

Construction Traffic Management Plan

Gazcorp Industrial Estate

813 – 913 Wallgrove Road, Horsley Park

18/04/2024

P2302r01

Document Control

Project No	P2302
Project	Gazcorp Industrial Estate (GIE) – Construction Traffic Management Plan
Client	Gazcorp Pty Ltd
File Reference	P2302r01v07 CTMP_Gazcorp Industrial Estate (GIE), Issue VII.docx

Revision History

Revision No.	Date	Details	Author	Approved by
-	8/06/2023	Draft	M. Abdullah	M.Dizon, Jr./ J. Laidler
1	25/09/2023	Issue I	M. Abdullah	J. Laidler
2	27/09/2023	Issue II	M. Abdullah	J. Laidler
3	17/10/2023	Issue III	M. Abdullah	J. Laidler
4	18/10/2023	Issue IV	M. Abdullah	J. Laidler
5	2/11/2023	Issue V	M. Abdullah	J. Laidler
6	17/11/2023	Issue VI	M. Abdullah	J. Laidler
7	18/04/2024	Issue VII	M. Khodadadifard	J. Laidler

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Glossary

Acronym	Description
Council	Fairfield City Council
CTMP	Construction Traffic Management Plan
DA	Development Application
DCP	Development Control Plan
DPHI	Department of Planning, Housing and Infrastructure
GFA	Gross Floor Area
GIE	Gazcorp Industrial Estate
LEP	Local Environmental Plan
LGA	Local Government Area
LoS	Level of Service
NHVR	National Heavy Vehicle Regulator
OC	Occupation Certificate
TfNSW	Transport for New South Wales
TGS	Traffic Guidance Scheme
TIA	Transport Impact Assessment
veh/hr	Vehicle movements per hour (1 vehicle in & out = 2 movements)

1 Introduction

1.1 Background

Ason Group has been engaged by Gazcorp Pty Ltd to prepare an overarching Construction Traffic Management Plan (CTMP) to identify the systems and measures taken by Gazcorp Pty Ltd for the construction traffic management associated with the construction of the Gazcorp Industrial Estate (GIE) (the Estate). The Estate plan is provided in **Figure 1**.

Further, the Estate belongs to SSD 5248 which was approved on 11 November 2019¹. Two Modifications after the original SSD were also approved, and that is being (MOD 1) approved on 23 December 2021², and (MOD 2) approved on 22 December 2022³. It is worth noting that MOD 3⁴ was withdrawn. Furthermore, two additional modifications (MOD 4⁵, and MOD 5⁶) are currently being assessed at the time of writing of this report.

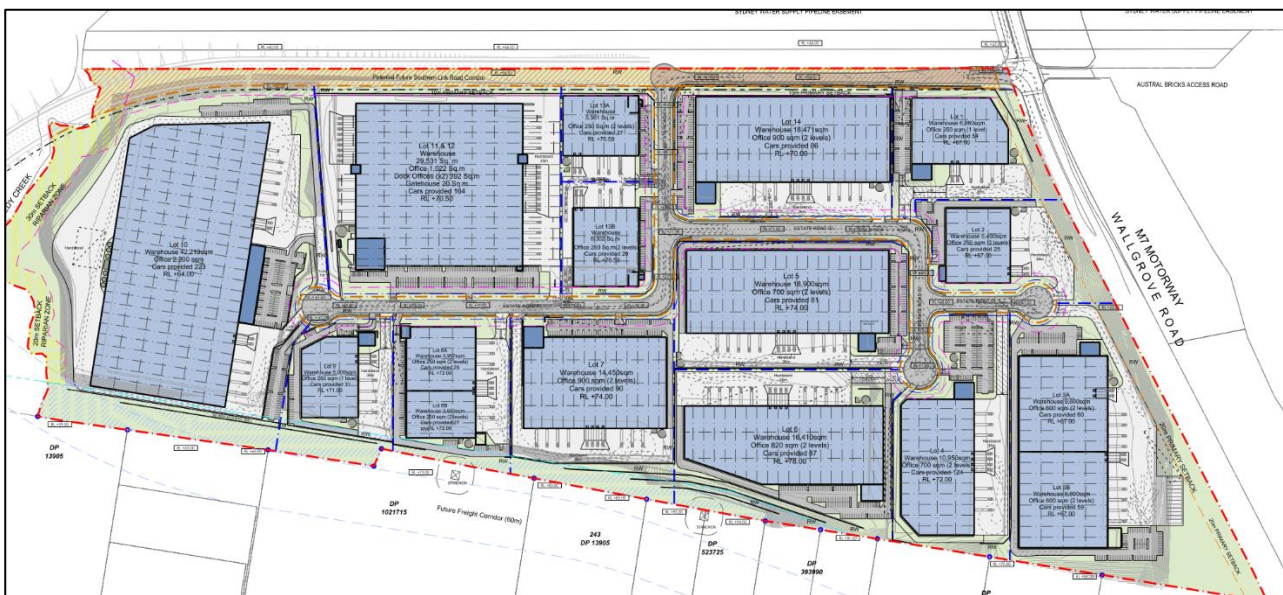


Figure 1: Gazcorp Industrial Estate – MOD 2

1.2 Report Purpose

The purpose of this report is to detail a traffic management plan for construction that seeks:

- To minimise traffic impacts on the surrounding road network and adjacent landowners / occupiers,
- Ensure safety of workers, pedestrians, road users and any site-specific considerations (including surrounding neighbours),

¹ <https://www.planningportal.nsw.gov.au/major-projects/project/26011>

² <https://www.planningportal.nsw.gov.au/major-projects/project/41081>

³ <https://www.planningportal.nsw.gov.au/major-projects/projects/gazcorp-industrial-estate-mod-2>

⁴ <https://www.planningportal.nsw.gov.au/major-projects/projects/ssd-5248-modification-4-lots-13-and-14>

⁵ <https://www.planningportal.nsw.gov.au/major-projects/projects/ssd-5248-modification-4-amendments-lot-10>

⁶ <https://www.planningportal.nsw.gov.au/major-projects/projects/ssd-5248-modification-5-changes-lots-13-and-14>

- Provide appropriate warnings of changes in road / traffic conditions, and of personnel / workers and plant engaged in the works on or adjacent to roads accessible to the general public;
- Minimise disruptions to public transport;
- Provide information regarding the construction vehicle access routes and any changed road conditions (if applicable); and
- Communicate the arrangements for and impacts of any activities affecting traffic.
- To develop Traffic Guidance Schemes in accordance with relevant Australian Standards and guidelines where required.

It is expected that this plan will be updated should any necessary changes to the currently proposed arrangements arise in the future. Any special events (if required) would be subject to a separate request for a specific permit not covered by this report.

Ason Group is responsible for the preparation of this Plan only and not for its implementation, which is the responsibility of the Contractor. In accordance with Condition C32 of the consent, no works can commence until a CTMP report is approved by the Planning Secretary of the Department of Planning & Environment (DPE).

1.3 References

The below reports have been referenced in the preparation of this CTMP:

- GHD, SSD 5248 Traffic Impact Assessment, 813-913 Wallgrove Road, ref: 21/22381, 23 August 2012 (GIE TA)
- Ason Group, SSD 5248 Transport Assessment, 813-913 Wallgrove Road, ref: 1440r02v3, 30 February 2021 (GIE MOD 1 TA)
- Ason Group, SSD 5248 Response to Submissions, 813-913 Wallgrove Road, ref: 1440r04v02, 25 October 2021 (GIE MOD 1 RTS)
- Ason Group, SSD 36156297 Transport Assessment, Lot 11 & 12, 813 Wallgrove Road, ref: 1877r01v02, 25 March 2022 (DHL TA)
- Ason Group, SSD 36156297 Response to Submissions, 813 Wallgrove Road, ref: 1877l01v3, 7 October 2022 (DHL RTS)
- Ason Group Lot 11-12: Ason Group, Construction Traffic Management Plan, Lot 11-12, Gazcorp Industrial Estate ref: P2234r01v3 CC CTMP Lot 11-12, Gazcorp Industrial Estate Issue III.
- Department of Planning and Environment, SSD 5248 Gazcorp Industrial Estate Modification 2, 11 November 2019 (SSD 5248 MOD 2)
- Department of Planning and Environment, SSD 36156297 DHL Warehouse and Distribution Centre, 22 December 2022 (SSD 36156297)
- Allied Traffic Management, Traffic Management Plan, 19-0108 – MR515 Wallgrove Road, Horsley Park Intersection Upgrade, 26 August 2022 (GIE CTMP)

1.4 Project Representatives & Stakeholders

This report has been prepared by consultants who hold the TfNSW (formerly RMS) Prepare a Work Zone Traffic Management Plan certification. Details of the accredited personnel are provided below:

- James Laidler Ticket No. TCT0031686
- Jasmine Wong.: Ticket No. TCT1043265

This Construction Traffic Management Plan (CTMP) has been prepared to meet the requirements outlined in Appendix A and Appendix E, Section E.2 of the *Transport for NSW Traffic Control at Work Sites Technical Manual (Issue No. 6.1, Feb 2022) (TCAW)*.

Through the preparation of this CTMP, the project representatives and stakeholders consulted in the development of the traffic management strategy are listed below:

TABLE 1: PROJECT REPRESENTATIVES AND STAKEHOLDERS

Name	Organisation	Role
Tim Sachs	Gazcorp	Senior Project Manager
Sangeeth Subramaniam	Gazcorp	Project Manager
Ali Rasouli	Ason Group	Principal Traffic Engineer
James Laidler	Ason Group	Senior Traffic Engineer
Musstafa Abdullah	Ason Group	Traffic Engineer

During the CTMP approvals stage, the CTMP should be provided to relevant stakeholders for consideration, such as Council, TfNSW, neighbouring properties, and Contractor's safety team, to support traffic management investigations.

1.5 Estate Location

With reference to **Figure 2** below, the Gazcorp Industrial Estate is located at 813 – 913 Wallgrove Road, Horsley Park, which is also legally known as Lot 5 DP 24094. It is situated within Fairfield City Council's Local Government Area (LGA) and, as such, is subject to Fairfield City Council's controls.



Figure 2: Estate Location

1.6 Authority Requirements

The Department of Planning, Housing and Infrastructure (DPHI) has reviewed the Construction Traffic Management Plan (CTMP) and provided preliminary feedback. Below is a summary of their comments along with our responses addressing each of these points.

TABLE 2: DPIE COMMENTS – PRELIMINARY

Comments	Response
Evidence of consultation with Fairfield City Council or Transport for NSW.	Evidence of consultation with Transport for NSW is provided in Appendix H . Response to TfNSW feedback is provided in Table 5 . Fairfield City Council was also consulted, response to Fairfield City Council feedback is provided in .
Detail the measures that are to be implemented to ensure road safety and network efficiency during construction.	Safety for all road users has been outlined and discussed in Section 2.3 and Section 4.2 Network efficiency has been addressed in Section 6 and Section 6.2 .
The expected construction vehicle movements for Stage 1 outlined in Section 4.1.2 of the CTMP do not correlate with those assessed and approved under SSD-5248. The discrepancy has not been identified or justified in the CTMP.	The following trips that are to be generated from the entire estate within the SSD-5248-MOD 2 (SSDA) report have been outlined below. • AM Peak 541 trips/hr (inbound & outbound) • PM Peak 397 trips/hr (inbound & outbound) • Daily 5,774 trips/hr (inbound & outbound) Within the SSDA report, Stage 1 indicated the operational development related to the development of Lots 11 & 12. Stage 1 operational volumes are not comparable to the Stage 1 construction volumes, as they relate to different activities, as follows: SSDA Stage 1: Relates to the trip generation once Lots 11 & 12 become operational. CTMP Stage 1: Relates to the construction volumes of the estate earthworks, estate infrastructure works and partial construction of warehouses – see Table 7 for more detail. As such, the construction volumes outlined within Section 4.1.2 do not correlate with the operational volumes within the SSDA.
The CTMP does not explicitly detail traffic and pedestrian management methods	Traffic management is defined in Section 4.2.6 and Appendix D . Pedestrian management is defined in Section 4.2.5
Section 4.1.5 of the CTMP identifies the Warragamba to Prospect Pipeline, however, does not detail what measures will be taken to ensure the unhindered movement of authorised vehicles permitted to access the pipeline.	Refer to Section 4.1.5 for further details.

Upon reviewing Ason Group's responses to the DPHI preliminary comments, DPHI has provided additional feedback. Below is a summary of their comments, along with our responses addressing each point.

TABLE 3: DPIE FURTHER COMMENTS

Comments	Response
Further detail required in response to C31(i). The Applicant must demonstrate in more detail how measures are to be implemented to ensure the unhindered movement of authorised vehicles to the Warragamba Pipeline. Mitigation methods are to be outlined in the instance this cannot be achieved.	Noted, Refer to Section 4.1.5 which outlines that the accesses are indeed separated and not affected by the operation of each other.
The Department notes that the Traffic Impact Statement, dated 23 August 2013, for the Stage 1 development (SSD-5248) states that construction of the Stage 1 development would generate 27 daily vehicles. However, the Stage 1 CTMP does not provide construction vehicle movements of the Stage 1 development. Please clarify the discrepancy. If the construction traffic volume described in the CTMP is accurate, please explain the increase and any additional measures to be implemented to manage the additional impacts.	The Traffic Impact Assessment (TIA) ⁷was prepared by GHD in 2013. The TIA It recommended that further, more detailed construction traffic management planning be when they become available. Condition C32 of the Consent also outlines that a detailed CTMP must be prepared prior to commencement of construction. As such, volumes outlined within the original TIA were estimated only and not reflective of the current construction process. Table 19 outlines the expected construction volumes for the entirety of the construction program, with Section 6.2 outlining the suitability of this construction traffic in relation to the impacts of the surrounding road network.

1.7 Stakeholder Consultation

1.7.1 Fairfield City Council Feedback

Fairfield City Council has reviewed the CTMP and provided preliminary feedback. Below is a summary of their comments along with our responses addressing each of these points.

⁷ <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-5248%2120191119T003602.739%20GMT>

TABLE 4: DPIE FURTHER COMMENTS

Comments	Response																
The applicant is to clarify the SIDRA modelling assessment for the proposed interaction during the AM & PM peak hours for the scenario prior to the operation of the signalised intersection. Whilst the CTMP mentions the scenario for prior operations of the signalised intersection, the SIDRA modelling assessment has been carried out as a signalised intersection with the assumptions of Isolated Cycle Time (120 sections assuming that traffic signals are in operation	Ason group has carried out the SIDRA modelling prior to the signalised intersection for the temporary access as a “Give Way” intersection and not as a signalised intersection and the result of the giveaway intersection can be found in Appendix C. A summary of the temporary access performance is shown below. <table><tr><th colspan="4">TEMPORARY ACCESS PERFORMANCE</th></tr><tr><th>Peak Period</th><th>AVD (s)</th><th>LOS</th><th>DOS</th></tr><tr><td>AM</td><td>0.7</td><td>D</td><td>0.637</td></tr><tr><td>PM</td><td>0.8</td><td>B</td><td>0.701</td></tr></table> Additionally, the modelling for the signalised intersection was previously completed and approved by TfNSW during the initial assessment of the GIE TA⁸. This assessment was based on the assumption that the site would be fully operational at its maximum capacity. In this CTMP, The SIDRA modelling was conducted for the signalised intersection, considering the construction traffic volume during phase 2. It is important to note that this phase involves significantly lower traffic compared to the site’s full operational capacity.	TEMPORARY ACCESS PERFORMANCE				Peak Period	AVD (s)	LOS	DOS	AM	0.7	D	0.637	PM	0.8	B	0.701
TEMPORARY ACCESS PERFORMANCE																	
Peak Period	AVD (s)	LOS	DOS														
AM	0.7	D	0.637														
PM	0.8	B	0.701														
The applicant shall come up with strategies and measures to minimise the traffic impacts on the adjoining road network. Specific traffic and access mitigation measures through the risk assessment processes are to be included within the CTMP. The risk assessment/ audit process shall be undertaken by the applicant to pro-actively manage road safety by identifying and addressing the risks associated with the road safety deficiencies.	In response to the directive to minimise traffic impacts on the adjoining road network, a traffic generation analysis of the construction traffic volumes pre-signalised intersection was conducted. The traffic volume accessing the site represents only a small percentage of Wallgrove Road and is limited to left in and left out movements, thereby posing a minimal safety risk to the road network. Figure 17 shows a comparison between the construction traffic volume during Phase 1 and the traffic volume of Wallgrove Road As for the risk assessment associated with the construction traffic after the operation of the signalised intersection, all the construction traffic will access the site through the signalised intersection, which does not carry a risk. To further enhance road safety and minimize potential risks, a series of proactive measures have been outlined in the Comprehensive Traffic Management Plan (CTMP) and detailed in Appendix B.																

⁸ <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-5248%2120191119T003546.100%20GMT>

	A key approach adopted is the implementation of regular toolbox meetings and monitoring procedures. These meetings serve as essential platforms to educate drivers about the Driver Code of Conduct, ensure compliance with road safety regulations, and adherence to road rules. By emphasising road safety awareness and fostering a culture of compliance, conflicts with different road users, such as pedestrians, cyclists, and motor vehicles, are significantly reduced. This approach aligns with the commitment to managing road safety effectively and addressing potential risks associated with road safety deficiencies
The applicant is to submit swept path diagrams to demonstrate the largest vehicle can satisfactorily traverse the construction vehicle route and can turn into and out of the site whilst not adversely impacting other road users.	Please refer to Appendix F for a detailed swept path analysis of the largest construction vehicles (12.5 m HRV) accessing the site via the temporary access route.
The relocation of the existing bus stop shall be consulted with the affected stakeholders. Any issues raised by affected businesses, TfNSW and the bus company need to be satisfactorily addressed.	Please refer to Appendix G , for details regarding the stakeholders' consultation conducted by Burton. The findings indicate that both TfNSW and the bus company are not obligated to relocate the bus stops based on the consultation results.
The CTMP shall be referred to TfNSW given that there will be a significant number of vehicles using the state road for an extended period of time during construction. Any issues raised by TfNSW shall be satisfactorily addressed.	Consultation with TfNSW is presented in Appendix H . Table 5 outlines a comprehensive overview of the responses addressing all the issues raised by TfNSW.

1.7.2 TfNSW Feedback

Transport for NSW was consulted regarding this CTMP, and they provided their feedback on 01 November 2023. The feedback from TfNSW and ASON's responses to each comment are presented in **Table 5** below:

TABLE 5: TFNSW COMMENTS

Comments	Response
Separate TMP for the signalised intersection to be submitted to CJP	Allied Traffic Management has prepared a TMP for the signalised intersection. This plan has been reviewed and consulted with TfNSW during the WAD process. For detailed information regarding Allied TMP, please refer to Appendix I
Any Traffic Guidance Schemes (TGS) prepared are to comply with AS1742.3 and Transport for NSW's "Traffic Control at Worksites" manual and be signed by a person with TfNSW certification to prepare a TGS.	The Traffic Guidance Schemes (TGS) have been designed in accordance with AS1742.3 and Transport for NSW's "Traffic Control at Worksites" manual. They have been prepared by persons holding TfNSW certification. For more detailed

	information, please refer to Section 1.4. and Appendix D
Proponent must apply and obtain approval from the Transport Management Centre for a Road Occupancy Licence (ROL) for any required lane closures and/or Speed Zone Authorisations as part of the ROL that may impact the state road network or is within 100m of traffic signals.	As detailed in the report, the construction activities related to the GIE will necessitate two access arrangements, as outlined in Section 2.4.1 for interim construction access and Section 2.4.2 for ultimate construction access. For the interim access, it is important to note that there will be no need for lane closures or Speed Zone Authorizations associated with the Road Occupancy Licence (ROL) that may impact the state road network. Moreover, this access point is situated beyond a 100m radius from any traffic signals. Similarly, the ultimate construction access does not require any lane closures or Speed Zone Authorizations that would impact the state road network. Furthermore, the ultimate access point is located at a traffic signalised intersection, and there will not be any roadwork involved on the public road. Therefore, obtaining a Road Occupancy Licence (ROL) is not necessary for the ultimate access point. In the event an ROL is required, then the appropriate approvals processes will be undertaken. Refer to Section 2.
Access to be maintained for residents, businesses and emergency vehicles at all times.	Access for residents, businesses, and emergency vehicles will be maintained at all times
No marshalling or queuing of construction vehicles is to occur on public roads. Arriving vehicles that are not able to use parking bay/work zone must continue to a holding point until space becomes available.	Noted, however there is no work zone proposed as part of the construction works. To ensure there is no queuing of construction vehicles on public roads, a detailed schedule for deliveries of goods and materials will be established in advance. All anticipated deliveries will be communicated to site personnel during daily prestart meetings to streamline operations and minimise disruptions.
When heavy vehicles are entering or leaving the site a traffic controller is to be provided to manage any conflicts between pedestrians and heavy vehicles.	A qualified construction personnel will be provided to manage vehicles entering or leaving the Site to avoid any conflicts between pedestrians and heavy vehicles.
Access to the site should be at the farthest point from the intersection as practicable to reduce additional conflicting vehicle manoeuvres.	The temporary construction access to the site has been arranged at the farthest point from the intersection. Refer to Section 2.4.
Transport for New South Wales reserve the right to alter the CTMP Conditions at any time to maintain safe and efficient traffic and pedestrian movements in this area.	Noted

Any approved Works Zone should only be used for work activities. No infrastructure, including bins, tanks or traffic control equipment should be left on the road when the works zone is not in use by a vehicle. All non-vehicular items must be contained with the work area and not on the carriageway. When a work zone is not in use, the area/lane must be opened up to allow for normal trafficable conditions	Noted. At no stage of the construction process Work Zone is needed. Refer to Section 2.1
Should TfNSW Network and Asset Management, Network Operations, CJP Operations, Network and Safety or other TfNSW business area determine that that more information is to be provided for review and acceptance, including other TCS locations, this information must be submitted prior to the CTMP being implemented, or otherwise agreed upon.	Noted
Any traffic control devices, including signage and line marking, should be installed by the proponent and must conform with Australian Standards 1742	All traffic control devices, including signage and line marking, will be installed by the proponent and will conform with Australian Standards 1742.

1.8 Road Hierarchy

The road hierarchy in the locality is presented in Figure 2 and summarised below for key roads.

TABLE 6: ROAD HIERARCHY

Road Name	Road Classification	Speed Limit	Description
M4 Western Motorway	Motorway	110 km/h	The M4 Western Motorway generally consists of 3 lanes in each direction separated by a median. There are no parking opportunities on both sides of the road.
Westlink M7 Motorway	Motorway	100 km/h	The Westlink M7 Motorway generally consists of 2 lanes in each direction separated by a median. There are no parking opportunities on both sides of the road.
Wallgrove Road	Arterial	70 km/h	Wallgrove Road generally consists of 1 lane in each direction separated by line marking only. There are no parking opportunities on both sides of the road.
Estate Road 01	Local	50 km/h	Once constructed, it provides connectivity and access to various areas and facilities within the Estate.
Estate Road 02	Local	50 km/h	Once constructed, it provides connectivity and access to various areas and facilities within the Estate.
Estate Road 03	Local	50 km/h	Once constructed, it provides connectivity and access to various areas and facilities within the Estate.

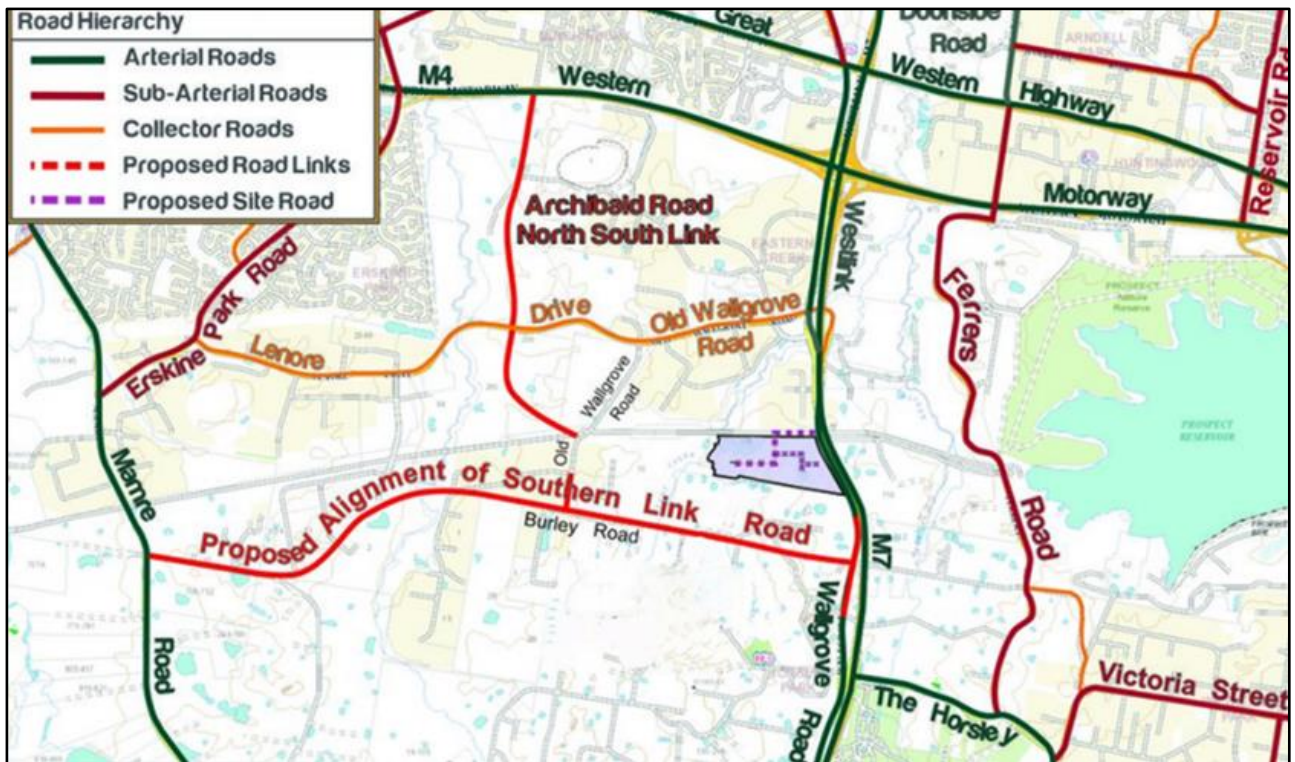


Figure 3: Road Hierarchy

2 Proposed Works and Staging

2.1 Project Details

The proposed construction activities for the estate road work and the bulk earth work have already started in April 2023 as evidence in **Table 8**. The construction process of GIE is expected to span approximately 5-6 years, depending on approvals from relevant authorities and any potential delays caused by inclement weather. The evaluation of the project will be carried out in 2 construction phases as follows:

- Phase 1: Pre-operation of the Wallgrove Road/Estate Road 01(the Signalised intersection), this phase focuses on the construction activities and traffic management measures prior to the Signalised intersection becoming operational.
- Phase 2: Post-construction of the Signalised intersection, this phase assesses the construction work and traffic conditions after the completion of the Signalised intersection.

2.2 Works Stages

2.2.1 Overview

The construction of GIE – the basis of this CTMP – will progress through 7 stages, commencing with Stage 1. During most of Stage 1 works, the majority of construction vehicles will utilise the temporary access for the Estate entry (Phase 1), while a few construction vehicles from Stage 1 and all construction vehicles from Stages 2-7 will access the Estate through the main access at the Signalised intersection (Phase 2). It is expected that the signalised intersection will be operational in January 2024.

It is worth mentioning that once the Signalised intersection is operational, it will become the access for construction vehicles, while the temporary access will be permanently closed. **Figure 4** provides a visual representation of the overall plan, including the respective stages and their associated construction areas.

To clarify, the construction of the signalised intersection is **not** included in this CTMP. However, it should be noted that the construction volume associated with the signalised intersection will be taken into account in the cumulative traffic assessment of the Estate.

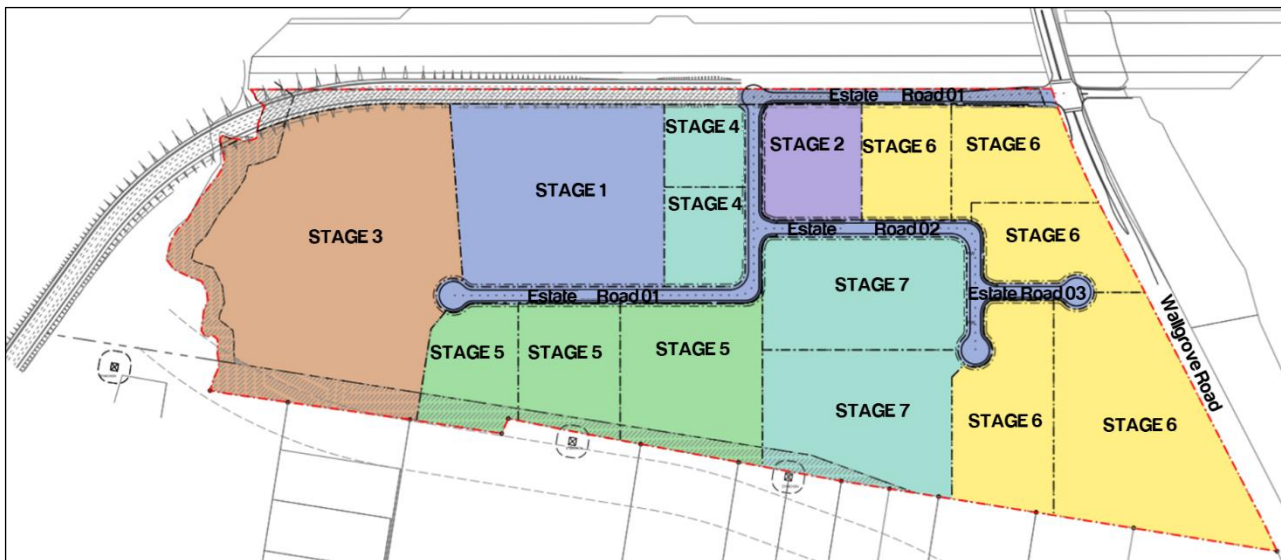


Figure 4: Construction Stages

TABLE 7: WORK STAGES

Phase	Stage	Description
Phase 1 (Prior to Signalised Intersection)	Stage 1	Stage 1 includes a range of tasks, including; • Bulk earthworks; • Internal estate roads; • Temporary LILO access off Wallgrove Road. • Construction of Lot 11 & 12
	Stage 1 (Continued)	Continued Stage 1 tasks including; • Internal Estate Roads • Construction of Lot 11 & 12
Phase 2 (Utilising Signalised Intersection)	Stage 2	• Construction of Lot 14A
	Stage 3	• Construction of Lot 10
	Stage 4	• Construction of Lot 13A & 13B
	Stage 5	• Construction of Lot 7 & Lot 8A & Lot 8B & Lot 9
	Stage 6	• Construction of Lot 14B & Lot 1 & Lot 2 & Lot 3A & Lot 3B & Lot 4
	Stage 7	• Construction of Lot 5 & 6

Further details regarding each scenario are outlined below.

2.2.2 Phase 1 Pre-Operation of The Signalised Intersection

The description of works is seen below:

TABLE 8: STAGE SUMMARY – STAGE 1A – ESTATE ROAD & BULK EARTHWORK

Criteria	Response
Description of Key Activities	Estate Road and Bulk earthworks
Stage Length	Apr 2023 – Oct 2023 (6 Months)
Max. Vehicle Size	AV, Trucks & Dog
Vehicle Movement Frequency	Approximately 40 light vehicle movements / day + Approximately 60 heavy vehicle movements / day
HV Access Requirements	All vehicles shall access the Estate at the temporary access through the deceleration lane.
Vehicle access / egress in a forward direction (Y / N)	Y
Out of Hours Deliveries (Y/N)	N
Contractor Parking	Y All parking will be within the estate. Builder shall nominate contractor parking zones, clear of truck manoeuvring areas.
Pedestrian Control	Y Temporary fence around site perimeter only.
Public Transport Services Affected	N Public transport services (i.e., location of bus stops) would not be affected beyond what has already been assessed and approved within the GIE CTMP prepared by Allied Traffic Management. As part of the GIE CTMP, 2 bus stops with Stop IDs 576623 and 276622 would be temporarily relocated during construction and both have already received approval from TfNSW. The alternative bus stop locations are shown in Appendix A .
Road Occupancy Requirements (If yes, provide further details)	N
Lane or Footpath Closures (If yes, provide further details)	N
Traffic Guidance Scheme	Appendix D.

TABLE 9: STAGE SUMMARY – STAGE 1B – LOT 11-12

Criteria	Response
Description of Key Activities	Bulk earthworks, retaining walls
Stage Length	Oct 2023 – Dec 2023 (2 Months)
Max. Vehicle Size	12.5m Heavy Rigid Vehicles (HRVs)
Vehicle Movement Frequency	Approximately 20 light vehicle movements / day + Approximately 50 heavy vehicle movements / day
HV Access Requirements	All vehicles shall access the Estate at the temporary access through the deceleration lane.
Vehicle access / egress in a forward direction (Y / N)	Y
Out of Hours Deliveries (Y/N)	N
Contractor Parking	Y All parking will be within the estate. Builder shall nominate contractor parking zones, clear of truck manoeuvring areas.
Pedestrian Control	Y Temporary fence around site perimeter only.
Public Transport Services Affected	N Public transport services (i.e. location of bus stops) would not be affected beyond what has already been assessed and approved within the GIE CTMP prepared by Allied Traffic Management. As part of the GIE CTMP, 2 bus stops with Stop IDs 576623 and 276622 would be temporarily relocated during construction and both have already received approval from TfNSW. The alternative bus stop locations are shown in Appendix A .
Road Occupancy Requirements (If yes, provide further details)	N
Lane or Footpath Closures (If yes, provide further details)	N
Traffic Guidance Scheme	Appendix D.

TABLE 10: STAGE SUMMARY – STAGE 1C – LOT 11-12

Criteria	Response
Description of Key Activities	Structure
Stage Length	Oct 2023 – May 2023 (7 Months)
Max. Vehicle Size	12.5m HRVs
Vehicle Movement Frequency	Approximately 60 light vehicle movements / day + Approximately 40 heavy vehicle movements / day
HV Access Requirements	All vehicles shall access the Estate at the temporary access through the deceleration lane.
Vehicle access / egress in a forward direction (Y / N)	Y
Out of Hours Deliveries (Y/N)	N
Contractor Parking	Y All parking will be within the estate. Builder shall nominate contractor parking zones, clear of truck manoeuvring areas.
Pedestrian Control	Y Temporary fence around site perimeter only.
Public Transport Services Affected	N Public transport services (i.e. location of bus stops) would not be affected beyond what has already been assessed and approved within the GIE CTMP prepared by Allied Traffic Management. As part of the GIE CTMP, 2 bus stops with Stop IDs 576623 and 276622 would be temporarily relocated during construction and both have already received approval from TfNSW. The alternative bus stop locations are shown in Appendix A .
Road Occupancy Requirements (If yes, provide further details)	N
Lane or Footpath Closures (If yes, provide further details)	N
Traffic Guidance Scheme	Appendix D.

It is noted from the table above that Stage 1C overlaps between Phase 1 and Phase 2

2.2.3 Phase 2 Post-Operation of The Signalised Intersection

TABLE 11: STAGE SUMMARY – STAGE 1C – LOT 11-12

Criteria	Response
Description of Key Activities	Fit Out
Stage Length	Apr 2024 – Aug 2024 (4 Months)
Max. Vehicle Size	12.5m HRV
Vehicle Movement Frequency	Approximately 50 light vehicle movements / day + Approximately 20 heavy vehicle movements / day
HV Access Requirements	All vehicles shall access the Estate at the temporary access through the deceleration lane.
Vehicle access / egress in a forward direction (Y / N)	Y
Out of Hours Deliveries (Y/N)	N
Contractor Parking	Y All parking will be within the estate. Builder shall nominate contractor parking zones, clear of truck manoeuvring areas.
Pedestrian Control	Y Temporary fence around site perimeter only.
Public Transport Services Affected	N
Road Occupancy Requirements (If yes, provide further details)	N
Lane or Footpath Closures (If yes, provide further details)	N
Traffic Guidance Scheme	Appendix D.

TABLE 12: STAGE SUMMARY – STAGE 2

Criteria	Response
Description of Key Activities	Construction of Lot 14A
Stage Length	May 2024- Mar 2025 (10 Months)
Max. Vehicle Size	12.5m Heavy Rigid Vehicles (HRV)
Vehicle Movement Frequency	Approximately 30 light vehicle movements / day + Approximately 26 heavy vehicle movements / day
HV Access Requirements	All vehicles shall access the Estate at the main signalised access.
Vehicle access / egress in a forward direction (Y / N)	Y
Out of Hours Deliveries (Y/N)	N
Contractor Parking	Y – All parking will be within the estate. Builder shall nominate contractor parking zones, clear of truck manoeuvring areas.
Pedestrian Control	Y – Temporary fence around site perimeter only.
Public Transport Services Affected	N
Road Occupancy Requirements (If yes, provide further details)	N
Lane or Footpath Closures (If yes, provide further details)	N
Traffic Guidance Scheme	Appendix D.

TABLE 13: STAGE SUMMARY – STAGE 3

Criteria	Response
Description of Key Activities	Construction of Lot 10
Stage Length	May 2024- Jun 2025 (13 Months)
Max. Vehicle Size	12.5m Heavy Rigid Vehicles (HRV)
Vehicle Movement Frequency	Approximately 34 light vehicle movements / day + Approximately 50 heavy vehicle movements / day
HV Access Requirements	All vehicles shall access the Estate at the main signalised access.
Vehicle access / egress in a forward direction (Y / N)	Y
Out of Hours Deliveries (Y/N)	N
Contractor Parking	Y All parking will be within the estate. Builder shall nominate contractor parking zones, clear of truck manoeuvring areas.
Pedestrian Control	Y Temporary fence around site perimeter only.
Public Transport Services Affected	N
Road Occupancy Requirements (If yes, provide further details)	N
Lane or Footpath Closures (If yes, provide further details)	N
Traffic Guidance Scheme	Appendix D.

TABLE 14: STAGE SUMMARY – STAGE 4

Criteria	Response
Description of Key Activities	Construction of Lot 13A & 13B
Stage Length	Jul 2024- Feb 2025 (7 Months)
Max. Vehicle Size	12.5m Heavy Rigid Vehicles (HRV)
Vehicle Movement Frequency	Approximately 28 light vehicle movements / day + Approximately 40 heavy vehicle movements / day
HV Access Requirements	All vehicles shall access the Estate at the main signalised access.
Vehicle access / egress in a forward direction (Y / N)	Y
Out of Hours Deliveries (Y/N)	N
Contractor Parking	Y – All parking will be within the estate. Builder shall nominate contactor parking zones, clear of truck manoeuvring areas.
Pedestrian Control	Y – Temporary fence around site perimeter only.
Public Transport Services Affected	N
Road Occupancy Requirements (If yes, provide further details)	N
Lane or Footpath Closures (If yes, provide further details)	N
Traffic Guidance Scheme	Appendix D.

TABLE 15: STAGE SUMMARY – STAGE 5

Criteria	Response
Description of Key Activities	Construction of Lot 7& Lot 8A & Lot 8B & Lot 9
Stage Length	Feb 2025- Sept 2026 (19 Months)
Max. Vehicle Size	12.5m Heavy Rigid Vehicles (HRV)
Vehicle Movement Frequency	Approximately 88 light vehicle movements / day + Approximately 110 heavy vehicle movements / day
HV Access Requirements	All vehicles shall access the Estate at the main signalised access.
Vehicle access / egress in a forward direction (Y / N)	Y
Out of Hours Deliveries (Y/N)	N
Contractor Parking	Y All parking will be within the estate. Builder shall nominate contractor parking zones, clear of truck manoeuvring areas.
Pedestrian Control	Y Temporary fence around site perimeter only.
Public Transport Services Affected	N
Road Occupancy Requirements (If yes, provide further details)	N
Lane or Footpath Closures (If yes, provide further details)	N
Traffic Guidance Scheme	Appendix D.

TABLE 16: STAGE SUMMARY – STAGE 6

Criteria	Response
Description of Key Activities	Construction of Lot 14B & Lot 1 & Lot 2 & Lot 3A & Lot 3B & Lot 4
Stage Length	Jul 2026 – Dec 2027 (17 Months)
Max. Vehicle Size	12.5m Heavy Rigid Vehicles (HRV)
Vehicle Movement Frequency	Approximately 180 light vehicle movements / day + Approximately 156 heavy vehicle movements / day
HV Access Requirements	All vehicles shall access the Estate at the main signalised access.
Vehicle access / egress in a forward direction (Y / N)	Y
Out of Hours Deliveries (Y/N)	N
Contractor Parking	Y All parking will be within the estate. Builder shall nominate contractor parking zones, clear of truck manoeuvring areas.
Pedestrian Control	Y Temporary fence around site perimeter only.
Public Transport Services Affected	N
Road Occupancy Requirements (If yes, provide further details)	N
Lane or Footpath Closures (If yes, provide further details)	N
Traffic Guidance Scheme	Appendix D.

