STOP SIGN	RETAIN				
X38	WATERVIEW STREET - SHEET 3	R5-400(R)	NO STOPPING (R)	RETAIN				
X39	WATERVIEW STREET - SHEET 3	R5-20(L)	BUS ZONE (L)	RETAIN				
X40	WATERVIEW STREET - SHEET 3	R5-400(L)	NO STOPPING(L)	RETAIN				
X41	WATERVIEW STREET - SHEET 3	R5-2(R)	TIMED PARKING SERIES 2P(R)	RETAIN				
X42	WATERVIEW STREET - SHEET 3	COUNCIL SIGN	WATERVIEW STREET SIGN	RETAIN				
X43	WATERVIEW STREET - SHEET 3	R5-40(LR)	NO PARKING (LR)	RETAIN				
X44	WATERVIEW STREET - SHEET 3	R2-14(R)	RIGHT TURN ONLY	RETAIN				
X45	WATERVIEW STREET - SHEET 3	R5-40(L)	NO PARKING (L)	RETAIN				
X46	WATERVIEW STREET - SHEET 3	R5-2(R)	TIMED PARKING SERIES 2P(R)	RETAIN				

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FOR CONSTRUCTION

EXISTING SIGN SCHEDULE								
SIGN TAG X - EXISTING R - RELOCATED	EXISTING LOCATION	CODE	SIGN DESCRIPTION	TREATMENT	NEW LOCATION		MOUNTING	REMARKS
					CONTROL	CHAINAGE		
X47	WATERVIEW STREET - SHEET 3	R5-2(L)	TIMED PARKING SERIES 2P(R)	RETAIN				
X48	WATERVIEW STREET - SHEET 3	R5-400(R)	NO STOPPING (R)	RETAIN				
X49	WATERVIEW STREET - SHEET 3	R5-400(L)	NO STOPPING(L)	RETAIN				
X50	WATERVIEW STREET - SHEET 3	R5-2(R)	TIMED PARKING SERIES 2P(R)	RETAIN				
R51	SECOND AVENUE - SHEET 4	R5-400(L)	NO STOPPING(L)	RELOCATE				SEE SMWSTCTP-AFJ-FDK-SN250-RW-DRG-030025
X52	SECOND AVENUE - SHEET 4	R5-20(R)	BUS ZONE	RETAIN			ELECTRICAL POLE	
X53	SECOND AVENUE - SHEET 4	COUNCIL SIGN	SECOND AVENUE/WATERVIEW STREET SIGN	RETAIN				
X54	SECOND AVENUE - SHEET 4	R1-1	STOP SIGN	RETAIN				
X55	SECOND AVENUE - SHEET 4	R5-400(R)	NO STOPPING (R)	REMOVE				
X56	SECOND AVENUE - SHEET 4	R1-1	STOP SIGN	RETAIN				
X57	SECOND AVENUE - SHEET 4	R5-400(LR)	NO STOPPING(LR)	RETAIN				
X58	SECOND AVENUE - SHEET 4	R5-400(LR)	NO STOPPING(LR)	RETAIN				
X59	SECOND AVENUE - SHEET 4	R5-400(LR)	NO STOPPING(LR)	REMOVE				
X60	SECOND AVENUE - SHEET 4	R5-400(R)	NO STOPPING(R)	RETAIN				
X61	SECOND AVENUE - SHEET 4	R5-16(L)	TIMED PARKING SERIES 1/2(L)	RETAIN				
X62	SECOND AVENUE - SHEET 4	R5-400(LR)	NO STOPPING(LR)	RETAIN				
R63	SECOND AVENUE - SHEET 4	R4-1	SPEED LIMIT 50KM/H	RELOCATE				SEE SMWSTCTP-AFJ-FDK-SN250-RW-DRG-030025
X64	SECOND AVENUE - SHEET 4	COUNCIL SIGN	SECOND AVENUE STREET SIGN	RETAIN				
X65	WATERVIEW STREET - SHEET 3	R5-400(L)	NO STOPPING (L)	REMOVE			ELECTRICAL POLE	
X66	WATERVIEW STREET - SHEET 3	R5-40(R)	NO PARKING (R)	REMOVE			ELECTRICAL POLE	
X67	SECOND AVENUE - SHEET 4	R5-400(L)	NO STOPPING (L)	REMOVE				
X68	SECOND AVENUE - SHEET 4	R5-1(R)	PARKING SERIES (1 HOUR)	REMOVE				
X69	SECOND AVENUE - SHEET 4	R5-1(R)	PARKING SERIES (1 HOUR)	REMOVE				
X70	SECOND AVENUE - SHEET 4	R5-400(L)	NO STOPPING	REMOVE				
X71	BRENT STREET - SHEET 1	R5-402(R)	NO STOPPING (R) TIMED (LANDSCAPE)	RETAIN				
X72	BRENT STREET - SHEET 1	R5-16(R)	TIMED PARKING SERIES 1/2(R)	RETAIN				
X73	BRENT STREET - SHEET 1	R5-16(L)	TIMED PARKING SERIES 1/2(L)	RETAIN				
X74	SECOND AVENUE - SHEET 4	-	PARKING	REMOVE			ELECTRICAL POLE	
X75	SECOND AVENUE - SHEET 4	-	PARKING	REMOVE			ELECTRICAL POLE	
X76	SECOND AVENUE - SHEET 4	-	PARKING	REMOVE			ELECTRICAL POLE	
X77	SECOND AVENUE - SHEET 4	R5-400(R)	NO STOPPING (R)	REMOVE			ELECTRICAL POLE	
X78	SECOND AVENUE - SHEET 4	R5-1(L)	PARKING SERIES (1 HOUR)	REMOVE			ELECTRICAL POLE	
X79	SECOND AVENUE - SHEET 4	R5-400(L)	NO STOPPING (L)	RETAIN			ELECTRICAL POLE	
X80	SECOND AVENUE - SHEET 4	R5-16(R)	TIMED PARKING SERIES 1/2(R)	RETAIN			ELECTRICAL POLE	

DRIVEWAY PACAKGE CTPPW5101 SIGN SCHEDULE												
SIGN TAG N - NEW SIGN	PROPOSED LOCATION	CODE	SIGN DESCRIPTION	SIGN FACE SIZE			MOUNTED HEIGHT H (m)	NO. OF POSTS	POST SIZE	FOUNDATION	POST TYPE	REMARK
				WIDTH A (mm)	HEIGHT B (mm)	AREA (m²)						
N6	WATERVIEW STREET - SHEET 4	R5-400(R)	NO STOPPING	225	450	0.10125	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE	PART OF DRIVEWAYS PACKAGE CTPPW5101
N7	WATERVIEW STREET - SHEET 4	R5-400(LR)	NO STOPPING	225	450	0.10125	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE	PART OF DRIVEWAYS PACKAGE CTPPW5101
N9	SECOND AVENUE - SHEET 4	R5-400(R)	NO STOPPING	225	450	0.10125	2.5	USE EXISTING POST FROM X55				PART OF DRIVEWAYS PACKAGE CTPPW5101
N14	SECOND AVENUE - SHEET 4	R5-400(LR)	NO STOPPING	225	450	0.10125	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE	PART OF DRIVEWAYS PACKAGE CTPPW5101
N19	SECOND AVENUE - SHEET 4	R5-400(LR)	NO STOPPING	225	450	0.10125	2.5	USE EXISTING POST FROM X67 AND X68				PART OF DRIVEWAYS PACKAGE CTPPW5101
N25	SECOND AVENUE - SHEET 4	R5-400(LR)	NO STOPPING	225	450	0.10125	2.5	USE EXISTING POST FROM X69 AND X70				PART OF DRIVEWAYS PACKAGE CTPPW5101
N34	SECOND AVENUE - SHEET 4	R5-400(L)	NO STOPPING	225	450	0.10125	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE	PART OF DRIVEWAYS PACKAGE CTPPW5101
N35	SECOND AVENUE - SHEET 4	R5-400(LR)	NO STOPPING	225	450	0.10125	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE	PART OF DRIVEWAYS PACKAGE CTPPW5101

OFFICIAL

FOR CONSTRUCTION

NEW SIGN SCHEDULE													
SIGN TAG N - NEW SIGN	PROPOSED LOCATION	CODE	SIGN DESCRIPTION	SIGN FACE SIZE			MOUNTED HEIGHT H (m)	NO. OF POSTS	POST SIZE	FOUNDATION	POST TYPE	REMARK	
				WIDTH A (mm)	HEIGHT B (mm)	AREA (m²)							
N1	WATERVIEW STREET - SHEET 3	R-12	GIVEWAY SIGN	866	750	0.32475	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE		
N2	WATERVIEW STREET - SHEET 3	R5-400(LR)	NO STOPPING(LR)	225	450	0.10125	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE		
N3	WATERVIEW STREET - SHEET 3	R5-400(R)	NO STOPPING(R)	225	450	0.10125	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE		
N4	SECOND AVENUE - SHEET 4	R2-14(L)	ALL TRAFFIC (LEFT SYMBOLIC) ONLY	600	800	0.48000	2.5	USE EXISTING POST FROM X60 AND X61 AND MOUNT AT TOP OF SIGN POST ABOVE X60 AND X61					
N5	SECOND AVENUE - SHEET 4	R2-17(R)	ONE WAY SIGN(R)	450	800	0.36000	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE		
N8	SECOND AVENUE - SHEET 4	R1-2	GIVEWAY SIGN	866	750	0.64950	2.5	USE EXISTING POST FROM X63 AND X64 AND MOUNT WITH N27 AND X64					
N10	SECOND AVENUE - SHEET 4	R2-6(L)	NO LEFT TURN	450	900	0.40500	2.0	ATTACH TO EXISTING LIGHT POLE					
N11	WATERVIEW STREET - SHEET 3	R5-400(L)	NO STOPPING(L)	225	450	0.10125	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE	MOUNT WITH N13	
N12	SECOND AVENUE - SHEET 4	R2-4N	NO ENTRY SIGN	450	750	0.33750	2.5	ATTACH TO EXISTING LIGHT POLE					
N13	WATERVIEW STREET - SHEET 3	R5-40(R)	NO PARKING (R)	225	450	0.10125	2.5	USE EXISTING POST FROM X43					
N15	SECOND AVENUE - SHEET 4	R2-17	ONE WAY SIGN	450	800	0.36000	2.5	MOUNT WITH N11					
N16	WATERVIEW STREET - SHEET 4	R2-6(L)	NO LEFT TURN	450	900	0.40500	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE	MOUNTED TOGETHER. SIGN POST TO HAVE SURFACE MOUNT SLEEVE PER 'SAFETY XPRESS SURFACE MOUNT SLEEVE FOR SIGN POST' OR TNSW APPROVED EQUIVALENT ON ISLANDS TO ENABLE EASE OF DISMOUNTING TO ALLOW FOR 19 m ARTICULATED VEHICLE MOVEMENT.	
N17	WATERVIEW STREET - SHEET 4	R2-4N	NO ENTRY SIGN	450	750	0.33750	2.0	MOUNT WITH N16					
N18	SECOND AVENUE - SHEET 4	R2-17	ONE WAY SIGN	450	800	0.36000	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE		
N20	SECOND AVENUE - SHEET 4	R5-400(R)	NO STOPPING(R)	225	450	0.10125	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE	MOUNTED TOGETHER SIDE BY SIDE	
N21	SECOND AVENUE - SHEET 4	R5-16(L)	TIMED SERIES PARKING (1/2P)	225	450	0.10125	2.5	MOUNT WITH N20					
N22	SECOND AVENUE - SHEET 4	R5-400(L)	NO STOPPING(L)	225	450	0.10125	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE	MOUNTED TOGETHER SIDE BY SIDE	
N23	SECOND AVENUE - SHEET 4	R5-16(R)	TIMED SERIES PARKING (1/2P)	225	450	0.10125	2.5	MOUNT WITH N22					
N24	SECOND AVENUE - SHEET 4	R9-225	VEHICLES UNDER 9 m EXCEPTED	450	300	0.13500	2.5	MOUNT WITH N38					
N26	SECOND AVENUE - SHEET 4	R5-400(L)	NO STOPPING(L)	225	450	0.10125	2.5	ATTACH TO EXISTING LIGHT POLE AND WITH X52					
N27	SECOND AVENUE - SHEET 4	R2-4N	NO ENTRY SIGN	450	750	0.33750	2.5	USE EXISTING POST FROM X63 AND X64 AND MOUNT WITH N8 AND X64					
N28	WATERVIEW STREET - SHEET 3	R5-400(LR)	NO STOPPING(LR)	225	450	0.10125	2.5	ATTACH TO EXISTING LIGHT POLE					
N29	SECOND AVENUE - SHEET 4	R2-6(R)	NO RIGHT TURN	450	900	0.40500	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE	MOUNTED TOGETHER BACK-TO-BACK	
N30	SECOND AVENUE - SHEET 4	R2-6(L)	NO LEFT TURN	450	900	0.40500	2.5	MOUNT WITH N29					
N31	SECOND AVENUE - SHEET 4	R2-4N	NO ENTRY SIGN	450	750	0.33750	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE		
N32	SECOND AVENUE - SHEET 4	R2-6(R)	NO RIGHT TURN	450	900	0.40500	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE	MOUNTED TOGETHER BACK-TO-BACK	
N33	SECOND AVENUE - SHEET 4	R2-6(L)	NO LEFT TURN	450	900	0.40500	2.5	MOUNT WITH N32					
N36	WATERVIEW STREET - SHEET 4	R2-6(R)	NO RIGHT TURN	450	900	0.40500	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE	MOUNTED TOGETHER. SIGN POST TO HAVE SURFACE MOUNT SLEEVE PER 'SAFETY XPRESS SURFACE MOUNT SLEEVE FOR SIGN POST' OR TNSW APPROVED EQUIVALENT ON ISLANDS TO ENABLE EASE OF DISMOUNTING TO ALLOW FOR 19 m ARTICULATED VEHICLE MOVEMENT.	
N37	WATERVIEW STREET - SHEET 4	R9-225	VEHICLES UNDER 9 m EXCEPTED	450	300	0.13500	2.5	MOUNT WITH N36					
N38	SECOND AVENUE - SHEET 4	R2-6(R)	NO RIGHT TURN	450	900	0.40500	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE		
N39	WATERVIEW STREET - SHEET 3	R2-17	ONE WAY SIGN	450	800	0.36000	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE		
N40	WATERVIEW STREET - SHEET 3	R2-17	ONE WAY SIGN	450	800	0.36000	2.5	ATTACH TO EXISTING LIGHT POLE					
N43	SECOND AVENUE - SHEET 4	R2-17(R)	ONE WAY SIGN(R)	450	800	0.36000	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE		
N44	WATERVIEW STREET - SHEET 4	R2-17	ONE WAY SIGN	450	800	0.36000	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE		
N45	WATERVIEW STREET - SHEET 4	R2-17	ONE WAY SIGN	450	800	0.36000	2.5	1	60.3 x 3.6 CHS	SIMPLE POST	FRANGIBLE		
R51	WATERVIEW STREET - SHEET 4	R5-400(L)	NO STOPPING(L)	225	450	0.10125	2.5	RELOCATE AND USE EXISTING POST FROM R51					SIGN AND SIGN POST IS RELOCATED
R63	SECOND AVENUE - SHEET 4	R4-1	SPEED LIMIT SIGN (50KM/H)	600	800	0.48000	2.5	1					SIGN IS RELOCATED
X64	SECOND AVENUE - SHEET 4	-	SECOND AVENUE STREET SIGN	-	-	-	2.5	USE EXISTING POST FROM X63 AND X64 AND MOUNT AT TOP OF SIGN POST ABOVE N27 AND N8					

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. MATERIAL SUPPLY AND CONSTRUCTION:

a. WARM MIX ASPHALT TO CONFORM TO TNSW R116.