TABLE 17: STAGE SUMMARY – STAGE 7

Criteria	Response
Description of Key Activities	Construction of Lot 5 & 6
Stage Length	Jan 2027- Dec 2028 (23 Months)
Max. Vehicle Size	12.5m Heavy Rigid Vehicles (HRV)
Vehicle Movement Frequency	Approximately 64 light vehicle movements / day + Approximately 76 heavy vehicle movements / day
HV Access Requirements	All vehicles shall access the Estate at the main signalised access.
Vehicle access / egress in a forward direction (Y / N)	Y
Out of Hours Deliveries (Y/N)	N
Contractor Parking	Y All parking will be within the estate. Builder shall nominate contactor parking zones, clear of truck manoeuvring areas.
Pedestrian Control	Y Temporary fence around site perimeter only.
Public Transport Services Affected	N
Road Occupancy Requirements (If yes, provide further details)	N
Lane or Footpath Closures (If yes, provide further details)	N
Traffic Guidance Scheme	Appendix D.

2.3 Risk Assessment

A risk assessment is aimed to identify the hazards and risks associated with the works. The purpose of this risk assessment is to determine the controls required for the protection of the road workers and road users. A risk assessment has been completed and is attached in **Appendix B**.

2.4 Access Arrangements

As mentioned earlier, the construction work for the GIE will involve two main access arrangements. These arrangements are as follows:

2.4.1 Interim Construction Access

A left in / left out access point (to/from Wallgrove Road) will be provided for the construction works which is located at the eastern boundary of the Estate site. An indicative temporary access layout reproduced from the GIE CTMP is shown in **Figure 5**.

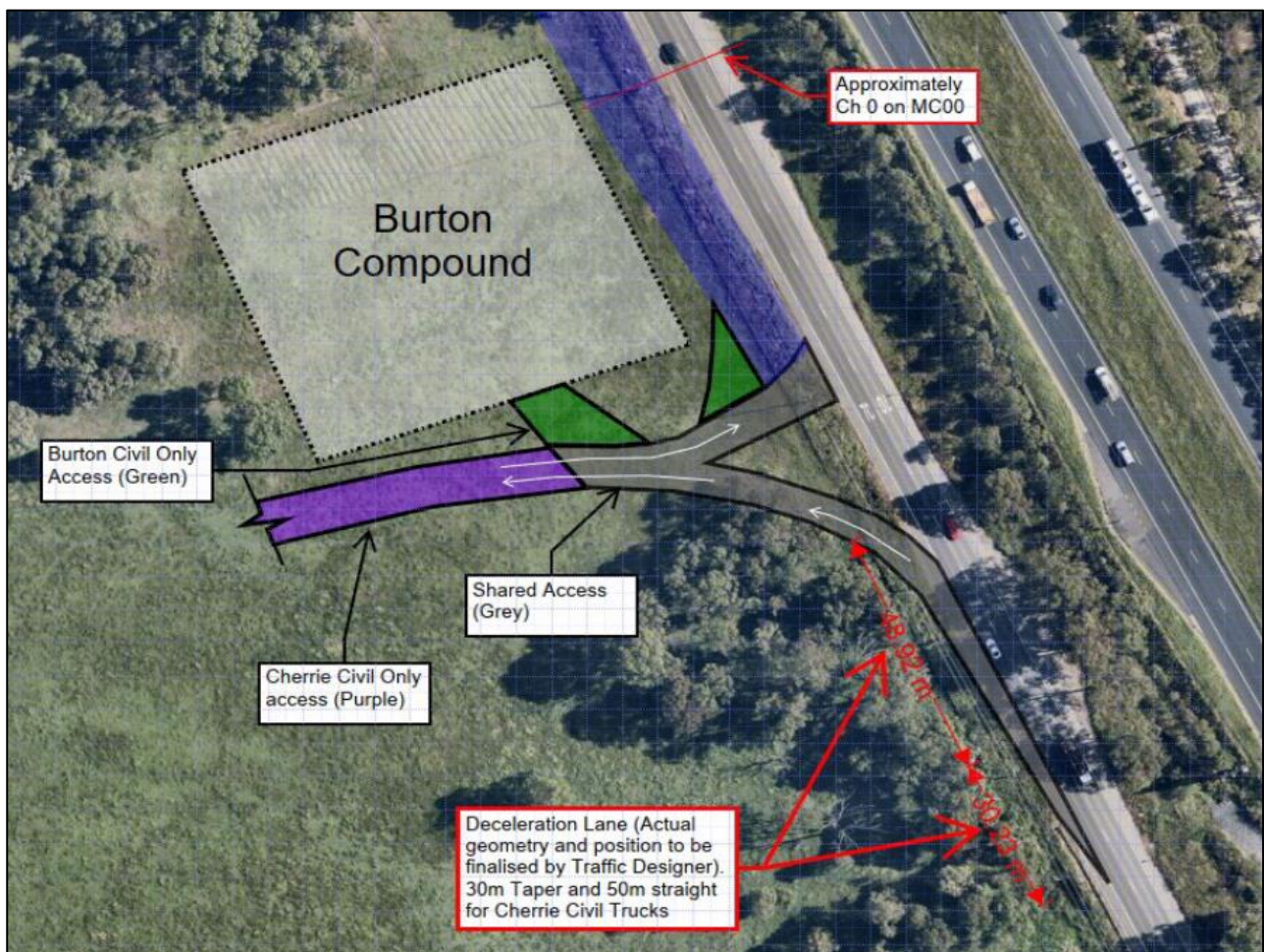


Figure 5: Temporary Estate Access from Wallgrove Road

(Source: Traffic Management Plan, "19-0108 – MR515 Wallgrove Road, Horsley Park Intersection Upgrade" dated 26 August 2022 (GIE CTMP) prepared by Allied Traffic Management)

2.4.2 Ultimate Construction Access

Upon completion of the Wallgrove Road/Estate Road 01 upgrade works and the internal estate roads the interim access will be retired, and the construction traffic will access the Estate via the upgraded (Wallgrove Road/Estate Road 01) signalised intersection, as shown in **Figure 6**.

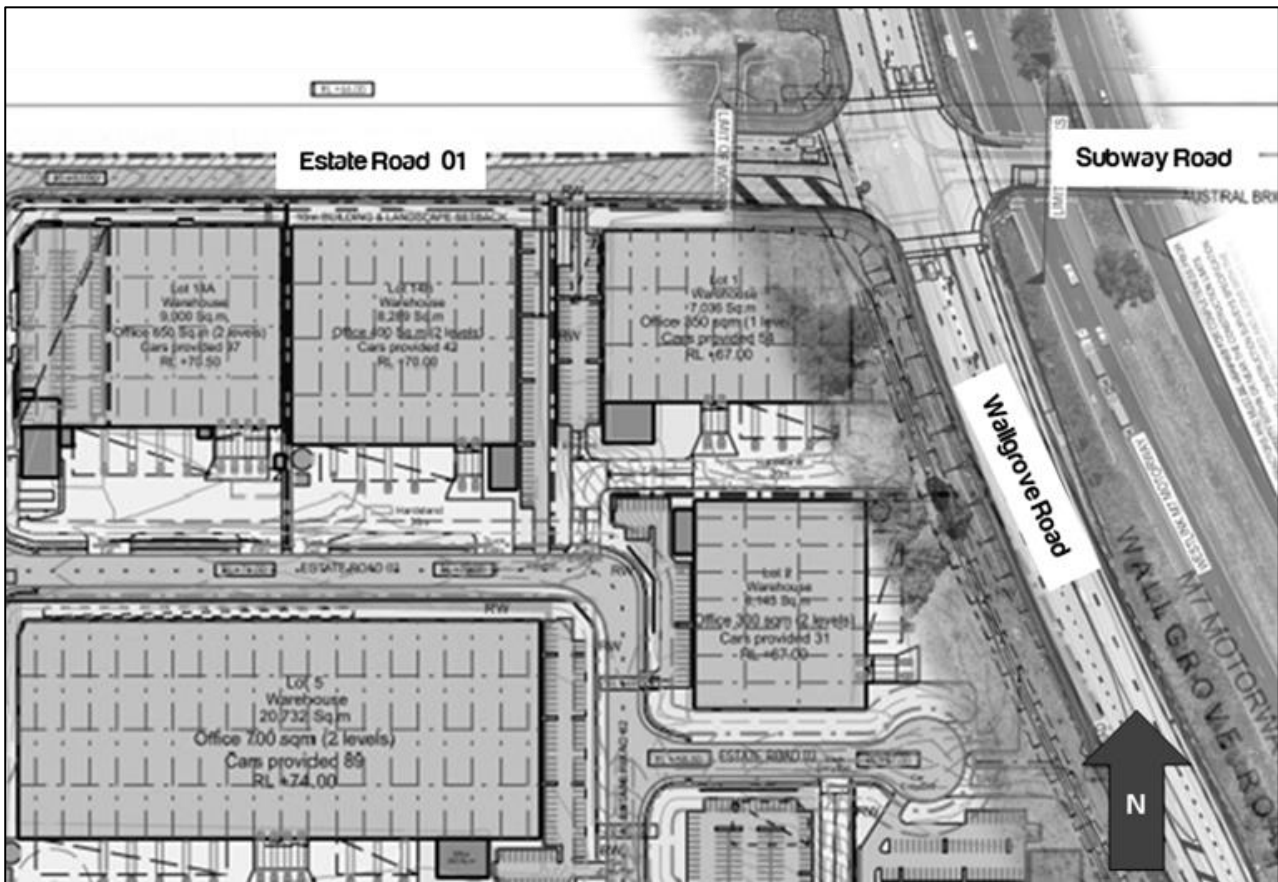


Figure 6: Access Arrangements Ultimate Access

(Source: 19-0108 – 813 Wallgrove Road, Horsley Park intersection upgrade preservation of survey infrastructure plan by Orion Consulting)

It is expected that this access point will be utilised by construction vehicles until the full completion of the construction works excluding inclement weather and it will be the main access for the Estate when operating.

All heavy vehicles and light vehicles will utilise the ultimate construction access upon the construction completion as outlined in **Figure 7**.



Figure 7: Heavy Vehicle Movements Via the Ultimate Access

Moreover, the Emergency vehicle access to and from the Estate will be available at all times while the Estate is occupied by construction activities. This process would be implemented through emergency protocols on the site which will be developed by the Contractor and shall be documented within the Contractor's Emergency Management Plan.

2.4.3 Individual Lot Access

Access to individual lots shall vary during the course of the construction works. However, internal traffic movements and access to work areas shall be managed, with suitable Traffic Guidance Scheme prepared by Contractors and designed in accordance with Austroads—Guide to Temporary Traffic Management and AS1742.3, depending on the specific work area. All internal traffic movements will be internally managed within the Estate boundaries.

2.5 Hours of Work

Based on the information provided to Ason Group by Gazcorp, a summary of the construction hours is shown in **Table 18** which is in accordance with the Council guidelines and SSD-5248-Mod-2 Condition of Consent (CoC) condition C57

TABLE 18: HOURS OF WORK

Activity	Day	Time
Construction works	Monday – Friday	7 am to 6 pm
	Saturday	8 am to 1 pm
	Sundays or Public Holidays.	No work

It is anticipated that construction works will not be conducted outside of the hours outlined above. Should out of work hours be required, Gazcorp will need to lodge an application for an Out of Work Hours Permit with Fairfield City Council to seek approval for these works. The type of works that might be undertaken outside the recommended standard hours are:

- The delivery of oversized plant or structures that police or other authorities determine require special arrangements to transport along public roads.
- Emergency work to avoid the loss of life or damage to property, or to prevent environmental harm.
- Maintenance and repair of public infrastructure where disruption to essential services and/or considerations of worker safety do not allow work within standard hours.
- Public infrastructure works that shorten the length of the project and are supported by the affected community.
- Works where a proponent demonstrates and justifies a need to operate outside the recommended standard hours.

Works outside of the hours identified in the conditions may be undertaken in the following circumstances:

- Works that are inaudible at the nearest sensitive receivers;
- Works agreed to in writing by the Planning Secretary;
- For the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or
- Where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

3 Existing Conditions

3.1 Site Access

It is noted that there is currently no intersection access to the GIE. However, a temporary access to GIE has been constructed which consists of a deceleration lane on entry and give-way exit back onto Wallgrove Road as presented in **Figure 5**.

Further, as mentioned before, the traffic signal at the Estate Road 01/ Wallgrove Road intersection is currently under construction as previously mentioned. A site inspection has been undertaken on 02 February 2023 and it was observed that this intersection currently works as a signalised T-intersection connecting Wallgrove Road to the Austral Bricks Access Road as shown in **Figure 8**.



Figure 8: Signalised Intersection at Wallgrove Road and Austral Bricks Access Road (02 Feb 2023)

3.2 Active Transport Connections

3.2.1 Existing Pedestrian Accessibility

Due to the current undeveloped nature immediately surrounding the Estate, pedestrian infrastructure is currently non-existent. Key pedestrian desire lines in the vicinity of the Estate would be triggered by connections to existing public transport infrastructure. In this regard, it is anticipated that the Work Authorisation Deed (WAD) which has been finalised between Gazcorp and TfNSW for the Signalised intersection at Estate Road 01/Wallgrove Rd would have pedestrian infrastructure provision such as formal footpaths and crossings to facilitate pedestrian activity and access.

Other recent improvements to Wallgrove Road and Old Wallgrove Road further north of the Estate have included the provision of pedestrian infrastructure with shared paths and footpaths.

It is noted that any Traffic Guidance Scheme (TGS) shall maintain a suitable level of access past work areas for pedestrians at all times.

3.2.2 Existing Cycle Routes

The existing cycle network in the vicinity of the Estate is shown in **Figure 9**. The area within the locality of the Estate is well serviced with cycle routes – both on-road and off-road. Notable cycle routes include the route along the M7 Westlink to the east of the Estate.

Other notable off-road cycle routes are those to the north of the Estate including along Lenore Drive and Old Wallgrove Road. Furthermore, recent upgrades to Old Wallgrove Road have included off-road shared cycle/pedestrian pathways and pedestrian only footpaths.

It is noted that any TGS shall maintain a suitable level of access past work areas for cyclists at all times.

3.3 Public Transport Services

3.3.1 Bus Services

The Integrated Public Transport Service Planning Guidelines highlight the impact of bus services on travel mode choices for locations within a 400-meter radius (equivalent to approximately 5 minutes' walking distance) of a bus stop. Although the Estate currently lacks bus stops within this specified radius, it is important to note that 2 located bus stops are situated approximately 500 meters away, as illustrated in **Figure 9**.

It is noted that the Wallgrove Road Opposite Roussell Road (Stop ID: 276622) and Wallgrove Rd Before Roussell Rd (Stop ID: 276623) bus stops have been temporarily relocated since the submission of the Ason Group's approved *SSD 36156297 Transport Assessment, Lot 11 & 12, 813 Wallgrove Road, ref: 1877r01v02, dated 25 March 2022* (DHL TA) to accommodate construction traffic to the GIE. Details of the relocation of these bus stops are outlined in the GIE CTMP.

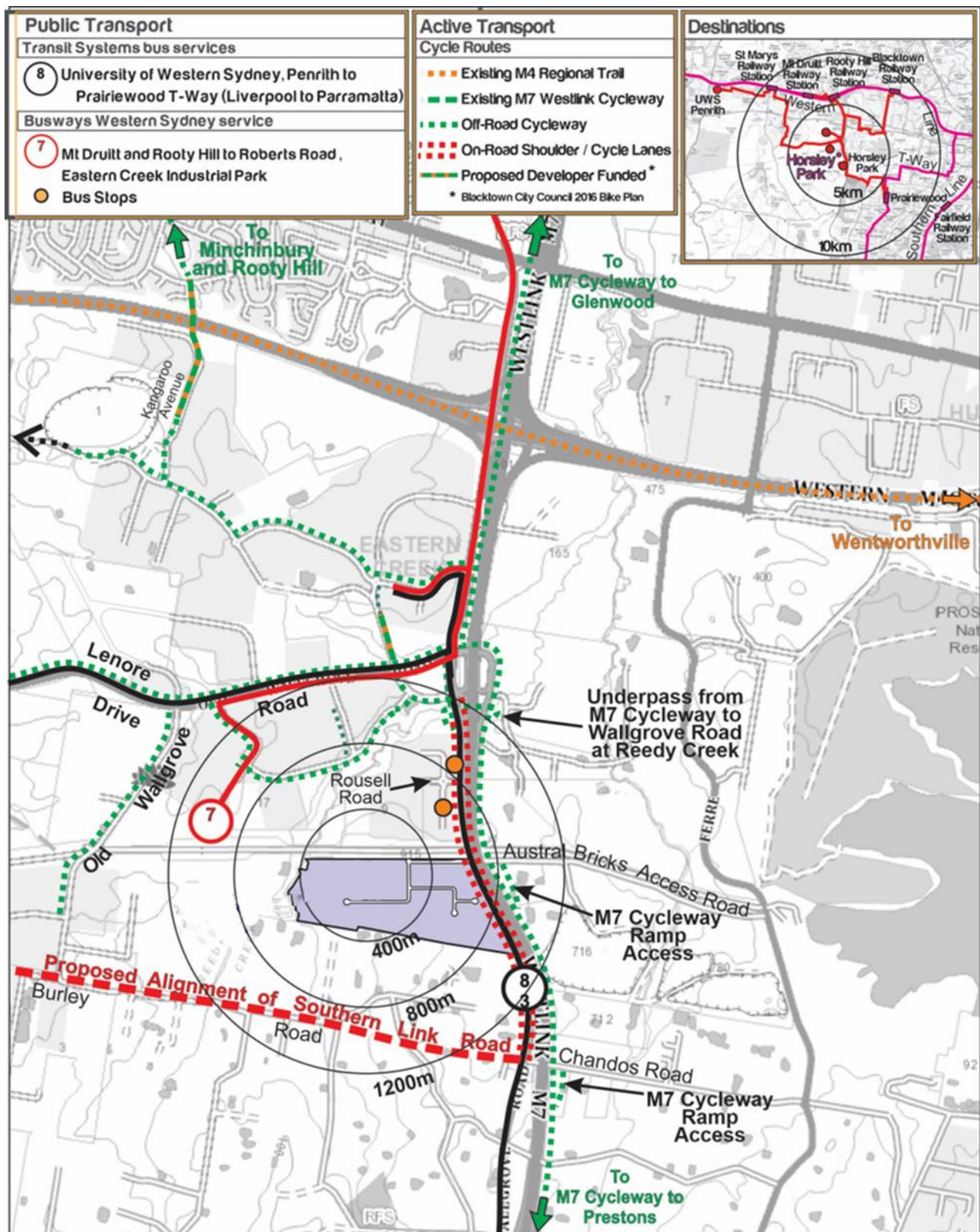


Figure 9: Existing Public Transport and Cycle Links

3.4 Existing Traffic

3.4.1 Baseline Traffic Flows

Traffic surveys were undertaken on 03 May 2023 to establish the baseline traffic flows at the following:

- Wallgrove Road/ Brickworks Access (future signalised intersection)
- Temporary Left-in Left-out (LILO) access to 813-913 Wallgrove Road

The surveyed traffic flows during the peak periods are shown in **Figure 10** and **Figure 11**.

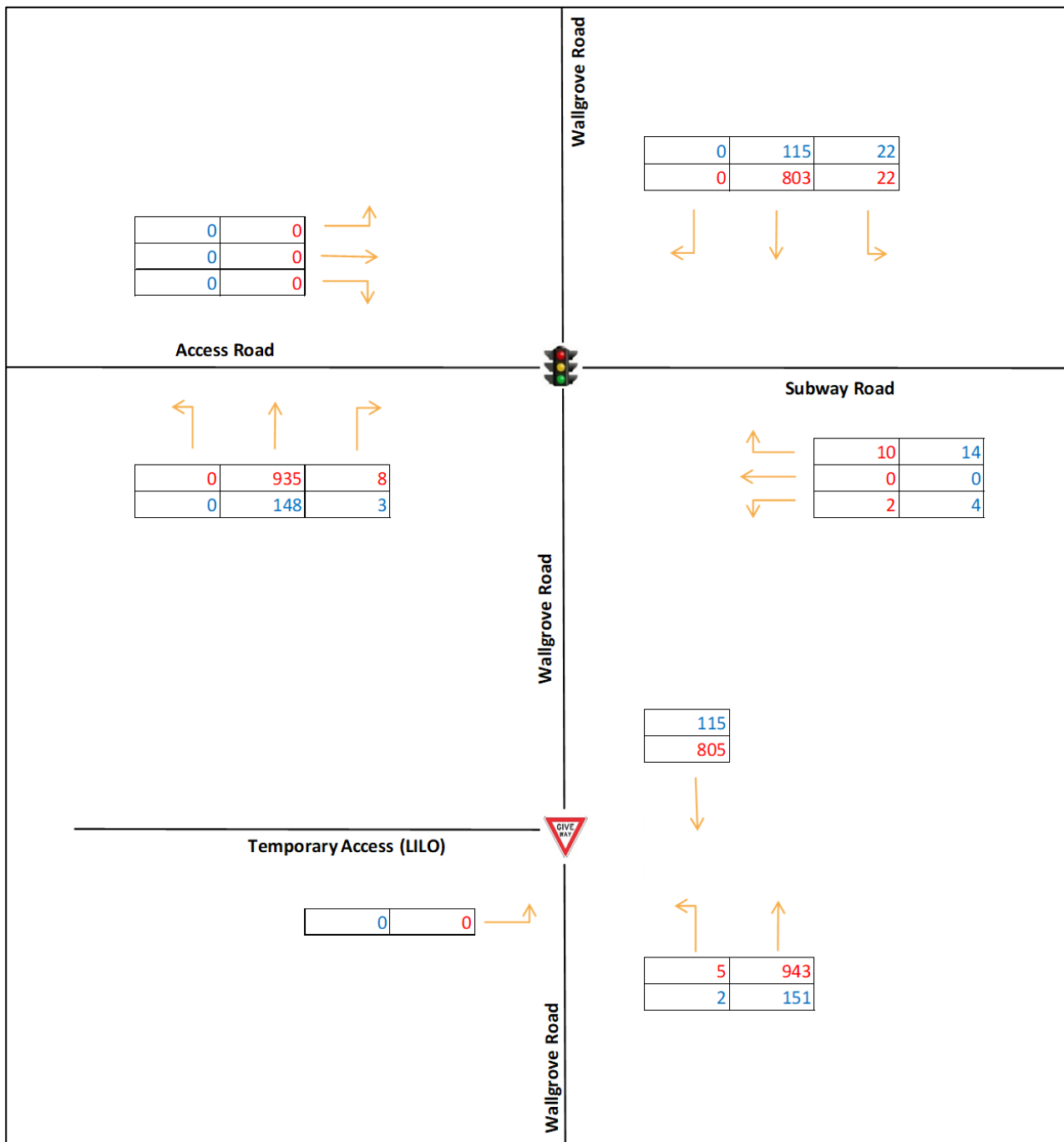


Figure 10: Baseline Traffic Volumes – AM Peak

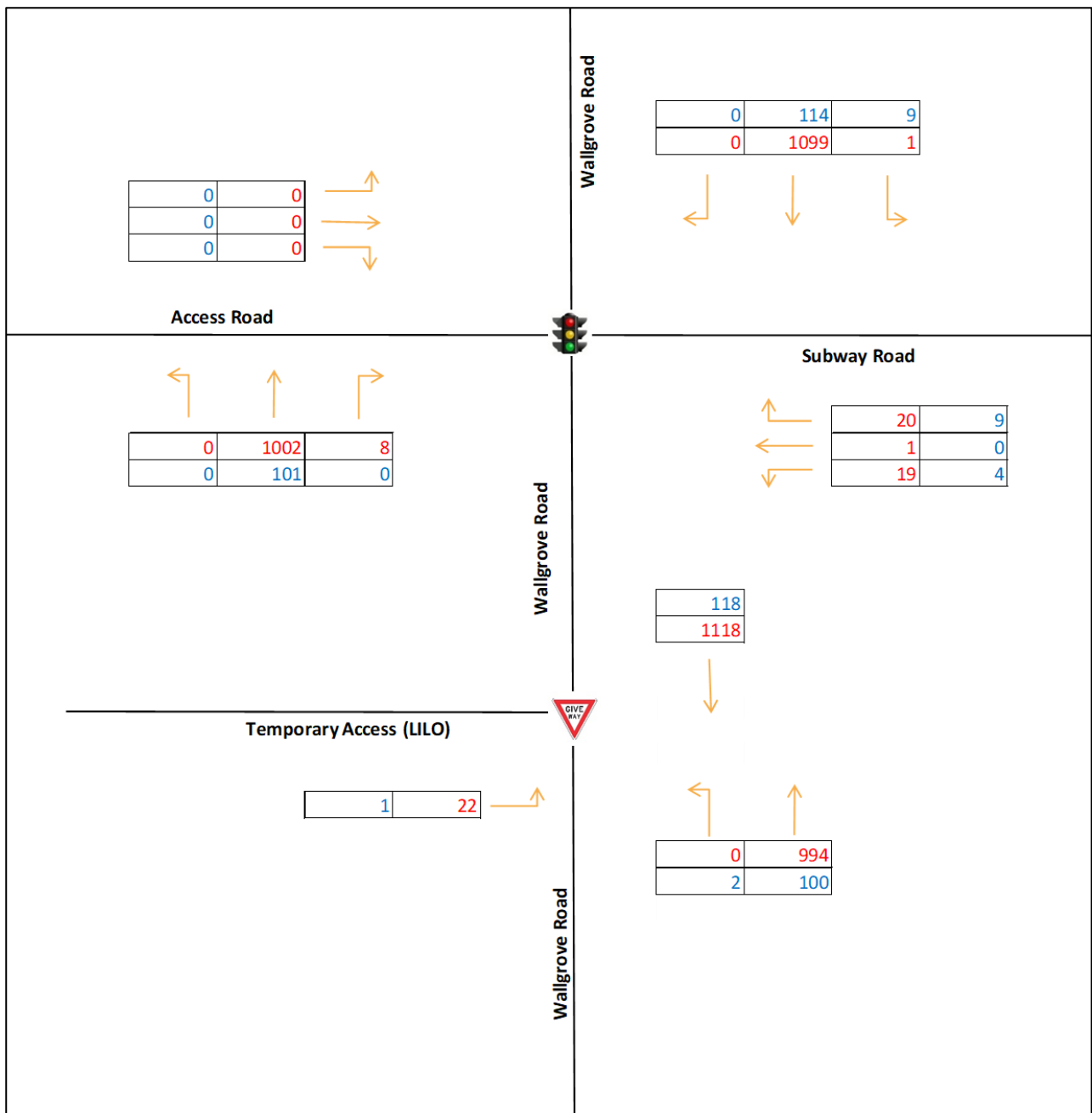


Figure 11: Baseline Traffic Volumes – PM Peak

4 Traffic Management Plan

4.1 Traffic Movements

4.1.1 Background

The following figures, sourced from the Ason Group, SSD 36156297 Transport Assessment, Lot 11 & 12, 813 Wallgrove Road, ref: 1877r01v02, 25 March 2022 (DHL TA), have been approved and provide relevant information regarding future **operational** traffic volumes associated with the Estate.

- AM Peak 541 movements per hour (inbound and outbound)
- PM Peak 397 movements per hour (inbound and outbound)
- Daily 5,774 movements per day (inbound and outbound)

4.1.2 Current Construction Traffic Estimates

The anticipated daily vehicle movements generated by the construction of the Estate have been estimated having consideration of the likely requirements for construction staff, plant, equipment, and haulage. The anticipated construction schedule has been provided in **Section 2.2.2** and **2.2.3** with the estimated traffic volumes are as follows:

TABLE 19: ESTIMATED CONSTRUCTION VOLUMES

Phase	Stage	Expected Movements per Day	
		Light Vehicles	Heavy Vehicles
Phase 1 (Temporary Access)	Stage 1	130	166
Phase 2 (Signalised Access)	Stage 1 (Continued)	50	20
	Stage 2	30	26
	Stage 3	34	50
	Stage 4	28	40
	Stage 5	88	110
	Stage 6	180	156
	Stage 7	64	76

For reference, a construction vehicle would relate to all contracted parties involved in day-to-day construction activities on site. This would include;

- All Vehicles making material deliveries to and from the Estate.
- All Contractors and their sub-contractor's construction site vehicles
- All construction staff working on the projects arriving / departing the Estate in private cars.

In turn, the following are exempt from the requirements of the CTMP (as they are not part of construction works within the Estate);

- All Gazcorp staff and their design / management consultants
- Food vans / food deliveries by non-contracted parties
- Relevant Authorities / Agencies (including DPE or Fairfield City Council/, and other stakeholders including Endeavour Energy, TransGrid, Sydney Water, NBN or others who have assets on the Site)
- Members of the public who may drive in ad hoc.

4.1.3 Construction Vehicle Access Routes

It is expected that all heavy vehicles will access the Site via the approved TfNSW Restricted Access Vehicles (RAV) Map for 26 m B-double Access. The access routes are shown in **Figure 12** and **Figure 13**.

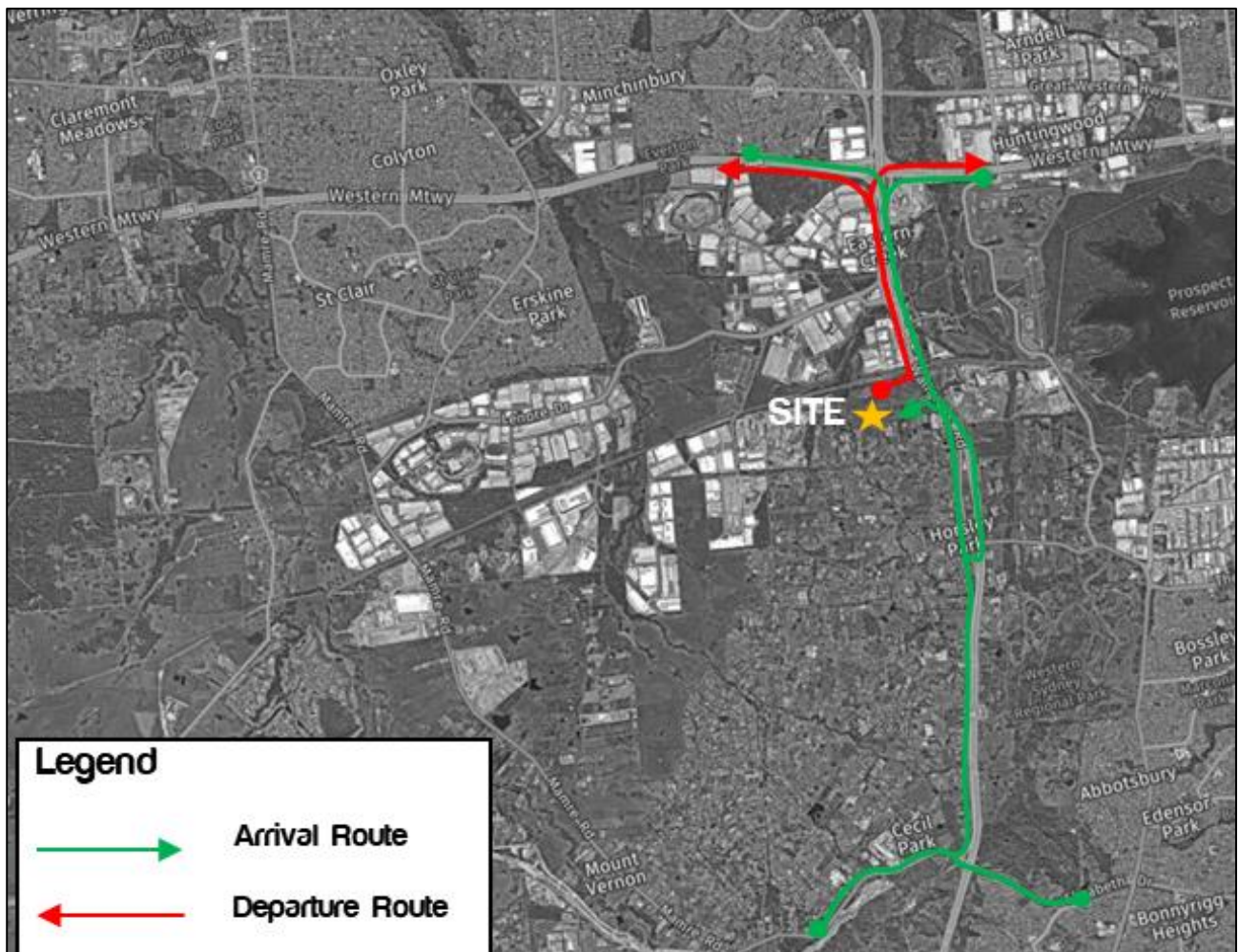


Figure 12: Construction Vehicle Route Map – Temporary Access

All construction vehicles will enter and exit the Site via Wallgrove Road. It is anticipated that all heavy vehicles will access the Estate via the following routes:

TABLE 20: VEHICLE ROUTE MAP – TEMPORARY ACCESS

Access	Route	Direction
Arrival	Route 1	From eastbound on M4 Western Motorway, then head south along Westlink M7. Turn right onto The Horsley Drive, then right onto Wallgrove Road. Finally left turn onto the Estate
	Route 2:	From westbound on M4 Western Motorway, then head south along Westlink M7. Turn right onto The Horsley Drive, then right onto Wallgrove Road. Finally left turn onto the Estate
	Route 3	From eastbound on Elizabeth Drive, then head north along Wallgrove Road then left turn onto the Estate.
	Route 4	From westbound on Elizabeth Drive, then head north along Wallgrove Road then left turn onto the Estate
Departure	Route 1	From the Estate, left turn onto Wallgrove Road then west on M4 Western Motorway
	Route 2	From the Estate, left turn onto Wallgrove Road then east on M4 Western Motorway.

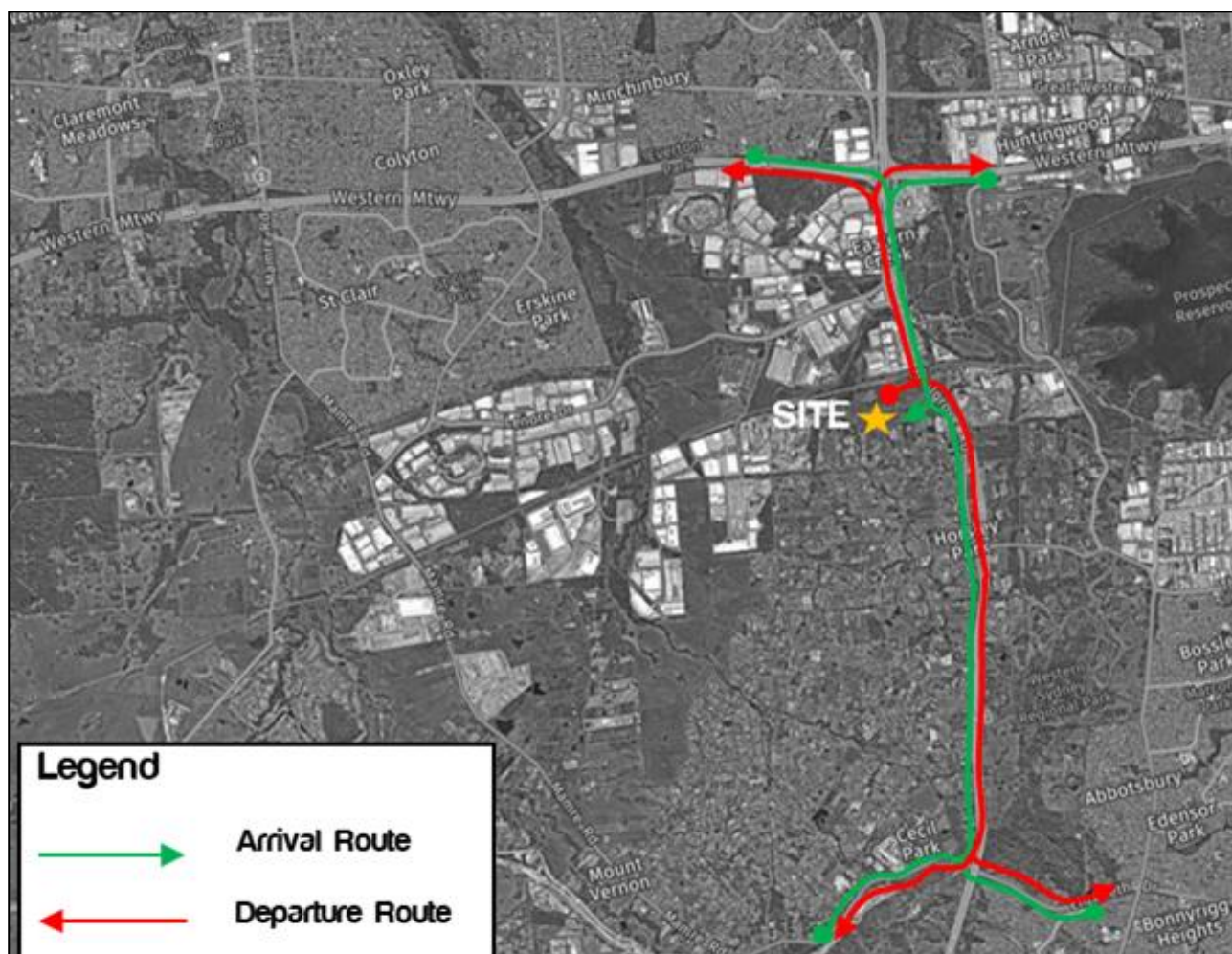


Figure 13: Construction Vehicle Route Map – Ultimate Access

TABLE 21: VEHICLE ROUTE MAP – ULTIMATE ACCESS

Access	Route	Direction
Arrival	Route 1	From eastbound on M4 Western Motorway, then head south along Wallgrove Road. Then right turn onto the Estate.
	Route 2:	From westbound on M4 Western Motorway, then head south along Wallgrove Road. Then right turn onto the Estate.
	Route 3	From eastbound on Elizabeth Drive, then head north along Wallgrove Road then left turn onto the Estate.
	Route 4	From westbound on Elizabeth Drive, then head north along Wallgrove Road then left turn onto the Estate.
Departure	Route 1	From the Estate, left turn onto Wallgrove Road then west on M4 Western Motorway.
	Route 2	From the Estate, left turn onto Wallgrove Road then east on M4 Western Motorway.
	Route 3	From the Estate, right turn onto Wallgrove Road then west on Elizabeth Drive.
	Route 4	From the Estate, left turn onto Wallgrove Road then east on Elizabeth Drive.

A copy of the approved routes will be distributed by the Contractor to all drivers before their arrival to the Estate. No trucks are to be queued on local roads. Mobile phones, two-way radios or application-based solutions should be used to coordinate truck arrivals.

As can be shown in **Figure 14**, the RAV Map illustrates that B-doubles are capable of traveling to and from the Estate within approved routes.

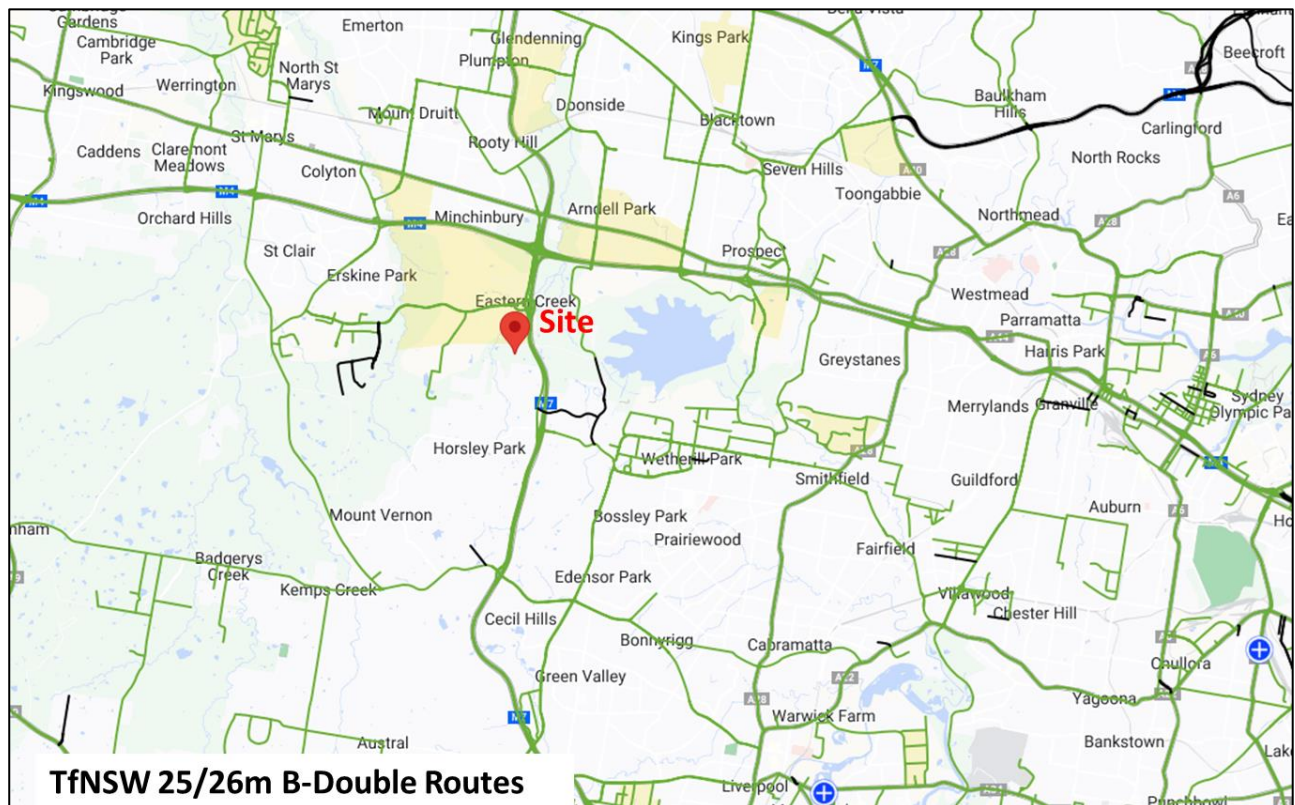


Figure 14: Restricted Access Map

4.1.4 Truck Movements & Contractor Parking

As discussed before, the primary construction access will be via the temporary access until the Signalised intersection is completed. Once the Signalised intersection is finished, it will become the primary access for construction vehicles, and the temporary access will be permanently closed. Relevant truck routes for both accesses are shown in **Figure 12** and **Figure 13**.