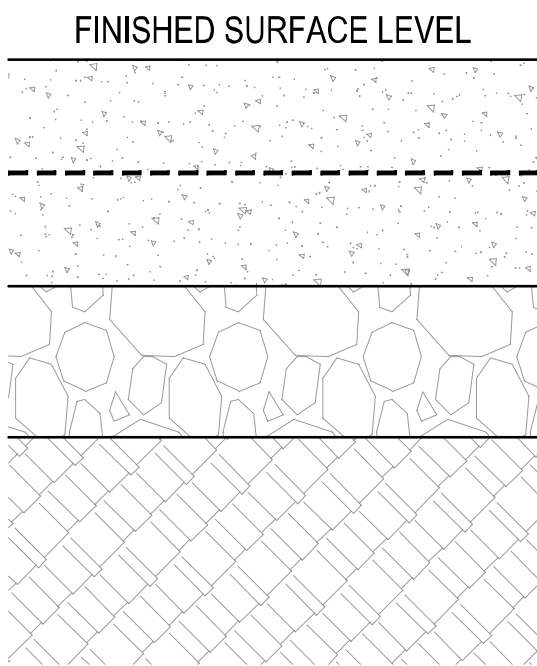
b. CONCRETE FOR MEDIAN INFILL TO CONFORM TO TNSW R54.

c. JOINT FILLER TO COMPLY WITH TNSW 3204.
3. PAVEMENT PROFILES SUBJECT TO CHANGE DEPENDING ON LOCATION OF EXISTING UTILITIES. CONTRACTOR TO COORDINATE PAVEMENT DESIGNS WITH UTILITIES.
4. ALL PROFILING OPERATIONS SHALL BE IN ACCORDANCE WITH TNSW R101
5. MILL AND CORRECT: AFTER MILLING THE TOP 50 mm OF THE EXISTING PAVEMENT, THE EXPOSED SURFACE MAY REQUIRE A CORRECTIVE LAYER IF DEPTH TO FINISHED SURFACE LEVEL IS GREATER THAN 70 mm. CORRECTIVE LAYER SHALL BE A MINIMUM 20 mm AC7 (A15E). ASPHALT TYPES SHOULD COMPLY WITH TNSW R116
6. ON COMPLETION OF THE MILLING OPERATION FOR THE PAVEMENT TYPE M&C, THE REMAINING ASPHALT LAYER SHALL BE INSPECTED. IF IT IS CRACKED, STRIPPED OR DELAMINATED AND IF THE REMAINING LAYER IS LESS THAN 30 mm THICK IT SHALL BE REMOVED AS WELL. CRACKS WIDER THAN 3 mm SHALL BE SEALED IN ACCORDANCE WITH TNSW M211, PRIOR TO CONSTRUCTION OF THE NEW ASPHALT LAYERS.
7. ALL ASPHALT LAYERS INCLUDING THE CORRECTIVE LAYER SHALL BE WITHIN THE RANGE OF THE ALLOWABLE ASPHALT LAYER THICKNESS LISTED IN TABLE 1:

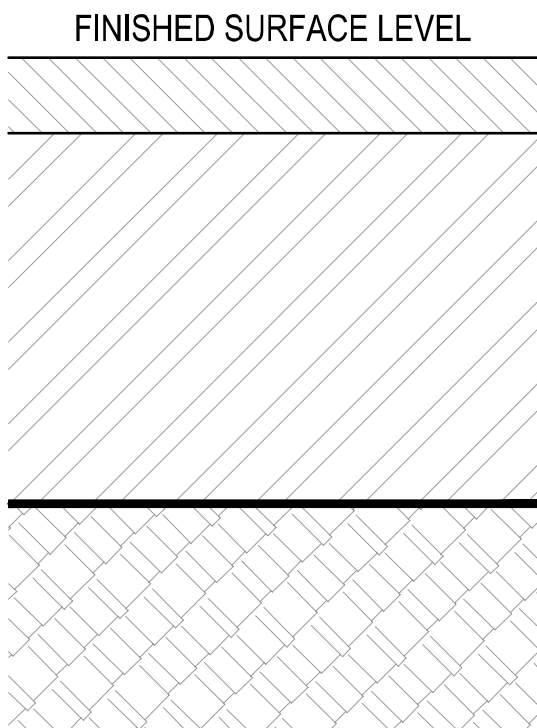
TABLE 1 : ALLOWABLE ASPHALT LAYER THICKNESS

ASPHALT TYPE	ALLOWABLE ASPHALT LAYER THICKNESS FOR DIFFERENT NOMINAL ASPHALT SIZE (mm)				
	5	7	10	14	20
DENSE GRADED ASPHALT (DGA)	15 - 25	21 - 35	30 - 50	42 - 70	60 - 100

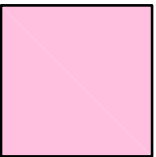
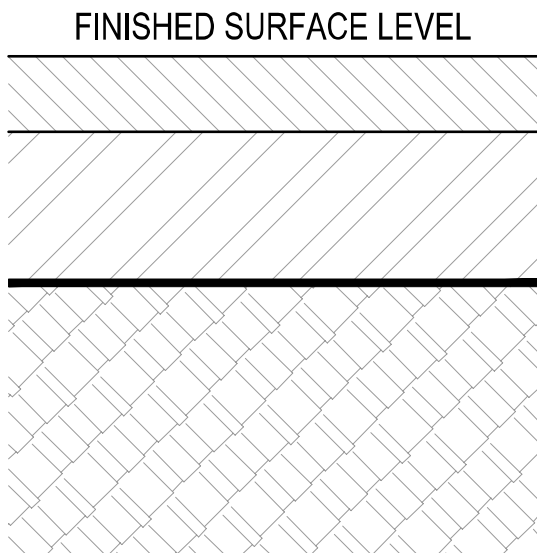
8. COMPACTION TEMPERATURES SHALL BE CONFIRMED AFTER FOLLOWING METHODOLOGY INCLUDED IN APPENDIX B OF AS2891.2.2.
9. ALL CONCRETE < 500 mm THICK SHALL HAVE MINIMUM 30% FLY ASH OR 55% SLAG. ALL CONCRETE > 500 mm THICK SHALL HAVE MINIMUM 50% FLY ASH OR 70% SLAG.
10. A MINIMUM OF 35% SUPPLEMENTARY CEMENTITIOUS MATERIALS CONTENT CONFORMING TO TNSW 3211 SHALL BE INCORPORATED IN THE CONCRETE MIX. PROPORTIONS OF SUPPLEMENTARY CEMENTITIOUS MATERIALS IN THE WORK SHALL BE DETERMINED USING THE RELEVANT TNSW 3211 ANNEXURE.