The implementation of the access route shall be done so in accordance with any conditions of consent received from TfNSW. It is expected that a schedule for deliveries of materials and goods will be established prior to that day, with Traffic Controllers maintaining radio contact with construction vehicles at all times. Thus, at no stage shall queueing occur on the public road network. In the event that vehicles were required to use a layover prior to arrival to site.

It is expected that future contractors shall prepare Vehicle Movement Plans (VMP) for on-site circulation for key stages generating more than 200 HV movements (100 in, 100 out) per day. In preparing relevant details VMPs, the contractor should:

- Minimise interaction with other work areas, as far as possible.
- Where possible, separate heavy vehicle movements from contractor car parking areas
- Prepare Traffic Control Plans where necessary to provide additional management of on-site vehicle movements.

4.1.5 Sydney Water Supply Pipeline Easement

A Sydney Water Supply Pipeline easement runs to the north of the Estate which is subject to a number of restrictions. It is imperative to note that the unhindered movement of authorised vehicles accessing the Sydney Water Supply Pipeline Easement will not be obstructed by the construction activities of the Estate. All construction activities will be conducted in a manner that does not impede the access routes and pathways designated for these specific purposes. As illustrated in **Figure 15**, the access driveway to the Sydney Water Supply Pipeline Easement is distinct and is not disrupted by the operation of Wallgrove Road and Estate Road 01 intersection.

Contractors associated with the Site are not anticipated to directly impact this access to the easement, and every effort will be made to minimise vehicular movements near the easement access for all construction works, wherever feasible. Notwithstanding, in the event any works associated with the Site may impact WaterNSW's access, the WaterNSW will be notified as early as possible, and other arrangements will be made to make sure that WaterNSW retains an access to the easement at all times.

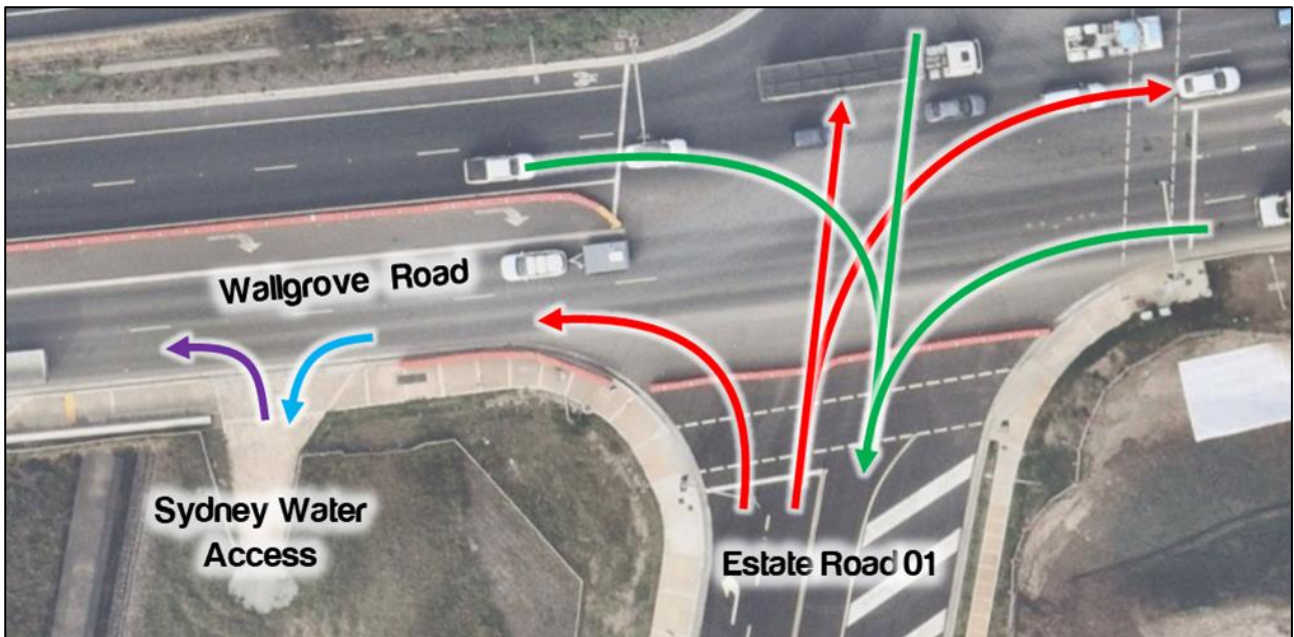


Figure 15: Sydney Water Supply Pipeline Easement Access Driveway and Estate Road 01 Access Locations

4.2 Other General Requirements

4.2.1 Driver Code of Conduct

All drivers shall adhere to the Driver Code of Conduct, outlined in **Section 5**.

4.2.2 Contractor Parking

The contractor will have to nominate the parking zones required for contractor parking. The parking area is not expected to obstruct any vehicle manoeuvre routes. The location of Contractor parking lots is expected to change as construction continues and encompasses various portions of the Estate.

4.2.3 Loading & Materials Handling

Handling of all materials throughout the construction shall adhere to the following.

- It is proposed that all material loading will occur within the construction site boundary.
- No loading is proposed to occur outside of the provisioned areas.
- Equipment, materials and waste will be kept within the construction site boundary.

During latter stages of construction, tie in works will be required within the kerbside of the internal estate roads. All materials handling shall be undertaken off the public roadway. In the event materials handling are required from the roadway, then prior approval shall be sought and obtained from the Authorities.

4.2.4 Fencing Requirements

Temporary exclusion fencing will be erected along the entire boundary of the Estate and will be maintained for the duration of the construction program. The fencing is to ensure unauthorised persons are kept out of the Estate. The access gates would be provided and will be closed at all times outside of the permitted construction hours.

4.2.5 Pedestrian and Cyclist Management

Installing chain mesh construction fencing along the borders of the Estate can effectively restrict public access and enhance its security. However, to manage any pedestrian and cyclist movements around the Estate, pedestrian and cyclist protection would be required and would be included within a revised TGS once the footpaths / shared paths along Estate Roads become available.

4.2.6 Traffic Guidance Schemes

Any TGS's, associated risk assessments, consultation schedules, TGS verification checklist, and inspection checklists shall be prepared by an accredited person, in accordance with the TfNSW Traffic Control at Worksites Manual (Issue 6.1) and AS1742.3:2019. All TGSs involving signage or impacts to public roads shall be approved by the Traffic Management Centre (TMC), prior to the works for which they relate. These TGS's shall be updated to respond to any changes to prevailing traffic conditions throughout the life of the works. Of specific relevance to the Estate, TGS's have been prepared for the following:

- The utilisation of the temporary construction access on Wallgrove Road;
- The utilisation of the Signalised intersection on Wallgrove Road.

TGS's have been attached in **Appendix D**.

5 Drivers Code of Conduct

5.1 Objectives of the Drivers Code of conduct

- To minimise the impact of earthworks and construction on the local and regional road network;
- Minimise conflict with other road users;
- Minimise road traffic noise; and
- Ensure truck drivers use project approved routes only.

5.2 Code of Conduct

The code of conduct requires that while driving any vehicle for work-related purposes. Drivers are to be issued with a copy of the Drivers Code of Conduct, and must comply with all of the following:

- Demonstrate safe driving and road safety activities.
- Abide by traffic, road and environmental legislations.
- Follow site signage and instructions.
- Drivers must only enter and exit the Estate via the approved entry and exit points and travel routes.
- Drivers must not utilise any other road or other accesses for any reason other than the temporary access on Wallgrove Road while travelling to or from the Estate noting internal roads have not yet been constructed.

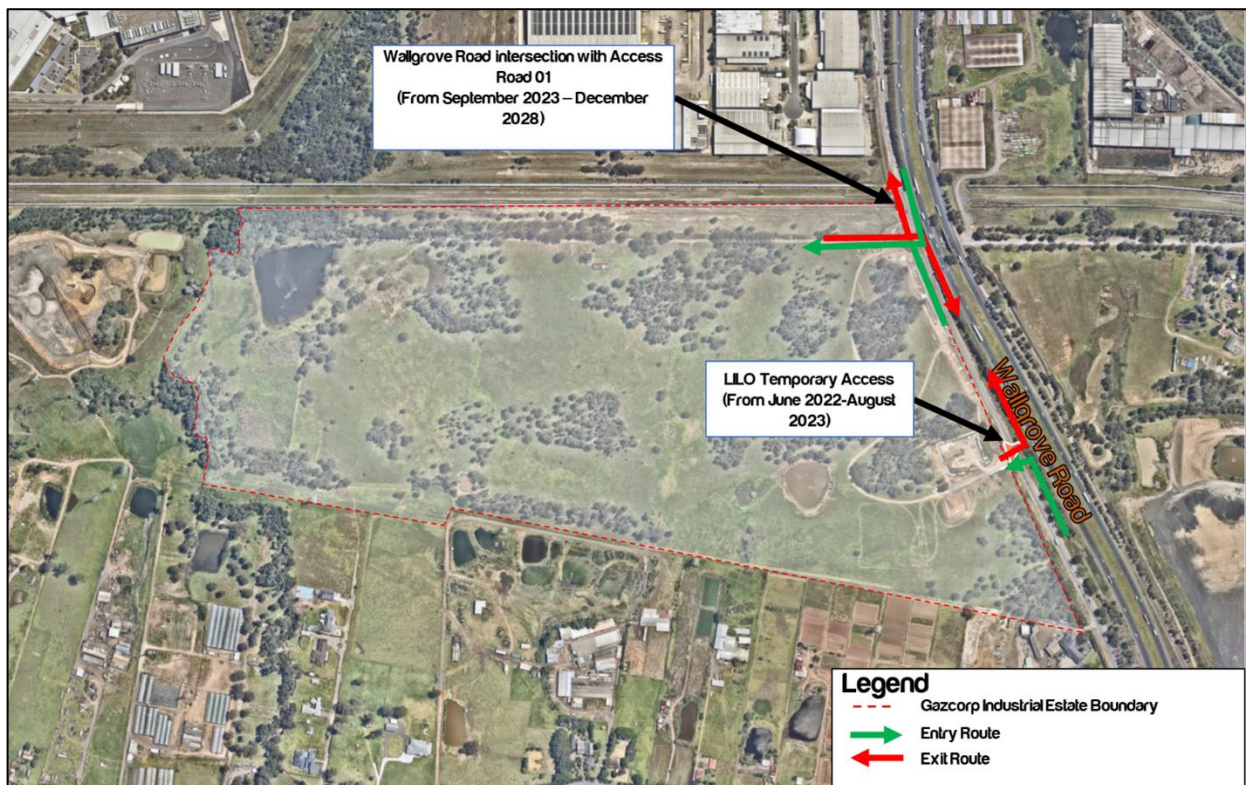
The below activities in any vehicles will be considered as a breach of conduct and will result in removal from site:

- Reckless or dangerous driving causing injury or death.
- Driving whilst disqualified or not correctly licensed.
- Drinking or being under the influence of drugs while driving
- Failing to stop after an incident.
- Loss of demerit points leading to suspension of licence.
- Any actions that warrant the suspension of a licence
- Exceeding the speed limit in place on any permanent or temporary roads
- The use of roads other than the temporary access on Wallgrove Road to arrive and depart from the site to access the wider road network.

5.3 Driver Responsibilities

All Drivers on site must:

- Abide with the following route to and from the Estate.



- Be responsible and accountable for their actions when operating a company vehicle or driving for the purposes of work.
- Display the highest level of professional conduct when driving a vehicle at all times.
- Ensure they have a current driver licence for the class of vehicle they are driving, and this licence is to be carried at all times.
- Immediately notify their supervisor or manager if their drivers' licence has been suspended, cancelled, or has had limitations applied.
- Comply with all traffic and road legislation when driving.
- Assess hazards while driving.
- Undertake daily pre-start checks of oil, tyre pressures, radiator and battery levels of company vehicles they regularly used.
- Drive within the legal speed limits, including driving to the conditions.
- Not drive outside of the approved heavy vehicle routes. All drivers must obey weight, length and height restrictions imposed by the National Vehicle Regulator, and other Government agencies. Heavy Vehicles shall adhere to the routes outlined in **Section 4.1.3**
- Be cognisant of the noise and emissions requirements imposed within the EIS, and in a broader sense, the NSW Road Rules. Works must be constructed with the aim of achieving the construction noise management levels detailed in the Interim Construction Noise Guideline.
- Do not queue on public roads unless a prior approval has been sought.
- Be aware that at no time may a tracked plant be permitted or required on a paved road.
- Never drive under the influence of alcohol or drugs, including prescription and over the counter medication if they cause drowsiness – to do so will merit disciplinary measures.
- All drivers to report to their supervisor if they have been prescribed medication prior to the start of work.
- Wear a safety seat belt at all times when in the vehicle.
- Avoid distraction when driving – the driver will adjust car stereos/mirrors etc. before setting off or pull over safely to do so.
- Report ALL near-misses, crashes and scrapes to their manager,
- Report infringements to a manager at the earliest opportunity.

- Report vehicle defects to a manager prior to the next use of the vehicle.
- Follow the approved site access/egress routes only.
- Follow speed limits as imposed within the estate.
- Keep loads covered at all times.

5.4 The Site Team Responsibilities

The Contractor is responsible to take all steps necessary to ensure company vehicles are as safe as possible and will not require staff to drive under conditions that are unsafe.

This will be achieved by undertaking the following:

- Ensure that all drivers adhere to the designated heavy vehicle routes as required by the route designated above. If a driver accesses the Estate contrary to the approved routes, then approval to drive to and from the Estate will be revoked by Management.
- Ensuring all vehicles are well maintained and that the equipment enhances driver, operator and passenger safety by way of:
 - Pre-commencement checks for all new plant arriving on-site and prior to undertaking any work.
 - Daily prestart inspections for all plant, vehicles and equipment currently on-site.
 - All construction plant must be fitted with a flashing light, fire extinguisher and reverse alarms (or squawkers).
 - Ensure all operators onsite have a current verification of competency (VOC) for their current driver's licence of the appropriate class.
- Ensure maintenance requirements are met and recorded.
- Identify driver training needs and arranging appropriate training or re-training. This may include providing the below:
 - Operator VOC assessment as part of all inductions.
 - Regular Toolbox discussions on safety features, managing fatigue, approved heavy routes, driver responsibility and drink-driving.
- Encouraging Safe Driving behaviour by:
 - Ensuring the subcontractor is informed if their staff become unlicensed.
 - Not covering or reimbursing staff speeding or other infringement notices.
 - Ensuring Legal use of mobile phones in vehicles while driving only
- Encouraging better fuel efficiency by:
 - Use of other transport modes or remote conferencing, whenever practical.

Providing training on, and circulating information about, travel planning and efficient driving habits

5.5 Crash or Incident Procedure

- Vehicles should be stopped as close as possible to the scene without hindering traffic. The safety of the individual should be ensured first, followed by providing assistance to any injured people and immediately seeking help if required.
- Ensure the following information is noted:

- Details of the other vehicles and registration numbers
- Names and addresses of the other vehicle drivers.
- Names and addresses of witnesses.
- Insurers details
- Give the following information to the involved parties:
 - Name, address and company details
- If the damaged vehicle is not occupied, provide a note with your contact details for the owner to contact the company.
- Ensure that the police are contacted should the following circumstances occur:
 - If there is a disagreement over the cause of the crash.
 - If there are injuries.
 - If you damage property other than your own.
- As soon as reasonably practical, report all details gathered to your manager.

5.6 Environmental Procedures

A range of measures shall be implemented to ensure the following;

- No dirt or debris from the construction vehicles is tracked on to the public road network.
- Reduce the impacts to sensitive receivers, including, where practicable, starting noisy equipment away from sensitive receivers and implementing respite periods;
- Watering of dusty activities will be undertaken, or activities temporarily halted and then resumed once weather conditions have improved;
- Containment measures for spillages will be provided at appropriate locations and in close proximity to staff car park areas, dangerous goods stores areas and main Project work areas;
- All vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria, and

Keep an accurate record which includes the range of measures undertaken to reduce environmental impacts.

6 Transport Impact Assessment

6.1 Construction Traffic Generation

It is expected that stages of construction will overlap and will therefore increase the demand during each month. While the construction of the signalised intersection is not explicitly included in this CTMP, it is crucial to highlight that the construction volume of the signalised intersection will be factored into the cumulative traffic assessment of the Estate. The following outline the daily traffic volumes for the Estate during each Phase:

6.1.1 Phase 1 Prior to The Construction of The Signalised Intersection:

It has been determined that the highest peak of construction traffic occurs during the overlap between Stages 1A, 1B, 1C and the construction volume of the signalised intersection from late September 2023 to late October 2023. The estimated traffic volumes during this period are shown in the table below:

TABLE 22: PHASE 1 PEAK TRAFFIC MOVEMENT

Period	Light Vehicle Movement	Heavy Vehicle Movement	Total
AM Peak	20 veh/hr	36 veh/hr	56 veh/hr
PM Peak	30 veh/hr	16 veh/hr	46 veh/hr
Daily	130 veh/day	166 veh/day	296 veh/day

Referring to the table above, the construction traffic movement for Phase 1 aligns with the operation traffic of GIE during both the AM and PM peak periods.

Furthermore, Construction traffic volumes generally represent a small proportion of the existing background traffic occurring on Wallgrove Road. Figure below visualises hourly count volumes of construction traffic in the subsequent construction periods against existing background traffic. This demonstrates that the addition of construction traffic is relatively small in comparison.

The daily traffic volumes for the Estate prior to the construction of the Signalised intersection are outlined in the figure below:

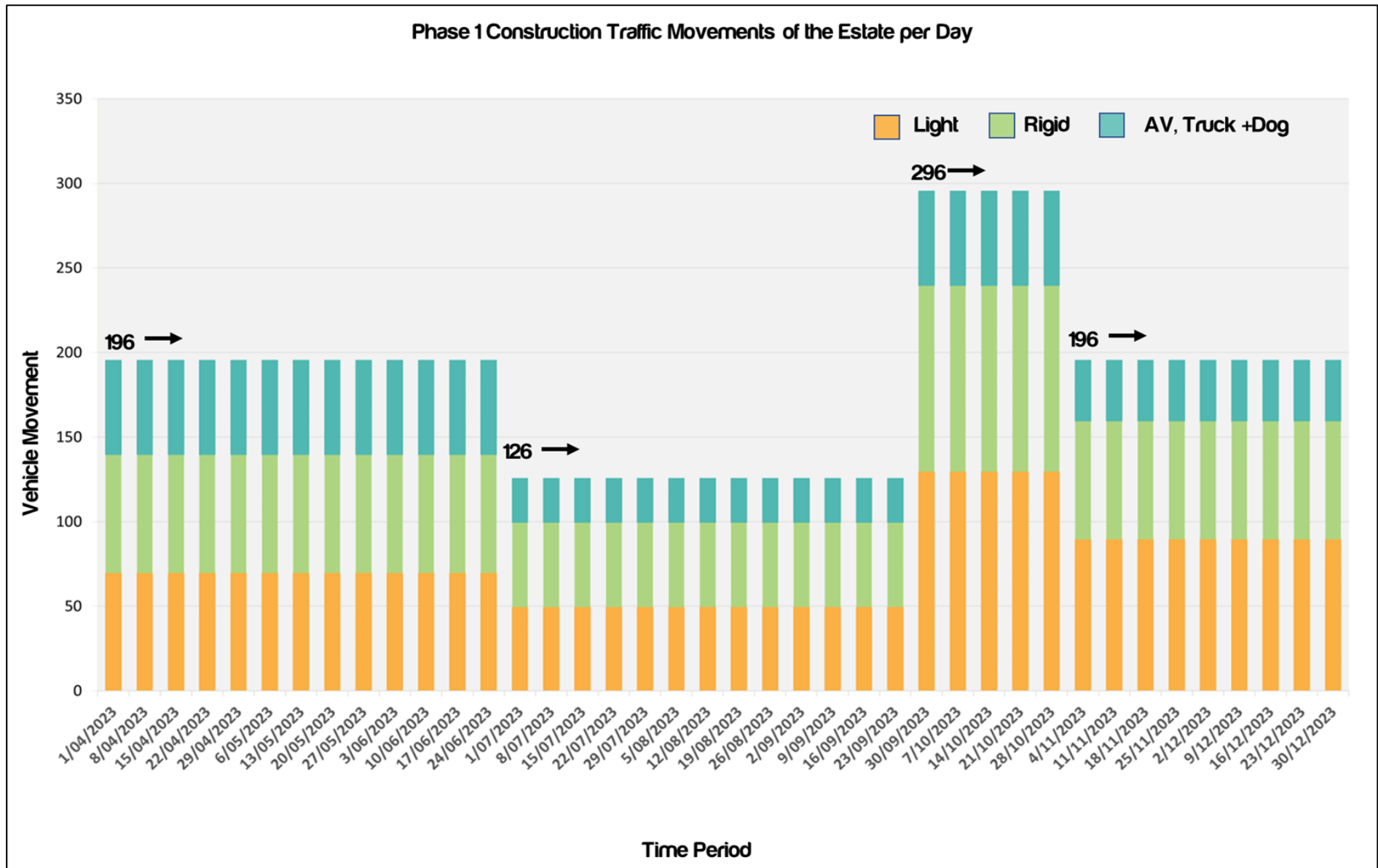


Figure 16: Phase 1 Construction Vehicle Movements of the Estate – Daily

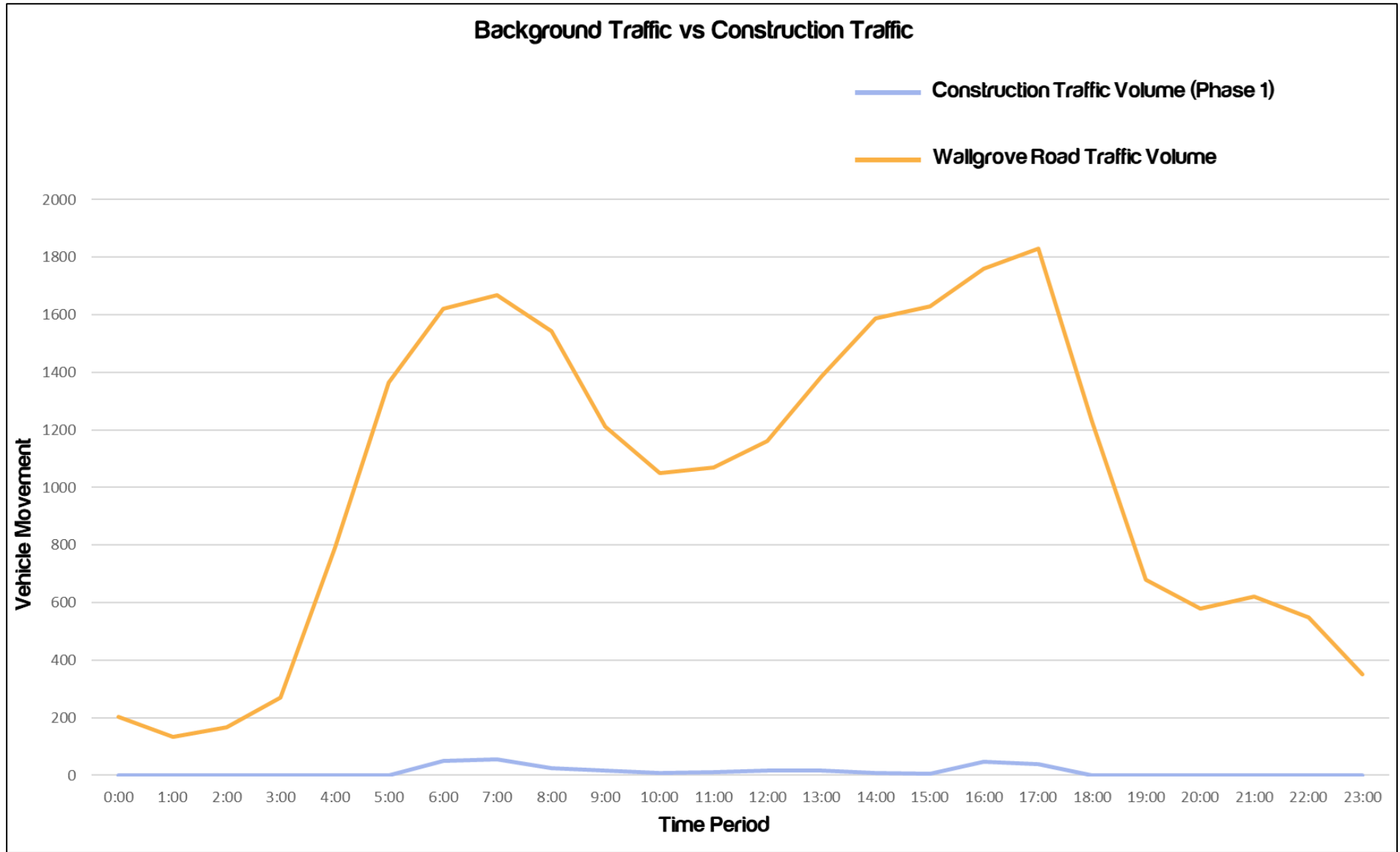


Figure 17: Background Traffic vs Construction Traffic – Phase 1

6.1.2 Phase 2 Post to the construction of the signalised intersection:

It can be observed that the construction traffic demand is anticipated to vary each month during phase 2, culminating in its peak during Stage 6, which is scheduled to take place between January 2027 and November 2027.

The estimated traffic volumes during the peak period of Phase 2 are shown in the table below:

TABLE 23: PHASE 2 PEAK TRAFFIC MOVEMENT

Period	Light Vehicle Movement	Heavy Vehicle Movement	Total
AM Peak	44 veh/hr	94 veh/hr	138 veh/hr
PM Peak	90 veh/hr	30 veh/hr	120 veh/hr
Daily	268 veh/day	266 veh/day	534 veh/day

Based on the provided table, it can be observed that the peak construction traffic movement for Phase 2 coincides with the operational traffic of GIE during both the AM and PM peak periods. Furthermore, the accompanying figure below illustrates the hourly count volumes of construction traffic for Phase 2 in relation to the existing background traffic. This visual representation clearly indicates that the increase in construction traffic is relatively minimal in comparison.

The figure provided below illustrates the daily traffic volumes for the Estate following the completion of the Signalised intersection.

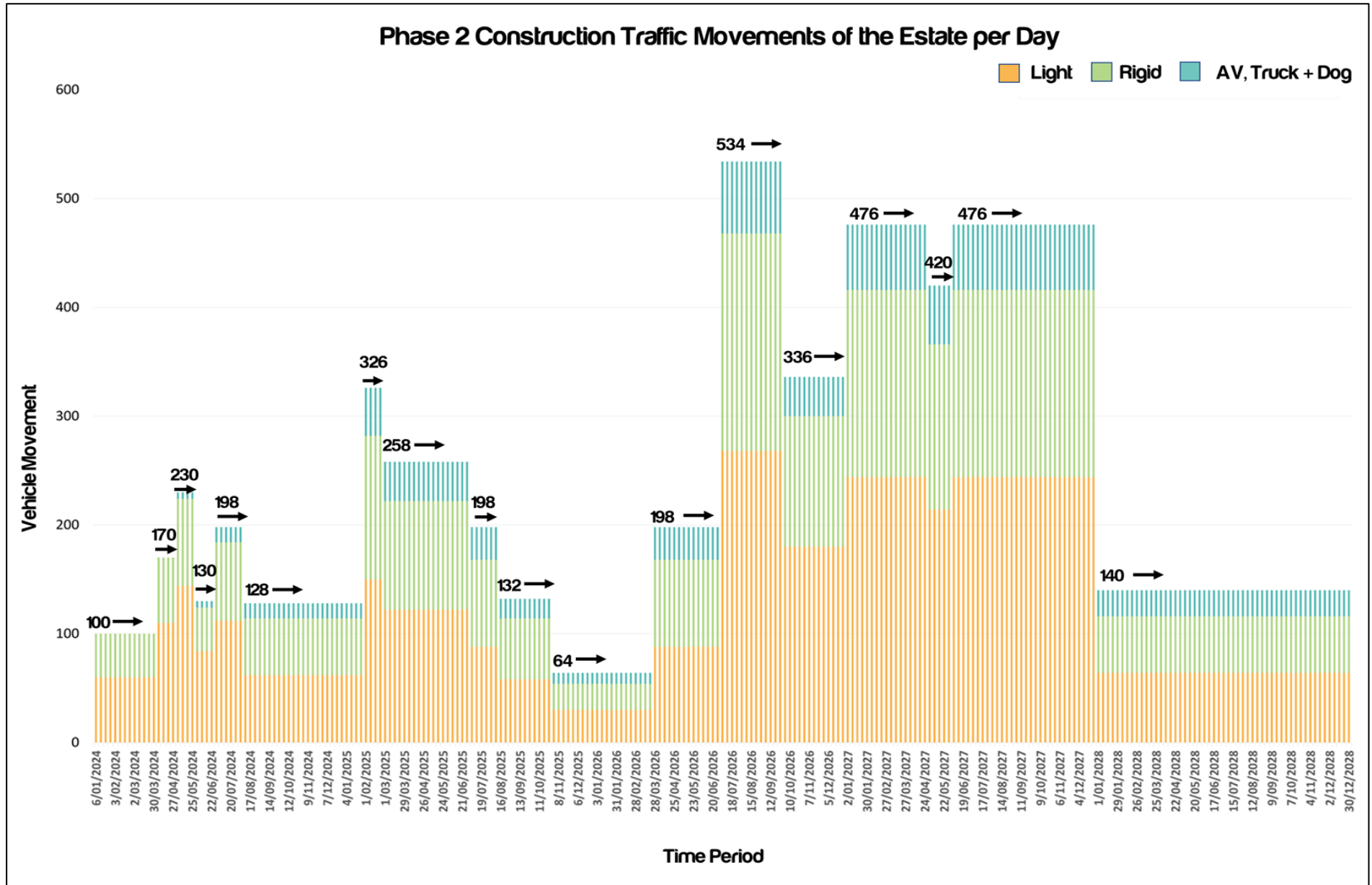


Figure 18: Phase 2 Construction Vehicle Movements of the Estate – Daily

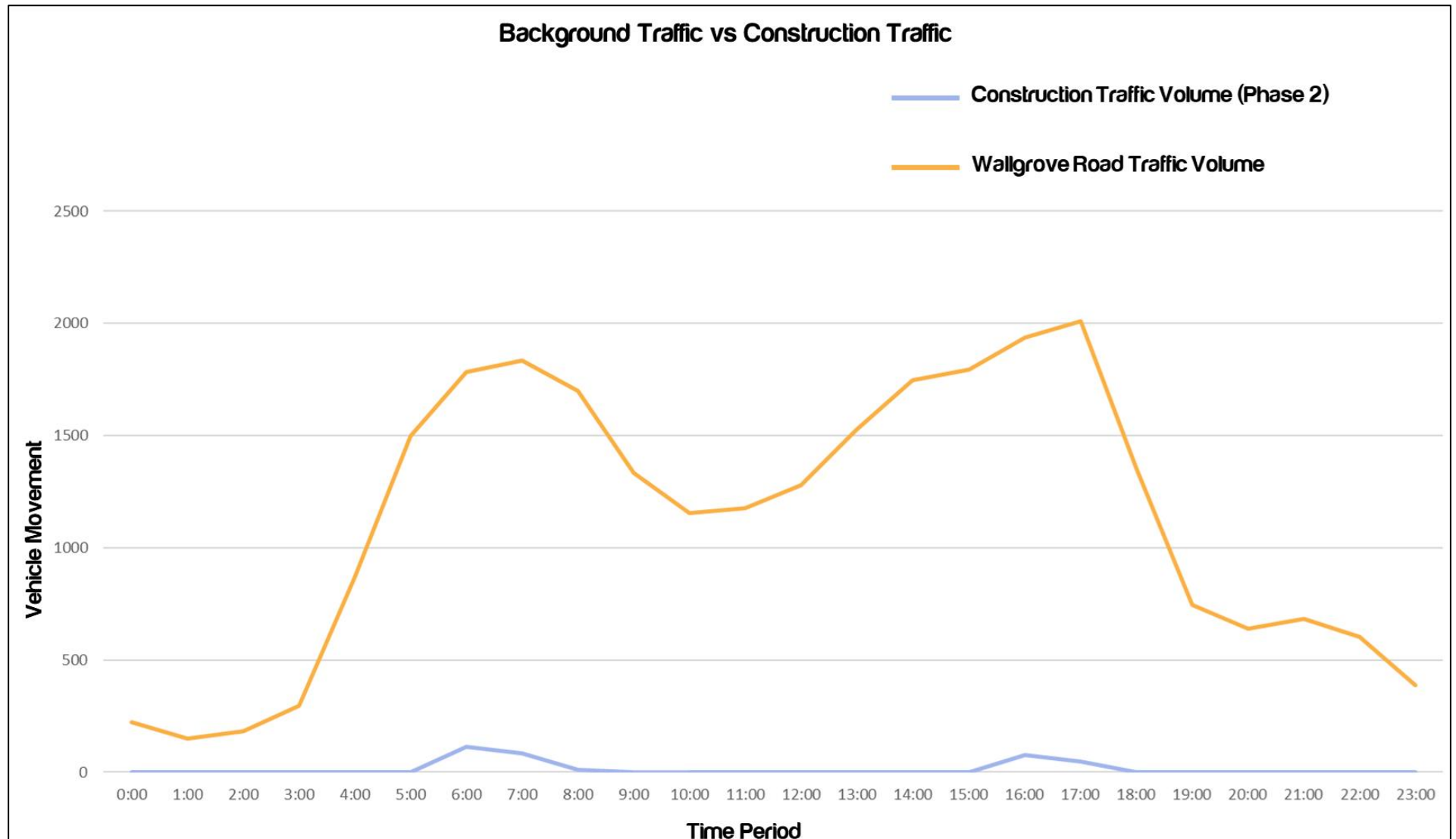


Figure 19: Background Traffic vs Construction Traffic – Phase 2

6.2 Cumulative Impacts

Given that Phase 1 construction traffic will utilise the Interim construction access and Phase 2 construction traffic will utilise the Signalised intersection, the estimated construction traffic has been allocated to the respective intersections. The distribution of construction traffic for Phase 1 is shown in the **Figure 20** and **Figure 21**.

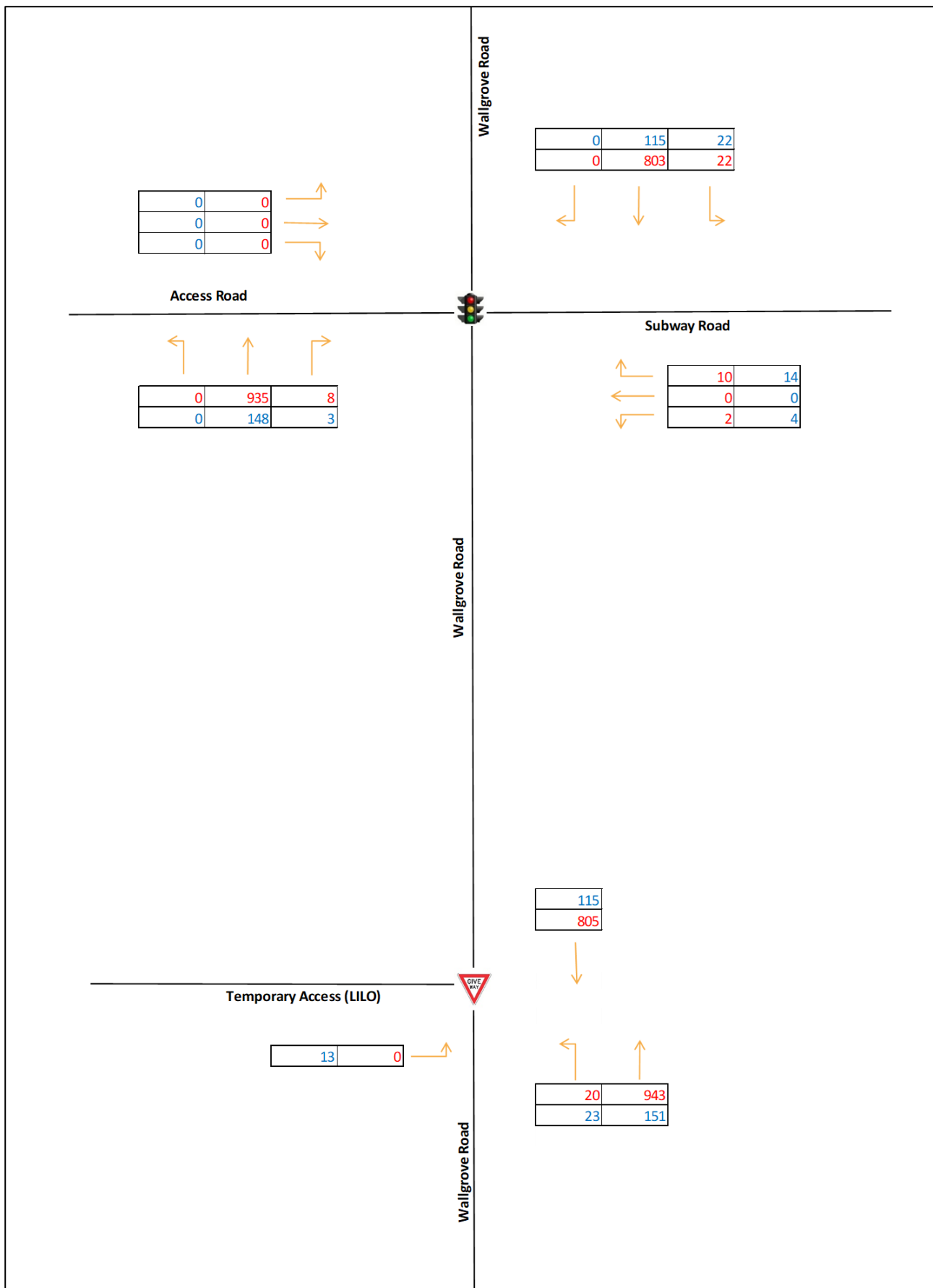


Figure 20: Baseline Traffic Volumes with Construction Volume – Phase 1 - AM Peak

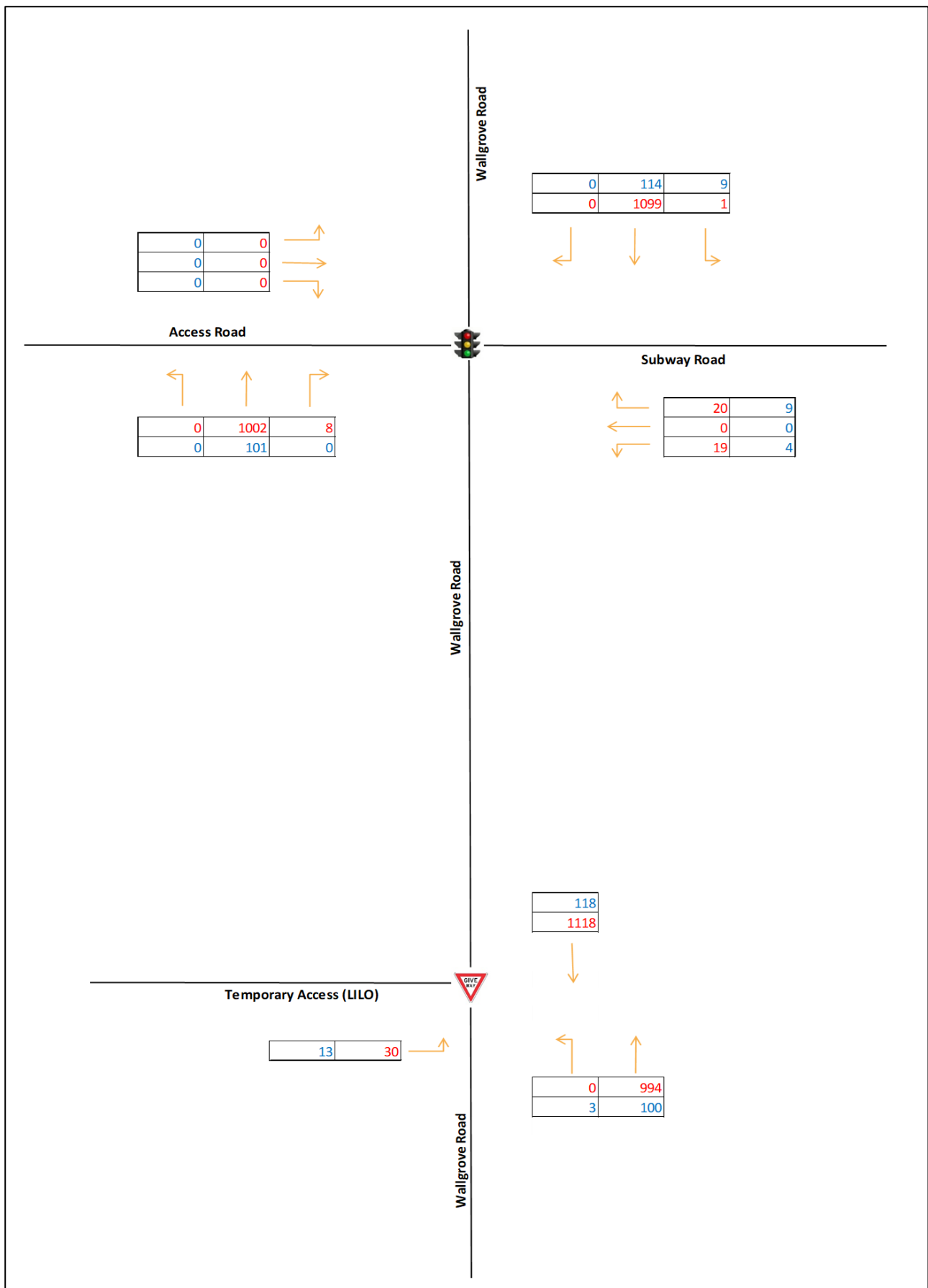


Figure 21: Baseline Traffic Volumes with Construction Volume – Phase 1- PM Peak

Similarly, the distribution of construction traffic for Phase 2 is shown in **Figure 22** and **Figure 23**.

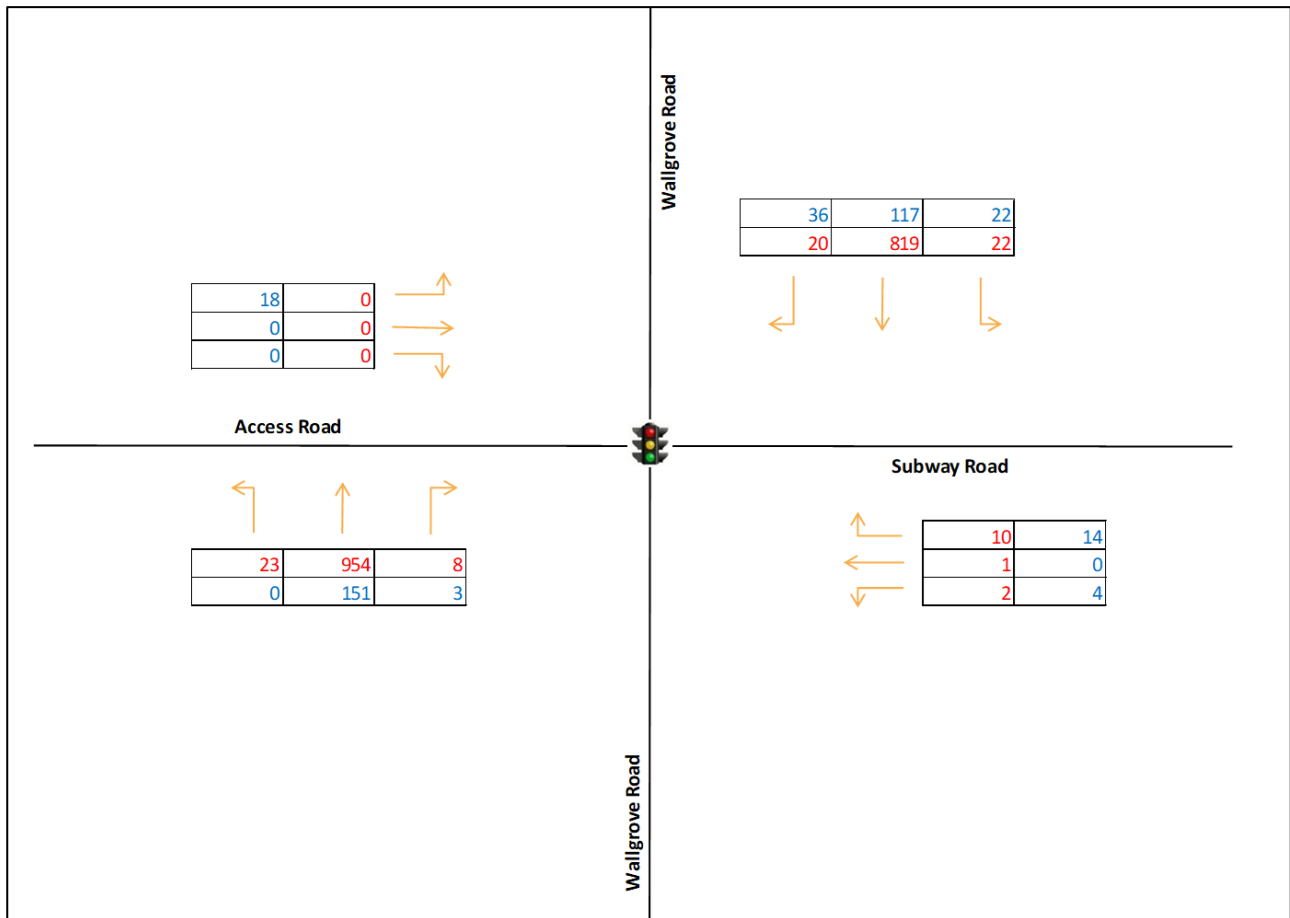


Figure 22: Baseline Traffic Volumes with Construction Volume – Phase 2 - AM Peak

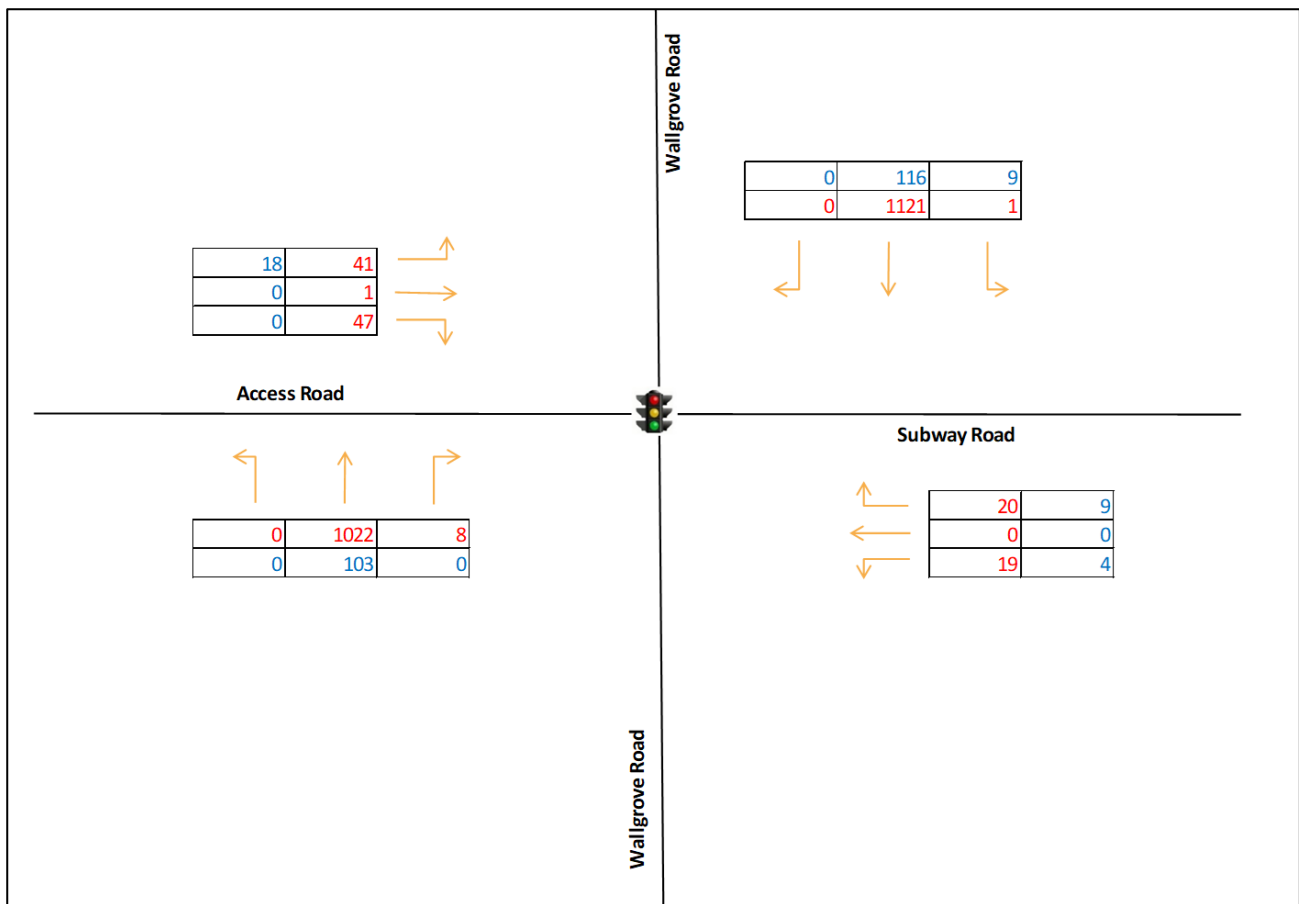


Figure 23: Baseline Traffic Volumes with Construction Volume – Phase 2 - PM Peak

The impact of construction traffic for both phases have been assessed using SIDRA computer program which outputs a range of performance measures, in particular:

- **Degree of Saturation (DOS):** DOS is defined as the ratio of demand (arrival) flow to capacity.
- **Average Vehicle Delay (AVD):** Provides a measure of the operational performance of an intersection and is used to determine an intersection's Level of Service (see below). For signalised intersections, the AVD reported relates to the average of all vehicle movements through the intersection. For priority (Give Way, Stop & Roundabout controlled) intersections, the AVD reported is that for the movement with the highest AVD.
- **Level of Service (LOS):** Comparative measure that provides an indication of the operating performance, based on AVD. For signalised and roundabout intersections, it is based on average delay to all vehicles, while at priority-controlled intersections it is based on the worst approach delay.

Table 24 provides a summary of the SIDRA LOS parameters, which are based on the RMS Guide.

TABLE 24: SIDRA LEVEL OF SERVICE SUMMARY

Level of Service	Average Delay per Vehicle (sec/veh)	Traffic Signals, Roundabout	Give Way and Stop Signs
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals, incidents will cause excessive delays. Roundabouts require other control mode	At capacity, requires other control mode
F	More than 70	Unsatisfactory and requires additional capacity.	Unsatisfactory and requires other control mode or major treatment.

Table 25 provides results of the calibrated SIDRA model for the temporary access with Wallgrove Road during peak periods.

TABLE 25: TEMPORARY ACCESS PERFORMANCE

Peak Period	AVD (s)	LOS	DOS
AM	0.7	D	0.637
PM	0.8	B	0.701

Note: The critical gap and headway follow up timing was changed from 5s and 3s to 4.5s and 2.5s respectively in consultation with SIDRA support and per Table 7.1 of AUSTROADS 2020: Guide to Traffic Management Part 3: Transport Study and Analysis Methods.

The AVD range between 0.7 – 0.8 seconds for both AM and PM peaks indicating that the intersection is operating near capacity. However, during the afternoon peak, SIDRA suggests that the LOS is classified as "Worst (B)" which suggests that the intersection is still within the acceptable range of delays and has spare capacity. SIDRA summaries can be referenced in **Appendix C**. Moreover, the results of the SIDRA analysis for the Signalised intersection with the construction volume are summarised in **Table 26**.

TABLE 26: SIGNALISED INTERSECTION PERFORMANCE

Peak Period	AVD (s)	LOS	DOS
AM	13	A	0.511
PM	14.4	A	0.554

It is recognised that the peak construction traffic of Phase 2 consisting of 534 vehicles movements per day is considerably less than the approved operational traffic volumes being 5,774 vehicle movements per day.

Further, a SIDRA assessment undertaken on the Signalised intersection shows that the intersection can operate at an overall LOS A during the cumulative peak construction period. SIDRA summaries can be referenced in Appendix C.

7 Plan Administration

7.1 Monitoring Program

This CTMP shall be subject to ongoing review and will be updated accordingly. Regular reviews will be undertaken by the on-site coordinator. As a minimum, review of the CTMP shall occur monthly. All and any reviews undertaken should be documented, however key considerations regarding the review of the CTMP shall be:

- Tracking deliveries against the volumes outlined within report. Deliveries will be tracked against approved volumes and will keep a vehicle log - including rego & time of entry - for the purpose of assessing the effectiveness of these monitoring programs.
- Reporting and Monitoring of movements to ensure drivers are adhering to the approved construction hours, and to ensure that the approved traffic generation, and subsequent impacts on the road network, are in line with those approved. This should be undertaken fortnightly during construction.
- To identify any shortfalls and develop an updated action plan to address issues that may arise during construction (Parking and access issues)
- To ensure TGSs are updated (if necessary) by "Prepare a Work Zone Traffic Management Plan" card holders to ensure they remain consistent with the set-up on-site.
- Regular checks undertaken to ensure all loads are entering and leaving site covered as outlined within this CTMP.
- The Contractor shall be responsible for preparing a dilapidation report periodically (once a month) to assess the condition of Estate Road 01 and Estate Road 01 following their completion and are utilised by construction traffic. The dilapidation report of these roads should note whether there has been any reduction in the quality of the road as a result of construction vehicle traffic.

The development of a program to monitor the effectiveness of this CTMP shall be established by the Contractor. This process is expected to form part of the monitoring plan required to be included as part of the overarching Construction Environmental Management Plan (CEMP), of which this CTMP forms a part.

7.2 Contingency Plan

A contingency plan shall be established by the Contractor. Notwithstanding, **Table 27** outlines an indicative plan to be undertaken by the builder in the event that the monitoring program identifies the management plan is not effective in managing the construction impacts.

TABLE 27: CONTINGENCY PLAN

Risk		Condition Green	Condition Amber	Condition Red
Construction Movements	Trigger	Construction traffic volume is in accordance with permissible and programmed volume and time constraints	Construction traffic volumes exceeds programmed volume but is within permissible volume constraints	Construction traffic volumes exceeds permissible volume and time constraints
	Response	No response required	Review and investigate construction activities, and where appropriate, implement additional remediation measures such as:	As with Condition Amber, plus; • If it is concluded that construction activities were directly responsible

			- Review CTMP and update where necessary - Provide additional training.	for the exceedance, submit an incident report to government agencies.
Queuing	Trigger	No queuing identified	Queuing identified within Estate	Queuing identified on the public road
	Response	No response required Continue monitoring program	Review the delivery schedule prepared by the builder. If drivers are not following the correct schedule, then they should be provided with additional training and an extra copy of the Driver Code of Conduct	As with Condition Amber, plus - Review and investigate construction activities. - If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. - Temporary halting of activities and resuming when conditions have improved. - Review CTMP and update where necessary, provide additional training.
Noise	Trigger	Noise levels do not exceed imposed noise constraints	Noise levels in minor excess of imposed noise constraints	Noise levels greatly in excess of imposed noise constraints
	Response	No response required	Undertake all feasible and reasonable mitigation and management measures to minimise noise impacts.	As with Condition Amber If noise levels cannot be kept below applicable limits, then a different construction method or equipment must be utilised.
Traffic Guidance Scheme	Trigger	No observable issues	Minor inconsistencies with TGS to onsite operations	Near miss or incident occurring regardless of / as a result of the TGS being implemented
	Response	No response required	Traffic Controller to amend TGS on site and to keep a log of all changes	Stop work until an investigation has been undertaken into the incident. There are to be changes made to the TGS to ensure that the safety of all workers, students and civilians are catered for.

Dust	Trigger	No observable dust	Minor quantities of dust in the air and tracking on to the road	Large quantities of dust in the air and tracking on to the road
	Response	No response required	Review and investigate construction activities and respective control measures, where appropriate. Implement additional remedial measures, such as: • Deployment of additional water sprays • Relocation or modification of dust-generating sources • Check condition of vibrating grids to ensure they are functioning correctly. • Temporary halting of activities and resuming when conditions have improved	As with Condition Amber. • If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. • Implement relevant responses and undertake immediate review to avoid such occurrence in future.

It is therefore proposed to incorporate the above items within the communications strategy. The contingency plan outlines the most effective methods to ensure that each item identified within the Monitoring Program is adhered to, resulting in the impacts to the wider community being minimised. It also represents the efforts undertaken to continually improve CTMP and ensure that the process being utilised are indeed best practice.

7.3 Communications Strategy

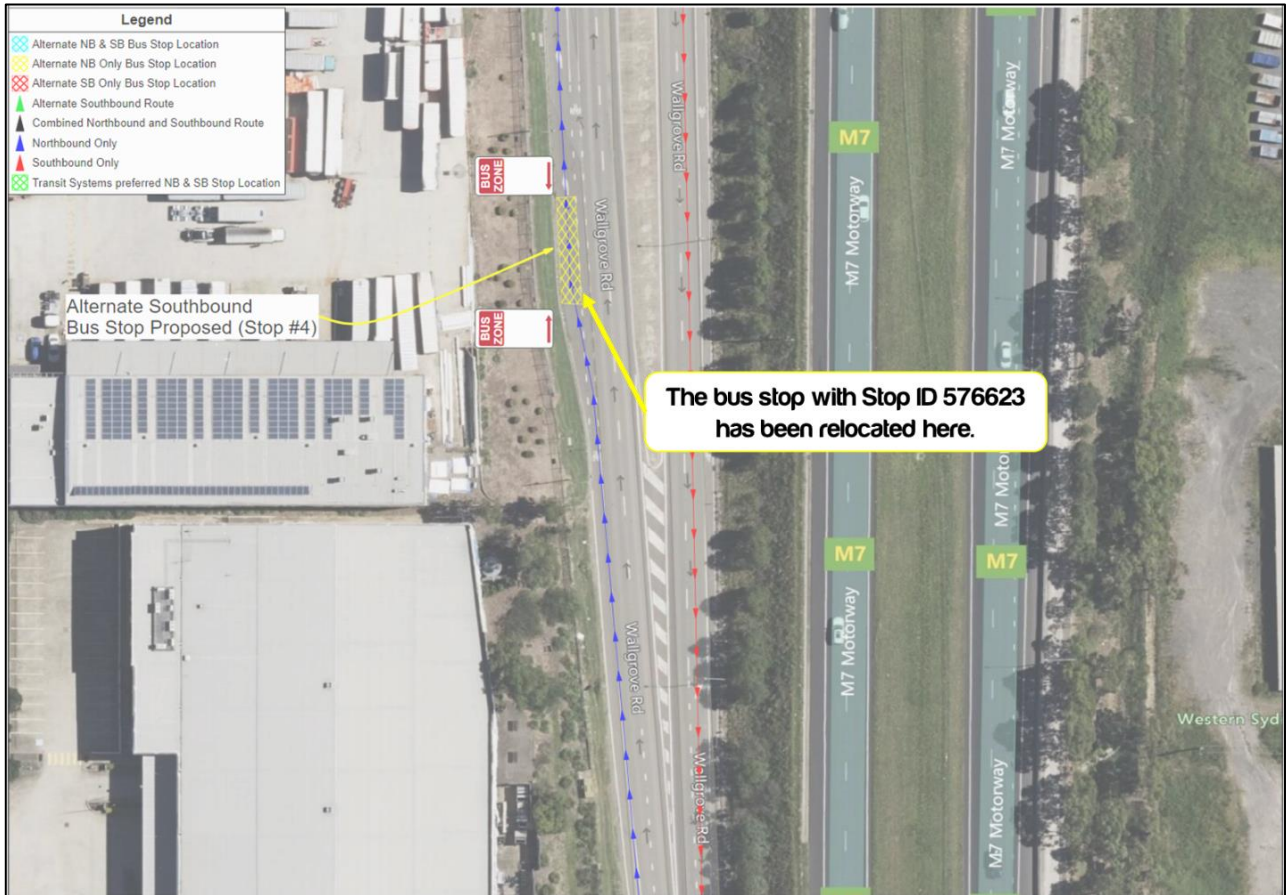
A communications strategy shall be established by the Contractor. The Contractor is to notify the community liaison representative when traffic is expected to exceed the parameters set within “Condition Green” of **Table 27**. **Table 28** outlines an indicative communication strategy to ensure that adequate communication with key stakeholders have been met.

TABLE 28: COMMUNICATION STRATEGY

Risk	Stakeholder	Action
Warehouse Specific Disruption	• TfNSW • Fairfield City Council • Transport Management Centre (TMC) • NSW Police • Emergency Services • Gazcorp	Stakeholder meetings Stakeholder emails
Wider Traffic Disruption	• TfNSW • Fairfield City Council • Transport Management Centre (TMC) • NSW Police • Emergency Services • Gazcorp • Surrounding Residents / Tenants / Schools	

If and when there are any proposed changes to the CTMP conditions, then these shall be captured ongoing discussions with TfNSW. In the event that the CTMP report requires to be changed, a copy of the revised CTMP report should be submitted developments.cjp@transport.nsw.gov.au for further review and endorsement.

Appendix A. Alternative Temporary Bus Stop Locations



Source: GIE CTMP prepared by Allied Traffic Management dated 26/08/2022⁸

⁸ <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-5248%2120221221T050819.373%20GMT>

Appendix B. Risk Assessment

813-913 Wallgrove Road, Eastern Creek

Risk Assessment and Communication Tool

Project Number	P2302		
Project Name	Gazcorp Industrial Estate (GIE)		
Site Location	813-913 Wallgrove Road, Eastern Creek		
Date of Assessment	9/11/2023		
Revision	Issue II		
Name		Company	Title
J. Laidler		Ason Group	Senior Traffic Engineer
M. Abdullah		Ason Group	Traffic Engineer
Tim Sachs		Gazcorp	Senior Project Manager
Sangeeth Subramaniam		Gazcorp	Project Manager
Document Control			
Date Issued	Revision	Issued By	Checked By
08/06/2023	Draft	M. Abdullah	J. Laidler
26/09/2023	Issue I	M. Abdullah	J. Laidler
9/11/2023	Issue II	M. Abdullah	J. Laidler

Risk Matrix		Consequence				
		Minor	Major	Severe	Critical	Catastrophic
		A	B	C	D	E
Very Unlikely	1	Low	Low	Medium	Medium	Medium
Unlikely	2	Low	Low	Medium	Medium	High
Possible	3	Low	Medium	High	High	High
Likely	4	Medium	Medium	High	High	Extreme

Almost Certain	5	Medium	High	High	Extreme	Extreme
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Description	
A - Minor	Could result in injury or illness not resulting in a lost work day or minimal environmental damage not required to be notified under jurisdiction requirements.
B - Major	Could result in injury or illness resulting in one or more lost work day(s) or environmental damage can be mitigated and is not required to be notified under jurisdiction
C - Severe	requirements where restoration activities can be accomplished.
D - Critical	Could result in permanent partial disability, injuries or illness that may result in
E - Catastrophic	hospitalisation of persons or environmental damage can be mitigated and is required to be notified under jurisdiction requirements.

Likelihood Descriptor	Design Likelihood
1 - Very unlikely	Industry experience suggests design failure is very unlikely. It can be assumed failure
2 - Unlikely	Industry experience suggests design failure is unlikely to occur in the life of design.
3 - Possible	Industry experience suggests design failure is possible some time during the life of the
4 - Likely	Industry experience suggests design failure is likely to occur during the life of the product.
5 - Almost certain	Industry experience suggests design failure is almost certain to occur during the life of the

Risk Assessment and Communication Tool

Example

ID. Ref	Risk and/ or Hazard	Risk Description	Location	Existing Control	Initial Risk Rating			Design Response to risk and /or hazard	Status of Risk	Assignment of risk or hazard	Residual risk rating		
					C	L	RR				C	L	RR
1	Unauthorized Access to the Site	Site prevents unauthorised access	Entire Site	Nil	C	3	High	Boundary fence will be provided as part of the main works. The design provides a defined separation between public areas and work area. Admin area is located in front of the site to minimise unauthorised visitor access	Design Solution	Main Contractor	B	2	Low
2	Interaction between pedestrians and vehicles	Vehicles and pedestrians to be separates as best possible	Entire Site & Access Roads	Nil	D	3	High	separate pedestrians from vehicles in construction sites, use barrier fencing, signage and markings, traffic control measures, and temporary walkways. Ensure that the site is well-lit, especially when	Design Solution	Main Contractor	B	2	Low

								it get dark, and train workers on safety around construction equipment and vehicles to promote awareness of potential hazards.					
3	Potential vehicle conflict points	Vehicles can crash with each other while manoeuvring through the site	Entire Site & Access Roads	Nil	B	3	Medium	Use one-way manoeuvring around a site to limit interaction between vehicles to designated access points. Maintain Low speeds throughout the site to ensure safety for drivers.	Design Solution	Main Contractor	B	1	Low
4	Potential vehicle with other road users	Construction Vehicles can crash with other Road users while manoeuvring through the site	Site Access & Road	Nil	C	3	High	Conducting regular toolbox meetings is essential to ensure drivers are well-informed about the Driver Code of Conduct, compliance with road safety regulations, and adherence to road rules. This proactive approach	Design Solution	Main Contractor	B	2	Low

								helps minimise conflicts with various road users, including pedestrians, cyclists, and motor vehicles.					
5	Fatigue	Injury caused by fatigue	Entire Site	Nil	C	3	High	Toolbox meetings and regular breaks (in line with WHS practices) to minimise fatigue	Design Solution	Main Contractor	B	1	Low
6	Fall risks	Injury due to falls (in general)	Entire Site	Nil	E	3	High	Proper safety equipment, training, and site maintenance should be implemented to ensure a safe work environment.	Design Solution	Main Contractor	C	2	Medium
7	Misdirected access in to neighbouring site	Vehicle in unsafe locations	Entire Site	Nil	C	3	High	Ensuring appropriate directional signage has been provided to ensure vehicles do not access the wrong construction site, which could create potential safety breaches and hazards for all parties. Additionally,	Design Solution	Main Contractor	B	2	Low

								communicating with the neighbouring site can help to identify any potential issues related to access or safety, and facilitate the sharing of best practices and resources. This can promote a culture of collaboration and cooperation between neighbouring sites, and ultimately help to improve overall safety and efficiency in the area.					
8	Conflicting Traffic Management	Coordinating Traffic Controllers could create misleading and wrong advice	Entire Site	Nil	C	3	High	Regular toolbox meetings, safety briefings, liaison with traffic management teams, and updated signage plans can minimize construction site hazards by adopting a comprehensive	Design Solution	Main Contractor	C	2	Medium

								approach to traffic management.					
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Appendix C. SIDRA Summary

MOVEMENT SUMMARY

Site: 101 [Temporary Access AM (Site Folder: Phase 1-Prior-Operation of the Signalised Intersection)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Wallgrove Road / Temporary Access Road

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Wallgrove Road															
1	L2	All MCs	45	53.5	45	53.5	0.033	6.2	LOS A	0.0	0.0	0.00	0.50	0.00	51.7
2	T1	All MCs	1152	13.8	1152	13.8	0.637	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	69.1
Approach			1197	15.3	1197	15.3	0.637	0.5	NA	0.0	0.0	0.00	0.02	0.00	68.3
North: Wallgrove Road															
8	T1	All MCs	968	12.5	968	12.5	0.531	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	69.4
Approach			968	12.5	968	12.5	0.531	0.2	NA	0.0	0.0	0.00	0.00	0.00	69.4
West: Temporary Access Road															
10	L2	All MCs	14	100.0	14	100.0	0.139	44.0	LOS D	0.4	5.5	0.94	0.97	0.94	32.3
Approach			14	100.0	14	100.0	0.139	44.0	LOS D	0.4	5.5	0.94	0.97	0.94	32.3
All Vehicles			2179	14.6	2179	14.6	0.637	0.7	NA	0.4	5.5	0.01	0.02	0.01	68.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Project: C:\Users\Musstafa Abdullah\Ason Group\Ason Group Team Site - 2302\Projects\Modelling\P2302m01-CTMP.sip9

MOVEMENT SUMMARY

Site: 101 [Temporary Access PM (Site Folder: Phase 1-Prior-Operation of the Signalised Intersection)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Wallgrove Road / Temporary Access Road

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wallgrove Road															
1	L2	All MCs	3	100.0	3	100.0	0.003	6.6	LOS A	0.0	0.0	0.00	0.48	0.00	49.6
2	T1	All MCs	1152	9.1	1152	9.1	0.619	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	69.2
Approach			1155	9.4	1155	9.4	0.619	0.3	NA	0.0	0.0	0.00	0.00	0.00	69.2
North: Wallgrove Road															
8	T1	All MCs	1301	9.5	1301	9.5	0.701	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	68.9
Approach			1301	9.5	1301	9.5	0.701	0.4	NA	0.0	0.0	0.00	0.00	0.00	68.9
West: Temporary Access Road															
10	L2	All MCs	45	30.2	45	30.2	0.196	22.8	LOS B	0.6	4.9	0.87	0.96	0.93	41.7
Approach			45	30.2	45	30.2	0.196	22.8	LOS B	0.6	4.9	0.87	0.96	0.93	41.7
All Vehicles			2501	9.8	2501	9.8	0.701	0.8	NA	0.6	4.9	0.02	0.02	0.02	68.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Organisation: ASON GROUP PTY LTD | Licence: NETWORK / 1PC | Processed: Friday, 22 September 2023 2:24:38 PM

Project: C:\Users\Musstafa Abdullah\Ason Group\Ason Group Team Site - 2302\Projects\Modelling\P2302m01-CTMP.sip9

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped	Dist]					
						ped	m			sec	m	m/sec
South: Wallgrove Road												

P1 Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
West: Access Road											
P4 Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
All Pedestrians	100	105	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\Users\Musstafa Abdullah\Ason Group\Ason Group Team Site - 2302\Projects\Modelling\P2302m01-CTMP.sip9

**Site: 101 [Proposed Intersection PM (Site Folder: Phase 2-
Post Operation of the Signalised Intersection)]**

Wallgrove Rd-Subway Rd-Access Rd AM

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

- * Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped	Dist]					
						ped	m			sec	m	m/sec
South: Wallgrove Road												

P1 Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
West: Access Road											
P4 Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
All Pedestrians	100	105	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\Users\Musstafa Abdullah\Ason Group\Ason Group Team Site - 2302\Projects\Modelling\P2302m01-CTMP.sip9

Appendix D. Traffic Guidance Schemes



TGS GENERAL NOTES

- ALL PUBLIC ROADS WILL HAVE A SPEED LIMIT OF 50KM/H UNLESS IDENTIFIED OTHERWISE
- NOT ALL DIMENSIONS SHOWN ARE TO SCALE
- LOCATION OF SIGNS ARE TO BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY
- ALL SIGNS ARE TO BE MINIMUM SIZE A
- ALL SIGNS ARE TO BE CLASS 1 RETROREFLECTIVE
- ALL TRAFFIC CONTROL PLANS ARE TO BE IMPLEMENTED IN ACCORDANCE WITH TFNSWS TRAFFIC CONTROL AT WORK SITES TECHNICAL MANUAL ISSUE 6 (RELEASED 2020) AND AUSTRALIAN STANDARDS AS1742.3:2019 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PART 3: TRAFFIC CONTROL DEVICES FOR WORKS ON ROADS
- THIS TRAFFIC CONTROL PLAN MUST BE SET UP BY A PERSON HOLDING AN "IMPLEMENT TRAFFIC MANAGEMENT PLAN" TICKET AND TFNSWS TRAFFIC CONTROL AT WORK SITES CHECKLIST SHALL BE COMPLETED PRIOR TO IMPLEMENTATION
- THE ACCREDITED PERSONNEL SHALL IMPLEMENT THE APPROVED TOP BEFORE ANY PHYSICAL WORK COMMENCES AND ENSURE A COPY OF THE TOP IS KEPT ON-SITE. THE ACCREDITED PERSONNEL SHALL ALSO DRIVE THROUGH THE SITE BEFORE WORKS BEGIN TO ENSURE THAT THE TOP HAS BEEN IMPLEMENTED CORRECTLY AND THAT THE IT WILL WARN, INSTRUCT AND GUIDE ROAD USERS AS DESIGNED. ANY VARIATIONS TO THE PLAN MUST BE MARKED ON THE PLAN AND INITIALED BY THE ACCREDITED PERSONNEL
- IT IS THE RESPONSIBILITY OF THE AN ACCREDITED PERSONNEL WITH A 'PREPARE A WORK ZONE TRAFFIC MANAGEMENT PLAN' TO ENSURE THE FOLLOWING:
 - * THE INTEGRITY OF ALL TRAFFIC CONTROL MEASURE THROUGH TO THE FINAL REMOVAL. THIS INCLUDES DAILY CHECKS OF ALL SIGNS AND DEVICES. THE CORRESPONDING RECORDS OF CHECKS SHALL BE KEPT ON FILE FOR AUDITING PURPOSES.
 - * VEHICULAR ACCESS AND SERVICING REQUIREMENTS ARE TO BE MAINTAINED AT ALL TIMES TO ADJACENT PROPERTIES AFFECTED BY TRAFFIC CONTROL MEASURES
 - * AT ALL TIMES AN UP-TO-DATE COPY OF 'TRAFFIC CONTROL AT WORK SITES' SHALL BE AVAILABLE FOR REFERENCE AND IMPLEMENTATION AS REQUIRED ON-SITE
- ALL WORKERS WILL BE CONFINED TO THE DEDICATED WORKS AREA SHOWN ON THE PLAN
- IF THE WORKSITE IS LEFT UNATTENDED IT IS THE CONTRACTOR'S DUTY TO ENSURE THAT THE APPROPRIATE MEASURES ARE TAKEN TO PROVIDE A SAFE ENVIRONMENT FOR VEHICLES AND PEDESTRIANS TO RELEVANT AUSTRALIAN STANDARDS
- TRAFFIC CONTROLLER (T1-34) AND PREPARE TO STOP (T1-18) SIGNS ARE TO BE COVERED OR REMOVED WHEN TRAFFIC CONTROLLER/S ARE NOT ON SITE.
- ALL SIGNAGE IS TO BE CLEAN, CLEARLY VISIBLE AND NOT OBSCURED
- ALL WORKERS MUST ADHERE TO THE APPLICABLE SAFE WORK DISTANCE AS DESCRIBED IN AS1742.3:2019
- ALL DISTANCES BETWEEN SIGNS ARE TO BE IN ACCORDANCE WITH SECTION 2.5.2 OF AS1742.3:2019. HOWEVER, MODIFICATIONS CAN BE MADE TO SUIT SITE CONDITIONS
- IF REQUIRED, A TGS MUST BE SELECTED, DEVELOPED AND IMPLEMENTED BY A SUITABILITY QUALIFIED PERSON (PWZTMP AND ITCP QUALIFICATIONS)

Designer / Approver

Full Name: James Laidler
Role: Principal Lead
Division / Organisation: Ason Group
SafeWork NSW Card Number: TCT0031686
Signature:

Date:23/05/2023

AMENDMENTS					
REV	DATE	DESCRIPTION	MA	JL	JL
-	14.02.23	TGS FOR WALLGROVE RD SITE ACCESS	MA	JL	JL
REV	DATE	DESCRIPTION	DRW	CHK	APP

GENERAL NOTES	
This drawing is provided for information purposes only and should not be used for construction.	
Base Plan prepared by Nearmaps dated 29 Nov 2023.	
Wallgrove Road has a posted speed limit of 70km/h.	

DESIGNED	Musstafa Abdullah
CHECKED BY	James Laidler
APPROVED BY	James Laidler

PAPER SIZE	A1
DATE	23.05.2023
SCALE	1:400

CLIENT	Gazcorp
PROJECT	P2302
	813-913 WALLGROVE ROAD

DOCUMENT INFORMATION	
TGS	
WALLGROVE RD SITE ACCESS	
DRAWING STATUS	FOR CONSTRUCTION

FILE NAME	SHEET
AG2302-01-v01.dwg	AG02

asongroup

Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000
info@asongroup.com.au



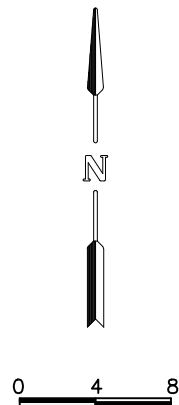
TGS GENERAL NOTES

- ALL PUBLIC ROADS WILL HAVE A SPEED LIMIT OF 50KM/H UNLESS IDENTIFIED OTHERWISE
- NOT ALL DIMENSIONS SHOWN ARE TO SCALE
- LOCATION OF SIGNS ARE TO BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY
- ALL SIGNS ARE TO BE MINIMUM SIZE A
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- IT IS THE RESPONSIBILITY OF THE AN ACCREDITED PERSONNEL WITH A 'PREPARE A WORK ZONE TRAFFIC MANAGEMENT PLAN' TO ENSURE THE FOLLOWING:
 - * THE INTEGRITY OF ALL TRAFFIC CONTROL MEASURE THROUGH TO THE FINAL REMOVAL. THIS INCLUDES DAILY CHECKS OF ALL SIGNS AND DEVICES. THE CORRESPONDING RECORDS OF CHECKS SHALL BE KEPT ON FILE FOR AUDITING PURPOSES.
 - * VEHICULAR ACCESS AND SERVICING REQUIREMENTS ARE TO BE MAINTAINED AT ALL TIMES TO ADJACENT PROPERTIES AFFECTED BY TRAFFIC CONTROL MEASURES
 - * AT ALL TIMES AN UP-TO-DATE COPY OF 'TRAFFIC CONTROL AT WORK SITES' SHALL BE AVAILABLE FOR REFERENCE AND IMPLEMENTATION AS REQUIRED ON-SITE
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- ALL DISTANCES BETWEEN SIGNS ARE TO BE IN ACCORDANCE WITH SECTION 2.5.2 OF AS1742.3:2019. HOWEVER, MODIFICATIONS CAN BE MADE TO SUIT SITE CONDITIONS
- IF REQUIRED, A TGS MUST BE SELECTED, DEVELOPED AND IMPLEMENTED BY A SUITABILITY QUALIFIED PERSON (PWZTMP AND ITCP QUALIFICATIONS)

Designer / Approver

Full Name: James Laidler
Role: Principal Lead
Division / Organisation: Ason Group
SafeWork NSW Card Number: TCT0031686
Signature:

Date:01/06/2023



AMENDMENTS					
REV	DATE	DESCRIPTION	MA	MD	JL
-	23.05.23	TGS FOR WALLGROVE RD SITE ACCESS	MA	MD	JL
REV	DATE	DESCRIPTION	DRW	CHK	APP

GENERAL NOTES	
This drawing is provided for information purposes only and should not be used for construction.	
Base Plan prepared by Orino dated 08 July 2022.	
Wallgrove Road has a posted speed limit of 70km/h.	

DESIGNED	PAPER SIZE
Musstafa Abdullah	A1
CHECKED BY	DATE
Mario Dizon	01.06.2023
APPROVED BY	SCALE
James Laidler	1:400

CLIENT
Gazcorp
PROJECT
P2302
813-913 WALLGROVE ROAD

DOCUMENT INFORMATION
TGS
WALLGROVE RD POST TRAFFIC SIGNALS
DRAWING STATUS
FOR CONSTRUCTION

asongroup		
Suite 17.02, Level 17, 1 Castlereagh St Sydney NSW 2000 info@asongroup.com.au		
FILE NAME	SHEET	
AG2302-02-v01.dwg	AG01	

Appendix E. TGS Verification Checklist

TGS verification checklist

TGS Verification must be undertaken after selecting or designing a TGS as a confirmation of appropriateness prior to approval for use. A PWZTMP or TGS qualified person must undertake this verification.