PAVEMENT TYPE - MI
MEDIAN INFILL



PAVEMENT TYPE - HP
HEAVY PATCHING

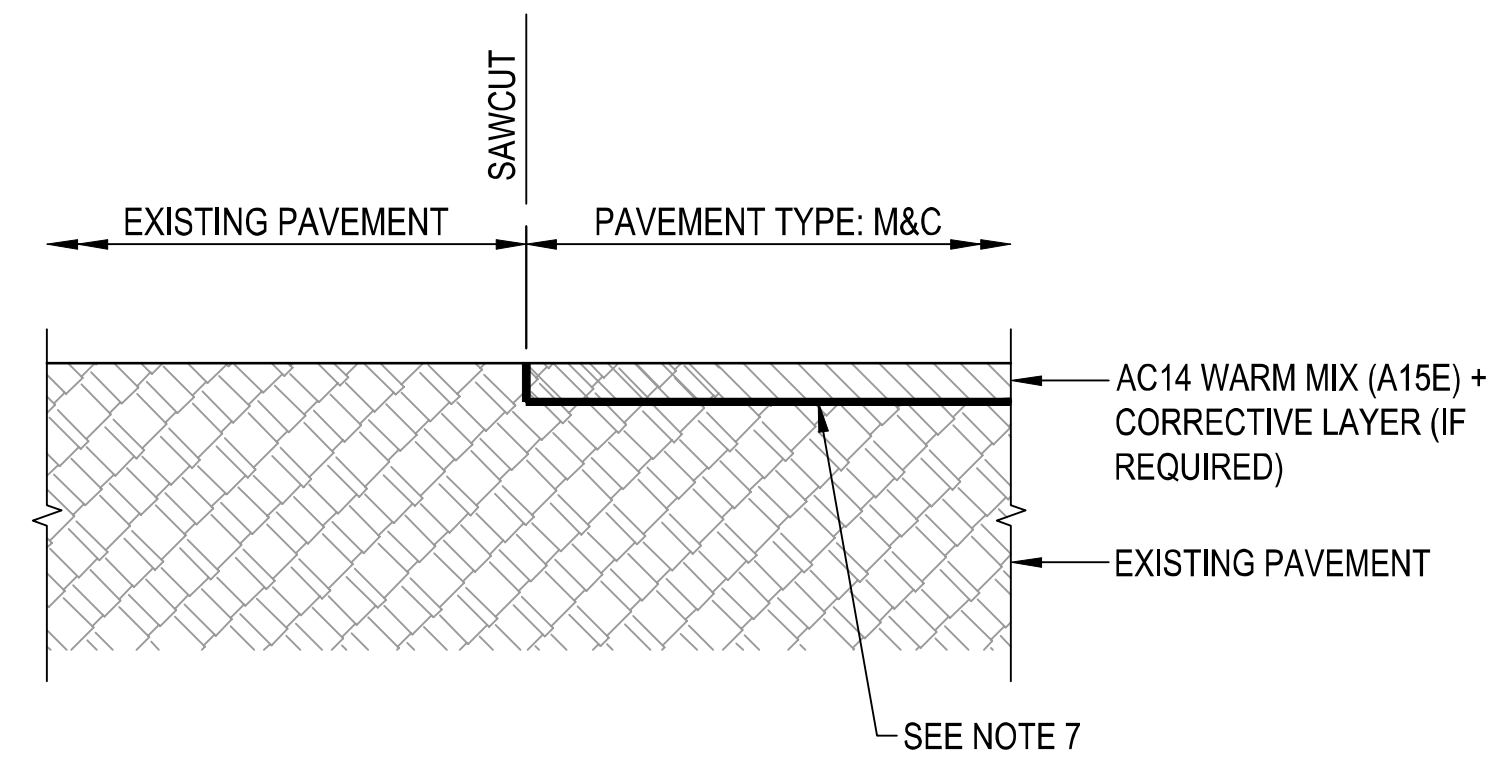


PAVEMENT TYPE - M&C
MILL AND CORRECTION

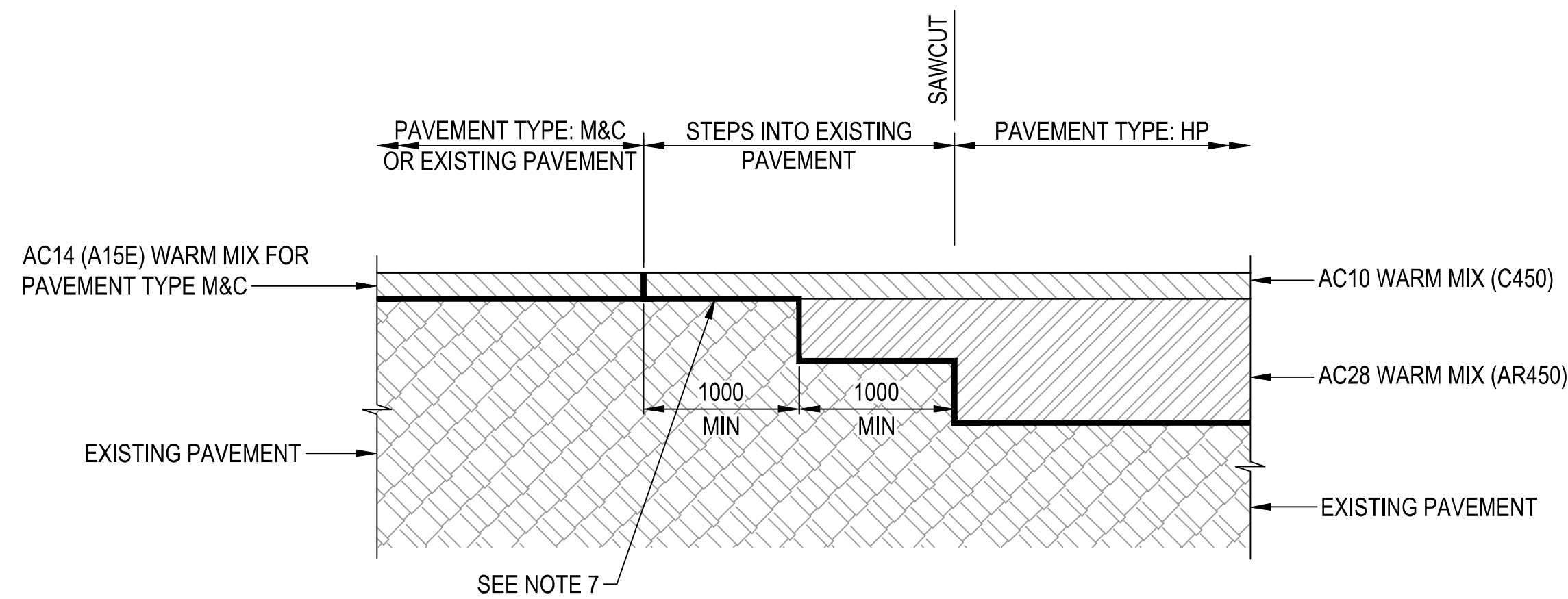
NOTE:
UTILITIES SHOWN ON THE DRAWINGS ARE EXISTING ONLY AND DO NOT SHOW THE DESIGN FOR ANY PROPOSED UTILITIES. REFER TO RELEVANT UTILITIES DESIGN PACKAGES FOR THE PROPOSED UTILITIES DESIGN. CONSTRUCTION IS NOT TO COMMENCE UNTIL THE PROPOSED UTILITY DESIGN IS ISSUED FOR CONSTRUCTION.

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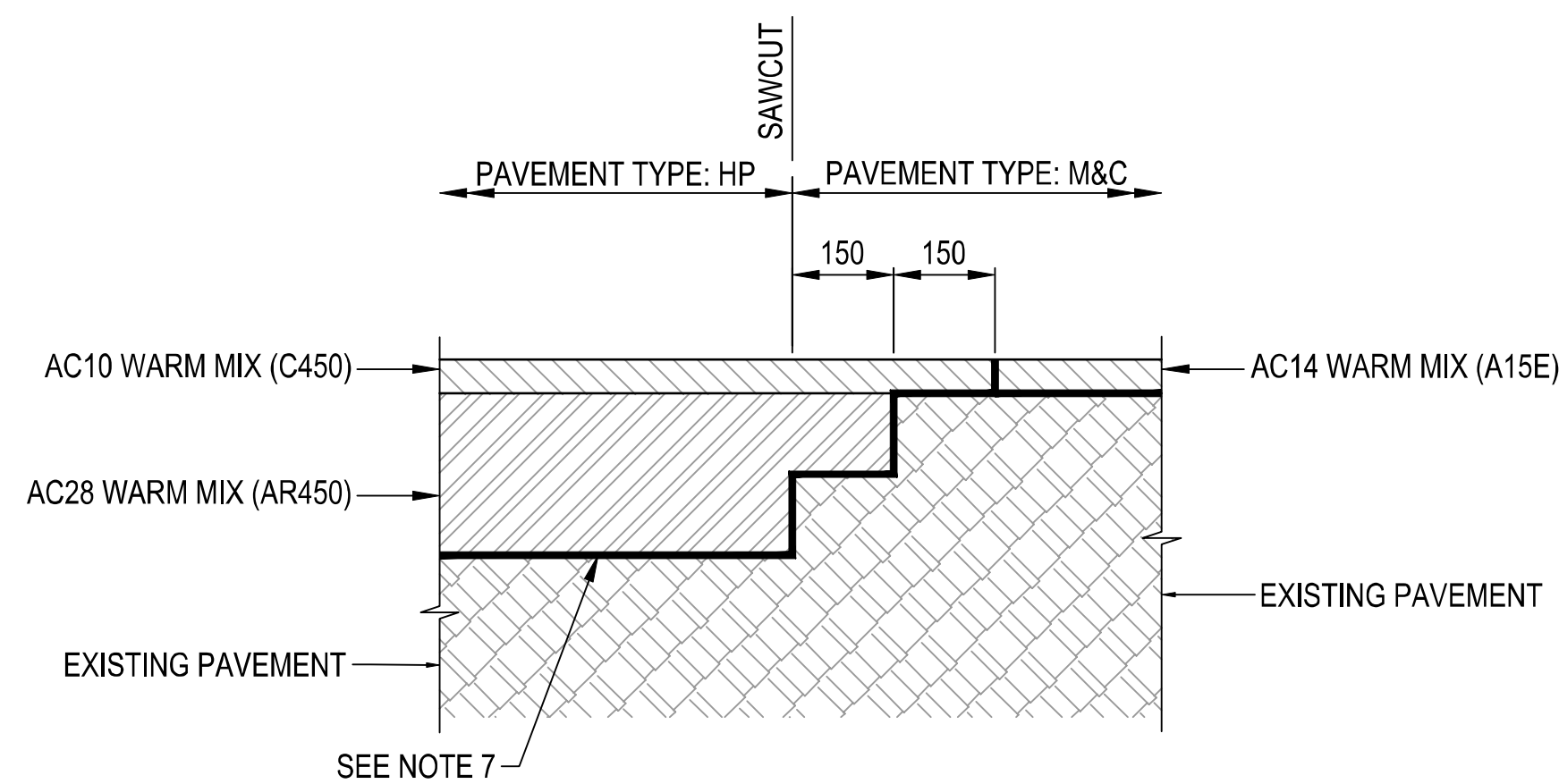
FOR CONSTRUCTION



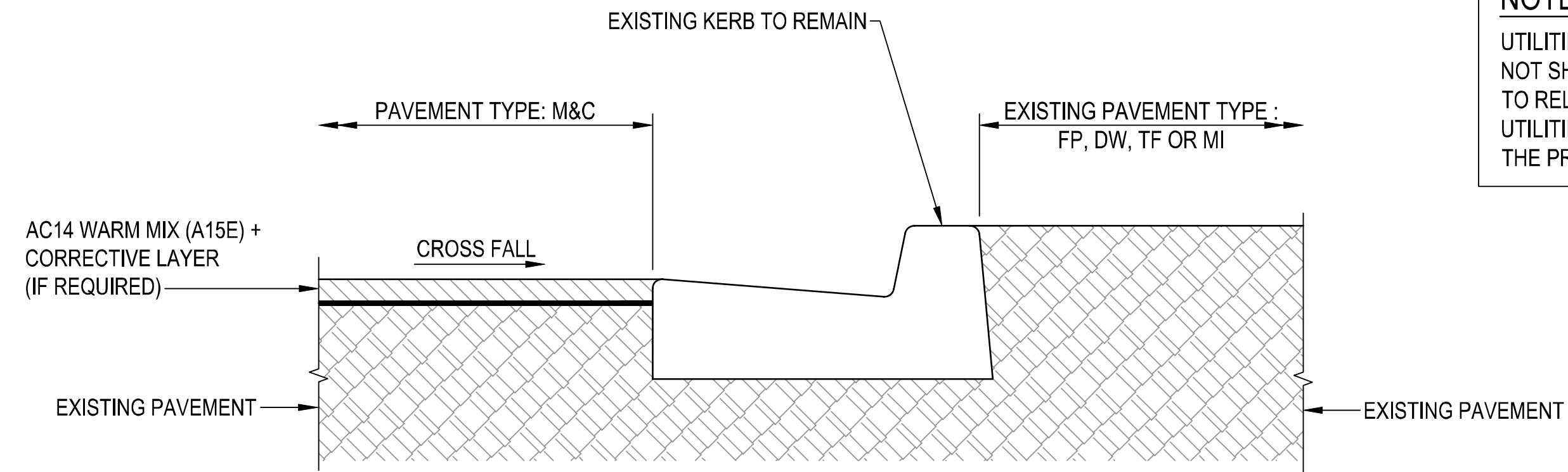
INTERFACE DETAIL I-1
EXISTING PAVEMENT AND PAVEMENT TYPE M&C
NTS



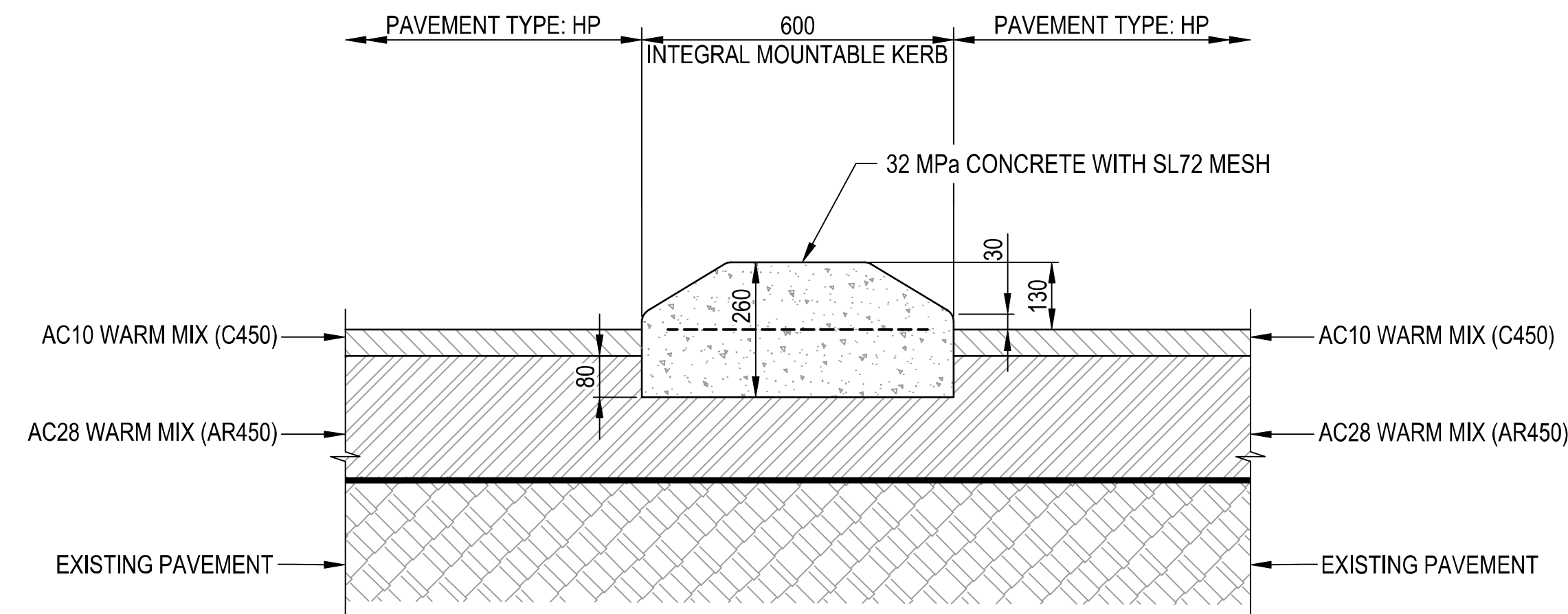
INTERFACE DETAIL I-2
TRANSVERSE CONSTRUCTION DETAIL FOR PAVEMENT TYPE M&C
OR EXISTING PAVEMENT AND PAVEMENT TYPE HP
NTS



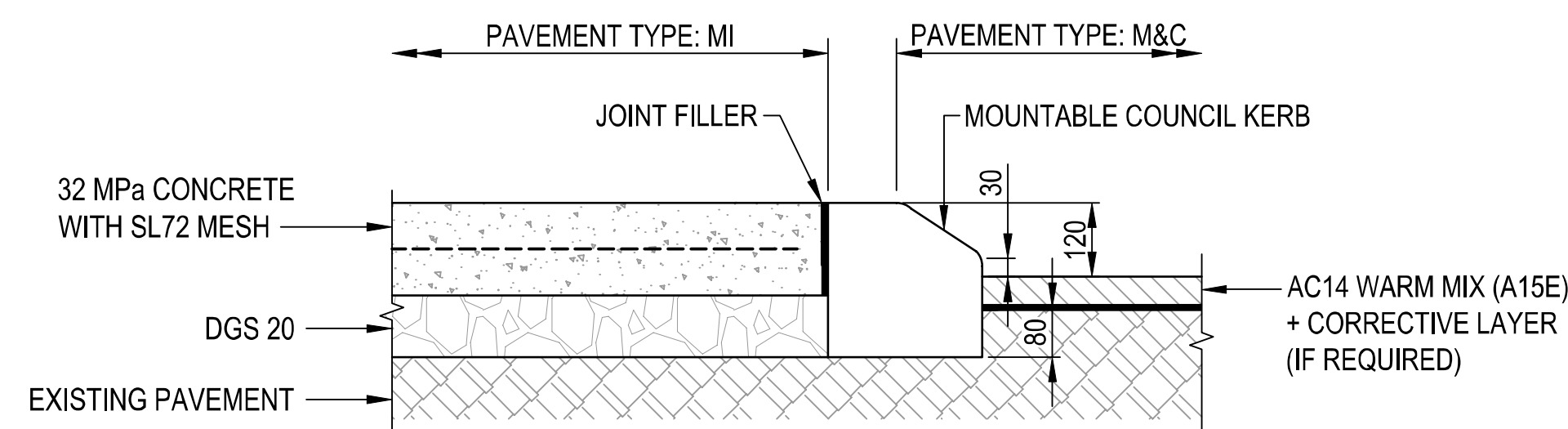
INTERFACE DETAIL I-3
PAVEMENT TYPE HP AND PAVEMENT TYPE M&C
NTS



EDGE DETAIL E-1
PAVEMENT TYPE M&C WITH EXISTING COUNCIL KERB AND EXISTING PAVEMENT TYPE FP, DW, TF OR MI
NTS



EDGE DETAIL E-2
PAVEMENT TYPE HP WITH CONCRETE INTEGRAL
MOUNTABLE KERB MEDIAN AND PAVEMENT TYPE HP
NTS



EDGE DETAIL E-3
PAVEMENT TYPE MI WITH MOUNTABLE COUNCIL KERB AND PAVEMENT TYPE M&C
NTS

NOTE:

UTILITIES SHOWN ON THE DRAWINGS ARE EXISTING ONLY AND DO NOT SHOW THE DESIGN FOR ANY PROPOSED UTILITIES. REFER TO RELEVANT UTILITIES DESIGN PACKAGES FOR THE PROPOSED UTILITIES DESIGN. CONSTRUCTION IS NOT TO COMMENCE UNTIL THE PROPOSED UTILITY DESIGN IS ISSUED FOR CONSTRUCTION.