Completed by:			
Name:	James Laidler	Signature:	
Qualification	Senior Traffic Engineer PWZTMP #0052158569		
TGS details:			
TMP Reference:	P2302r01 Overarching CTMP, Gazcorp Industrial Estate (GIE). Draft	TGS Reference:	
Date:	8/06/2023	Review type	☐ Site Inspection ☒ Desktop Review
Sources used for desktop review	Near Map, Dated 30/03/2023.		
Site details			
Street name:	Wallgrove Road	Confirmed posted speed limits:	70km/h
Street name:	Subway Road	Confirmed posted speed limits:	40km/h
List unique site-specific Hazards / Risks identified on site.			
E.g., utilities, infrastructure, vegetation, schools,			
n/a			

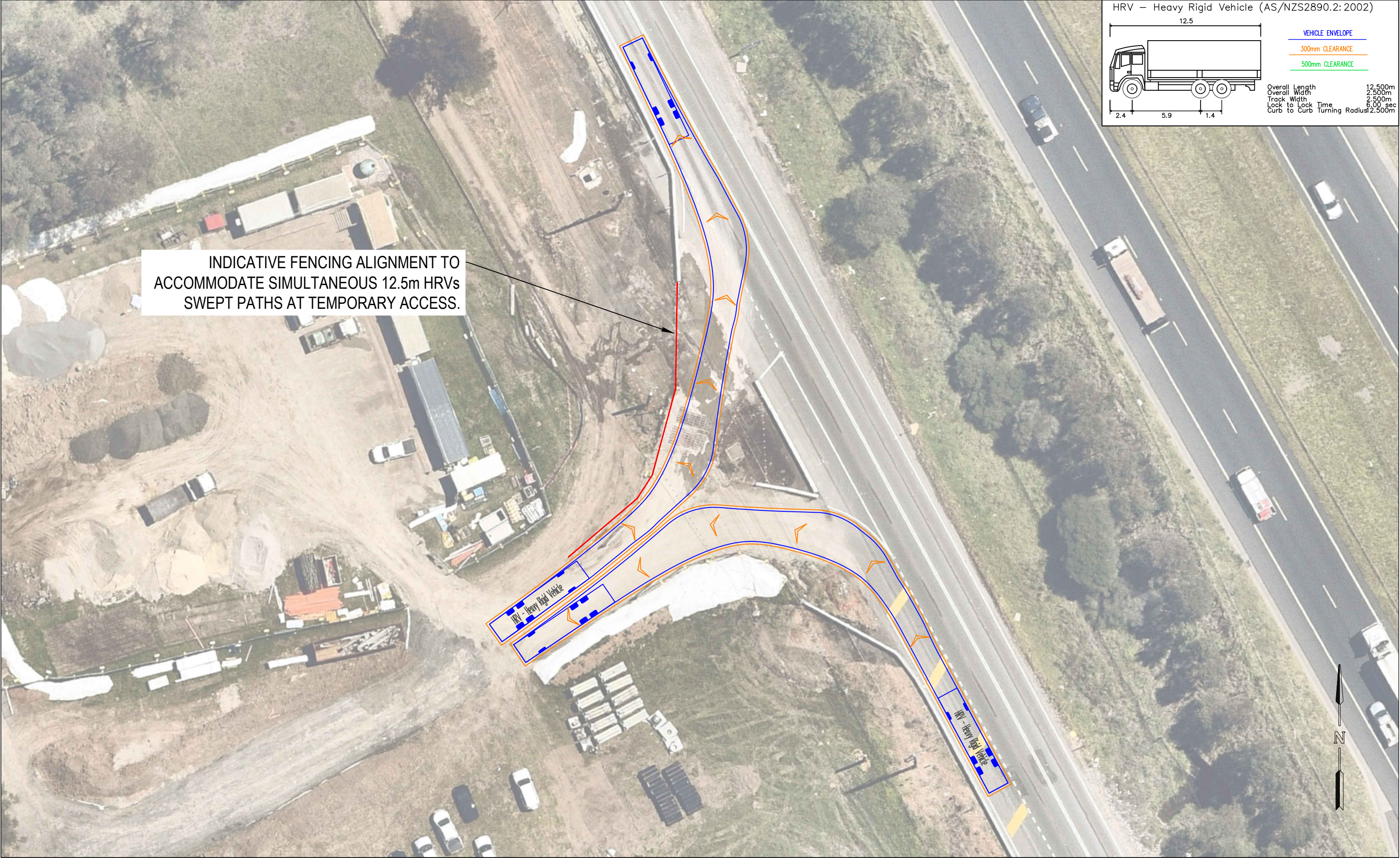
TGS details

Have the below been addressed on the TGS for this location?

Traffic volumes	☒ Yes	☐ No	☐ N/A	Details	Traffic volumes have been assessed for Wallgrove Road and the construction volume of the Estate.
Predicted queue length	☒ Yes	☐ No	☐ N/A	Details	• Temporary Access ○ Not expected to queue onto the adjacent northbound lane on Wallgrove Road when entering the Site given 50m storage area and 30m taper provided at the temporary access. • Signalised Access ○ Based on the approved SSDA there will be no queuing expected on Wallgrove Road/ Subway Road when vehicles enter/existing the Estate.
Shoulder widths	☒ Yes	☐ No	☐ N/A	Details	South direction of Wallgrove Roads is designed for B-doubles, therefore sufficient shoulder widths. However, there are no shoulders in the north direction of Wallgrove Road.
Sight distances	☒ Yes	☐ No	☐ N/A	Details	Straight road with no obstructions and good sight distance
Existing infrastructure	☒ Yes	☐ No	☐ N/A	Details	No trees, poles, or other infrastructure
Transport services	☐ Yes	☐ No	☒ N/A	Details	None within 500m of the Estate.
Pedestrian generators	☐ Yes	☒ No	☐ N/A	Details	No footpaths near the GIE
Appropriate site access	☒ Yes	☐ No	☐ N/A	Details	Appropriate site access to accommodate construction vehicles.
Appropriate escape route for traffic controllers	☐ Yes	☐ No	☒ N/A	Details	No Traffic Controllers required for this TGS. Furthermore, if the TGS changes then appropriate routes will be designed to ensure the safety for all traffic controllers.

Appendix F. Swept Path (as requested by Council)

ASON ACCEPTS NO RESPONSIBILITY WHATSOEVER FOR THE USE OF UNAPPROVED PLANS IN ANY CONSTRUCTION OR FOR ANY COMMERCIAL PURPOSES. SET OUT DIMENSIONS OF ALL DESIGN LINES, GRID LINES, CONTROL LINES, RECOVERY MARKS AND BENCH MARKS SHOULD BE VERIFIED AND CONFIRMED AGAINST THE LATEST INFORMATION AT CONSTRUCTION. ASON IS TO BE NOTIFIED IMMEDIATELY OF ANY ERROR OR DISCREPANCY AND THE MATTER RESOLVED PRIOR TO THE COMMENCEMENT OR CONTINUATION OF ANY WORK. THIS NOTE IS AN INTRINSIC PART OF THIS PLAN DATA. REPRODUCTION OF THIS PLAN OR ANY PART OF IT WITHOUT THE WRITTEN PERMISSION OF ASON GROUP IS PROHIBITED. ASON GROUP IS NOT RESPONSIBLE FOR THE CONSTRUCTION OF THE PLAN OR THE INFORMATION CONTAINED THEREIN. THE INFORMATION CONTAINED IN THIS PLAN IS FOR INFORMATION ONLY AND SHOULD NOT BE USED FOR CONSTRUCTION. ASON GROUP IS NOT RESPONSIBLE FOR THE CONSTRUCTION OF THE PLAN OR THE INFORMATION CONTAINED THEREIN. THE INFORMATION CONTAINED IN THIS PLAN IS FOR INFORMATION ONLY AND SHOULD NOT BE USED FOR CONSTRUCTION.



GENERAL NOTES This drawing is provided for information purposes only and should not be used for construction. Base Plan prepared by Nearmaps dated 29 Nov 2023. Wallgrove Road has a posted speed limit of 70km/h Swept path assessments completed at 10 km/h and 300mm clearance. Design vehicle: 12.5m HRV	DESIGNED Jasmine Wong		PAPER SIZE A3	CLIENT PRIME CONSTRUCTIONS	DOCUMENT INFORMATION		asongroup Suite 17.02, Level 17, 1 Castlereagh St Sydney NSW 2000 info@asongroup.com.au
	APPROVED BY X.XXXX		DATE 27.03.2023	PROJECT	SWEPT PATHS 12.5m HRV		
	SCALE 1:400		048	2234	FILE NAME AG2234-03-v01.dwg	SHEET AG01	
				813-913 WALLGROVE ROAD			

Appendix G. Alternate Bus Stop Consultation (as requested by Council)

Alex Ruello

From: Suthes Kumar <Suthes.KUMAR@transport.nsw.gov.au>
Sent: Friday, 5 August 2022 6:19 PM
To: Alex Ruello; Hannah Shilling
Cc: Joseph George; Bus Approval; Steve Grady; Adrian Prichard; Joseph Aouad
Subject: RE: 423 Wallgrove Road Upgrade - Bus stop - Wallgrove Road before Roussell Road, Eastern Creek

Hi Alex,

TfNSW has no objection to the proposed temporary relocation of the bus stops. Please update the TMP to reflect these changes.

Regards

Suthes Kumar

Project-Contract Manager

Developer Works

Greater Sydney

Transport for NSW

M: 0408 655 528 **E:** Suthes.Kumar@transport.nsw.gov.au

transport.nsw.gov.au

129a Orchardleigh Street

Yennora NSW 2161



**Transport
for NSW**



I acknowledge the Aboriginal people of the country on which I work, their traditions, culture and a shared history and identity. I also pay my respects to Elders past and present and recognise the continued connection to country.

Please consider the environment before printing this email.

From: Alex Ruello [mailto:Alex.Ruello@burtoncontractors.com.au]
Sent: Monday, 1 August 2022 11:10 AM
To: Hannah Shilling <hshilling@transitsystems.com.au>; Suthes Kumar <Suthes.KUMAR@transport.nsw.gov.au>
Cc: Joseph George <Joseph.George@burtoncontractors.com.au>; Bus Approval <BusApproval@transport.nsw.gov.au>; Steve Grady <sgrady@busways.com.au>; Adrian Prichard <aprichard@transitsystems.com.au>; Joseph Aouad <Joseph.Aouad@burtoncontractors.com.au>
Subject: RE: 423 Wallgrove Road Upgrade - Bus stop - Wallgrove Road before Roussell Road, Eastern Creek

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Thanks for that Hannah,

Before we make the changes we will need to have some sort of approval from Transport & TMC.

Suthes – as soon as you are able, can you please advise if stops #1 and #4 are okay for Transport & TMC? If so, our revised TMP will be updated to reflect the changes.

Regards,
Alex Ruello
Project Manager
Burton Contractors Pty Ltd

T: 0408 289 903
M: 0408 289 903
F: 02 9581 5551
E: Alex.Ruello@burtoncontractors.com.au



Sydney Office
Homebush Business Village
Unit 3/11-21 Underwood Rd
Homebush NSW 2140
T: 02 9581 5550 F: 02 9581 5551



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From: Hannah Shilling <HShilling@transitsystems.com.au>
Sent: Monday, 1 August 2022 10:44 AM
To: Alex Ruello <Alex.Ruello@burtoncontractors.com.au>; Suthes Kumar <Suthes.KUMAR@transport.nsw.gov.au>
Cc: Joseph George <Joseph.George@burtoncontractors.com.au>; BusApproval@transport.nsw.gov.au; Steve Grady <sgrady@busways.com.au>; Adrian Prichard <APrichard@transitsystems.com.au>; Joseph Aouad <Joseph.Aouad@burtoncontractors.com.au>
Subject: RE: 423 Wallgrove Road Upgrade - Bus stop - Wallgrove Road before Roussell Road, Eastern Creek

Good Morning Alex,

We just went out with a bus to test whether the draw in bay southbound would be appropriate for a bus.

Thankfully the bus just fit, so we are happy to use the locations of stops 1 and 4 as the alternate stops.

Can you please arrange for Bus Zone signage to be installed?

Also can you please advise the start date of the change, once known.

Thanks.

Kind Regards,

Hannah Shilling
Network Project Planner

T: 02 8778 5853
A: Lot 2 Airfield Drive, Len Waters Estate NSW 2171

E: hshilling@transitsystems.com.au

I acknowledge the traditional owners of the land on which we live and work, and pay my respects to elders past, present and emerging.



Transit Systems NSW Reconciliation Action Plan
Artwork by Allan McKenzie, Gamilaroi / Wiradjuri Man

Transit Systems Confidential communication. Please Note: This email and any attached files may be confidential, privileged and intended solely for the addressee. It may not be reviewed, acted upon, filed or communicated to or by any other person. If you have received this email in error please delete it and notify the sender immediately. Although our system is regularly checked by virus scanning software, updated daily, Transit Systems does not guarantee that emails or attachments are free of viruses or interference. Please check for viruses and defects before opening or using attachments. Our liability is limited to resupplying any affected attachments.

From: Alex Ruello <Alex.Ruello@burtoncontractors.com.au>

Sent: Friday, 29 July 2022 5:41 PM

To: Hannah Shilling <HShilling@transitsystems.com.au>; Suthes Kumar <Suthes.KUMAR@transport.nsw.gov.au>

Cc: Joseph George <Joseph.George@burtoncontractors.com.au>; BusApproval@transport.nsw.gov.au; Steve Grady <sgrady@busways.com.au>; Adrian Prichard <APrichard@transitsystems.com.au>; Joseph Aouad <Joseph.Aouad@burtoncontractors.com.au>

Subject: RE: 423 Wallgrove Road Upgrade - Bus stop - Wallgrove Road before Roussell Road, Eastern Creek

Hannah & Suthes,

I have drafted the attached to present multiple options for alternate bus stop locations to try and short circuit the potential solution.

1. **Bus Stop #1** – There is a wider shoulder here that will fit a bus here. There is a concrete footpath that leads to the traffic lights and pedestrian crossing at the Roussell Road intersection. This would serve the SB direction only
2. **Bus Stop #2** – This is an alternate to the preferred Transit Systems location for NB and SB bus stop. This location offers the benefits of negating queuing traffic in the Roussell Road intersection
3. **Bus Stop #3** – This is Transit System's preferred location for both a NB & SB bus stop
4. **Bus Stop #4** – Alternate location for NB direction only

These can be mixed and matched in any combination to service both NB and SB. example #1 & #3, #2 & #4, #2 only, #3 only etc

Hannah – Can you please advise if any of the bus stop locations are not acceptable?

Suthes – Can you please advise if any of the proposed bus stop locations are not acceptable to TfNSW? Can you please also check with TMC to see if they have any objections to any of the proposed bus stop locations? We would prefer to have these approved in advance of the next CTMP submission to avoid another potential 20-day review cycle.

Thank you all in advance. Please let me know if the attached or explanation is not clear enough and I will do my best to explain.

Regards,
Alex Ruello
Project Manager
Burton Contractors Pty Ltd

Appendix H. Evidence of Consultation with TfNSW

Musstafa Abdullah

From: Development CTMP CJP <development.CTMP.CJP@transport.nsw.gov.au>
Sent: Wednesday, 1 November 2023 2:37 PM
To: Musstafa Abdullah; Development Sydney; Development CTMP CJP
Cc: Ali Rasouli; James Laidler
Subject: RE: SSD- 5248 - Gazcorp Industrial Estate - CTMP
Attachments: P2302r01v04 CTMP_Gazcorp Industrial Estate (GIE), Issue IV.pdf

Hi Musstafa,

Transport for NSW (TfNSW), Greater Sydney Division has reviewed the CTMP and endorse the proposed temporary construction arrangements, subject to the following conditions:

- Separate TMP for the signalised intersection to be submitted to CJP
- Any Traffic Guidance Schemes (TGS) prepared are to comply with AS1742.3 and Transport for NSW's "Traffic Control at Worksites" manual and be signed by a person with TfNSW certification to prepare a TGS.
- Proponent must apply and obtain approval from the Transport Management Centre for a Road Occupancy Licence (ROL) for any required lane closures and/or Speed Zone Authorisations as part of the ROL that may impact the state road network or is within 100m of traffic signals.
- Access to be maintained for residents, businesses and emergency vehicles at all times.
- No marshalling or queuing of construction vehicles is to occur on public roads. Arriving vehicles that are not able to use parking bay/work zone must continue to a holding point until space becomes available.
- When heavy vehicles are entering or leaving the site a traffic controller is to be provided to manage any conflicts between pedestrians and heavy vehicles.
- Access to the site should be at the farthest point from the intersection as practicable to reduce additional conflicting vehicle manoeuvres.
- Transport for New South Wales reserve the right to alter the CTMP Conditions at any time to maintain safe and efficient traffic and pedestrian movements in this area.
- Any approved Works Zone should only be used for work activities. No infrastructure, including bins, tanks or traffic control equipment should be left on the road when the works zone is not in use by a vehicle. All non-vehicular items must be contained within the work area and not on the carriageway. When a work zone is not in use, the area/lane must be opened up to allow for normal trafficable conditions
- Should TfNSW Network and Asset Management, Network Operations, CJP Operations, Network and Safety or other TfNSW business area determine that more information is to be provided for review and acceptance, including other TCS locations, this information must be submitted prior to the CTMP being implemented, or otherwise agreed upon.
- Any traffic control devices, including signage and line marking, should be installed by the proponent and must conform with Australian Standards 1742

Endorsement of the CTMP is not an approval to the type of traffic management or delineation devices used, nor is it an approval to any traffic guidance schemes depicted within the CTMP. It is assumed that the proponent has used type approved devices and has developed its traffic guidance schemes in accordance with the relevant Australian Standards and Guidelines.

The proponent is to ensure local residents, businesses, schools and other stakeholders in the affected area as well as emergency service organisations are notified of the changes associated with the CTMP, prior to its implementation.

Please ensure this CTMP is shared and adhered to by all contractors. . If the CTMP changes, please forward a copy to Developments.CJP@transport.nsw.gov.au or further review and endorsement.

Kind Regards,

Heather Trengove
Principal Transport Planner
Customer Journey Planning
Greater Sydney
Transport for NSW

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OFFICIAL

From: Mustafa Abdullah <mustafa.abdullah@asongroup.com.au>
Sent: Wednesday, 18 October 2023 12:26 PM
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Cc: Ali Rasouli <ali.rasouli@asongroup.com.au>; James Laidler <james.laidler@asongroup.com.au>
Subject: SSD- 5248 - Gazcorp Industrial Estate - CTMP

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To Whom it May Concern,

By way of introduction, Ason Group is the traffic engineer engaged to provide traffic input for SSD- 5248 - Gazcorp Industrial Estate.

As per Department of Planning, Industry & Environment comments , we are required to prepare a CTMP (construction traffic management plan) in consultation with TfNSW. We are committed to fulfilling this requirement and have attached the CTMP for your review.

Given the urgency of the matter, we would greatly appreciate receiving your input as soon as possible.

Thank you for your attention to this matter.

Regards,

Musstafa Abdullah
Traffic Engineer | Ason Group

T: +61 2 9083 6601 | E: mustafa.abdullah@asongroup.com.au
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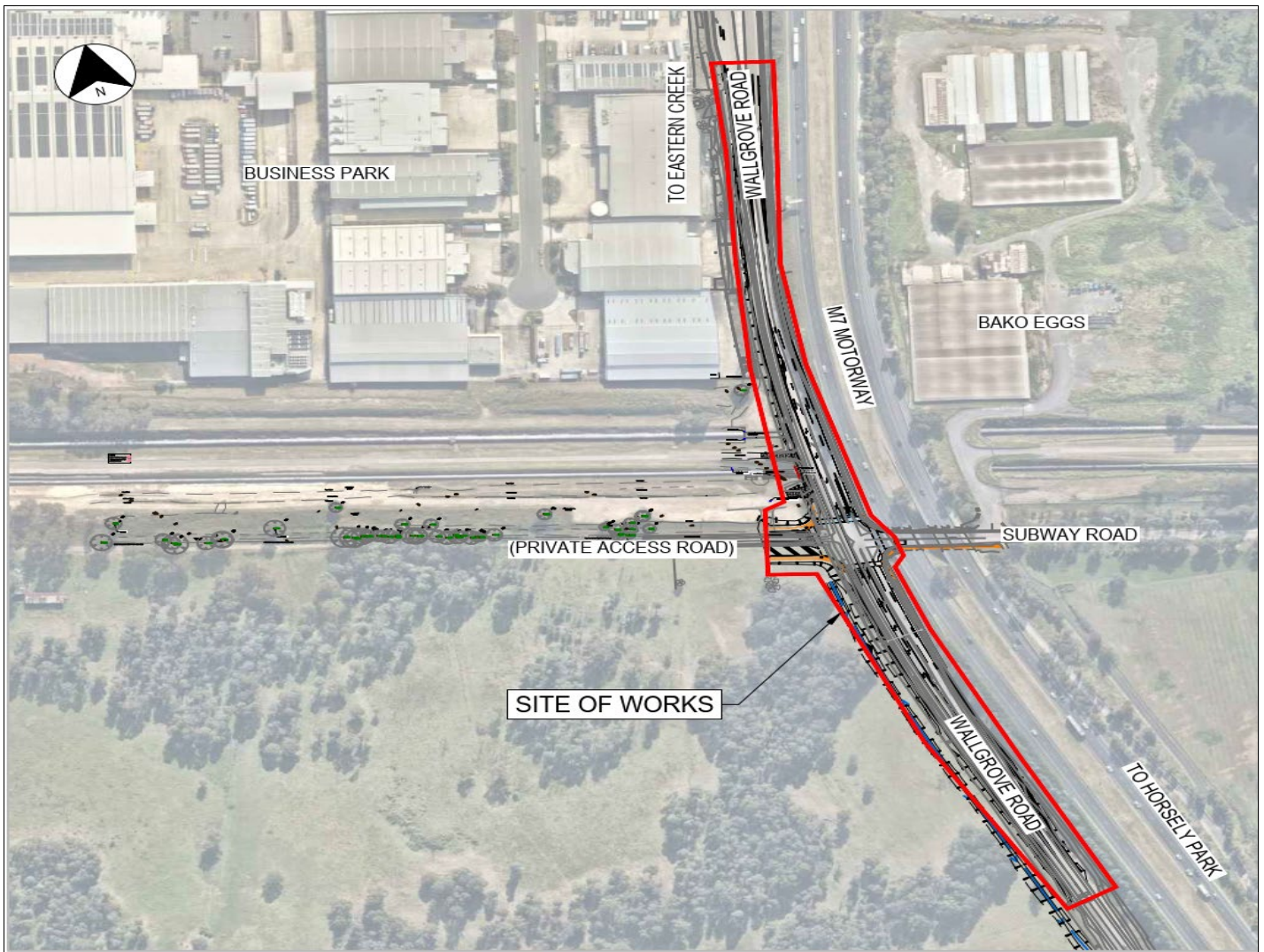
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Appendix I. Allied TMP – Signalised Intersection

Allied

TRAFFIC MANAGEMENT





Traffic Management Plan

"19-0108 – MR515 Wallgrove Road, Horsley Park Intersection Upgrade"

Client: Gazcorp

Date: 26/08/2022

Prepared By: Nass Chami

PWZTMP –0052135507

Revisions

Rev	Date	Descriptions	Prepared By	Approved By
0	05/05/2022	First Submission	Nass Chami	Nass Chami
1	17/05/2022	Added Traffic Count and staging plan	Nibraas Ahmad	Nass Chami
2	27/06/2022	TMC & NW&S Comments	Alex Ruello	Nass Chami
3	08/08/2022	TMC Comments & Bus Stop changes	Alex Ruello	Nass Chami
4	26/08/2022	Updated S2 & S3A	Alex Ruello	Nass Chami

Distribution

Revision	Issue Date	Company	Recipient
0	06/05/2022	TfNSW	Suthes Kumar
0	06/05/2022	Orion Consulting	Joshua Hoh, Mina Fahmy
1	18/05/2022	TfNSW	Suthes Kumar
1	18/05/2022	Orion Consulting	Joshua Hoh, Mina Fahmy
1	18/05/2022	Gazcorp	Tim Sachs
2	27/06/2022	TfNSW	Suthes Kumar
2	27/06/2022	Gazcorp	Tim Sachs
3	08/08/2022	TfNSW	Suthes Kumar
3	08/08/2022	Gazcorp	Tim Sachs, Boris Bobyk
4	26/08/2022	TfNSW	Suthes Kumar
4	26/08/2022	Gazcorp	Tim Sachs, Boris Bobyk
4	26/08/2022	AT&L	Chris Hannibal, Paul Kerry

Amendments

This plan is a “working document” and therefore may be subject to change during the project to continue to provide an efficient and cost-effective means of delivering Project Management. Should a revised plan be generated, there will be a corresponding revision number and summary details noted on the document revision table above. Amendments to this document from the previous issue are highlighted

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1.0 Introduction

1.1 Purpose and Scope

This Construction Traffic Management Plan (CTMP) outlines the traffic control and traffic management procedures to be implemented to manage potential impacts and risks associated with the traffic environment during the upgrade of Wallgrove Road, Horsley Park.

1.2 Objective and Strategies

This CTMP forms part of the overall planning and approval process associated with the project. The purpose of the CTMP is to describe how the delivery contractor Burtons Civil Engineering proposes to manage traffic during the work activities to ensure the safe and efficient movement of traffic around the work area.

A main priority of this project is to minimise disruption to traffic and to ensure all activities undertaken are carried out in a safe manner within the scope permitted by all stakeholder authorities. Key objectives are listed below:

- Implementing traffic control arrangements that maximize safety for workers and public by isolating the work area whilst minimizing delay to road users.
- Planning and staging all work activities to effectively minimize road occupancy and any potential impacts on the road network.
- Seeking approval from key stakeholders including Transport for NSW (TfNSW), Traffic Management Centre (CJM), Fairfield City Council, Blacktown City Council, Emergency Services and local businesses and residents to ensure they are informed about the works and changes to traffic conditions.

To achieve these objectives, it will be necessary to ensure appropriate control measures are implemented during work activities to address all potential traffic impacts and that these control measures comply with regulations and conditions of approval. To meet these objectives the TMP will incorporate the following strategies:

- Ensuring delays are minimised as much as possible.
- Ensuring all road users are managed including motorists, pedestrians, cyclists, vulnerable road- users and people using public transport.
- Ensuring work activities are carried out sequentially to minimize adverse impacts.
- Ensuring appropriate controls are in place to provide a safe construction site for all workers.
- Provision will be made for works personnel to enter the work area in a safe manner in accordance with safety procedures.
- All entry and exit movements to and from traffic streams will be in accordance with the requirements of safe working practices.

Site-specific Traffic Guidance Schemes (TGSs) have been developed and are included in Annexure A These shall identify the traffic control measures to be implemented during the various stages of the project. All proposed arrangements, signage and devices details contained within this TMP and TGSs are in accordance with Australian Standards 1742.3 as well as RMS Traffic Control at Work Sites Manual 6.1 and Specification G10 – Control of Traffic.

2.0 Project Overview

2.1 Project Details

Gazcorp Pty Ltd are undertaking an industrial development between 813 – 913 Wallgrove Road, Horsley Park. A condition of this development is a Developer-funded upgrade of Wallgrove Road managed as a Works Authorisation Deed (WAD). The proposal includes the widening and full depth reconstruction of the existing Wallgrove Road and a new intersection configuration at Subway Road, currently the private access road to multiple businesses on the eastern side of Wallgrove Road.

The proposal includes:

- Full depth reconstruction of the existing Wallgrove Road
- Widening of Wallgrove Road to make create an additional lane in the northbound and southbound direction
- Signalisation of the existing seagull intersection at Subway Road
- Removal of merge / acceleration lanes out of Subway Road heading northbound or southbound
- Construction of a cycle lane on the road pavement
- Utility relocation and adjustments
- Construction of new utility lead-in services from Mini Link Road to the proposed signalised intersection for the internal industrial development
- Provide new Line marking and signage
- Installation of formalised pedestrian crossing facilities and pedestrian paths
- Temporary infrastructure to allow project works including site compounds, sedimentation and erosion control, stockpiling sites and other infrastructure as required. The construction footprint for the proposal would be located entirely within the existing road corridor reserve on land owned by TfNSW. Temporary infrastructure may be located within the road corridor or the internal development.

Burton Civil Engineering has been engaged by Gazcorp to carry out the construction of these upgrades. Burton Contractors have nominated Allied Traffic Control for the associated controls for this project

Table 1 Project Overview

ITEM	DESCRIPTION
Project:	19-0108 – MR515 Wallgrove Road, Horsley Park Intersection Upgrade
Road Classification:	State Main Road – MR515
Road Authority:	Transport for New South Wales
Local Government:	Fairfield City Council and Blacktown City Council
Client:	Gazcorp
Principal Contractor:	Burton Civil Engineering
Scope of Works:	• Site establishment • Staged TCS • Barrier placement • Minor enabling works e.g., locating/surveying/potholing/ • Utility adjustments and lead-in works • Road widening and drainage construction • Pedestrian path construction • Milling and re-sheeting • Line Marking and signage • Ultimate TCS and Signalling • Site Demobilisation • Under bore works across WaterNSW pipelines

	• Safety barrier installation • Augering and construction of piers
Project Dates and Duration:	Activities will be undertaken sequentially commencing late June 2022 with targeted completion being mid-2023.
Hours/Days of Work:	• 7am-6pm – Monday to Friday • 8am-1pm – Saturdays • No work on Sundays/Public Holidays • Night work will also be required for various activities onsite & out of hours approvals are required for such shifts.

2.2 Location

The sites proposed work area is situated between Mini Link Road, Eastern Creek & Chandos Street, Horsley Park. The main pavement upgrade works take place between Roussell Road and Chandos Street. Between Subway Road and Mini Link Road, the work is generally restricted to utility works undertaken on short term traffic control.

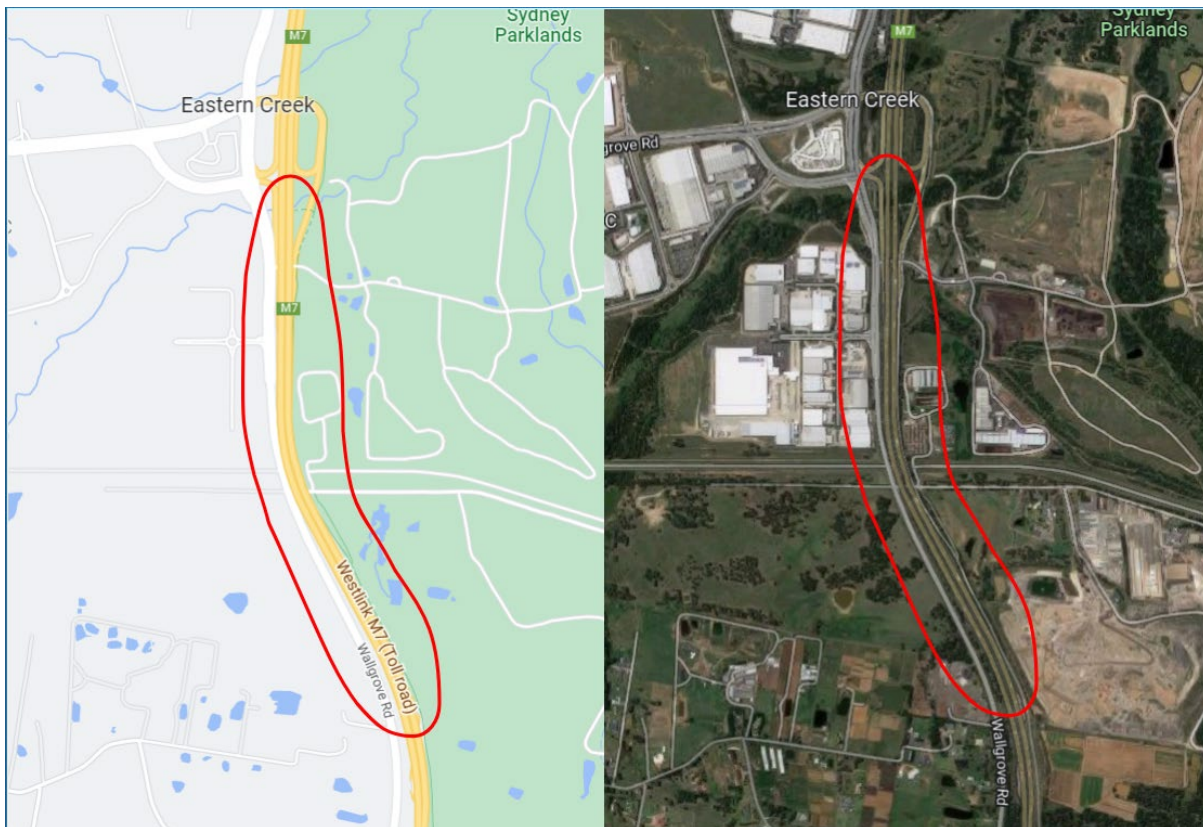


Figure 1 Location Map - Wallgrove Road, Horsley Park

2.3 Project Principal Contractor Representatives

Figure 2 Principal Contractor Representatives

ROLE/ RESPONSIBILITY	COMPANY	NAME	CONTACT NUMBER	CONTACT EMAIL
Project Manager	BURTON Contractors	Alex Ruello	0408 289 903	Alex.Ruello@burtoncontractors.co m.au
Project Engineer	BURTON Contractors	Joseph George	0447 064 127	Joseph.George@burtoncontractors .com.au
Project Site Supervisor	BURTON Contractors	Peter Cullen	0418 280 086 (24 Hour Emergency)	Peter.Cullen@burtoncontractors.co m.au
Safety Officer	BURTON Contractors	Mark Franklin	0408 117 872	Mark.Franklin@burtoncontractors. com.au
Environmental Representative	BURTON Contractors	Paris Spellson	0419 263 836	Paris.Spellson@burtoncontractors. com.au
Traffic Manager	BURTON Contractors	John Bailey	0447 783 383	John.Bailey@burtoncontractors.co m.au
Traffic Management Representative	Allied Traffic Management	Nass Chami	0427 876 539	Nass.c@alliedmanagement.com.au

2.4 Roles and Responsibilities

The Project Manager has the ultimate responsibility to ensure the CTMP is implemented for the prevention of injury and property damage to employees, contractors, sub-contractors, road users and members of the public. The Project Manager will ensure that all site personnel are fully aware of their responsibilities, and that procedures & work practices are followed correctly

2.4.1 Competencies

All persons undertaking these works have a duty of care to themselves, their employees and all site users, to take all reasonable measures to prevent accident or injury.

This CTMP forms part of the overall Work Health and Safety Management Plan, and provides details on how all road users considered likely to pass through, past, or around the work site will be safely and efficiently managed for the full durations of the site occupancy and works.

Burtons Contractors has prepared this CTMP in collaboration with Allied Traffic Control and associated controls for the site. Burtons Contractors will ensure that at all times during working hours, an appropriately accredited traffic control site supervisor will be available as well as ensuring that traffic controllers used on the project are experienced and have completed all prerequisite accredited courses.

2.4.2 Responsibilities

Project Manager/Project Engineer

The Project Manager shall:

- Liaise with TfNSW, and any other authorities for all aspects of the proposed work.
- Ensure all traffic control measures of the TMP are placed and maintained in accordance with this plan and the relevant acts, standards and guidelines.
- Ensure suitable consultation with the affected stakeholders is maintained at all times.
- Arrange and/or undertake any necessary audits and incident investigations.
- Review feedback from various stakeholders and take appropriate corrective actions.

Project Engineer

The Project Engineer shall:

- Review the methodology for the work activities in consultation with subcontractors.
- Approve the commencement of all construction activities at each stage.
- Confirm when works are completed, and the next stage can commence.
- Undertake and submit any required inspection and evaluation reports

Project Site Supervisor:

The Site Supervisor shall:

- Coordinate work crews for all construction activities.
- Coordinate with the traffic control crews during the construction works and consult with the traffic management representative over any corrective action required to unsafe site conditions.
- Coordinate lighting, fencing and temporary amenities during the construction works.
- Instruct workers on the relevant safety standards, including the correct wearing of PPE

Environmental Representative:

The Environmental Representative shall:

- Advise on environmental matters for all construction activities.
- Liaise with the Principal and other relevant authorities on environmental matters.
- Ensure all personnel are aware of their roles and responsibilities in regard to environmental matters.
- Overall responsibility for establishment, management, and maintenance of environmental control measures.
- Ensure environmental risks of works are identified and appropriate mitigation measures are implemented.

Traffic Manager

The Traffic Control Site Supervisor is responsible for overseeing the day-to-day activities, and is therefore responsible for the practical application of the CTMP, and will:

- Hold a current "Prepare Work Zone Traffic Management Plan" qualification and have a minimum 5 years of recent experience in traffic management on road construction site of equivalent complexity to this Project.
- Ensure that the approved traffic management measures are implemented and maintained in accordance with the approved plans.
- Carry out regular inspections of the traffic control measures to ensure that they are effective.
- Amend and update the plan, as required, to ensure that they remain current as the work progresses.
- Identify situations where traffic congestion, or unsafe conditions for vehicles, cyclists, pedestrian and workers, are occurring and providing recommendations for improvement.
- Maintain current copies of the Traffic Management Plan and its various component plans, lane occupancy licenses and speed zone authorisation, and their controlled distribution.
- Keep records of the Traffic Controllers' qualifications and ensuring that they are current.

-
- Liaise and facilitate regular meetings with the Principal, other authorities and relevant parties on traffic management matters for the Site, maintain records of these meetings and making them available to the relevant persons;
 - In conjunction with Community Relations, undertaking consultation with local businesses and residents.
 - Provide induction on the traffic management measures to site personnel.
 - Record and report on all traffic incidents.
 - Prepare monthly reports on traffic management matters (G10 Clause 4.7.2)

Traffic Controllers

Traffic Controllers shall be used to control road users to avoid conflict with plant, workers, traffic cyclists and pedestrians, and to stop and direct traffic in emergency situations.

Traffic Controllers will:

- Operate in accordance with TCAWS Manual 6.1 and AS1742.3
- Be accredited as a minimum with 'Traffic Controller' and 'Implement TGS' Training.
- Take appropriate breaks as required by AS1742.3 and WHS regulations.

Workers and Subcontractors

Workers and Subcontractors shall:

- Correctly wear all PPE required at all times whilst on the work site.
- Comply with the requirements of the TMP and ensure that no activity is undertaken that will endanger the safety of other workers or the general public.
- Enter and leave the site by approved access points and in accordance with safe work practices.

3.0 Work Activities, Program and Working Hours

3.1 Key Work Activities

The overall civil construction component of the project involves the following activities:

- Site Compound Establishment – a temporary site compound will be required that will include site office building, lunch facilities, storage containers and port-a-loo facilities.
- Work Area Establishment – required advance warning and specific traffic signage will be installed and approved safety barriers installed along proposed work areas in combination with staged traffic signals.
- Service Relocation and Adjustments – Installation of new lead in services and adjustment of existing utilities
- Road Widening – required earth works and construct pavement areas as required including milling and re-surfacing of required areas.
- Site Demobilisation – Upon completion, the site compound would be removed, and the area would be revegetated where required to return the area to its natural state prior to site establishment.

Construction activities shall be carried out progressively with each stage requiring different logic to ensure activities are carried out efficiently whilst minimising impact on traffic / residents / businesses.

3.2 Plant Requirements

Throughout the duration of the project, plant and equipment items that may be used include:

Figure 3 Plant & Equipment Requirements

Plant and Equipment Items	
• Franna Crane or Small Excavator Rig Crane • Truck Mounted Drill Rig • Large Trucks for removal of material • Tippers for delivery & removal of equipment. • Vacuum Trucks • Concrete Trucks/Pumps • Piling Rigs • Concrete Form Work • Large excavator • Pole grab truck	• Paving machines • Profiler • Portable Roller/Compactor • Power Generator • Elevated Work Platforms • Traffic Control Vehicles • Hand Tools & Jack Hammers • Temporary Fencing & Barriers • Permanent and Temporary Signage • Variable Message Boards • Boring machine

3.3 Work Program

The works activities are expected to commence for Burton Contractors from Late June 2022 and be completed Late June 2023. The program of works will be updated regularly throughout the duration of the project to reflect any necessary changes. Planned start date for Burtons Civil Engineering pending all approvals is June 2022. This TMP covers stages 1, 2 and 3A. Additional stages may be required and will be captured in a future revision of this CTMP. All stages proposed in this CTMP are to be undertaken consecutively with no overlap on long term staging.

	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Stage 1													
Stage 2													
Stage 3A													
Finishing Works													

3.4 Working Hours

To practically minimise disruption to traffic, it is intended that once the site be established, most activities can take place behind safety barriers. Any activity that requires additional lane closures or impacts on Wallgrove Road will take place outside of clearway peak times and under specific occupancy hours as per the approved ROLs.