NOTES

1. ALL DIMENSIONS SHOWN IN MILLIMETERS UNO.
2. REFER TO PAVEMENT PLANS FOR LOCATION OF INTERFACE JOINTS.
3. REFER TO SMWSTCTP-AFJ-FDK-SN250-PV-DRG-030011 FOR PAVEMENT PROFILE DETAILS.
4. WEARING COURSE LONGITUDINAL JOINT SHALL BE LOCATED WITHIN ± 25 mm OF LINE MARKING OR IN THE CENTRE OF A LANE.
5. LONGITUDINAL JOINT IN ASPHALT LAYERS SHALL BE OFFSET 150 mm MINIMUM FROM JOINTS IN UNDERLYING LAYER.
6. FOR TRANSVERSE INTERFACE MINIMUM DIMENSIONS ARE 1000 mm.
7. TACK COAT IF ASPHALT EXPOSED, POLYMER MODIFIED PRIMER EMULSION IF CONCRETE EXPOSED OR LOW CUTTER SEAL IF GRANULAR MATERIAL EXPOSED.
8. PAVEMENT INTERFACE AND EDGE DETAILS SUBJECT TO CHANGE DEPENDING ON LOCATION OF EXISTING UTILITIES. CONTRACTOR TO COORDINATE PAVEMENT DESIGNS WITH UTILITIES.

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FOR CONSTRUCTION

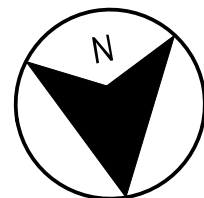


UTILITIES SHOWN ON THE DRAWINGS ARE EXISTING ONLY AND DO NOT SHOW THE DESIGN FOR ANY PROPOSED UTILITIES. REFER TO RELEVANT UTILITIES DESIGN PACKAGES FOR THE PROPOSED UTILITIES DESIGN. CONSTRUCTION IS NOT TO COMMENCE UNTIL THE PROPOSED UTILITY DESIGN IS ISSUED FOR CONSTRUCTION.

MODEL : CTRL ISLANDS - STRING : MTF01 (CLOSED)						
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG
Start	0.000	327126.539	6250973.592	16.608	280°05'33.41"	LINE
TC	4.318	327122.289	6250974.349	16.804	280°05'33.41"	ARC
CT	4.766	327122.043	6250974.674	16.777	5°44'01.46"	LINE
TC	5.366	327122.103	6250975.271	16.740	5°44'01.46"	ARC
CT	5.860	327122.454	6250975.536	16.733	100°05'33.41"	LINE
TC	10.560	327127.081	6250974.713	16.586	100°05'33.41"	ARC
CT	11.185	327127.260	6250974.227	16.568	219°28'39.30"	LINE
TC	11.872	327126.824	6250973.697	16.590	219°28'39.30"	ARC
End	12.189	327126.539	6250973.592	16.608	280°05'33.41"	

MODEL : CTRL ISLANDS - STRING : MTF02 (CLOSED)						
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG
Start	0.000	327122.136	6250972.345	17.016	100°05'33.41"	LINE
TC	3.414	327125.497	6250971.746	16.741	100°05'33.41"	ARC
CT	3.885	327125.740	6250971.399	16.730	189°59'22.36"	LINE
TC	9.836	327124.708	6250965.538	17.038	189°59'22.36"	ARC
CT	11.333	327123.582	6250965.370	17.124	332°56'23.16"	LINE
TC	15.285	327121.785	6250968.889	17.117	332°56'23.16"	ARC
CT	16.430	327121.576	6250969.999	17.061	5°44'01.46"	LINE
TC	18.520	327121.784	6250972.079	16.945	5°44'01.46"	ARC
End	19.014	327122.136	6250972.345	17.016	100°05'33.41"	

FOR CONSTRUCTION



Scope removed from CTP works

NOTE:
UTILITIES SHOWN ON THE DRAWINGS ARE EXISTING ONLY AND DO NOT SHOW THE DESIGN FOR ANY PROPOSED UTILITIES. REFER TO RELEVANT UTILITIES DESIGN PACKAGES FOR THE PROPOSED UTILITIES DESIGN. CONSTRUCTION IS NOT TO COMMENCE UNTIL THE PROPOSED UTILITY DESIGN IS ISSUED FOR CONSTRUCTION.

LEGEND

---+--- 0000 ---
CONTROL LINE

---+---
BOUNDARY / LOT PROPERTY

---+---
METRO SITE BOUNDARY

---+---
EXISTING SURVEY

---+---
DESIGN (PART OF DRIVEWAYS PACKAGE CTPPW5101)

---+---
EXISTING PAVEMENT

---+---
METRO CONSTRUCTION SITE

MXXX
CONTROL LINE LABEL

XX
NEW LINEMARKING TAG

Nxx
NEW SIGN ID

Xxx
EXISTING SIGN ID

Rxx
REMOVE SIGN ID

---+---
LOCATION OF EXISTING SIGN TO BE RETAINED

---+---
LOCATION OF EXISTING SIGN TO BE REMOVE / RELOCATED

---+---
LOCATION OF PROPOSED SIGN / RELOCATED SIGN

---+---
LOCATION OF SIGN (PART OF DRIVEWAYS PACKAGE CTPPW5101)

NO STOPPING
NEW SIGNS

NO STOPPING
EXISTING SIGNS

NO STOPPING
REMOVE SIGNS

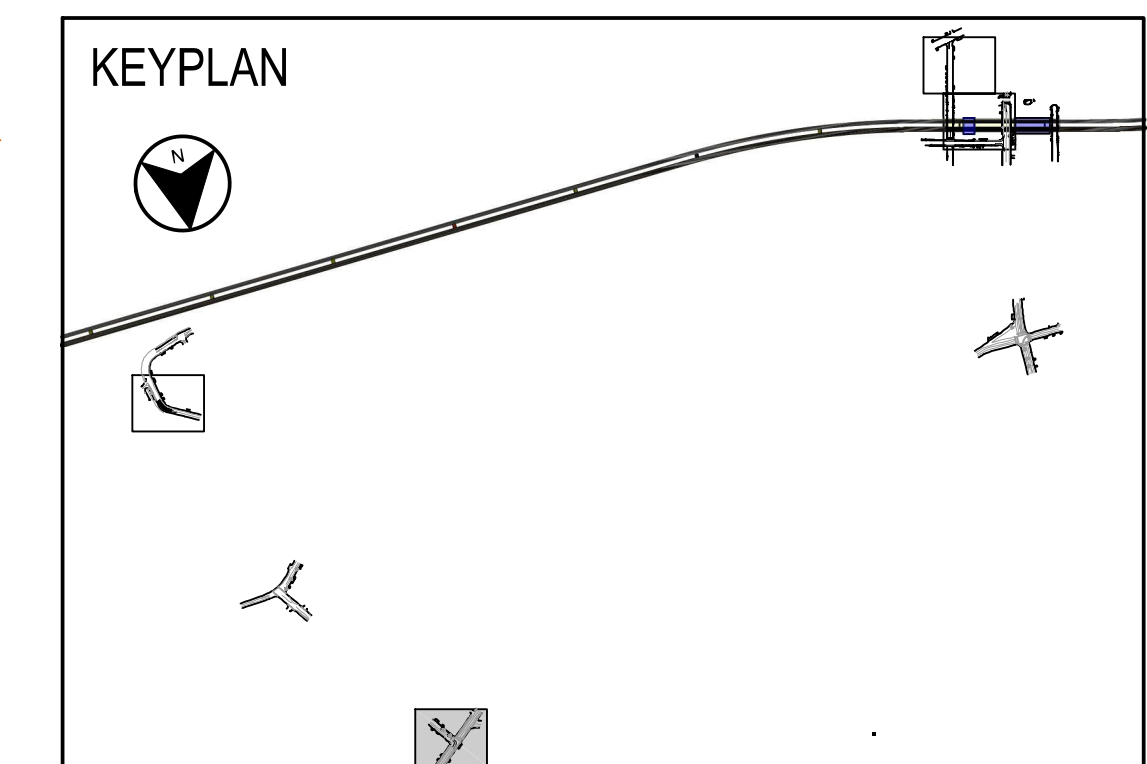
NO STOPPING
RELOCATED SIGNS

HP
M&C
MI

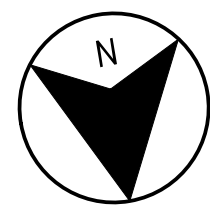
XXXX
PAVEMENT TAG

I-1 OR E-1
INTERFACE OR EDGE DETAILS

- NOTES**
1. ALL DIMENSIONS SHOWN IN METERS UNLESS NOTED OTHERWISE.
 2. REFER TO SN250-CV-DRG-030014 FOR GENERAL NOTES.
 3. MINIMUM ASPHALT PAVING WIDTH TO BE 1.5 m TO ENABLE MACHINE COMPACTION
 4. REFER TO SN250-PV-DRG-030011, FOR PAVEMENT PROFILE DETAILS.
 5. REFER TO SN250-PV-DRG-030012, FOR PAVEMENT INTERFACE AND EDGE DETAILS.
 6. HIGH PRESSURE WATER BLASTING TO BE CONDUCTED IN ACCORDANCE WITH TfNSW R103.



OFFICIAL FOR CONSTRUCTION



Scope removed from CTP works

NOTE:
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NOTE:
WORKS TO BE CARRIED OUT ONLY IF THE APPROVED CONSTRUCTION TRAFFIC MANAGEMENT PLAN INCLUDES THE HENLEY MARINE DRIVE HAULAGE ROUTE.

LEGEND

CONTROL LINE

BOUNDARY / LOT PROPERTY

METRO SITE BOUNDARY

EXISTING SURVEY

DESIGN (PART OF DRIVEWAYS PACKAGE CTPPW5101)

EXISTING PAVEMENT

METRO CONSTRUCTION SITE

CONTROL LINE LABEL

NEW LINEMARKING TAG

NEW SIGN ID

EXISTING SIGN ID

REMOVE SIGN ID

LOCATION OF EXISTING SIGN TO BE RETAINED

LOCATION OF EXISTING SIGN TO BE REMOVE / RELOCATED

LOCATION OF PROPOSED SIGN / RELOCATED SIGN

LOCATION OF SIGN (PART OF DRIVEWAYS PACKAGE CTPPW5101)

NEW SIGNS (PART OF DRIVEWAYS PACKAGE CTPPW5101)

REMOVE SIGNS

RELOCATED SIGNS

HP

MI

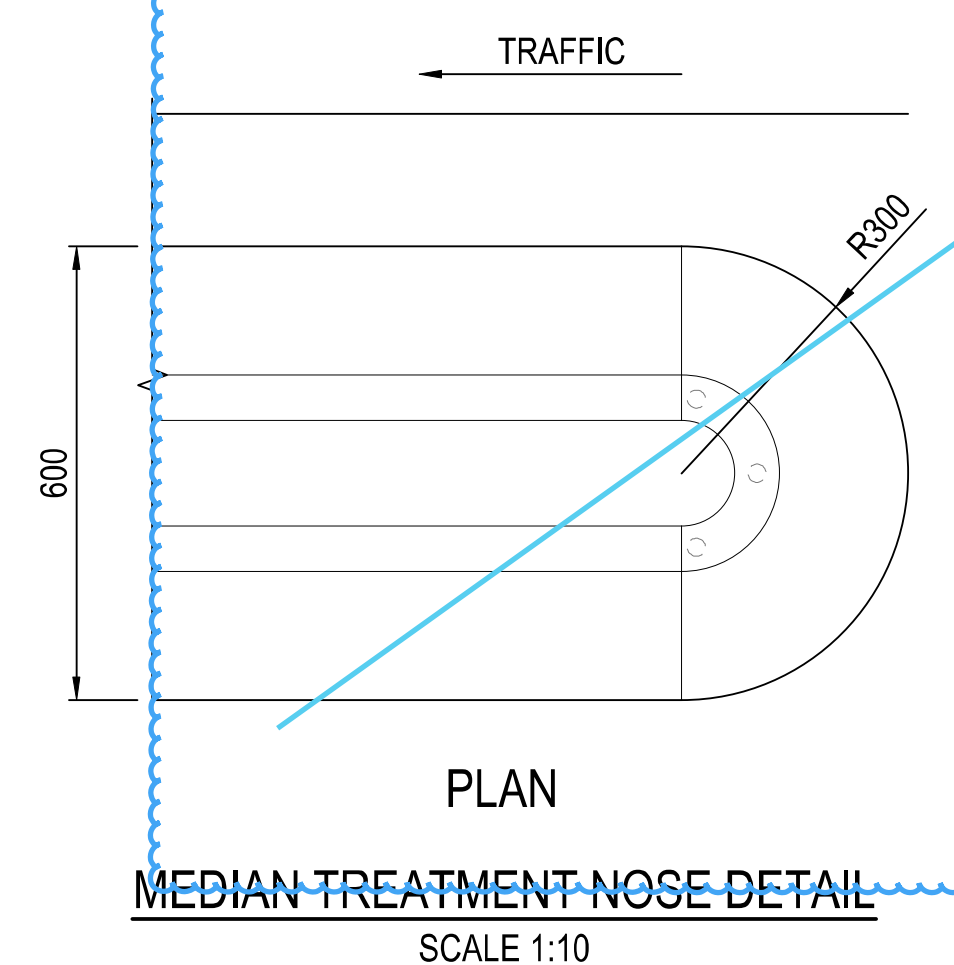
M&C

PAVEMENT TAG

INTERFACE OR EDGE DETAILS

NOTES

- ALL DIMENSIONS SHOWN IN METERS UNLESS NOTED OTHERWISE.
- REFER TO SN250-CV-DRG-030014 FOR GENERAL NOTES.
- MINIMUM ASPHALT PAVING WIDTH TO BE 1.5 m TO ENABLE MACHINE COMPACTION
- REFER TO SN250-PV-DRG-030011, FOR PAVEMENT PROFILE DETAILS.
- REFER TO SN250-PV-DRG-030012, FOR PAVEMENT INTERFACE AND EDGE DETAILS.
- HIGH PRESSURE WATER BLASTING TO BE CONDUCTED IN ACCORDANCE WITH TNSW R103.



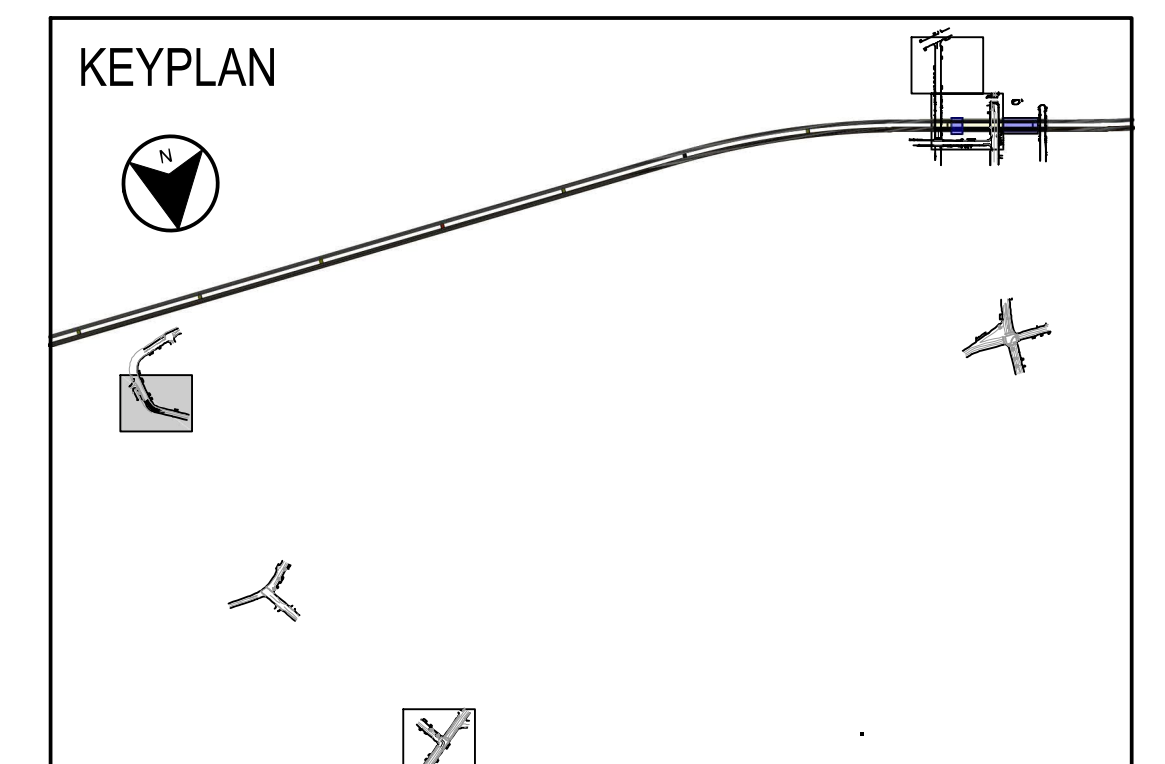
EXISTING CENTRAL MEDIAN ADJUSTED TO ACCOMMODATE 19 m ARTICULATED VEHICLES

X25 TO BE REUSED & REINSTATED

REINSTATE DOUBLE BB LINEMARKING

CONSTRUCT TNSW MEDIAN NOSE TREATMENT, REFER TNSW STANDARD DRAWING R0300-03. DETAILS SHOWN ON PLAN. INSTALL REFLECTIVE PAINT E6 LINEMARKING ON INCLINE FACE MEDIAN NOSE

MODEL : CTRL ROADS - STRING : MCF01						
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG
Start	0.000	328549.429	6251213.731	1.733	112°29'58.10"	LINE
TC	10.914	328559.512	6251209.554	1.803	112°29'58.10"	ARC
CT	34.458	328574.767	6251192.641	1.935	163°24'08.87"	LINE
TT	34.687	328574.832	6251192.421	1.936	163°24'08.87"	LINE
End	37.687	328575.689	6251189.546	1.943	163°24'08.87"	



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LEGEND

CONTROL LINE

BOUNDARY / LOT PROPERTY

METRO SITE BOUNDARY

EXISTING SURVEY DESIGN (PART OF DRIVEWAYS PACKAGE CTPPW5101)

EXISTING PAVEMENT

METRO CONSTRUCTION SITE

CONTROL LINE LABEL

NEW LINEMARKING TAG

NEW SIGN ID

EXISTING SIGN ID

REMOVE SIGN ID

LOCATION OF EXISTING SIGN TO BE RETAINED

LOCATION OF EXISTING SIGN TO BE REMOVE / RELOCATED

LOCATION OF PROPOSED SIGN / RELOCATED SIGN

LOCATION OF SIGN (PART OF DRIVEWAYS PACKAGE CTPPW5101)

NEW SIGNS (PART OF DRIVEWAYS PACKAGE CTPPW5101)