In general, the proposed working hours will be as follows:

- 7am-6pm Monday to Friday and 8am-1pm Saturdays
- No work on Sundays/Public Holidays
- Night work will also be required for site set -up, demobilisation, utility works between Subway Road and Mini Link Road and various activities onsite & major works periods where trafficable lanes will be impacted. This will be as per approved out of hours & ROL times.

4.0 Traffic Management Methodology

4.1 Existing Traffic Assessment

The proposed site can be considered as 2 halves detailed below:

The Northern portion of the site, between Subway Road & Roussell Road toward Mini Link Road features only utility adjustment work that will primarily be undertaken on night shifts with temporary traffic control.

The Southern portion of the site, between Subway Road & Roussell Road towards Chandos Street features the road reconstruction and signalisation works. These works will be completed with a combination of short-term traffic control works and long-term traffic staging with safety barriers. The road reconstruction works is centred on the Subway Road intersection.

For the Southern portion of the site, Wallgrove Road is a two-lane road with one lane in each direction and merge and turn lanes on the approaches to subway road (M7 underpass). There are no footpaths or cycleways located within the limit of works

The existing speed limit along Wallgrove Road is 70 kilometres per hour. Local roads intersecting the proposal have a speed limit of 50 kilometres per hour. Wallgrove road does not operate under clearway conditions.

4.1.1 Northern Portion - Mini Link Road to Roussell Road

For the Northern portion of the site, Wallgrove Road is a four-lane road with two lanes in each direction with the Roussell Road intersection providing turning lanes from each approach. There are no footpaths within this portion of the site. Partial cycleway access is provided on Wallgrove Road between Mini Link Road to Roussell Road. Established trees and planting with protective fencing are located along the vegetation strips on both carriageways.

The southbound carriageway sits adjacent to the M7 and the northbound carriageway sits adjacent to a private industrial estate.

The lane configurations at Wallgrove Road between Mini link road to Roussell are:

Northbound

- Two lanes split in to 4 lanes
- Two right turn lanes in to M7
- Two straight through lanes
- One left turn lane in to Mini Link Road
- Sealed shoulders up to 2m wide

Southbound

- Two lanes with one merge lane
- One right turn lane in to private road at M7 underpass
- Sealed shoulders up to 2m wide

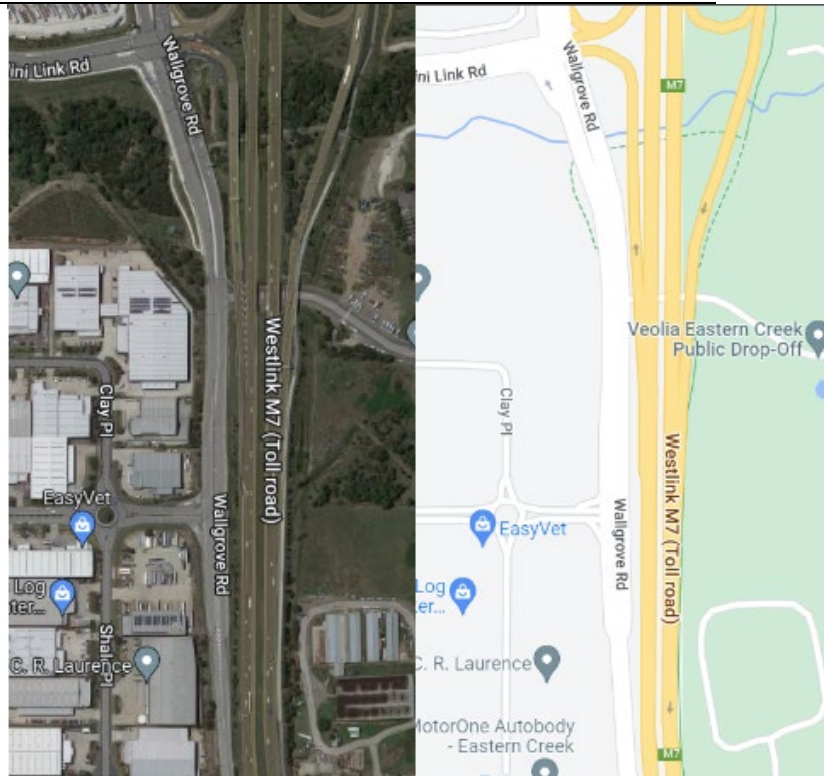


Figure 4 Northern Portion of Site

4.1.2 Roussell Road to Chandos Street – Southern Portion

No cycleway or footpath access is provided on Wallgrove Road between Roussell Road to Chandos Street. Established trees with protective fencing to private property are located behind mostly rural / security fencing along the Northbound carriageway. The southbound carriageway mainly consisting of established trees. The southbound carriageway sits adjacent to the M7 and the northbound carriageway sits adjacent to private residential land and the WaterNSW Warragamba pipeline corridor.

The lane configuration at Wallgrove Road between Roussell Road to Chandos Street are:

Northbound

- One lane to two lane at Subway Road intersection
- Right turn lane on approach
- Merge lane on exit
- Sealed shoulders up to 2m wide

Southbound

- Two lanes to one lane from Subway Road intersection
- Merge lane on exit
- One lane through remainder of carriageway
- Sealed shoulders up to 2m wide

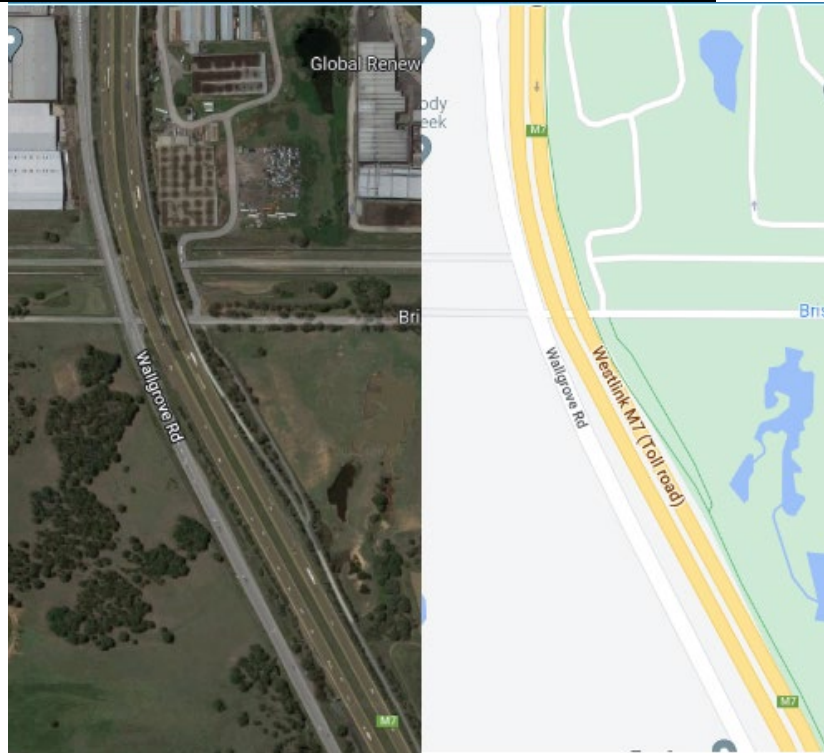
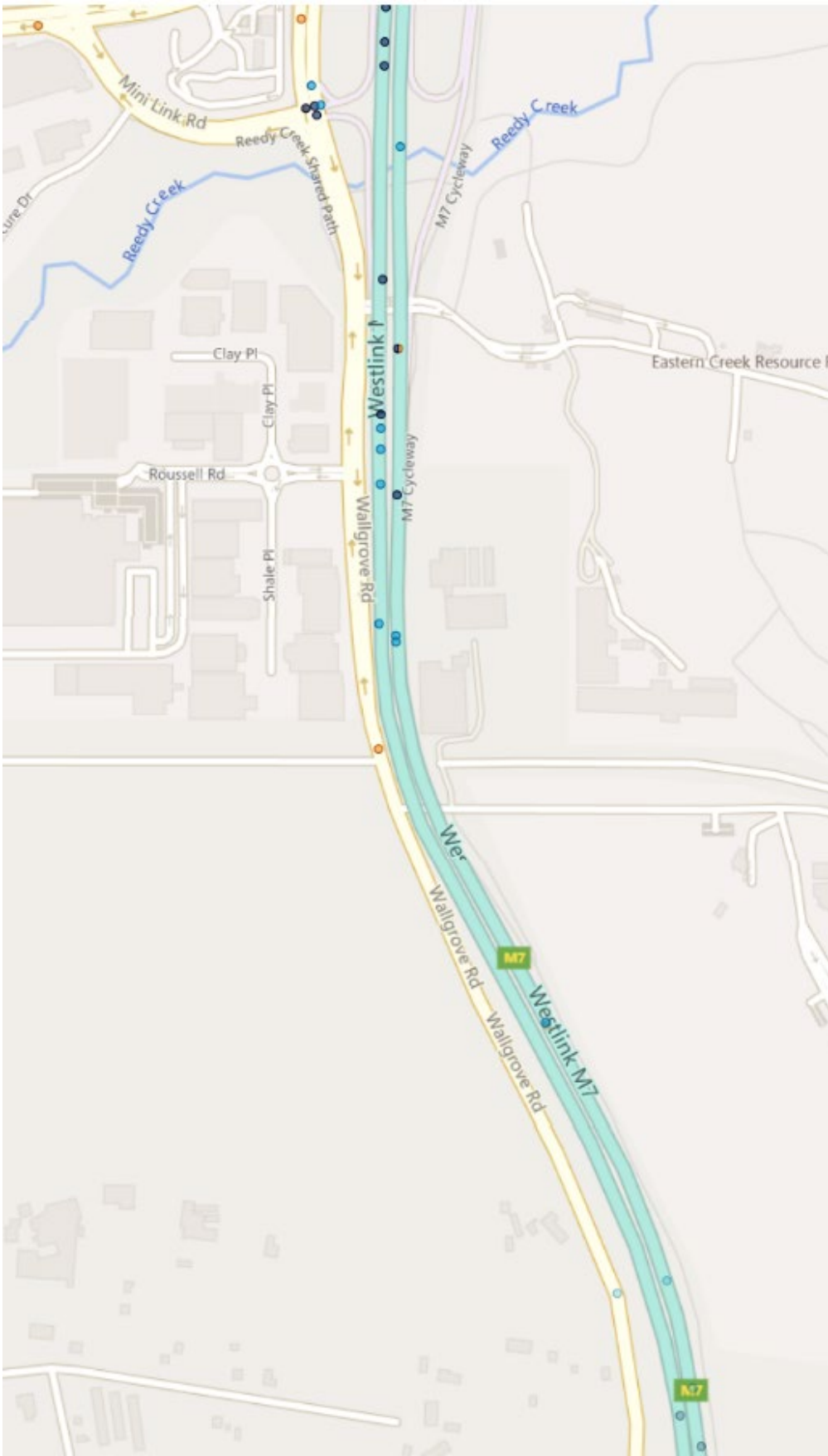


Figure 5 Southern Portion of Site

4.2 Traffic Crash Statistics

A review of the TfNSW Centre for Road safety was conducted, and details shown below. In the data available between 2016 – 2021 it is shown that there have been few crashes in the area on Wallgrove Road. The majority of crashes accounted for take place on the M7 Motorway.

The Northern portion of the site falls under Blacktown LGA while the Southern portion of the site is covered by the Fairfield LGA.



Degree of casualty ● Killed ● Seriously Injured ● Moderately Injured ● Minor/Other Injured
Figure 6 Combined Crash Statistics from Blacktown and Fairfield LGAs

4.3 Traffic Staging

Due to the existing speed limit being 70km/h along most of the work's alignment it is requested that a 60km/h work area speed limit be installed along the entire southern portion. Table 4-8 of the TCAWS 6.1 manual states that the speed limit must be reduced to 60km/h where:

There is frequent interaction between work vehicles and through traffic;

There is a reduced standard of alignment due to the works

This results in an overall 60km/h work area speed restriction of approximately 1.0km in length, as such repeater signs are required, and Roadwork speed limits enforced should also be erected.

As the project is primarily a full depth and full width road construction, there are very little differences between the existing and proposed pavement levels. Any interface between new and existing pavement where there is a difference of levels is to occur gradually, smoothly, and safely. Grades of ramps (where required at interfaces) are to be in accordance with the grades and tolerances of the R101 specification for safe public travel

Stage 1 – Roadworks along Northern Verge & carriageway

Item	Existing	Proposed Stage 1
Intersection	Seagull priority intersection with merge lanes	Staged TCS design to mimic ultimate design - no merge lanes
Lane Widths	Generally 3.5m wide	Generally 3.5m wide. Slight narrowing northbound approaching the intersection and local widening where required for truck turning paths
Barriers	Nil	Precast Type F concrete barrier or steel safety barriers with 0.3m offset to line marking with TfNSW approved end treatments
Speed Limit	70km/h	60km/h
Northbound turn lane into Subway Road	Length = 110m	Length = 85m
Southbound turn lane into Subway Road	Length = 126m	Removed. Traffic survey shows limited usage of this turning lane.
Truck access	26m B Double in all directions	26m B Double in all directions except for left out of Subway Road onto Wallgrove Road. This has been reduced to 19m Semi Trailers
Deceleration lane	None present	Length = 120m
Northbound lanes	1 lane	1 lane
Southbound lanes	1 lane	1 lane

Stage 2 – Roadworks in median

Item	Existing	Proposed Stage 2
Intersection	Seagull priority intersection with merge lanes	Staged TCS design to mimic ultimate design - no merge lanes
Lane Widths	Generally 3.5m wide	Generally 3.5m wide. Slight narrowing northbound approaching the intersection and local widening where required for truck turning paths
Barriers	Nil	Precast Type F concrete barrier or steel safety barriers with 0.3m offset to line marking with TfNSW approved end treatments

Speed Limit	70km/h	60km/h
Northbound turn lane into Subway Road	Length = 110m	Length = 95m
Southbound turn lane into Subway Road	Length = 126m	Removed. Traffic survey shows limited usage of this turning lane.
Truck access	26m B Double in all directions	26m B Double in all directions except for left out of Subway Road onto Wallgrove Road. This has been reduced to 19m Semi Trailers
Deceleration lane (internal development access)	None present	Length = 120m
Northbound lanes	1 lane	1 lane
Southbound lanes	1 lane	1 lane

Stage 3A – Roadworks in Southbound carriageway

Item	Existing	Proposed Stage 3A
Intersection	Seagull priority intersection with merge lanes	Staged TCS design to mimic ultimate design - no merge lanes
Lane Widths	Generally 3.5m wide	Generally 3.5m wide. Slight narrowing northbound approaching the intersection and local widening where required for truck turning paths
Barriers	Nil	Precast Type F concrete barrier or steel safety barriers with 0.3m offset to line marking with TfNSW approved end treatments
Speed Limit	70km/h	60km/h
Northbound turn lane into Subway Road	Length = 110m	Length = 95m
Southbound turn lane into Subway Road	Length = 126m	Removed. Traffic survey shows limited usage of this turning lane.
Truck access	26m B Double in all directions	26m B Double in all directions except for left out of Subway Road onto Wallgrove Road. This has been reduced to 19m Semi Trailers
Deceleration lane (internal development access)	None present	Length = 120m
Northbound lanes	1 lane	1 lane
Southbound lanes	1 lane	1 lane

4.4 Risks, Impacts and Mitigation Measures

This CTMP applies to all parts of the construction works. The scope includes:

- The provision for the safe movement of public traffic
- The protection of workers from passing traffic
- The provision for access to properties located within the vicinity of the works
- The provision of traffic controllers and safe operating locations
- The installation of any temporary signs, road markings, lighting and safety barriers
- The on-site management of construction traffic at the work site

Mitigation and control measures will be implemented to avoid, minimise or manage impacts on traffic and cyclists. A summary of the key areas of potential impact and the proposed measures to reduce these impacts are discussed in the following pages. These include the following:

- Traffic Volumes and Road Network Capacity
- Site Access for Construction Vehicles
- Cumulative Impacts on Adjoining Road Network
- CCTV Cameras and Gantry Mounted VMS
- Parking and Property Access
- Public Transport
- Heavy and Oversize Vehicles
- Emergency Vehicle Access
- Pedestrians and Cyclist Access
- School Zones
- Waste Collection
- Special Events

During the work hours, whilst traffic control is in place, appropriate and adequate signage and authorised personnel will be in place at all times to ensure the safe movement of traffic, cyclists around the work area. At the end of each shift, any temporary or inappropriate signage and devices will be removed, and the road returned to out of hour's operations as per the approved TGS.

4.4.1 Traffic Volumes and Road Network Capacity

Traffic volumes of the road system were derived from average daily traffic volumes (ADT) counts, obtained from RMS and surveys undertaken for the Old Wallgrove Road Upgrade Traffic and Transport Report. Classified link counts were conducted at the following locations;

- Wallgrove Road – Between M4 Motorway and interchange Drive (North and Southbound)
- Wallgrove Road – Between the Eastern Creek Waste Management Centre access road and the Sydney Water Pipeline (North and Southbound)
- M7 Motorway – North and Southbound.

A summary of traffic volume data is detailed below:

Location	ADT
M7 Motorway – North and Southbound	68,400
Wallgrove Road – Between M4 Motorway and Interchange Drive (North and Southbound)	30,600
Wallgrove Road – Between the Eastern Creek Waste Management Centre access road and the Sydney Water Pipeline (North and Southbound)	23,900

Table 2 Combined Volume Summary

Burton undertook a traffic survey on Thursday 12/05/22 to count the amount of southbound travelling vehicles that enter Subway Road. The results of the survey are below:

Road	Location	Direction	Peak	Total Vehicles	HCVs*
Wallgrove Road	Entering Subway Road	Southbound	AM (0800 - 0900)	23	70%
			PM (1700-1800)	0	0%

Table 3 Traffic Survey Results 12/05/22

The results of the survey show that very few vehicles travelling southbound access Subway Road. Based on these low numbers, the traffic staging design does not make allowance for a dedicated southbound turning lane into Subway Road.

As part of the overall assessment of the area construction vehicles will only be permitted to access areas including the proposed site compounds by left in and left out only, in a forward motion only.

Table 6 Existing Intersection Operations (2013)

Intersection	AM Peak				PM Peak			
	Average Delay	LoS	Control Type	Degree of Saturation	Average Delay*	LoS	Control Type	Degree of Saturation
Wallgrove Rd and Austral Bricks Access Rd	122	F	Priority	0.65	81	F	Priority	0.58

Note: * Average delay is given in seconds per vehicle.

Figure 7 - Level of Service for the existing intersection

A traffic impact assessment was undertaken by GHD for the consent of the internal development. The results are provided in the above figure. The results show that the existing intersection is operating at an 'F' level of service, which is the lowest criteria level for average vehicle delay. Removal of the dedicated left turn lane is not going to reduce the level of service of the intersection, as it currently operates at the lowest level already. It is important to note that all businesses other than Austral Bricks and Veolia no longer operate on Wallgrove Road. The Horsley Park Landfill (Veolia) has also ceased all future tipping at its site as it is now at capacity, which further reduces the number of vehicles required to access Subway Road from Wallgrove Road.

4.4.2 Site Access for Construction Vehicles

It is noted that there is currently no intersection access to the Gazcorp Site. There is an existing gated access into the Gazcorp site which is opposite the existing Austral Bricks Access Road (Future Subway Road). The Austral bricks access road is a two-lane two-way access road that connects Wallgrove Road with a number of industrial lots on the eastern side of the Westlink M7 and connects to Wallgrove Road at a priority intersection.

It is important to note that Gazcorp will be undertaking the internal development to the West of Wallgrove Road during the same period that Burton Contractors will be upgrade Wallgrove Road. The internal development will be undertaken by Cherrie Civil. This CTMP covers the site access for construction vehicles for both projects.

Any construction vehicles required to move around the construction site on a regular basis and throughout the works and will not be permitted to queue or park within the surrounding streets or work area unless permitted. The arrival of trucks will be staggered to prevent the possibility of queuing of trucks at any time. During mobilisation and de-mobilisation trucks will be able to queue in staged lane closures.

Dedicated construction vehicle routes will be developed with the objective of providing the shortest and safest distance to/from the work site. Truck movements to and from site shall be restricted to these designated routes and movements to ensure minimal impact on local streets within the vicinity of the site. These truck routes will need to be reviewed if there are any changes to traffic conditions. Access points and procedures shall be identified and clearly communicated to all drivers and suppliers prior to arriving to site. Information on the approved access routes and locations for all construction vehicles shall be provided through onsite toolbox talks, pre-start meetings and project inductions prior to work commencing. All work vehicles shall:

-
- Enter and leave site left in and left out in a forward direction using an approved VMP.
 - Decelerate slowly and signal their intention by indicator to leave the traffic stream.
 - Activate the vehicles rotating beacon on approach to and departure from work site.
 - Wait until there is a gap in traffic before leaving the construction site or until given clearance by traffic controllers to exit the work area.
 - Radio ahead to advise of approach to ensure work site space is available.
 - Not obstruct any pedestrian crossings or footpaths
 - Not obstruct trafficable lanes without an approved ROL

Traffic controllers must not stop general traffic to allow construction vehicles to enter or exit the work zone without an approved ROL

As part of the overall assessment of the area construction vehicles will only be permitted to access areas including the proposed site compounds by left in and left out only, in a forward motion only.

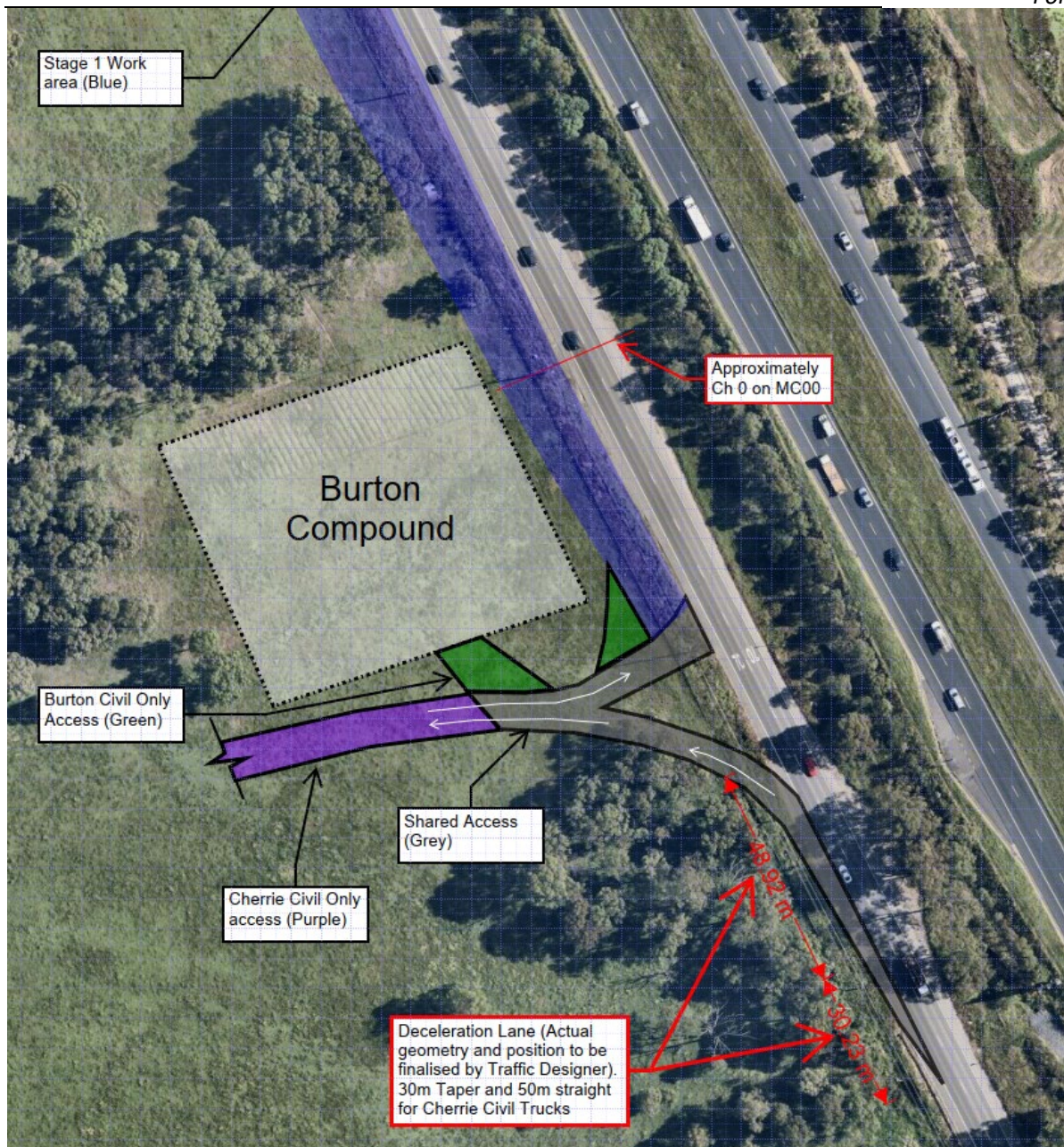
4.4.2.1 Burton Contractors

Expected traffic movements as a result of construction for Wallgrove Road is expected to be Twenty-Five (25) vehicle movements on an average day. This quantity will primarily consist of cars, truck and dogs, semi-trailers and truck floats. Burtons will endeavor to minimise the impact of these movements by planning works requiring multiple movements as well as deliveries to be between 10am to 3pm, outside of peak traffic periods along Wallgrove Road.

It is also noted that no Construction vehicles should obstruct any pedestrian crossings or footpaths, and no construction vehicles should layover/obstruct trafficable lanes without an approved ROL. Construction gate access will be as per construction staging drawing. In addition, no traffic controllers should stop general traffic to allow construction vehicles to enter or exit, without any approved ROL's.

4.4.2.2 Cherrie Civil

The expected increase in traffic movements because of the internal development is expected to be Sixty (60) vehicle movements on an average day. This quantity will primarily consist of Truck & Dogs. All construction traffic for the internal development will access the site through the provision of a deceleration lane on entry and give-way exit back onto Wallgrove Road. This deceleration will also service Burton Contractors construction vehicles in a reduced capacity. Provided below is an example of the deceleration lane for this project.



4.4.3 Cumulative Impacts on Adjoining Road Network

Assessment shows that there are no ongoing road works that may cause a cumulative impact or potential clashes with other construction activities in this area. It is still vital that close liaison is maintained with the project team and CJM to ensure upcoming closures do not conflict with any other works that may be planned during the life of the project. Furthermore, because the most disruptive construction activities associated with these works are planned for night hours for installation and removal of the site set-up, and milling and re-sheeting it is not anticipated that there would be any adverse impact to the surrounding road network beyond some minor delays during these work periods.

4.4.4 CCTV Cameras and Traffic Gantry Mounted VMS

There are no existing CCTV cameras or gantry mounted VMS assets operated by CJM or TfNSW within the southern portion of the project upgrade, where long-term traffic changes are required.

There are no existing CCTV cameras or gantry mounted VMS assets operated by CJM or TfNSW within the northern portion the project (Roussell Road intersection), where short-term traffic changes are required.

During the works in the northern portion, there is potential to disturb the traffic signal detectors at the Roussell Road intersection while undertaking the utility works. Burton will contact the SRAP contractor and seek approval of any disturbance prior to enacting the works. Further to this, any disturbed detectors will be replaced at the earliest practical time, maintaining constant communication with the SRAP contractor.

4.4.5 Parking and Property Access

Parking will be located within the internal development accessed through the deceleration lane.

Property access to all properties will be maintained at all times. Early consultation with any impacts entities will occur in advance of any planned disruptions during the different stages of construction. There are no forecasted changes to existing parking facilities or property access during.

4.4.6 Public Transport

In accordance with the G10 consultation with the local bus companies will take place every 2 months as a minimum and provide an update of upcoming traffic switches or events that will affect the current bus pickup points and bus timetables

Bus route numbers 738 and 835 pass through the proposal travelling in both north bound and south bound directions. These buses are operated by Busways (738) and Transit Systems (835). The below figures illustrate the routes through and around the proposal. There are 2 x bus stops within the southern portion that will be affected during the works. The Northbound bus stop is Stop ID 576623 and the Southbound bus stop is Stop ID 276622.

Burton consulted with both bus companies about the proposed changes provided overleaf. Burton has received approval from Busways (Route 738) for the long-term closure of both stops. Transit Systems (Route 835) requested that the bus stops be temporarily relocated. Burton engaged with both Transit Systems and TfNSW for the alternative temporary bus stop locations and received approval for the alternative locations proposed in this CTMP. A copy of alternative stop location plans has been provided in Annexure L.

The alternative Northbound bus stop (Stop #4 in Annexure L and referred to in Transit Systems approval) is to be located inside the left-hand turn lane on approach to the Roussell Road intersection. This allows for busses to stop without impacting through traffic and provides for a shorter pedestrian journey to the industrial estate for patrons.

The alternative Southbound bus stop (Stop #1 in Annexure L and referred to in Transit Systems approval) is to be located on approach to the Roussel Road intersection in the locally widened road pavement. This allows for busses to stop without impacting through traffic, provides a concrete path at the intersection for patrons and features controlled pedestrian crossing at the lights to gain safe access to the industrial estate.

The alternative bus stop locations are also included in the Annexure C staging plans.

Any proposed changes to the operation of bus stops are to be notified to the affected operators. These communications are to be forwarded to the CJM. Any temporary bus stops proposed should have the same setup as the existing bus stop that is being replaced and be approved by the operators servicing the stop.

The project is not near any railway stations.

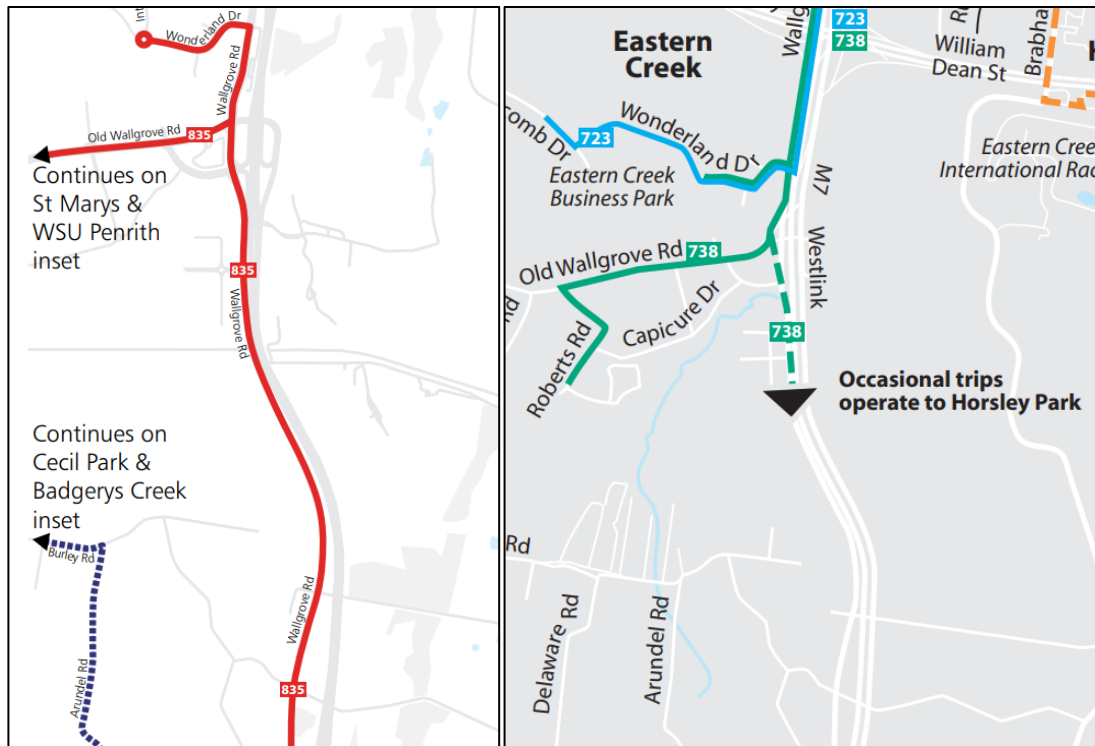


Figure 8 Transit Systems and Busways Route Maps

Re: 423 Wallgrove Road Upgrade - Bus stop - Wallgrove Road before Roussell Road, Eastern Creek

SG Steve Grady <sgrady@busways.com.au>
To: Alex Ruello; Nick Veljanovski; 'michael.takla@transitsystems.com.au'

You replied to this message on 25/07/2022 12:49 PM.
If there are problems with how this message is displayed, click here to view it in a web browser.

Hi Alex,

There's no issues from Busways.

Regards,
Steve Grady
Planning & Infrastructure Supervisor - Region 1
Busways Group
0438 537 903

From: Alex Ruello <Alex.Ruello@burtoncontractors.com.au>
Sent: Thursday, July 21, 2022 5:02:32 PM
To: Steve Grady <sgrady@busways.com.au>; Nick Veljanovski <NVeljanovski@transitsystems.com.au>; 'michael.takla@transitsystems.com.au' <michael.takla@transitsystems.com.au>
Subject: RE: 423 Wallgrove Road Upgrade - Bus stop - Wallgrove Road before Roussell Road, Eastern Creek

Nick, Michael & Steve,

We have previously contacted each of you regarding the closure of the Northbound bus stop on Wallgrove Road for bus services 738 and 835 as per the below email thread. This is for stop ID 276623. FYI we haven't started the works yet and hence there has been no closure of the stop. We of course will provide notification in advance of the closure. It seems to have slipped through our fingers, but we should have also requested the long term closure of the southbound bus stop ID 276622

Can you please advise if there are any issues with the long term closure of this bus stop in parallel with the already approved stop closure for stop ID 276623?

Would appreciate a fast response

Figure 9 Busways acceptance of long-term closure

RE: 423 Wallgrove Road Upgrade - Bus stop - Wallgrove Road before Roussell Road, Eastern Creek



Hannah Shilling <HShilling@transitsystems.com.au>

To:  Alex Ruello;  Suthes Kumar

Cc:  Joseph George;  BusApproval@transport.nsw.gov.au;  Steve Grady;  Adrian Prichard;  Joseph Aouad

 You replied to this message on 1/08/2022 11:09 AM.

 Reply
  Reply All
  Forward
 


Mon 1/08/2022 10:44 AM

Good Morning Alex,

We just went out with a bus to test whether the draw in bay southbound would be appropriate for a bus.

Thankfully the bus just fit, so we are happy to use the locations of stops 1 and 4 as the alternate stops.

Can you please arrange for Bus Zone signage to be installed?

Also can you please advise the start date of the change, once known.

Thanks.

Kind Regards,

Hannah Shilling
Network Project Planner

T: 02 8778 5853
A: Lot 2 Airfield Drive, Len Waters Estate NSW 2171
E: hshilling@transitsystems.com.au

I acknowledge the traditional owners of the land on which we live and work, and pay my respects to elders past, present and emerging.




Transit Systems NSW Reconciliation Action Plan
Artwork by Allan McKenzie, Gamilaroi / Wiradjuri Man

Figure 10 Transit Systems acceptance of **proposed bus stop relocations**

RE: 423 Wallgrove Road Upgrade - Bus stop - Wallgrove Road before Roussell Road, Eastern Creek



Suthes Kumar <Suthes.KUMAR@transport.nsw.gov.au>

To: Alex Ruello; Hannah Shilling
Cc: Joseph George; Bus Approval; Steve Grady; Adrian Prichard; Joseph Aouad

Reply Reply All Forward

Fri 5/08/2022 6:19 PM

Hi Alex,

TfNSW has no objection to the proposed temporary relocation of the bus stops. Please update the TMP to reflect these changes.

Regards

Suthes Kumar

Project-Contract Manager
Developer Works
Greater Sydney
Transport for NSW

M: 0408 655 528 E: Suthes.Kumar@transport.nsw.gov.au

transport.nsw.gov.au

129a Orchardleigh Street
Yennora NSW 2161



Transport
for NSW



I acknowledge the Aboriginal people of the country on which I work, their traditions, culture and a shared history and identity. I also pay my respects to Elders past and present and recognise the continued connection to country.

Please consider the environment before printing this email.

From: Alex Ruello [<mailto:Alex.Ruello@burtoncontractors.com.au>]

Sent: Monday, 1 August 2022 11:10 AM

To: Hannah Shilling <hshilling@transitsystems.com.au>; Suthes Kumar <Suthes.KUMAR@transport.nsw.gov.au>

Cc: Joseph George <Joseph.George@burtoncontractors.com.au>; Bus Approval <BusApproval@transport.nsw.gov.au>; Steve Grady <sgrady@busways.com.au>; Adrian Prichard <aprichard@transitsystems.com.au>; Joseph Aouad <Joseph.Aouad@burtoncontractors.com.au>

Subject: RE: 423 Wallgrove Road Upgrade - Bus stop - Wallgrove Road before Roussell Road, Eastern Creek

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

Thanks for that Hannah,

Before we make the changes we will need to have some sort of approval from Transport & TMC.

Suthes – as soon as you are able, can you please advise if stops #1 and #4 are okay for Transport & TMC? If so, our revised TMP will be updated to reflect the changes.

Regards,
Alex Ruello
Project Manager
Burton Contractors Pty Ltd

Figure 11 TfNSW acceptance of proposed bus stop relocations

4.4.7 Heavy and Oversized Vehicles

Wallgrove Road is an RAV road with access for 25/26m B-doubles. For this reason, heavy and oversize vehicles are expected frequently along the route and consideration must be given to the type of heavy vehicles to ensure that safe passageway and lane widths are maintained at all times past each work area and through the work site.

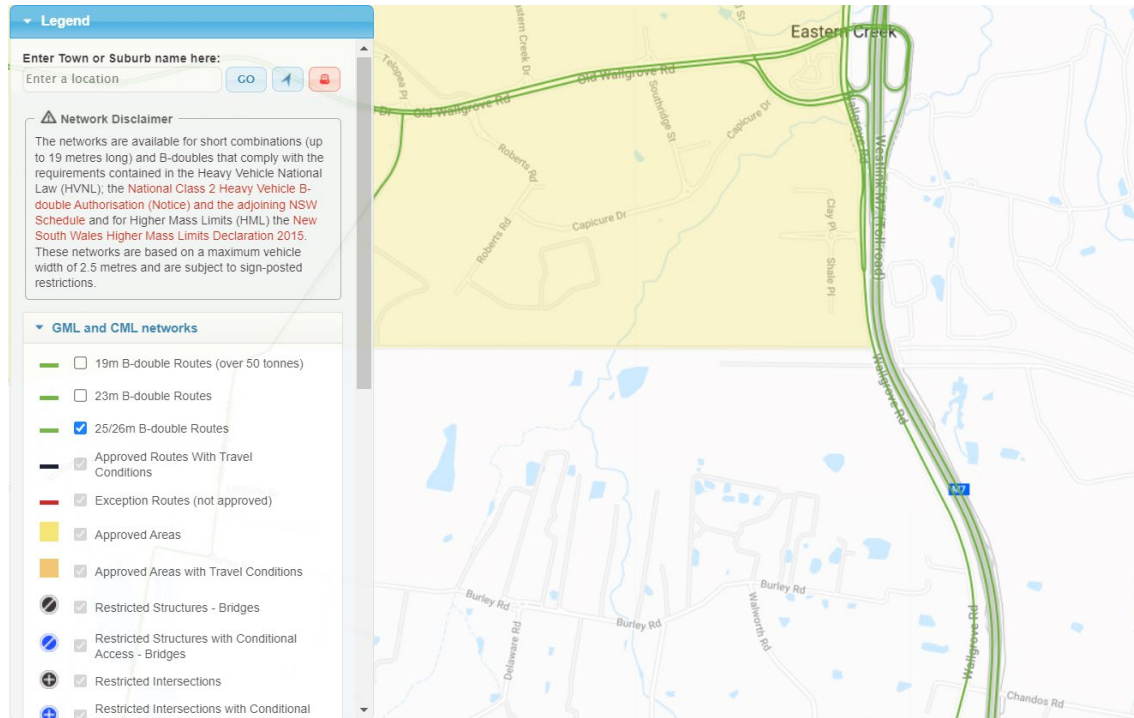


Figure 12 Restricted Access Vehicle Map (RAV) - Project Area

4.4.8 Emergency Vehicle Access

In accordance with the G10 consultation with all emergency services including fire and rescue, ambulance, police and SES, will be advised prior to the commencement of any road works and provisions made to ensure access through or past the work area is maintained at all times. Regular updates will be provided on the staging and progress of the works.

At all times when employees are on site, the site supervisor will take whatever action is practical to assist emergency vehicles, tow trucks and service vehicles to gain access to crash or vehicle breakdown sites which are causing or have the potential to cause an obstruction to traffic flow or imperil the safety of road users.

Should there be a vehicle breakdown outside of working hours when the site is unattended, the Burton emergency response number in section 2.3 is available and can contact emergency services or the 24 hour tow truck services listed in section 6.1.

4.4.9 Pedestrian and Cyclists

The Southern portion of the site has no existing dedicated pedestrian or cyclist facilities, where long term changes are required. Cycleway Finder reports that Wallgrove Road is considered "Hard Difficulty"

The Northern portion of the site features an existing cycle lane on the road pavement where short term traffic changes are required. Cycleway Finder reports that this section of Wallgrove Road is also considered "Hard Difficulty"

The M7 Motorway features a separate, continuous cycleway that runs adjacent to the eastern side of the

motorway. Access to this cycleway will not be impacted by the works. This cycleway, while outside the limit of works, provides entry / exit access at each cross road or over/underpass that the M7 intersects.

All existing pedestrian crossings, cycle ways and footpaths would be maintained for the duration of the construction period. There is potential for some footpath impacts to occur during construction. If footpaths are impacted, alternative paths would be established to ensure safe passage of pedestrians through the proposal area. Required pedestrian management plans would be submitted via the hold point process as required prior to any alterations.

That said, within the work site, provision will still be made to ensure that a safe route is provided at all times for cyclists and any pedestrians around the work area. The impacts on cyclist movement as a result of these works have been assessed and taken into consideration when developing TGSs including that:

- Suitable warning signage will be provided to maintain cyclist safety.
- Temporary diversions will be adequately delineated.
- Where it is necessary to fully close the cycle way or crossing, suitable and safe diversion points shall be established and if necessary, temporary ramps installed. These shall be returned to normal operations outside of construction hours and left free of debris and trip hazards.
- Site gates will be closed and locked when not in use to prevent unauthorized access.
- When movements of plant are expected through any gates then authorized traffic controllers will be in position to monitor and manage conflicting movements.

Cyclists and pedestrians will be detoured around the works where the 0.3m edge clearance will be implemented. Cyclists and pedestrians will be detoured onto the M7 cycleway. Any detours in place are to have:

- A clear route free of trip hazards at all times,
- Delineation, separating the detour from the works at all times,
- Sufficient lighting,
- Wheelchair compliant widths and ramps,
- Sufficient sight distances for vehicles and pedestrians,
- Be accessible at all times and to all pedestrian push buttons.

Refer to Annexure A for the cycleway detour TGS proposed.

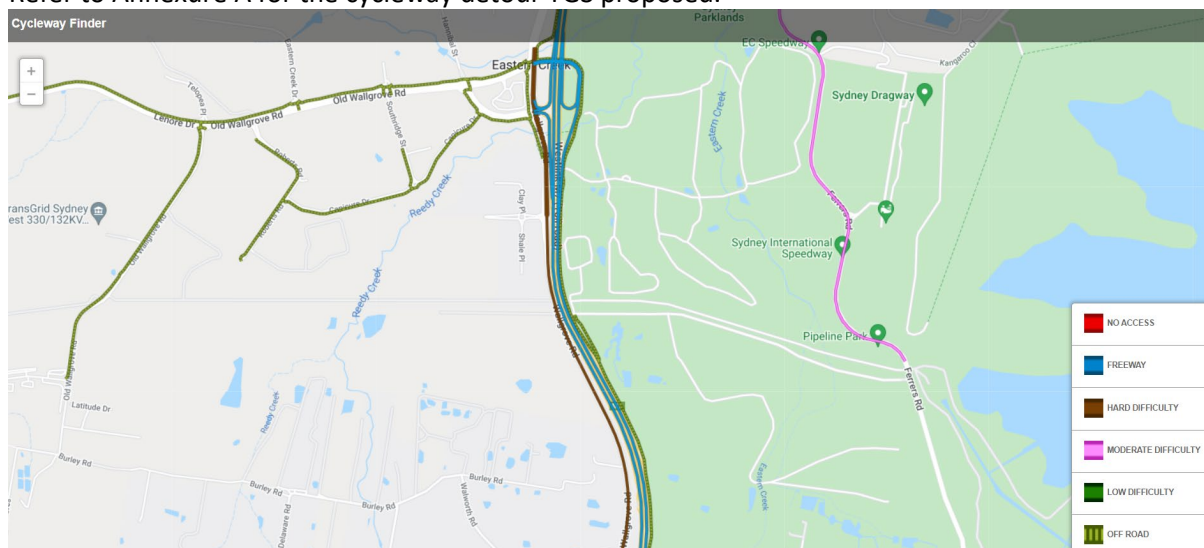


Figure 13 Bicycle Network Map - Wallgrove Road

4.4.10 School Zones

There are currently no school zones on Wallgrove Road within or near the vicinity of the project site.

4.4.11 Waste Collection

Blacktown council and Fairfield council are responsible for waste collection around the job site. Construction activities will not have a direct impact on waste collection services, including property access and kerb side collection; however, consultation is still required to ensure sufficient access if required remains in place for the duration of the project.

4.4.12 Special Events

Assessment shows that there are no planned special events that will impact the construction program. Any special events at:

- Commbank Stadium, Paramatta,
- Sydney Olympic Park Homebush and
- Blue Bet Stadium Penrith

Should be taken into consideration when planning any network disruption along the Wallgrove Road corridor.

Any planned M7 maintenance closures will direct traffic onto Wallgrove Road as the alternate route. Network disruptions during the closure may not be permitted.

4.4.13 Subway Road Businesses

Through community consultation we have identified that there are currently only 2 businesses that operate out of Subway Road: Veolia Waste Management and Austral Bricks. Other businesses that appear to operate out of Subway Road such as Bristille roofing, Bako Eggs and M Damjanovic have been confirmed to no longer operate out of Subway Road. We have engaged Veolia and Austral Bricks and have gained their approval for the proposed vehicle turn path restrictions. B-Double truck movements will be retained in all directions except for left out of Subway onto Wallgrove Road. This has been reduced to a 19m semi-truck and is reflect on the staged TCS plans. Refer to Annexure F for copies of correspondence with the businesses written approval of the proposed changes.

4.5 Traffic Management Implementation

4.5.1 Traffic Guidance Schemes

Site-specific Traffic Guidance Schemes (TGSs) will be developed for the various stages of the project and detail the work site location, signage to be installed, and any other changes to traffic conditions. Approach and departure signage, localized exclusion zones, diversions and traffic control devices shall be prepared in accordance with TCAWS 6.1 and AS1742.3 for all activities.

These TGSs shall cover various activities and include the following considerations:

- Construction vehicles activity, including loading and unloading of trucks within the site.
- Accredited Traffic Controllers provided to manage vehicle movements past the work area.
- When used Traffic Controllers having safe escape routes and sufficient visibility through the use of light towers/day makers during any night work.
- Additional warning signage and VMS for vehicles at site access points to alert them to the presence of construction traffic; to warn drivers of changes to the usual road conditions and to slow drivers on the approach to the work area.
- Having clear definition of the work site boundary through the erection of barriers around site boundaries adjacent to roads.

4.5.2 Road Occupancy License (ROL)

A Road Occupancy License (ROL) shall be sought from the CJM for approval to occupy the road space between designated hours. The TGSs shall be submitted along with the application to cover the proposed traffic management arrangement shown. The CJM will be provided with a minimum of 10 working days to process each application with an ROL generally being requested for the duration of one month, and then extended as required on an ongoing basis. All ROL's must include the project name MR515 Wallgrove Road, Horsley Park Intersection Upgrade. Should any changes or additional scope of work be added to the work site, then a new TCP shall be drafted to reflect this and a new ROL application submitted to the CJM. The CJM will be responsible for advising of conflicts with ROL approvals given to other projects.

Works are to be undertaken as per the program with sufficient contingency and time for site establishment and breakdown. The site manager is to monitor progress of each work activity and modify works, if necessary, to ensure lane closures are reopened as per ROL times. Contingency plans will be in place to assist with any unforeseen problems including having road plates and float trucks available on site. In the event that there is a risk of an ROL breach or over-run, then the CJM control room is to be called immediately.

ROLs shall only be activated by the approved License holder listed on the ROL and supervise crews working under this ROL. All activations and deactivations of ROLs for work shifts must use the web application system and not call the TMC

4.5.3 Road Work Speed Zone Authorisation (SZA)

A temporary 60km roadwork speed zone will be implemented day and night during the project to manage the speed of traffic approaching and passing the work site in accordance with the G10 & TCAWS 6.1 manual. A Speed Zone Authorisation (SZA) shall be requested at the same time as the ROL application and extensions required shall be managed in the same way as the ROLs. Temporary speed zones will be erected as per the approved TGS and operated in accordance with CJM/RMS requirements. Contradictory existing speed signs are to be covered for the duration of each shift.

Roadwork Speed Limits Enforced signage may also be used to supplement 60km speed zones.

4.5.4 Traffic Controllers and Portable Traffic Control Devices

Traffic controllers shall be used to implement lane closures as required during construction mobilisation and demobilisation and at any other times as required for any specific construction activities. Serious consideration will be given to traffic control implementation methods and safe standing locations that provide traffic controllers with an escape route. As such portable traffic signals or porta booms will be considered to be used on any roads above 45km/h for any stop slow or shuttle flow arrangements. Sufficient and necessary lighting shall be provided at the work area and UHF radio contact must be maintained at all times between traffic controllers and work crews.

The portable traffic control devices to be used is the Arrow Emergency Systems eStop™. Approval for these systems exists on TfNSW QA Specification TS200 – Register of ITS Field Equipment page 7 is shown below in table 6.

Register of ITS Field Equipment

TS200

A1.4 Traffic Signal Site – Type 1 Portable Traffic Signal

Supplier	Model / Type	Software	Category
Arrow Emergency Systems	e-STOP	PTU: ATCD_Slave-7.1 HRC: ATCD_Master-6.1	Type Approved

Table 4 TS200 Register of ITS Field Equipment

Porta boom's will adhere to the technical direction TETD 2019/03 | RMS.19.1236 – 13 May 2019 Use of Portable Boom Barriers.

4.5.5 Queue Management

At all times during each required shift, traffic queues shall be monitored to ensure that traffic does not exceed beyond the limits of the advanced warning signs on approach to the work area. Signs shall be repeated where necessary and where space permits. Close contact shall be maintained with the CJM control room during the project, if undesirable queues begin to form or if there is an incident in the surrounding area.

4.5.6 Advance Warning Signage and Device Requirements

All signs used shall conform to the designs and dimensions as per AS1742.3. Prior to installation, signs shall be checked to ensure they are in good condition and meet the following standard:

- Condition – signs that are bent, broken or have surface damage shall not be used.
- Cleanliness – signs should be free from accumulated dirt and grime.
- Fluorescence & Retro reflectivity – all signs and devices must meet minimum Standards

Signage requirements are shown on each Traffic Guidance Scheme. Any signs erected prior to being needed shall be covered by a suitable material and only removed immediately prior to the commencement of works. Signs and devices shall be positioned and erected in accordance with the locations and spacing shown on the TGS. All signs shall be positioned so that:

- They are properly displayed and securely mounted
- They are within the drivers' line of sight and do not obscure other devices and signs
- They do not become a possible hazard to vehicles especially along the road edge.
- They do not deflect traffic into an undesirable path.
- Fixed signs are to be 2.2m from the ground to the underside of the sign
- Should the use of additional or reduced number of signs or devices be required, they shall be recorded within the traffic control inspection records as a variation to the CTMP.

4.5.7 Delineation and Pavement Markings

Throughout the life of the project, the road past/through the work site shall be clearly delineated using appropriate methods. This shall be supplemented with any traffic management devices deemed necessary for both day and night conditions.

4.5.8 Safety Barrier System

Temporary safety barriers to be used are the NSW Precast Type F. These are approved as per TfNSW approved

safety barrier products issued May 1996 with MASH TL-2 rating to 70km/h. These barriers may be pinned to the road surface to allow greater working width.

Safety barriers shall be installed around the actual work area to ensure vehicles do not enter the work site and for the protection of the workers. These will conform to the specifications of AS3845 and RMS. An edge clearance of no less than 0.3m will be maintained from live traffic. If site conditions make it such that these distances are not possible to maintain, then alternative measures including a permanent speed reduction shall be reviewed after a detailed risk assessment. No construction work or pedestrian movement will be undertaken within deflection or impact zone of the safety barrier without additional risk assessment. Breaks with crash cushions or taper blocks will also be provided as necessary within the temporary barriers to allow access to the work site. Approved end terminals will be installed facing opposing traffic if barriers cannot be flared in sufficiently to mitigate risk of a blunt end being exposed to traffic.

With a 0.3m edge clearance in place, cyclists will be detoured around the works as described in section 4.4.9 and Annexure A

4.6 Traffic Management Monitoring and Audits

4.6.1 Daily Inspections and Records

On completion of establishing the work site, the site is to be monitored to ensure that all signage, devices and controls are maintained at all times.

The traffic control contractor will ensure that personnel are assigned to monitor the traffic control site and carry out daily inspections as follows:

Before Work Starts:

- Inspect all signage and devices including any VMS to ensure they are undamaged and comply with the requirements depicted on the Traffic Guidance Scheme.
- After any adjustments have been made to the signs and devices, conduct a drive through inspection to confirm effectiveness.
- Provide contact name and number for traffic control site supervisor to CJM for nights' activities if applicable.

During Construction Hours:

- Ensure that appropriate personnel drive through the site periodically to inspect all signs and devices including VMS and ensure they are undamaged and comply with the TGS.
- Ensure on site traffic controllers are in place and carrying out necessary duties.
- Keep records of any changes made or additional controls erected throughout the shift.
- Record any significant incidents or observations associated with the traffic controls and their impacts on road users or adjacent properties.

At the End of Each Shift Period:

- Conduct an end of shift site inspection, allowing time for any maintenance work.
- Remove any unnecessary signage (Workers Symbolic, Traffic Controller)
- Ensure any lighting is added to road safety barriers as necessary.
- Record details of inspection and any changes made.

4.6.2 Variations to Approved TMP and TGS

Daily inspection records including any minor variations to the approved CTMP and TGSs shall be kept and provided to the Project/Construction Manager. Any observations that may need significant changes made to the CTMP or

TGSs must be given to the Traffic Management Representative so that the changes can be communicated with the relevant authorities in order to obtain necessary approvals. Reviews and amendments of this CTMP are only to be undertaken by a person qualified in “Prepare Work Zone TMP”.

In emergency situations, on site variations shall be made and recorded using the appropriate form or checklist and the appropriate stakeholder to road authority representative notified as soon as is practical. Should any issues of concern be raised during the course of the project, TfNSW and CJM may review the CTMP and determine if changes must be made to the traffic management methodology on site. Changes to approved TGSs can only be made by the original drafter of the TGS requiring modification and require G10 Hold Point resubmission.

4.6.3 Road Safety Audits

A road safety audit may be required at different stages throughout the project especially after any major change in traffic conditions. The road safety auditor must be independent and be certified to level 3 on the RMS Road Safety Auditor Register as a minimum. If measures prove not to be fully effective, then in consultation with the road safety auditor, the CTMP will be revised, and appropriate measures implemented.

5.0 Consultation and Communication

5.1 Consultation with Stakeholders and Authorities

Early engagement has been undertaken with the key stakeholders and authorities, prior to the formal approval process. This is necessary in order to identify any key issues of concern that may require alternative approaches to be considered in methodology.

Further to any consultation, site- specific TGSs will be developed for each specific stage of work in accordance with relevant RMS and Australian Standards. These plans will show the specifics of the proposed works and individual traffic controls for each site. These TGSs will also be formally submitted for approval/comment by the relevant stakeholders prior to implementation in accordance with G10 requirements. The main stakeholders/authorities are as follows:

- TfNSW
- Traffic Management Centre (CJM)
- Blacktown City Council
- Fairfield City Council
- Emergency Services

Appendix A details these TGSs. Each TGS is to operate within the conditions of any approvals or licenses issued from authorities.

5.2 VMS Strategy

As part of the notification process, advanced warning of the road works will be communicated via Variable Message Signs (VMS) placed at strategic locations as shown on approved VMS schedules in accordance with the G10. These will convey information on the dates and times of the planned road works to motorists on a continual basis on the lead-up. The portable VMS units will be used to provide advance warning of the road works, and then changed to more specific messages (as required) during the actual work activities on each night. Messages must be displayed a minimum of 5 days prior to the works. Messages are to be a maximum of 2 screens and 3 lines per screen. Each Variable Message Sign will also include Radar Activated Speed Signs. In addition, it is requested that the CJM utilise their major overhead VMS network to advise motorists of lane closures and to exercise caution.

Placement of VMS units must:

- Not impact pedestrian safety and space
- Not impact TCS lanterns, visibility of existing TCS
- Not impact pedestrian and motorist sight lines

A VMS schedule has been included as Annexure B

5.3 Notification Process for Residents, Businesses and Commuters

Notification about traffic management impacts may include the following:

- Letterbox notifications, flyers and project updates
- Doorknocking
- Face to face engagement (meetings)
- Media releases and website updates

Local residents will also be consulted in advance where there is likely to be a direct impact, for example temporary loss of driveway access or power/water supply. The project Community Relations Team will provide relevant contact information for the purpose of dealing with queries and complaints including:

Project Enquires Email: info@burtoncontractors.com.au

Project Postal Address: Unit 3/11-21 Underwood Road, Homebush 2140

6.0 Emergency Arrangements and Incident Response Procedure

6.1 Emergency Services

Emergency services will be notified of the proposed works, including their nature, date, and times as well as contact details for the site supervisor. The Traffic Control Site Manager will be responsible for providing up to date information to the respective emergency services regarding the changes to traffic flow during the works.

Arrangement to manage impacts on emergency services include:

- Notification and communication with affected emergency services including suggested detour routes when applicable.
- Provision for emergency service access through the construction site
- Communication with the workforce to ensure understanding of emergency access and response requirements.

Emergency Contact	Phone	Authority
Ambulance / Fire / Police	000	Emergency services
Poisons Information Centre	131 126	Poison information
Jemena	131 909	Gas
Ausgrid	131 388	Electricity authority
Endeavour Energy	131 003	Electricity authority
TransGrid	1800 027 253	Overhead electricity
Sydney Water	132 090	Water service
AAPT / PowerTel	1800 786 306	Fibre Optic
Uecomm	1300 275 662	Fibre Optic
NBN	1800 687 626	Fibre Optic
AARnet	6222 3530	Fibre Optic
TPG	1300 993 011	Fibre Optic
Telstra	132 203	Comms
Optus	1800 505 777	Comms
RMS – Traffic Enquiry	132 701	Roads Authority
RMS – Traffic Management Centre	131 700	Roads Authority
WorkCover NSW	131 050	Work Health Safety Authority
EPA NSW (Environmental Incidents)	131 555	Environmental Authority
DBYD	1100	Underground services
Call DBYD for current service strike contacts or http://www.1100.com.au/safeexcavation/emergencies		
Local Hospital (9.5km)	(02) 9881 1555	Mt Druitt Hospital

Emergency Contact	Phone	Authority
Local Medical Centre (2.9km)	(02) 9620 2880	Horsley Park Medical Centre
Local Police Station (8.8km)	(02) 8788 5199	Wetherill Park Police Station
Local Council	(02) 9839 6000	Blacktown Council
Local Council	(02) 9725 0222	Fairfield Council
Eastern Creek Towing	0412 296 966	
Wetherill Park Towing	(02) 9757 2666	
Prestige Vehicle Transport	0407 264 471	

Table 5 List of Emergency Contacts

6.2 Incident Response Procedures

In the event of any unplanned incident or accident on site, whether or not involving traffic or road users, the following project documents must be referred to for the appropriate procedure:

- Incident Management Plan
- Emergency Response Plan

In general, the following protocol will be followed:

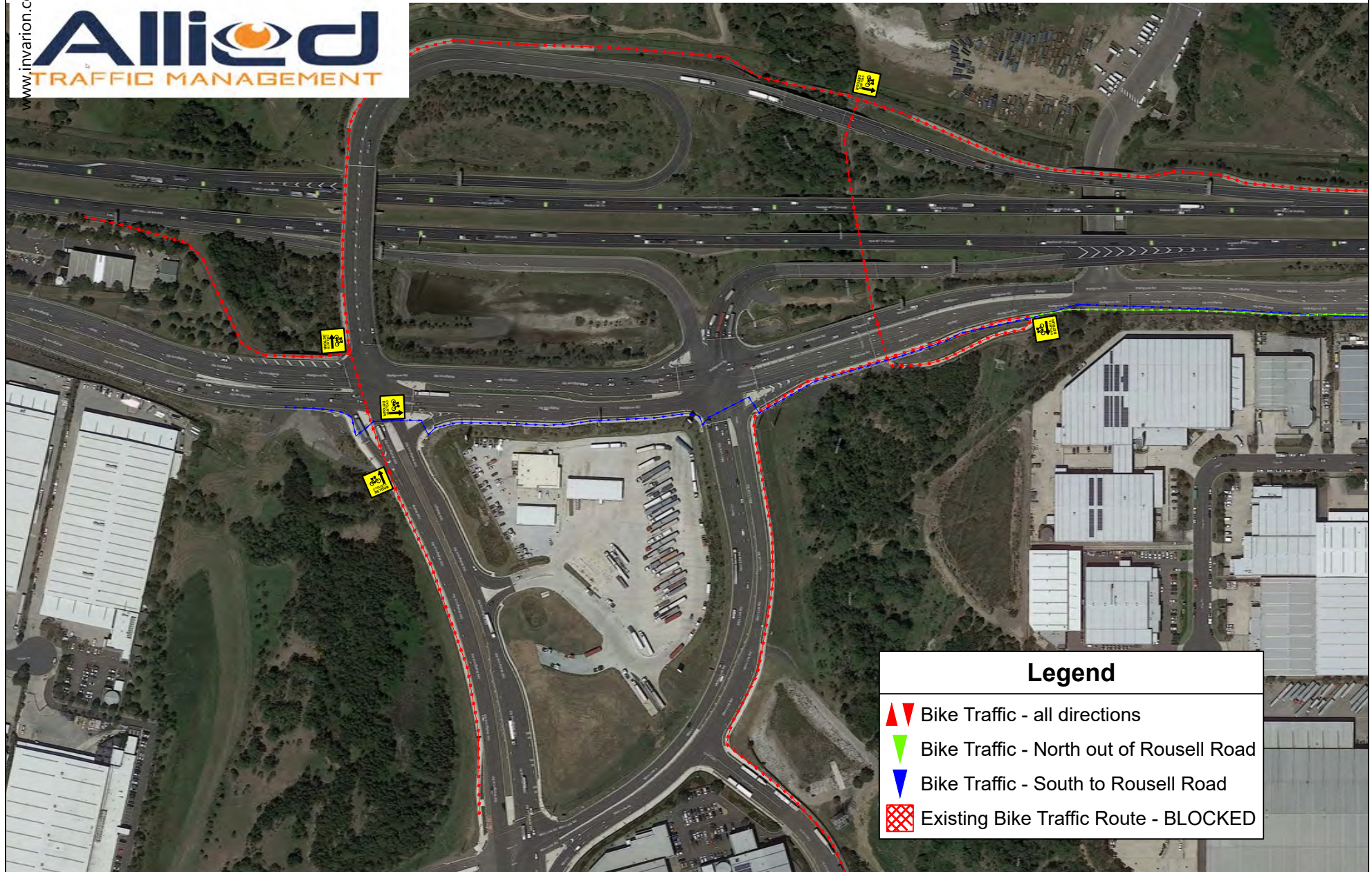
- Notify the relevant authorities and update accordingly following their instructions.
- Where possible, cease work and remove restrictions.
- Modify traffic control as necessary and manage until emergency services arrive.
- Re-program any VMS units to advise of situation.
- Assess and re-evaluate risks and hazards, if necessary, postpone work activities.

In the event of an emergency situation, the following relevant authorities must be contacted and advised of the nature of the works, type of emergency and contact details for the site supervisor:

- Emergency Services: (000)
- CJM (131 700)
- Safework NSW (13 10 50)

Annexure A – Traffic Guidance Schemes

(Note – Long term TGS and staging plans are combined and are in Annexure C. Short term TGS to be developed on an as needs basis)



Legend

- Bike Traffic - all directions
- Bike Traffic - North out of Rousell Road
- Bike Traffic - South to Rousell Road
- Existing Bike Traffic Route - BLOCKED

GENERAL NOTES

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH AS1742.3 & TCAMS 6.1
- ALL TRAFFIC CONTROL DIAGRAMS TO BE READ CONJUNCTION WITH THE TCAMS 6.1
- NON-APPLICABLE EXISTING SIGNAGE SHALL BE COVERED E.G. SPEEDS SIGNS DUE TO THE TEMPORARY SPEED ZONE.
- ALL SIGNAGE DISTANCE SHALL COMPLY WITH AS 1742.3 & TCAMS 6.1
- IN ACCORDANCE WITH TCAMS 6.1

- TRAFFIC CONTROLLERS TO ASSIST PEDESTRIANS WITH MOVEMENT THROUGH & AROUND THE WORKSITE.
- SIGNAGE SHALL BE PLACED ON THE SIDE OF THE ROAD ADJACENT TO THE TRAFFIC FLOW.
- REMOVAL OF TRAFFIC CONTROL SIGNS AND DEVICES SHOULD BE UNDERTAKEN IN THE REVERSE ORDER OF ERECTION, PROGRESSING FROM THE WORK AREA OUT TOWARD THE APPROACHES.

LANE WIDTHS

THE MIN LANE WIDTH TO BE PROVIDED THROUGH OR PAST THE WORKSITE SHALL BE 3.0m (3.5m DESIRABLE)

TOLERANCES

POSITIONING OF SIGNS MINIMUM 10% LESS THAN THE DISTANCE OR LENGTHS GIVEN. MAXIMUM 25% MORE THAN THE DISTANCE OR LENGTHS GIVEN. SPACING OF DELINEATING DEVICES MAXIMUM 10% MORE THAN THE SPACING GIVEN - NO MINIMUM

QUEUE MANAGEMENT PLAN

AT ALL TIMES DURING THE COURSE OF THE WORK TRAFFIC QUEUES SHALL BE MONITORED TO ENSURE THAT TRAFFIC DOES NOT EXCEED BEYOND THE LIMITS OF ADVANCED WARNING SIGNS

VEHICLE MOVEMENT PLAN

ALL WORK VEHICLES TO ENTER AND EXIT WORKSITE UNDER THE DIRECTION OF TRAFFIC CONTROLLER WITH THE TRAFFIC FLOW ON DESIGNATED UHF CHANNEL

DESCRIPTION

DRAWN Nasser Chami
DATE 02/08/2022
REV 01
PLAN MAY NOT BE TO SCALE

Client: Burton Contractors
Plan Name: CYCLEWAY DETOUR
Works Location: Wallgrove Road
Suburb: Erskine Park
Page: 1 of 4

Term: LONG
Road Type: VARIOUS
Speed Limit: 70 km/h
Travelled Path: ALL
Operation: DETOUR

DESIGNED: Nasser Chami

0052135507

PWZTMP

N

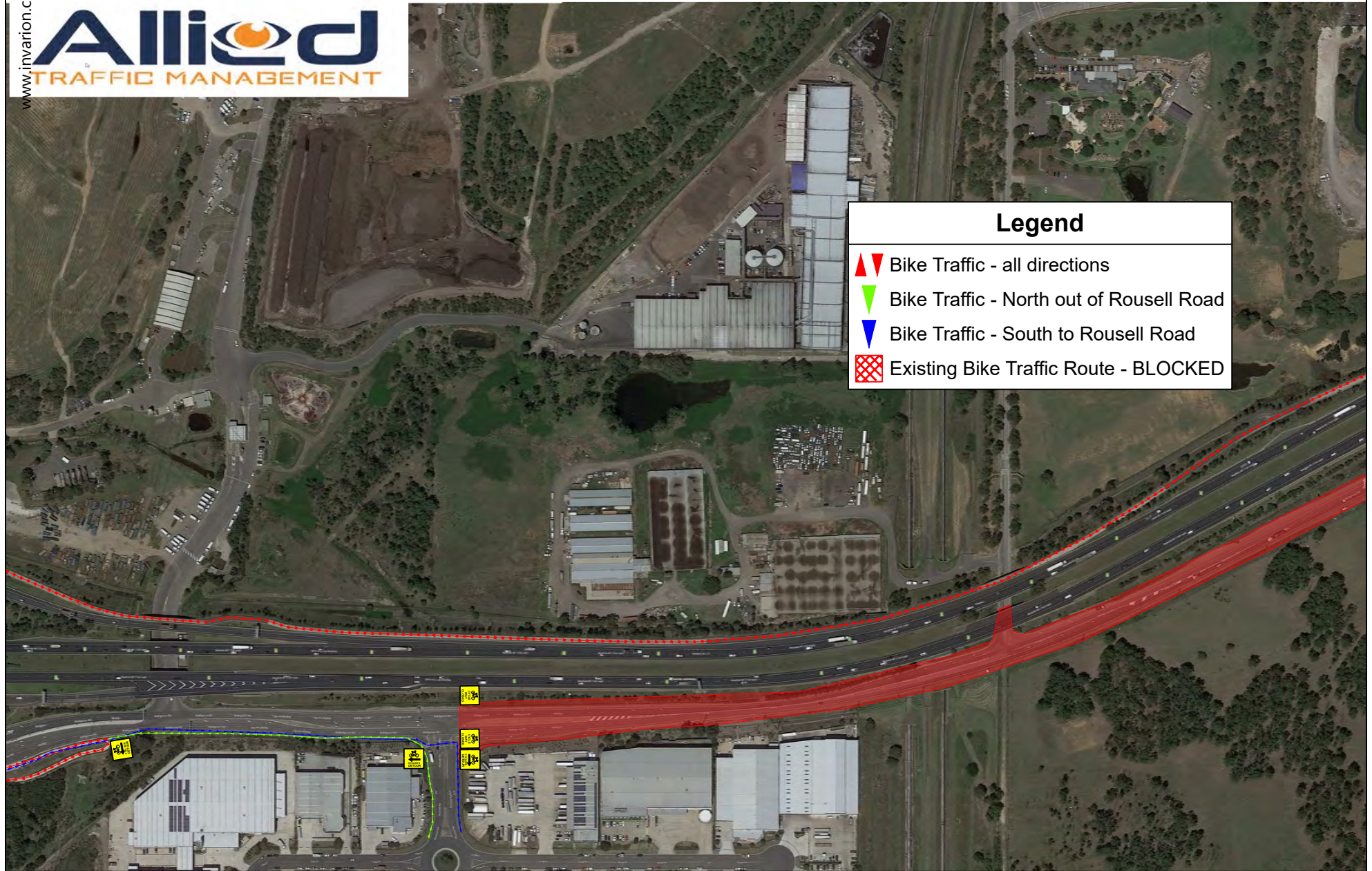
SIGNATURE:

N.C.

PLAN: ALLIED 0275

RECOMMENDED TAPER LENGTHS

APPROXIMATE SPEED OF TRAFFIC KM/H	TRAFFIC CONTROL AT BEGINNING OF TAPER	LATERAL MERGE SHIFT TAPER	TAPER
45 OR LESS	15	15	15
46 - 55	15	15	30
56 - 65	30	30	60
66 - 75	N/A	70	115
76 - 85	N/A	80	130
86 - 95	N/A	90	145
96 - 105	N/A	100	160
> 105	N/A	110	180



Legend

-  Bike Traffic - all directions
-  Bike Traffic - North out of Rousell Road
-  Bike Traffic - South to Rousell Road
-  Existing Bike Traffic Route - BLOCKED

GENERAL NOTES

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4. ALL SIGNAGE DISTANCE SHALL COMPLY WITH AS 1742.3 & TCWAYS 6.1
5. IN ACCORDANCE WITH TCWAYS 6.1

TRAFFIC CONTROLLERS TO ASSIST PEDESTRIANS WITH MOVEMENT THROUGH & AROUND THE WORKSITE.

6. SIGNAGE SHALL BE PLACED ON THE SIDE OF THE ROAD ADJACENT TO THE TRAFFIC FLOW.

7. REMOVAL OF TRAFFIC CONTROL SIGNS AND DEVICES SHOULD BE UNDERTAKEN IN THE REVERSE ORDER OF ERECTION, PROGRESSING FROM THE WORK AREA OUT TOWARD THE APPROACHES.

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DESCRIPTION

DRAWN Nasser Chami

DATE 02/08/2022

REV 01

PLAN MAY NOT BE TO SCALE

Client: Burton Contractors

Plan Name: CYCLEWAY DETOUR

Works Location: Wallgrove Road

Suburb: Erskine Park

Page: 2 of 4

Term: LONG

Road Type: VARIOUS

Speed Limit: 70 km/h

Travelled Path: ALL

Operation: DETOUR

DESIGNED:

Nasser Chami

SIGNATURE:



0052135507

PWZTMP

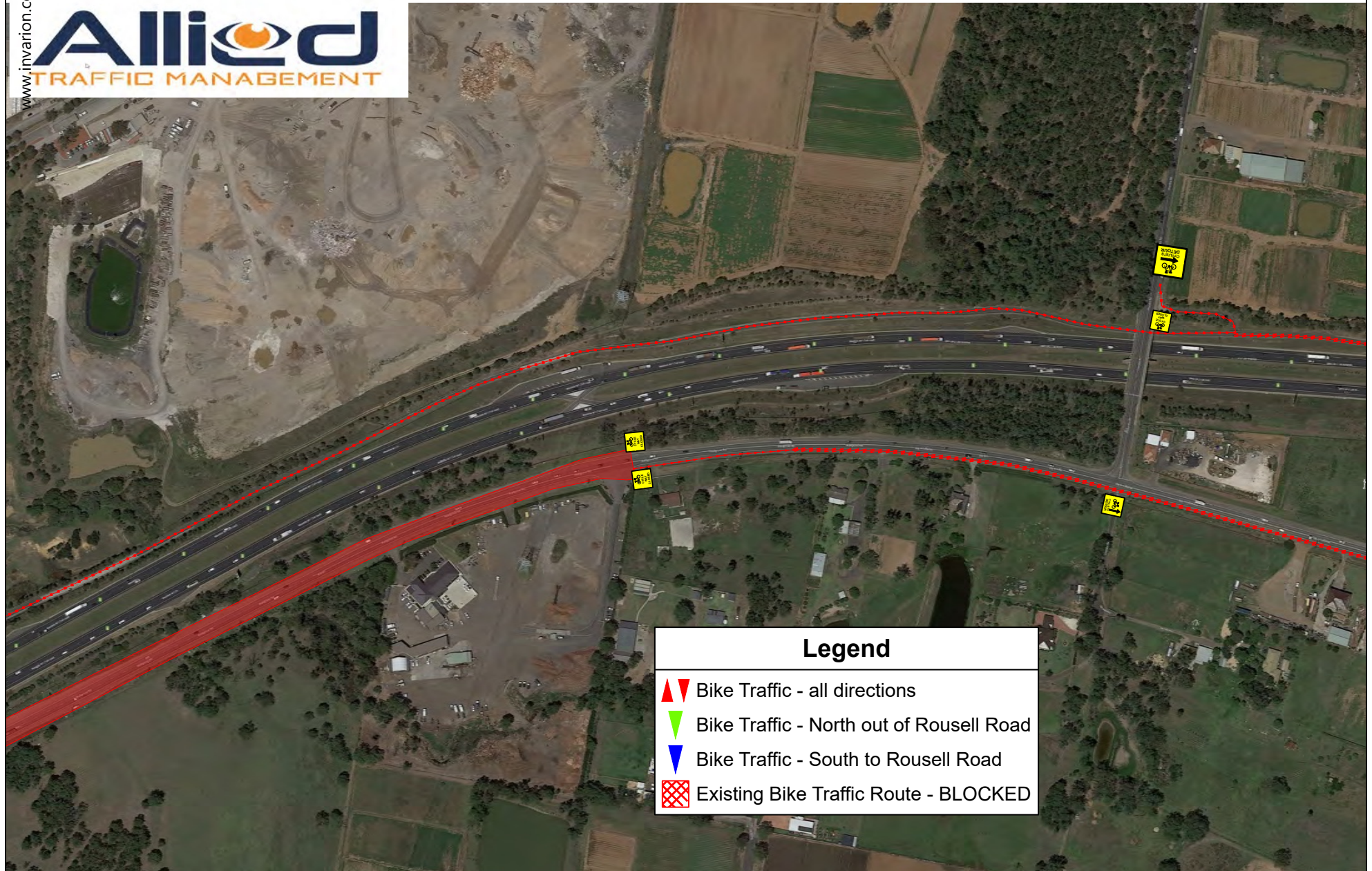
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PLAN : ALLIED 0275

RECOMMENDED TAPER LENGTH

APPROXIMATE SPEED OF TRAFFIC KM/H	TRAFFIC CONTROL AT BEGINNING OF TAPER	LATERAL MERGE SHIFT TAPER	TAPER
45 OR LESS	15	15	15
46 - 55	15	15	30
56 - 65	30	30	60
66 - 75	N/A	70	115
76 - 85	N/A	80	130
86 - 95	N/A	90	145
96 - 105	N/A	100	160
> 105	N/A	110	180



Legend

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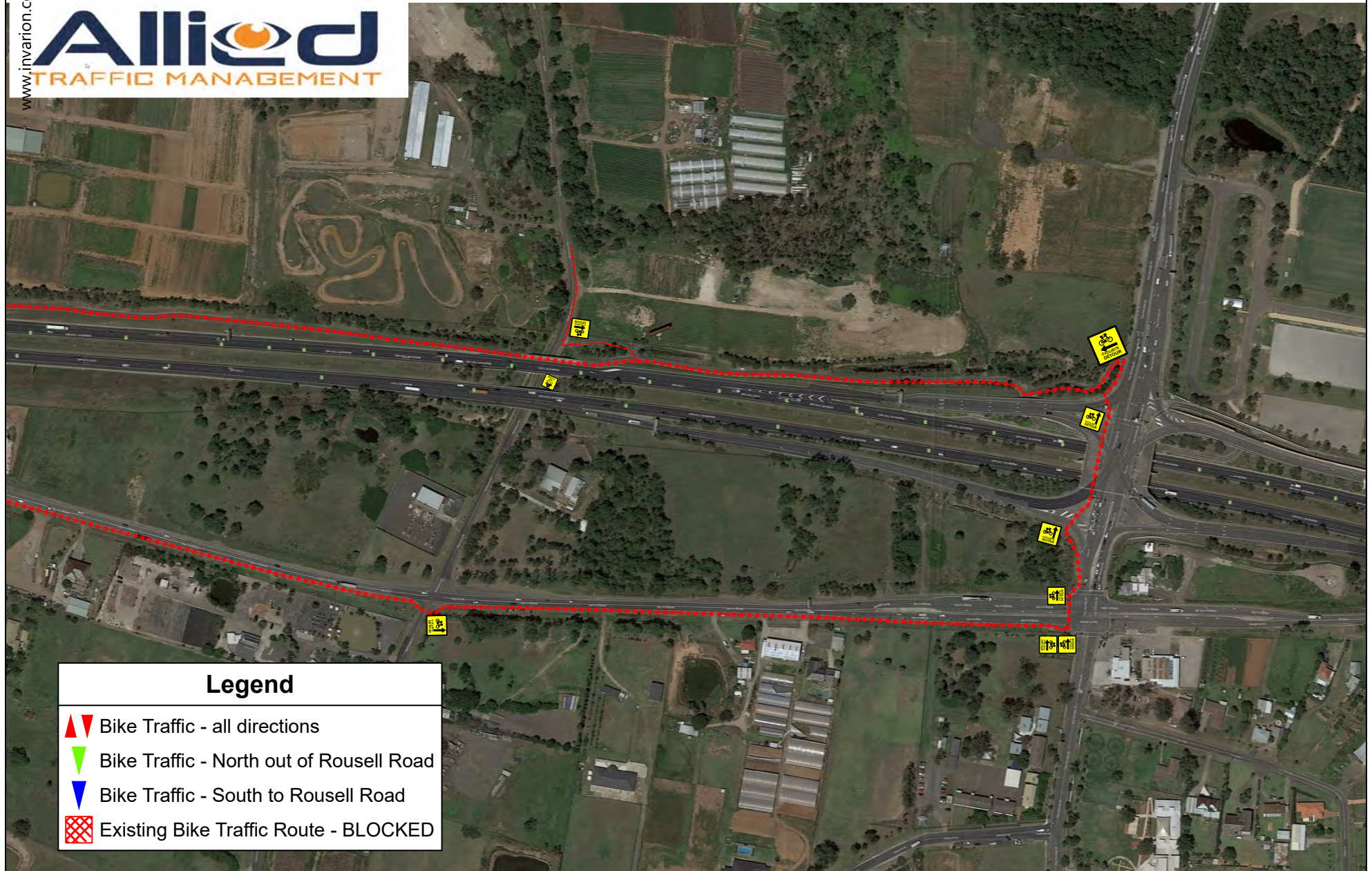
VEHICLE MOVEMENT PLAN

ALL WORK VEHICLES TO ENTER AND EXIT WORKSITE UNDER THE DIRECTION OF TRAFFIC CONTROLLER WITH THE TRAFFIC FLOW ON DESIGNATED UHF CHANNEL