NEW SIGNS

REMOVE SIGNS

EXISTING SIGNS

RELOCATED SIGNS

HP

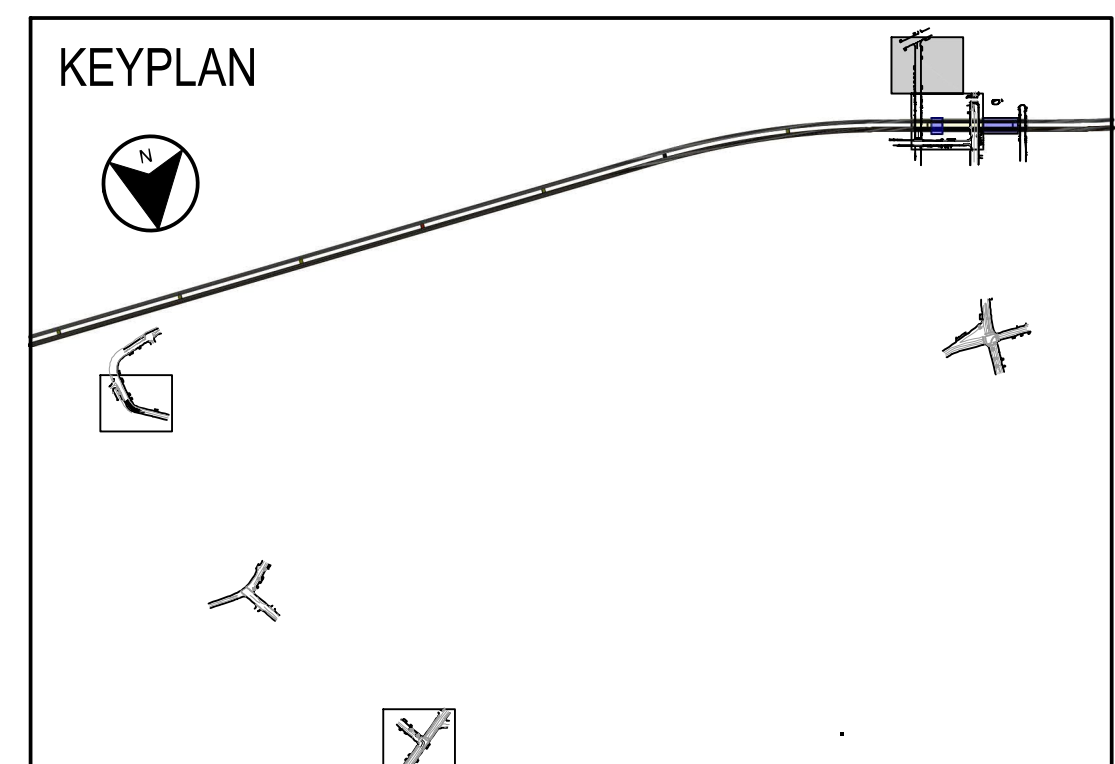
MI

M&C

PAVEMENT TAG

INTERFACE OR EDGE DETAILS

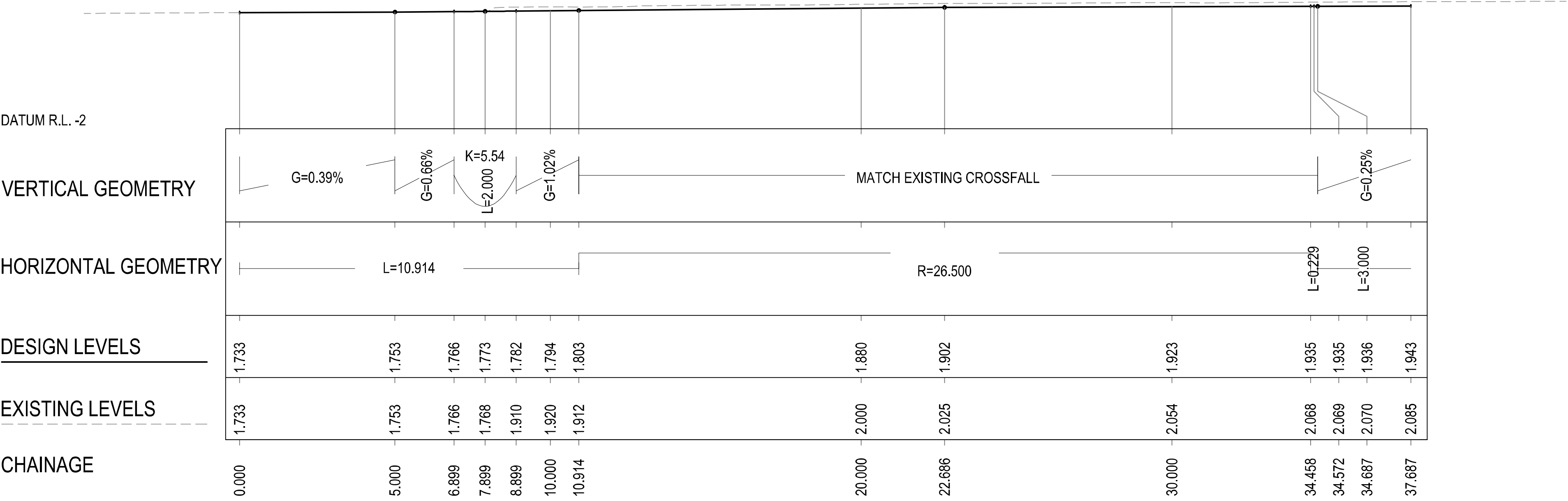
- NOTES**
1. ALL DIMENSIONS SHOWN IN METERS UNLESS NOTED OTHERWISE.
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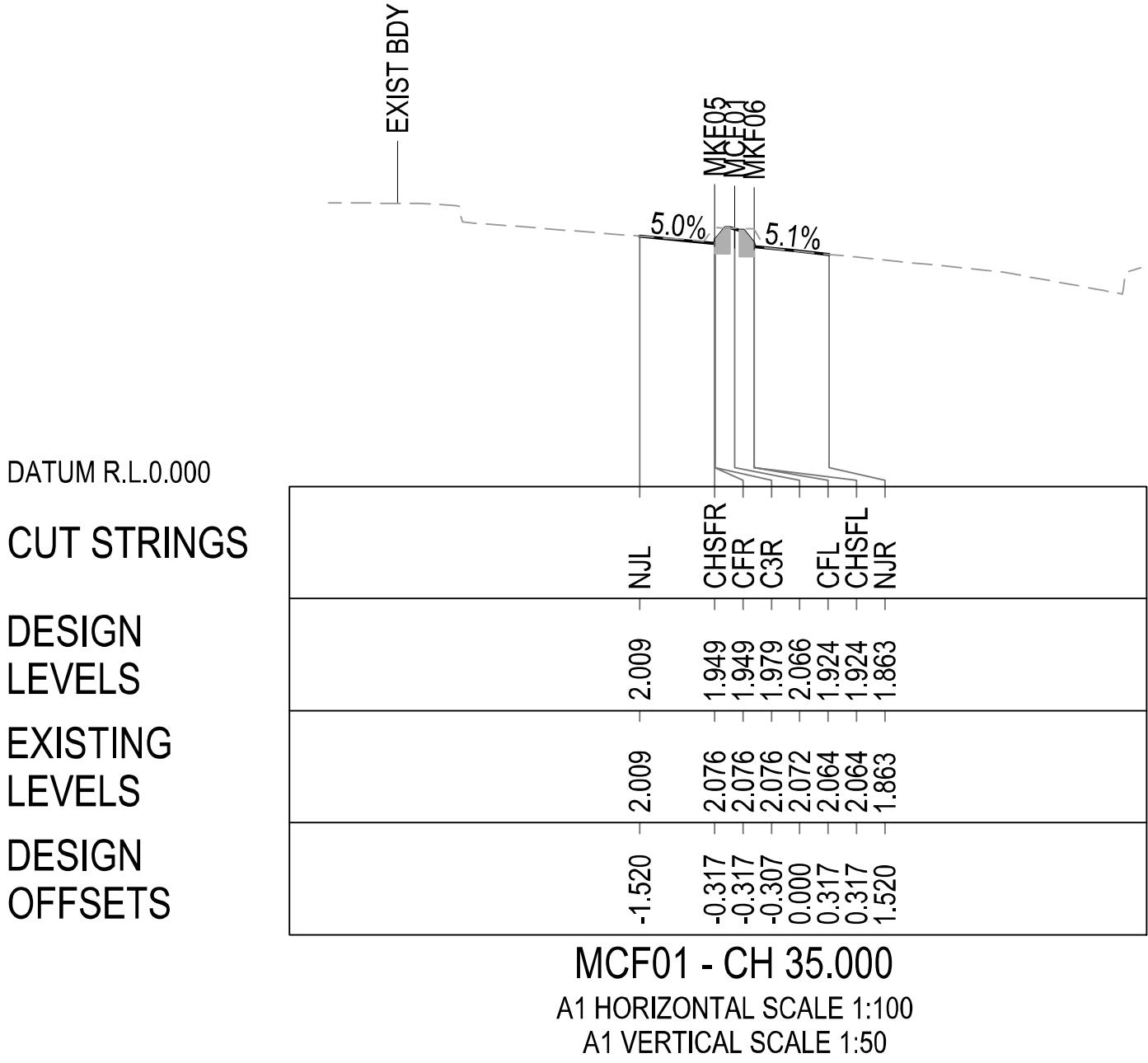
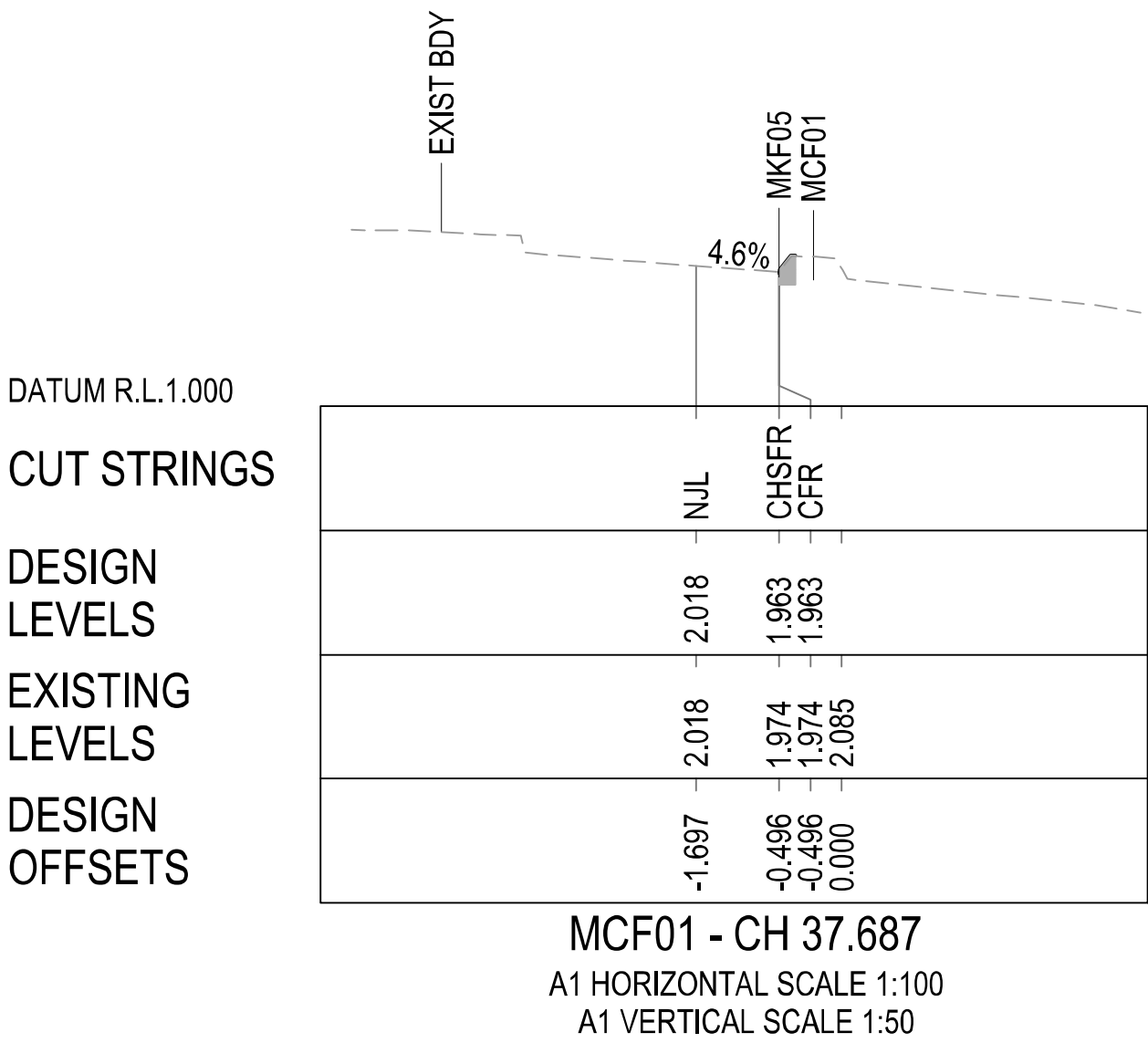
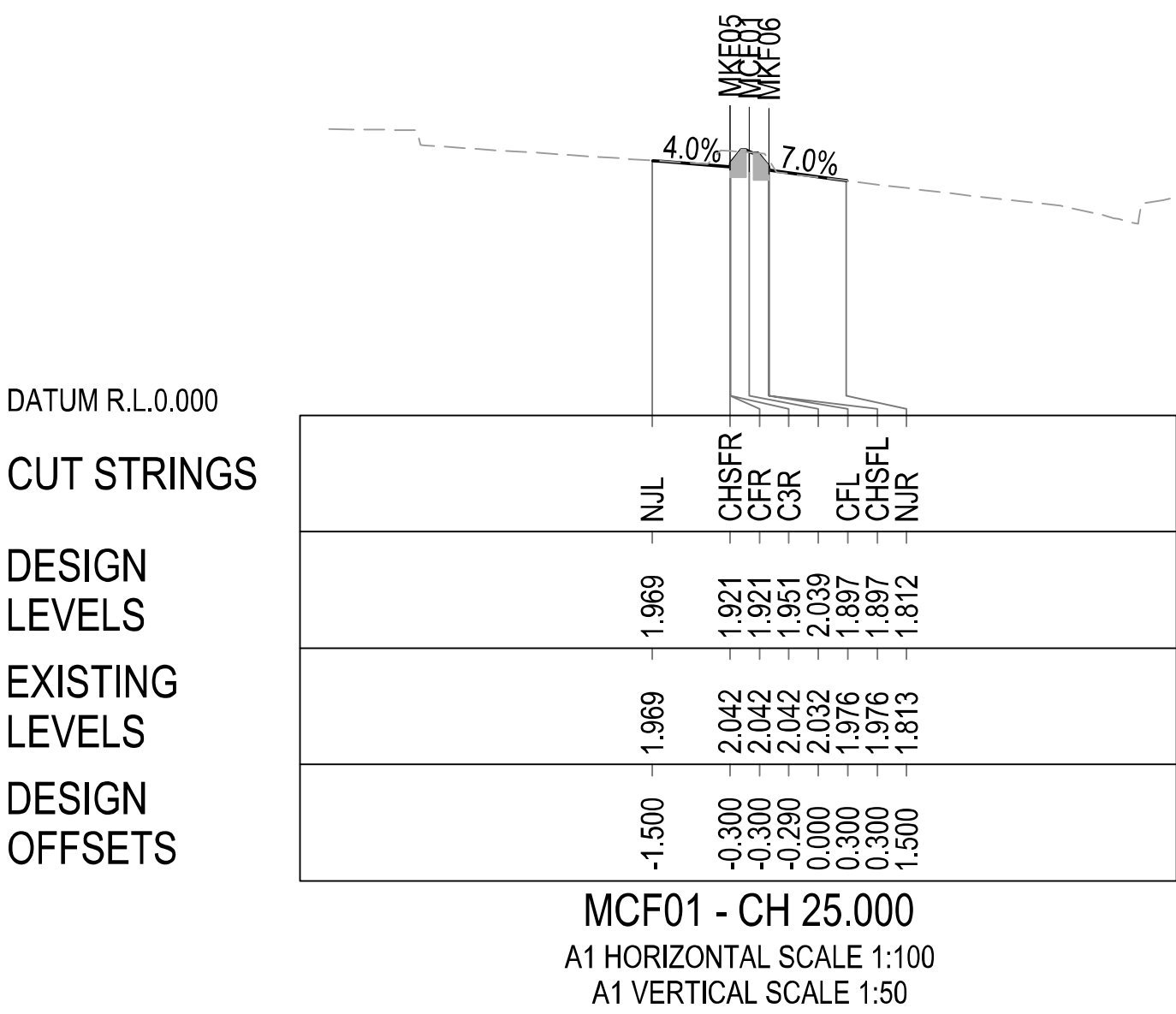
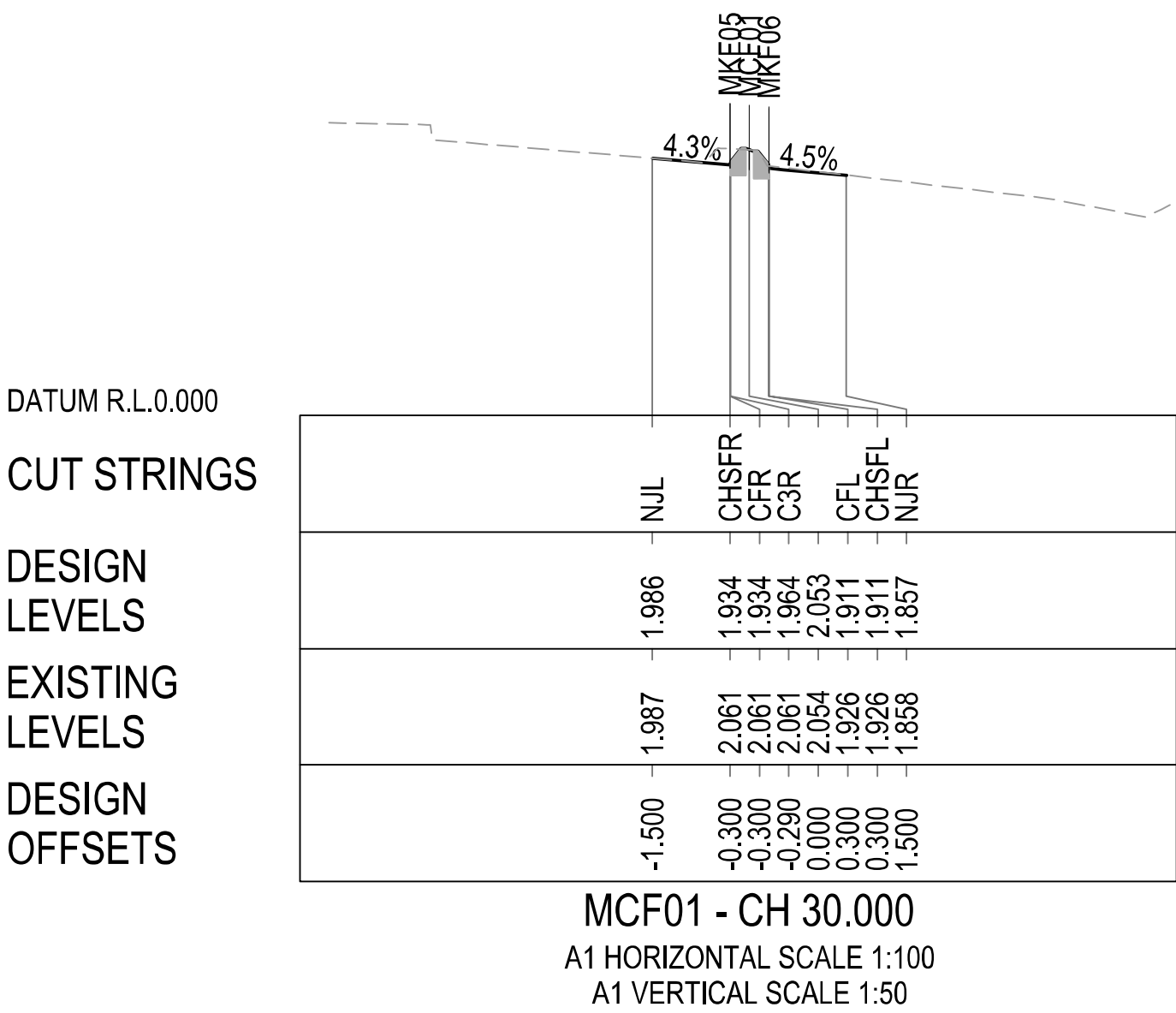
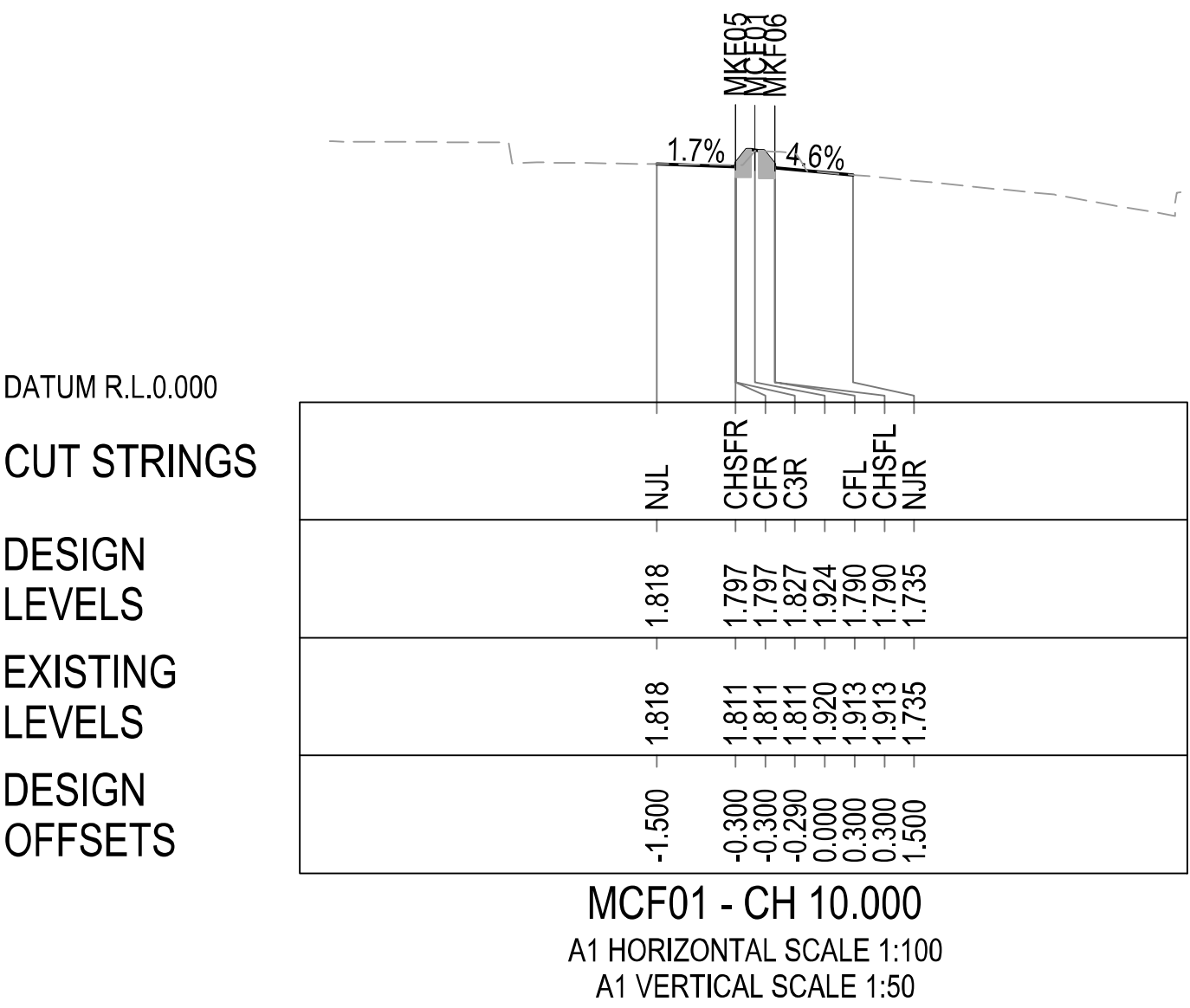
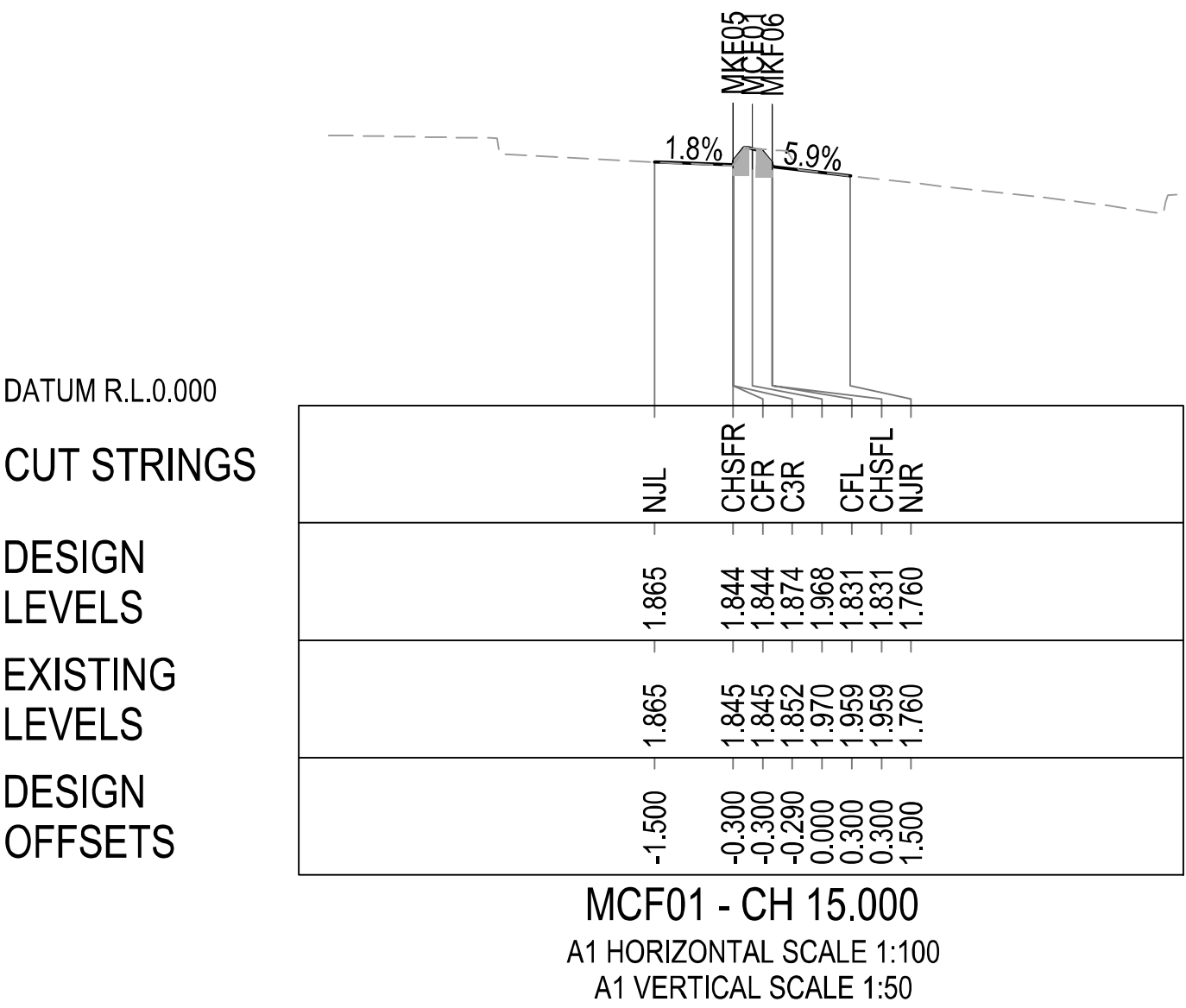
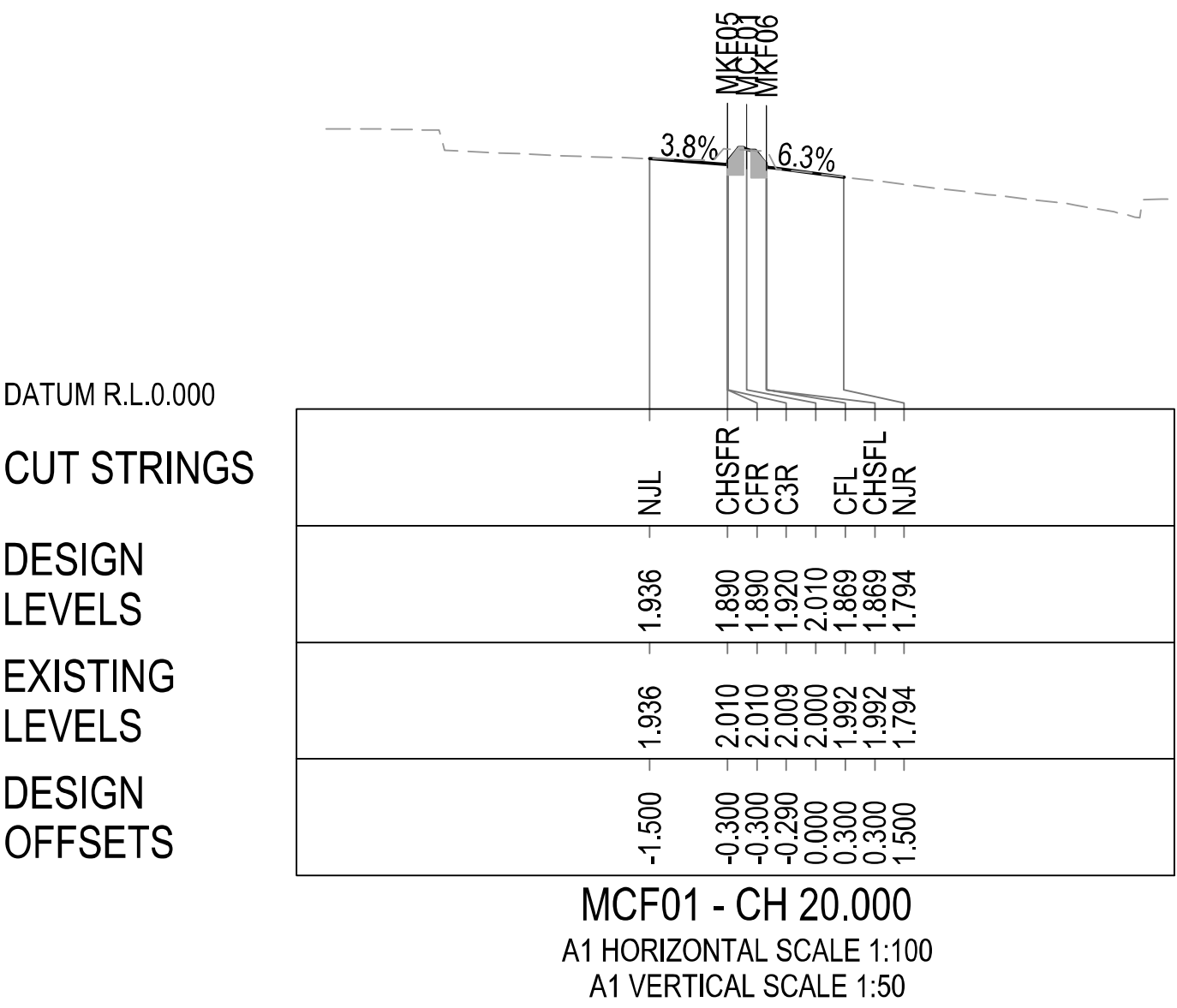
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LONGITUDINAL SECTION - MCF01 - HENLEY MARINE DRIVE
A1 HORIZONTAL SCALE 1:100
A1 VERTICAL SCALE 1:100

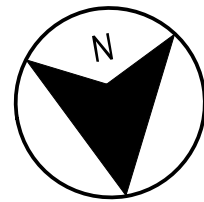
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Scope removed from CTP works

LEGEND

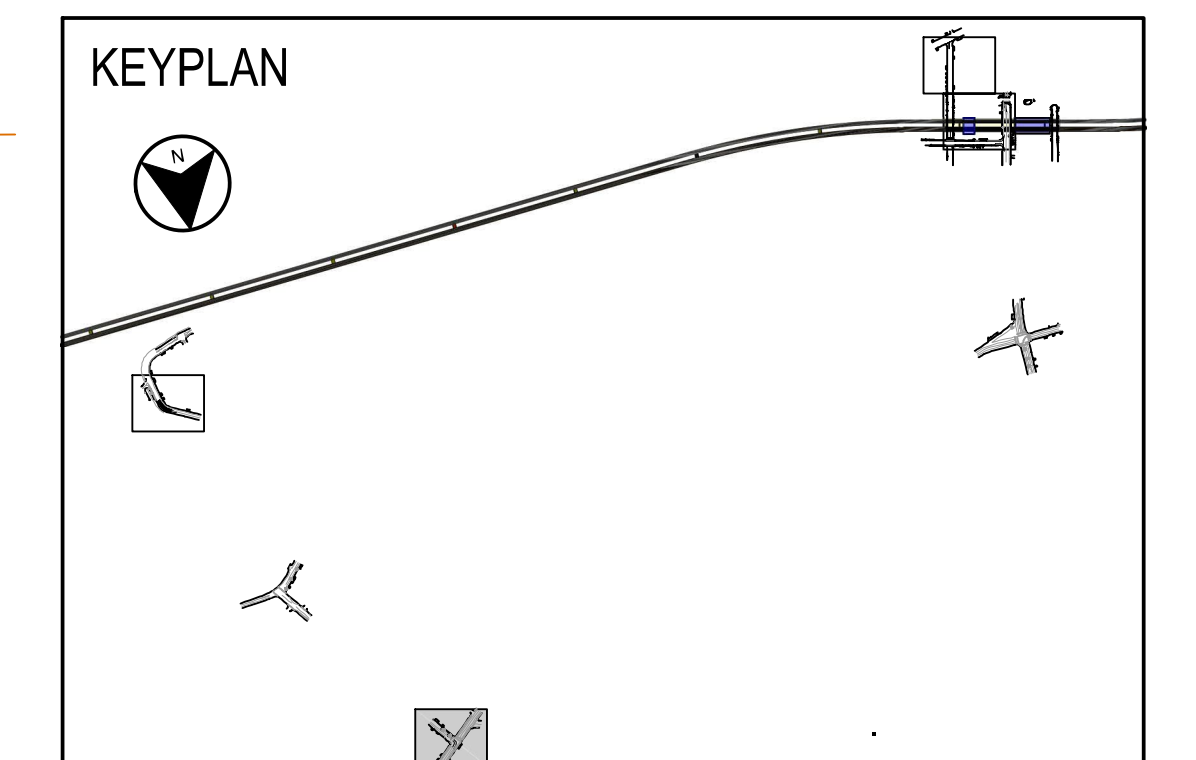
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	EXISTING SURVEY
	EXISTING PAVEMENT
	SITE BOUNDARY
	SYDNEY METRO CONSTRUCTION SITE
	EXCAVATION EXTENTS
	EXISTING PIT LABEL
	EXISTING PIPE TO PIPE CONNECTION
	EXISTING OUTLET
	EXISTING BLIND PIT
	EXISTING STORMWATER PIT
	EXISTING GRATED TRENCH DRAIN (LARGE SLOT)
	CONCRETE ENCASE EXISTING PIPE
	EXISTING STORMWATER PIPE
	MAJOR - CONTOURS
	MINOR - CONTOURS
	EXISTING MAJOR - CONTOURS
	EXISTING MINOR - CONTOURS

NOTES

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2. REFER SN250-CV-DRG-030015 FOR SURVEY LEGEND.

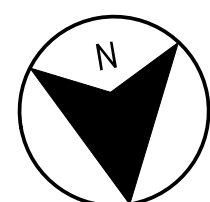
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LEGEND

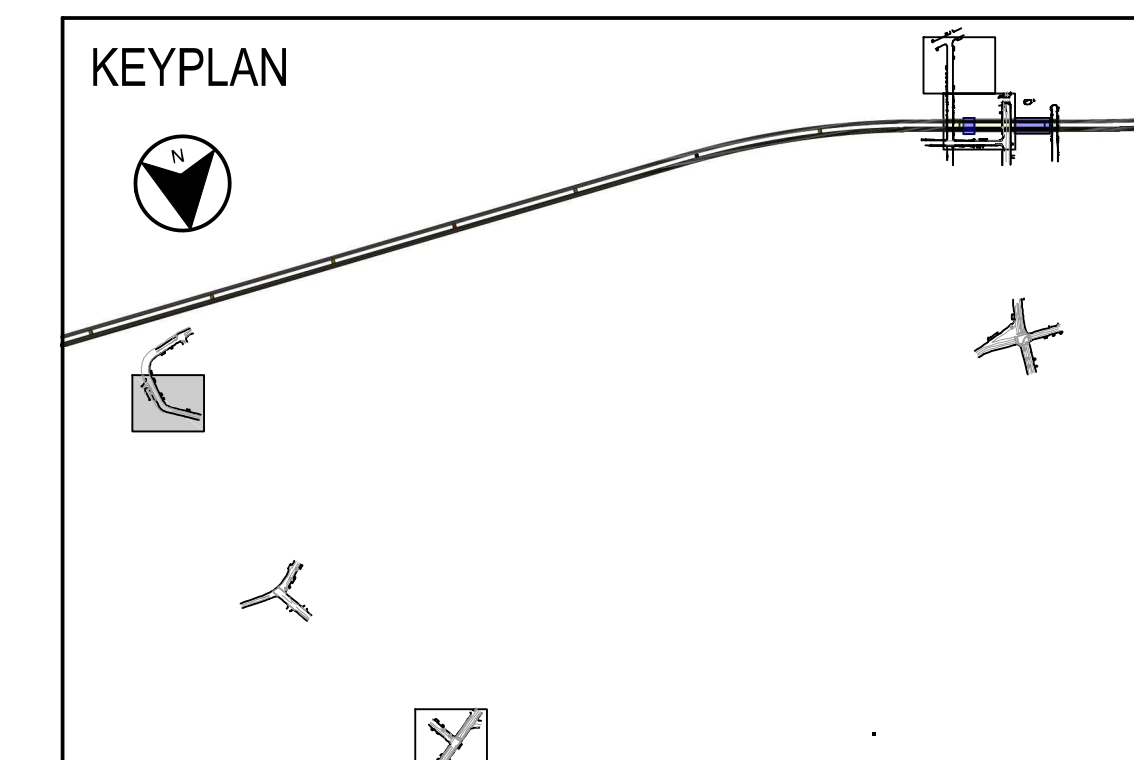
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	EXISTING SURVEY
	EXISTING PAVEMENT
	SITE BOUNDARY
	SYDNEY METRO CONSTRUCTION SITE
	EXCAVATION EXTENTS
	EXISTING PIT LABEL
	EXISTING PIPE TO PIPE CONNECTION
	EXISTING OUTLET
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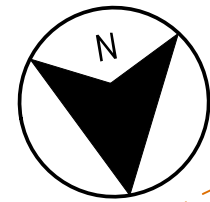
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WATERVIEW ST

LEGEND

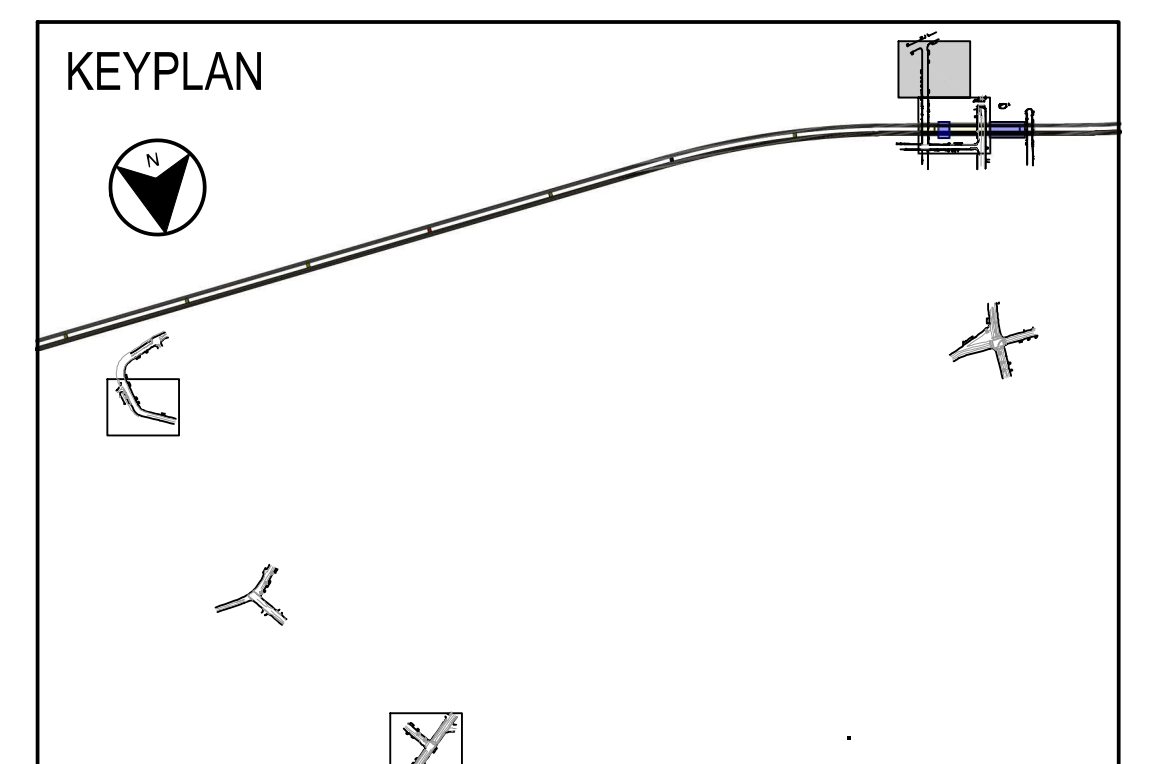
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	EXISTING SURVEY
	EXISTING PAVEMENT
	SITE BOUNDARY
	SYDNEY METRO CONSTRUCTION SITE
	EXCAVATION EXTENTS
	EXISTING PIT LABEL
	EXISTING PIPE TO PIPE CONNECTION
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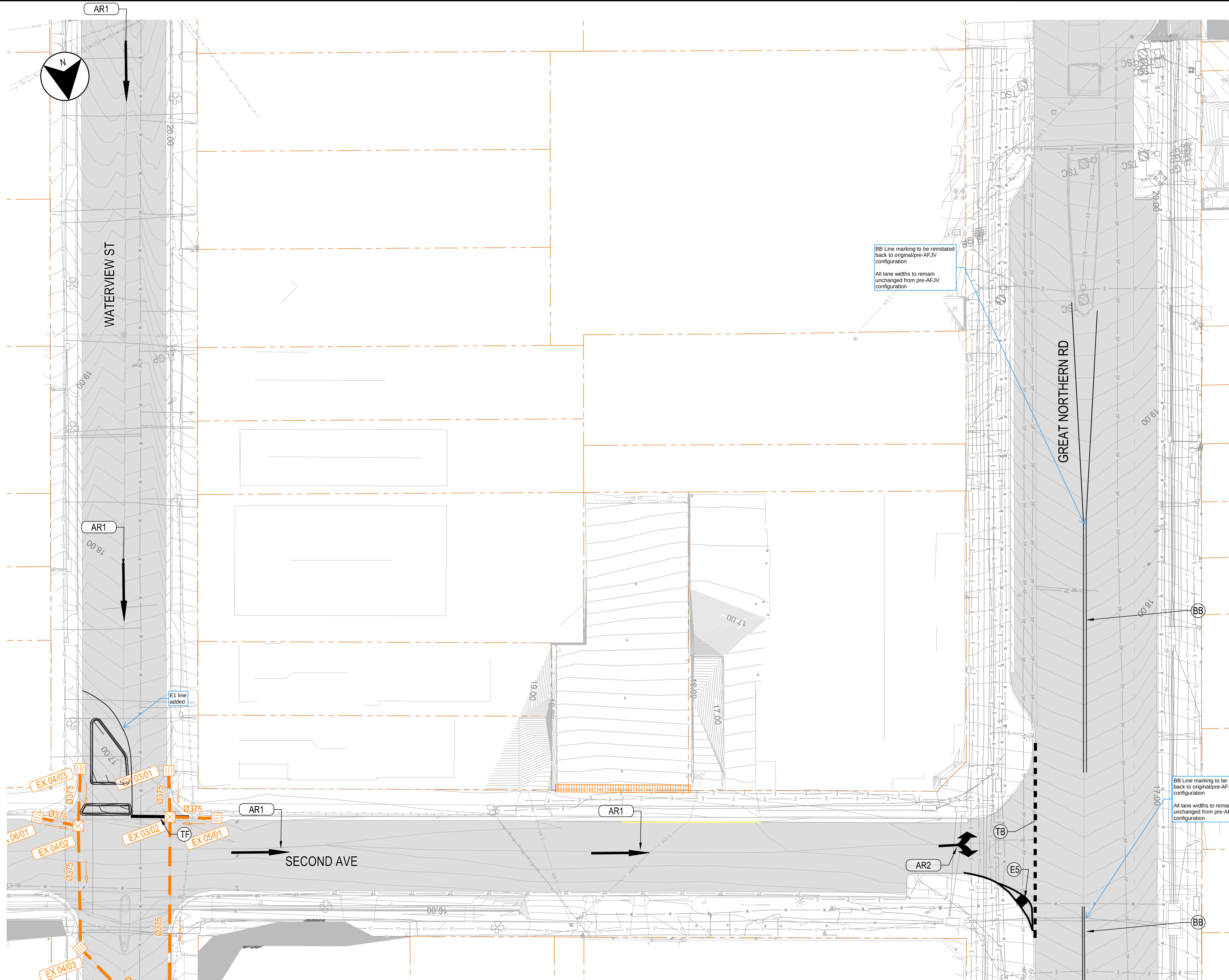
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LEGEND

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- SYDNEY METRO CONSTRUCTION SITE
- EXCAVATION EXTENTS
- EXISTING PIT LABEL
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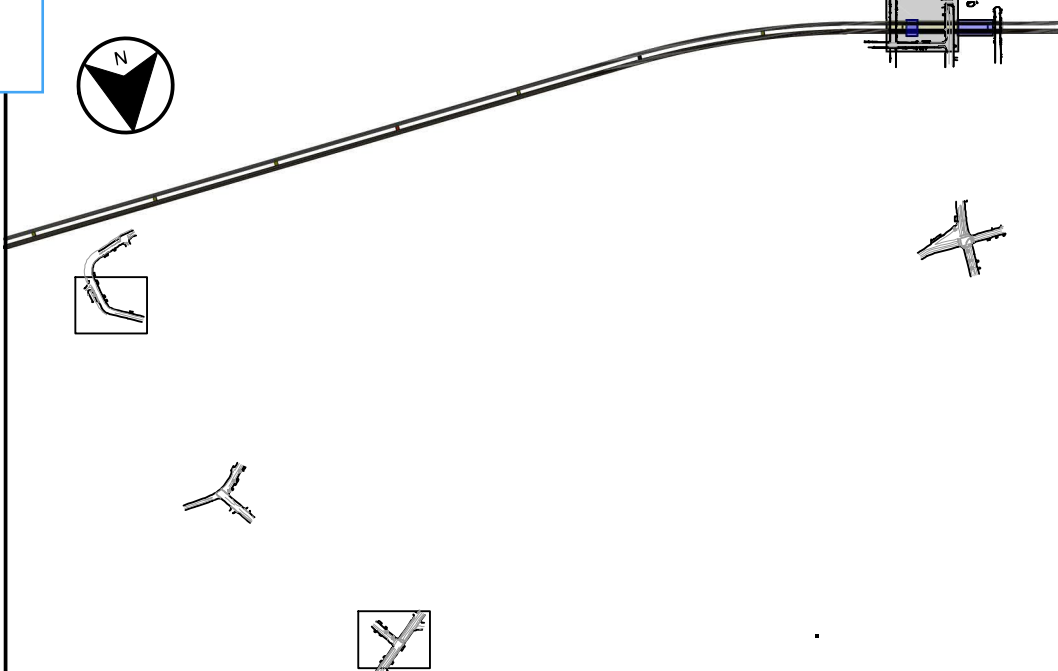
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KEYPLAN



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