DESCRIPTION	Client:	Burton Contractors	Term:	LONG
DRAWN: Nasser Chami	Plan Name:	CYCLEWAY DETOUR	Road Type:	VARIOUS
DATE: 02/08/2022	Works Location:	Wallgrove Road	Speed Limit:	70 km/h
REV: 01	Suburb:	Erskine Park	Travelled Path:	ALL
PLAN MAY NOT BE TO SCALE	Page:	3 of 4	Operation:	DETOUR

DESIGNED:	Nasser Chami	SIGNATURE:	
0052135507			
PWZTMP			
N		PLAN : ALLIED 0275	

RECOMMENDED TAPER LENGTHS				
APPROXIMATE SPEED OF TRAFFIC KM/H	TRAFFIC CONTROL AT BEGINNING OF TAPER	LATERAL MERGE SHIFT	TAPER	
45 OR LESS	15	15	15	15
46 - 55	15	15	30	30
56 - 65	30	30	60	60
66 - 75	N/A	70	115	115
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Legend

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QUEUE MANAGEMENT PLAN

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VEHICLE MOVEMENT PLAN

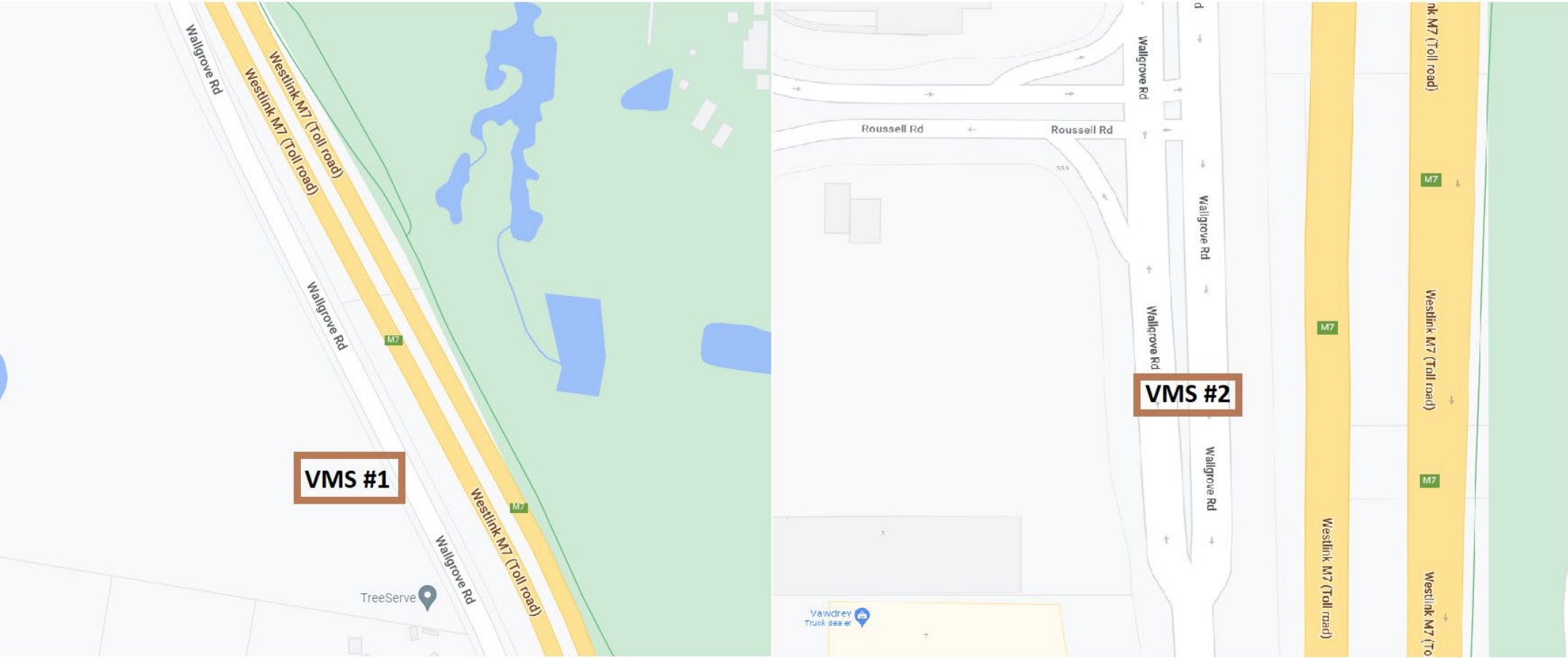
ALL WORK VEHICLES TO ENTER AND EXIT WORKSITE UNDER THE DIRECTION OF TRAFFIC CONTROLLER WITH THE TRAFFIC FLOW ON DESIGNATED UHF CHANNEL

DESCRIPTION	Client:	Burton Contractors	Term:	LONG
DRAWN: Nasser Chami	Plan Name:	CYCLEWAY DETOUR	Road Type:	VARIOUS
DATE: 02/08/2022	Works Location:	Wallgrove Road	Speed Limit:	70 km/h
REV: 01	Suburb:	Erskine Park	Travelled Path:	ALL
PLAN MAY NOT BE TO SCALE	Page:	4 of 4	Operation:	DETOUR
DESIGNED: Nasser Chami				SIGNATURE:
0052135507				
PWZTMP				
N				PLAN: ALLIED 0275
RECOMMENDED TAPER LENGTHS				
APPROXIMATE SPEED OF TRAFFIC KM/H	TRAFFIC CONTROL AT BEGINNING OF TAPER	LATERAL MERGE SHIFT	TAPER	
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96 - 105	N/A	100	160	
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Annexure B – Variable Message Sign Schedules

Current Revision – Rev 1

VMS Location Map



VMS Schedule

VMS #	Location Description	Photo/Street View Location	Messages to be displayed
1	Wallgrove Road, South of the project site		Screen 1
			CHANGED TRAFFIC CONDITIONS AHEAD
			Screen 2
2	Wallgrove Road, North of the project site		Screen 1
			CHANGED TRAFFIC CONDITIONS AHEAD
			Screen 2
			DRIVE WITH CAUTION

Annexure C – Staging Plans

(Note – Long term TGS and staging plans are combined)

Civil Staging Plan – Stage 1

LEGEND

NEW TEMPORARY BARRIER (RED)

NEW LINE MARKING (RED)

EXISTING TEMPORARY BARRIER (BLUE)

EXISTING MARKING (BLUE)

SAFETY FENCE (ATF FENCE OF SIMILAR)

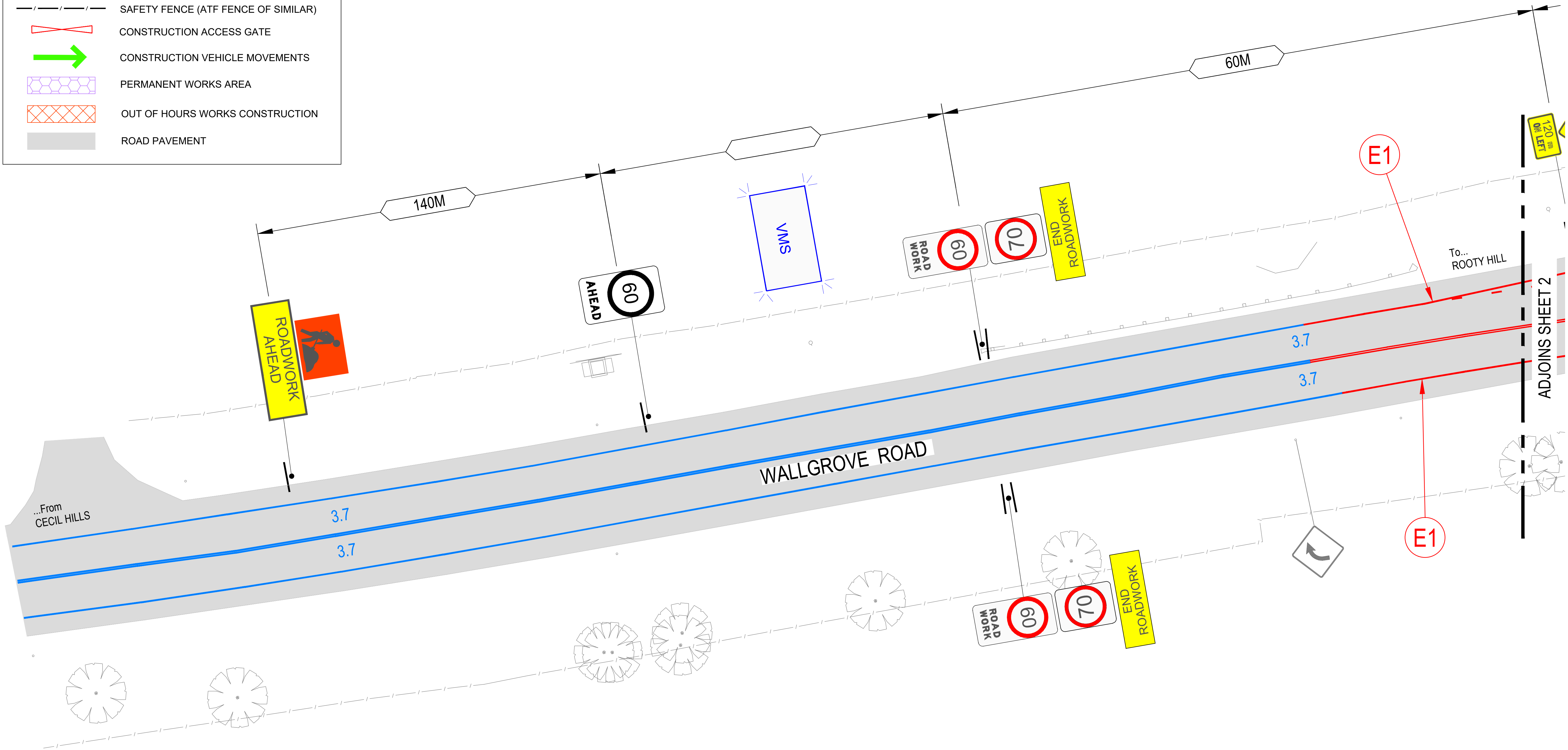
CONSTRUCTION ACCESS GATE

CONSTRUCTION VEHICLE MOVEMENTS

PERMANENT WORKS AREA

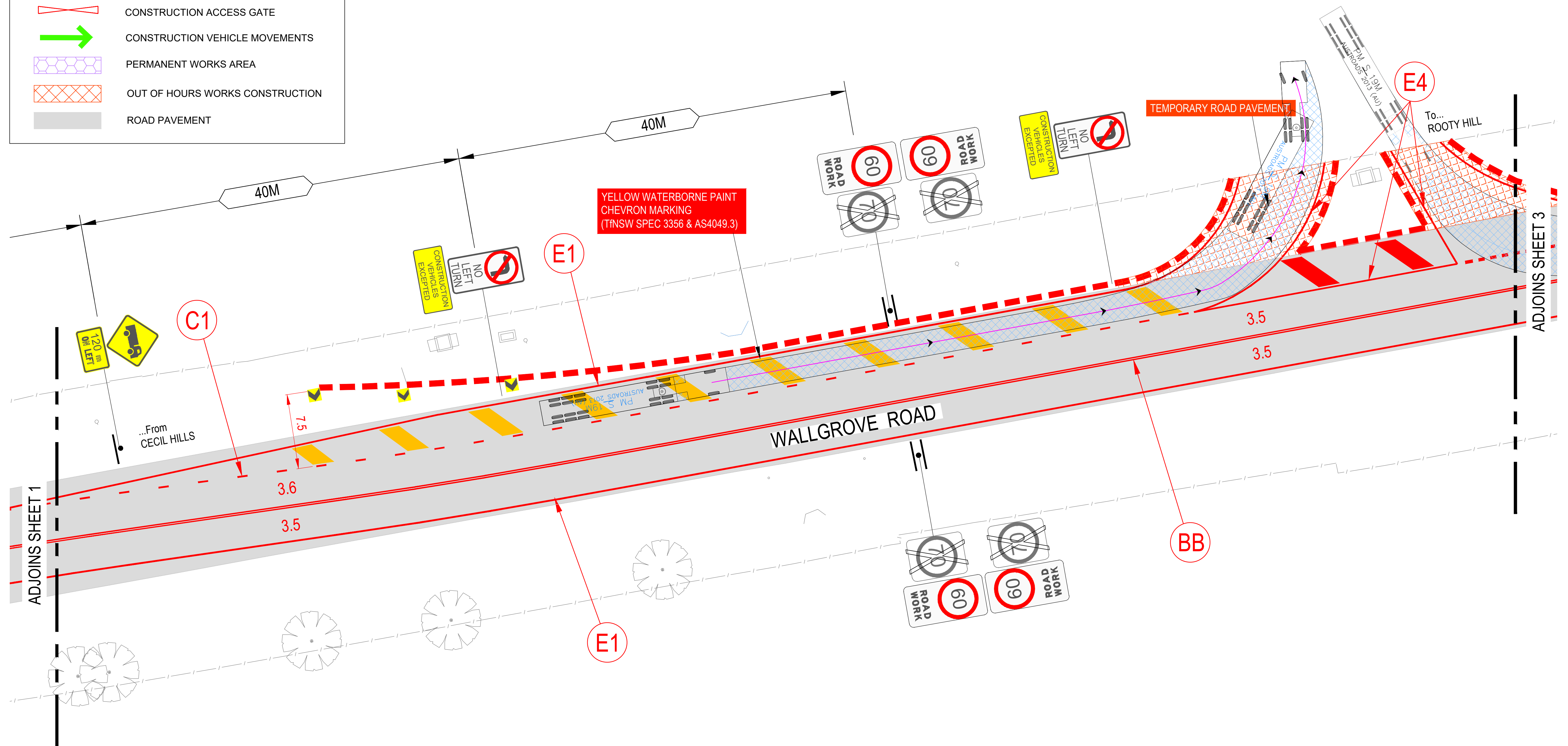
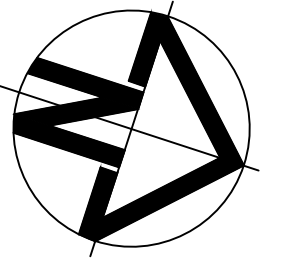
OUT OF HOURS WORKS CONSTRUCTION

ROAD PAVEMENT

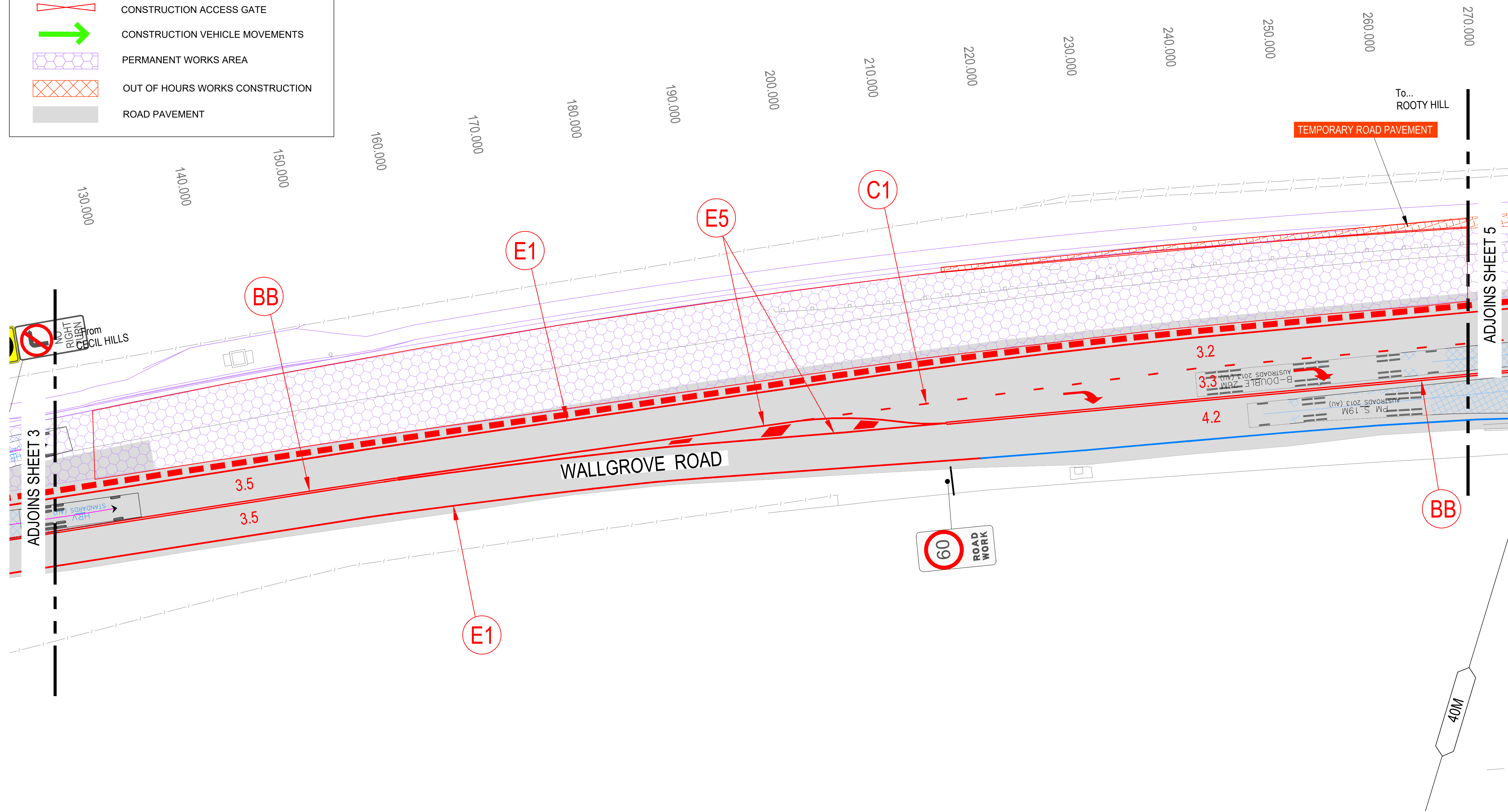


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				Drawn	JKB	10/05/22										
				Drafting Check												
				Design Check												
4	01/08/22	JKB	-	GATES RELOCATED, N/B BUS STOP ADDED, BREAK DOWN BAY ADDED			Azimuth	Datum	BURTON CONTRACTORS	NSW GOVERNMENT Transport Roads & Maritime Services	Scale	INTERSECTION UPGRADE AT WALLGROVE ROAD (MR 515), SUBWAY ROAD AND ACCESS ROAD HORSLEY PARK				
3	16/05/22	JKB	-	PROPERTY ACCESS AT SOUTHERN EXTENT												
2	13/05/22	JKB	-	SOUTHERN TIE IN ADJUSTMENT												
1	10/05/22	JKB	-	STAGE 1A LAYOUT - WESTERN CONSTRUCTION												
Rev	Date	By	App	Amendment Details			MGA	AHD								

	NEW TEMPORARY BARRIER (RED)
	NEW LINE MARKING (RED)
	EXISTING TEMPORARY BARRIER (BLUE)
	EXISTING MARKING (BLUE)
	SAFETY FENCE (ATF FENCE OF SIMILAR)
	CONSTRUCTION ACCESS GATE
	CONSTRUCTION VEHICLE MOVEMENTS
	PERMANENT WORKS AREA
	OUT OF HOURS WORKS CONSTRUCTION
	ROAD PAVEMENT



					Design	JKB	10/05/22	Contractor	APPROVED B-LINE DRAFTING	Client  Transport Roads & Maritime Services	Project INTERSECTION UPGRADE AT WALLGROVE ROAD (MR 515), SUBWAY ROAD AND ACCESS ROAD HORSLEY PARK	Drawing Title TRAFFIC STAGING PLAN STAGE 1A SHEET 2 OF 10				
					Drawn	JKB	10/05/22					BURTON CONTRACTORS	SIGNED.....  DATE 16/05/22	Scale 0 5 10 (1:200)	Drawing No. TS01A-02	Rev 4
					Drafting Check											
					Design Check											
					Final Approval											
4	01/08/22	JKB	-	GATES RELOCATED, N/B BUS STOP ADDED.BREAK DOWN BAY ADDED												
3	16/05/22	JKB	-	PROPERTY ACCESS AT SOUTHERN EXTENT												
2	13/05/22	JKB	-	SOUTHERN TIE IN ADJUSTMENT												
1	10/05/22	JKB	-	STAGE 1A LAYOUT - WESTERN CONSTRUCTION												
Rev	Date	By	App	Amendment Details	Azimuth	MGA	Datum	AHD								



					Design	JKB	10/05/22	Contractor	APPROVED B-LINE DRAFTING	Client  Transport Roads & Maritime Services	Project INTERSECTION UPGRADE AT WALLGROVE ROAD (MR 515), SUBWAY ROAD AND ACCESS ROAD HORSLEY PARK	Drawing Title TRAFFIC STAGING PLAN STAGE 1A SHEET 4 OF 10	Drawing No. TS01A-04	Rev 4	
					Drawn	JKB	10/05/22								
					Drafting Check										
					Design Check										
4	01/08/22	JKB	-	GATES RELOCATED, N/B BUS STOP ADDED,BREAK DOWN BAY ADDED	Final Approval										
3	16/05/22	JKB	-	PROPERTY ACCESS AT SOUTHERN EXTENT											
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Rev	Date	By	App	Amendment Details	Azimuth MGA	Datum AHD									
Scale 5 0 (1:200) 5 10															

LEGEND

NEW TEMPORARY BARRIER (RED)

NEW LINE MARKING (RED)

EXISTING TEMPORARY BARRIER (BLUE)

EXISTING MARKING (BLUE)

SAFETY FENCE (ATF FENCE OF SIMILAR)

CONSTRUCTION ACCESS GATE

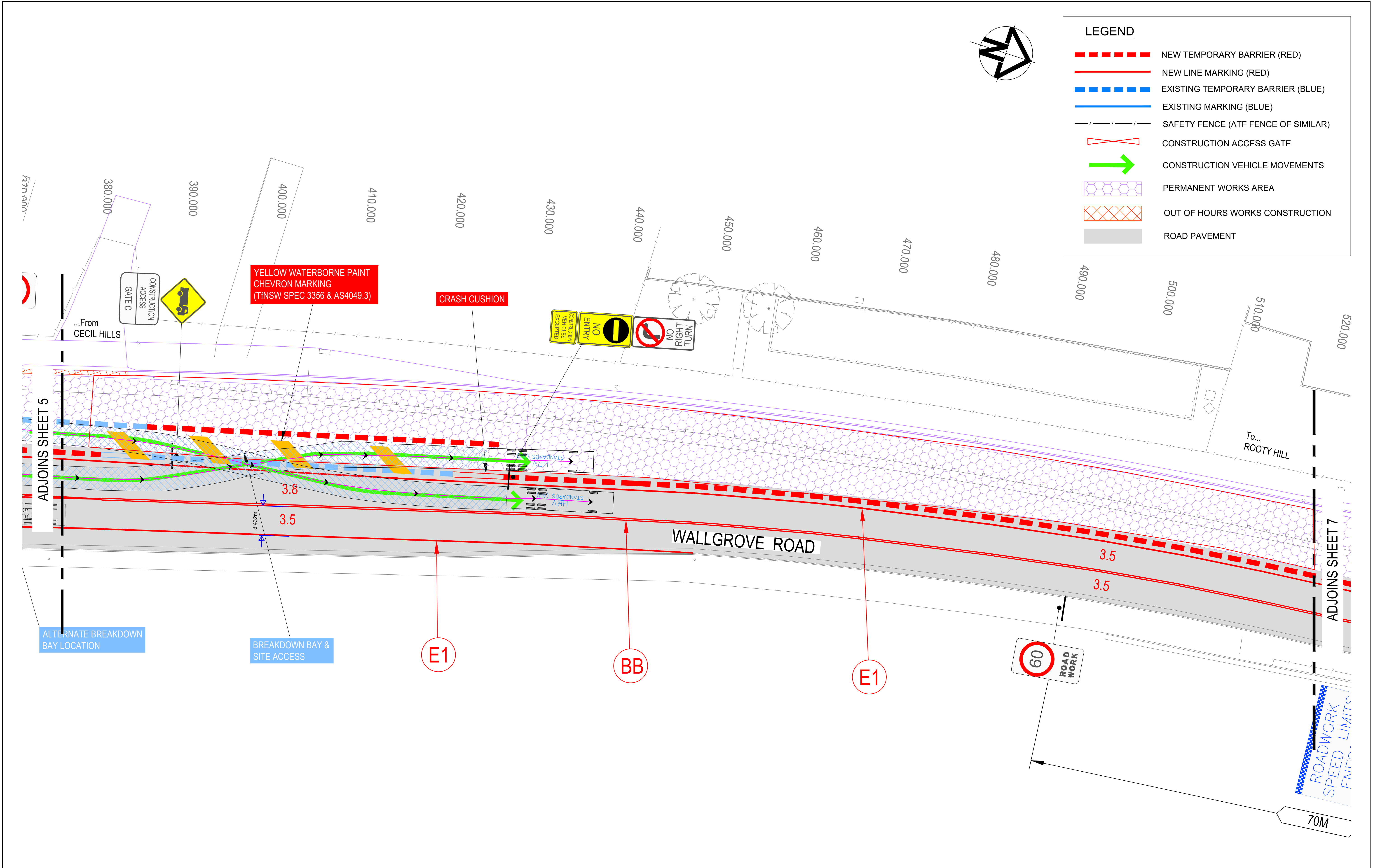
CONSTRUCTION VEHICLE MOVEMENTS

PERMANENT WORKS AREA

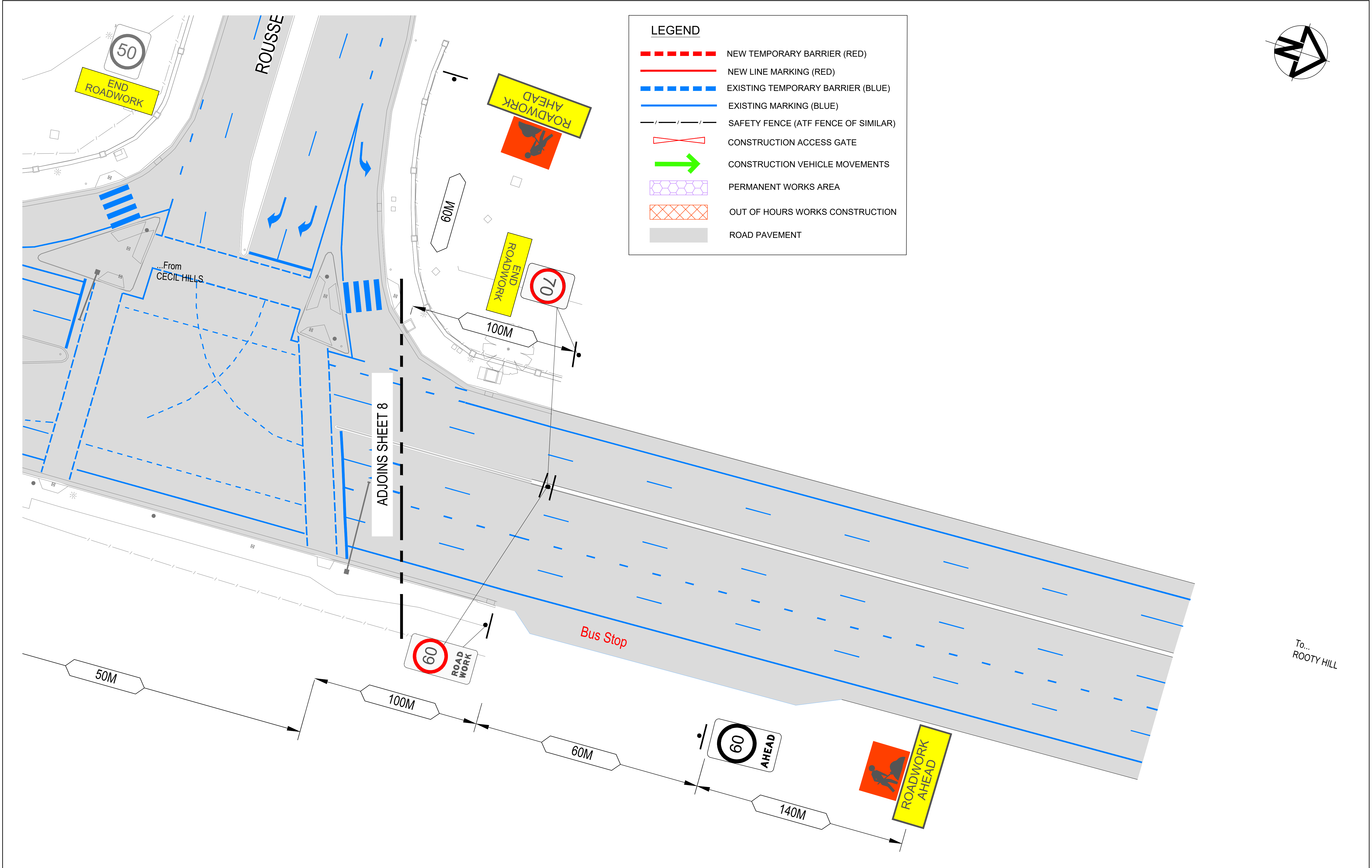
OUT OF HOURS WORKS CONSTRUCTION

ROAD PAVEMENT

				Design	JKB	10/05/22	Contractor	BURTON CONTRACTORS	APPROVED B-LINE DRAFTING SIGNED..... DATE 16/05/22	Client NSW GOVERNMENT Transport Roads & Maritime Services	Project INTERSECTION UPGRADE AT WALLGROVE ROAD (MR 515), SUBWAY ROAD AND ACCESS ROAD HORSLEY PARK	Drawing Title TRAFFIC STAGING PLAN STAGE 1A SHEET 5 OF 10	Drawing No. TS01A-05	Rev 4								
				Drawn	JKB	10/05/22																
				Drafting Check																		
				Design Check																		
4	01/08/22	JKB	-	GATES RELOCATED, N/B BUS STOP ADDED, BREAK DOWN BAY ADDED				Azimuth	Datum		Scale 5 0 5 10 (1:200)											
3	16/05/22	JKB	-	PROPERTY ACCESS AT SOUTHERN EXTENT																		
2	13/05/22	JKB	-	SOUTHERN TIE IN ADJUSTMENT																		
1	10/05/22	JKB	-	STAGE 1A LAYOUT - WESTERN CONSTRUCTION																		
Rev	Date	By	App	Amendment Details				MGA	AHD													

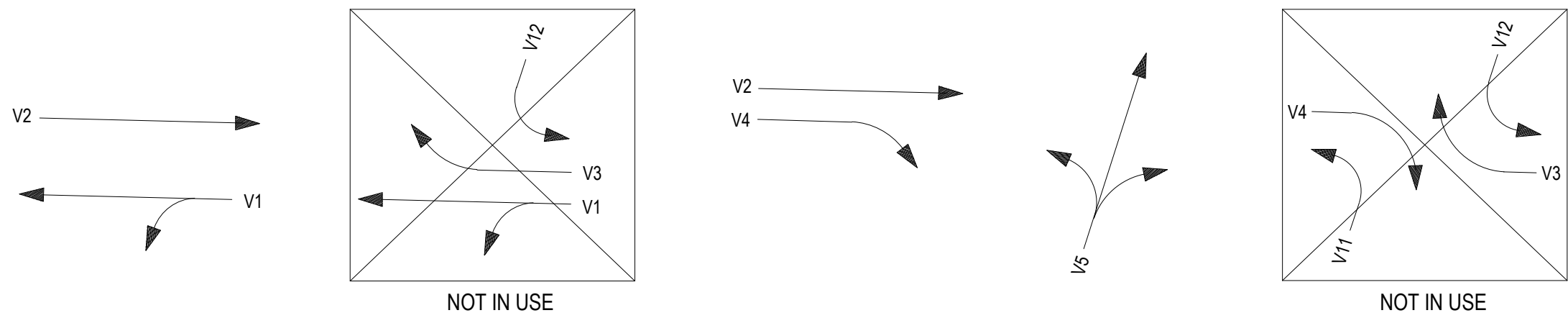


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				Design	JKB	10/05/22	Contractor	APPROVED B-LINE DRAFTING	Client	Project	Drawing Title	Drawing No.	Rev
				Drawn	JKB	10/05/22							
				Drafting Check									
				Design Check									
4	01/08/22	JKB	-	GATES RELOCATED, N/B BUS STOP ADDED, BREAK DOWN BAY ADDED			Azimuth	Datum	| Transport Roads & Maritime Services	INTERSECTION UPGRADE AT WALLGROVE ROAD (MR 515), SUBWAY ROAD AND ACCESS ROAD HORSLEY PARK	TRAFFIC STAGING PLAN STAGE 1A SHEET 9 OF 10	TS01A-09	4
3	16/05/22	JKB	-	PROPERTY ACCESS AT SOUTHERN EXTENT									
2	13/05/22	JKB	-	SOUTHERN TIE IN ADJUSTMENT									
1	10/05/22	JKB	-	STAGE 1A LAYOUT - WESTERN CONSTRUCTION									
Rev	Date	By	App	Amendment Details			MGA	AHD					

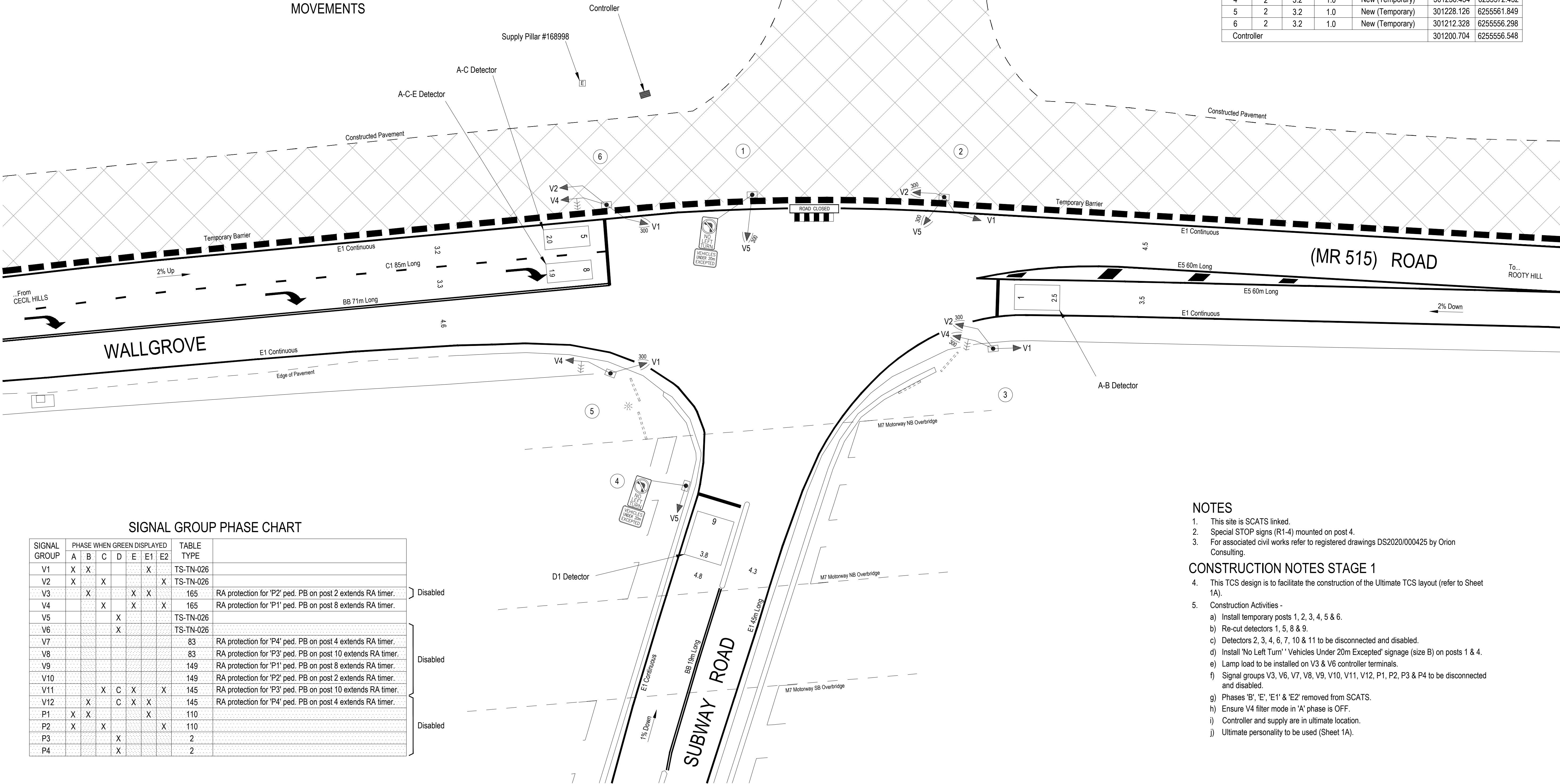
TCS Staging Plan – Stage 1



MOVEMENTS

POSTS

					MGA CO-ORDINATES ZONE 56 / GDA1994	
POST	TYPE	LENGTH	OFFSET	REMARKS	EASTING	NORTHING
1	2	3.2	1.0	New (Temporary)	301206.907	6255569.756
2	2	3.2	1.0	New (Temporary)	301201.227	6255587.950
3	2	3.2	1.0	New (Temporary)	301214.040	6255597.229
4	2	3.2	1.0	New (Temporary)	301236.434	6255572.432
5	2	3.2	1.0	New (Temporary)	301228.126	6255561.849
6	2	3.2	1.0	New (Temporary)	301212.328	6255556.298
Controller					301200.704	6255556.548



SIGNAL GROUP PHASE CHART

SIGNAL GROUP	PHASE WHEN GREEN DISPLAYED						TABLE TYPE	
	A	B	C	D	E	E2		
V1	X	X			X		TS-TN-026	
V2	X		X			X	TS-TN-026	
V3		X		X	X		165	RA protection for 'P2' ped. PB on post 2 extends RA timer.
V4			X	X	X		165	RA protection for 'P1' ped. PB on post 8 extends RA timer.
V5				X			TS-TN-026	
V6				X			TS-TN-026	
V7							83	RA protection for 'P4' ped. PB on post 4 extends RA timer.
V8							83	RA protection for 'P3' ped. PB on post 10 extends RA timer.
V9							149	RA protection for 'P1' ped. PB on post 8 extends RA timer.
V10							149	RA protection for 'P2' ped. PB on post 2 extends RA timer.
V11			X	C	X	X	145	RA protection for 'P3' ped. PB on post 10 extends RA timer.
V12		X		C	X	X	145	RA protection for 'P4' ped. PB on post 4 extends RA timer.
P1	X	X			X		110	
P2	X		X			X	110	
P3				X			2	
P4				X			2	

NOTES

- This site is SCATS linked.
- Special STOP signs (R1-4) mounted on post 4.
- For associated civil works refer to registered drawings DS2020/000425 by Orion Consulting.

CONSTRUCTION NOTES STAGE 1

- This TCS design is to facilitate the construction of the Ultimate TCS layout (refer to Sheet 1A).
- Construction Activities -
 - Install temporary posts 1, 2, 3, 4, 5 & 6.
 - Re-cut detectors 1, 5, 8 & 9.
 - Detectors 2, 3, 4, 6, 7, 10 & 11 to be disconnected and disabled.
 - Install 'No Left Turn' 'Vehicles Under 20m Excepted' signage (size B) on posts 1 & 4.
 - Lamp load to be installed on V3 & V6 controller terminals.
 - Signal groups V3, V6, V7, V8, V9, V10, V11, V12, P1, P2, P3 & P4 to be disconnected and disabled.
 - Phases 'B', 'E', 'E1' & 'E2' removed from SCATS.
 - Ensure V4 filter mode in 'A' phase is OFF.
 - Controller and supply are in ultimate location.
 - Ultimate personality to be used (Sheet 1A).

A ORIGINAL ISSUE

PUBLIC UTILITY LEGEND		REFERENCE PLANS	
HYDRANT	□	SYMBOLS/ABRVS	VD003-6
STOP VALVE	▲	STD POSN CMPT	VD001-5
GAS VALVE	±	INSTR. STOP DET	VC005-17
SEWER MANHOLE	⊕	VEH GROUP OP	TS-TN-019
COMMS PIT	⬢	DET LOGIC OP	TS-TN-020
ELECT LIGHT POLE	○	PED MVT OP	TS-TN-021
POWER POLE	○	SDO	TS-TN-026
STAY POLE	⊙		
TELEPHONE BOX	⊞	SURVEYOR : Orion Consulting	
COMMS PILLAR	●	DATE : 2019	

U.B.D. Ref.	Map 207 GT
I.S.G.	E : 313 019
CO-ORDS N :	1 242 520
DESIGNED : J BATES	
CHECKED : J BATES	
SITE CHECKED	
J BATES	
RECOMMENDED	

DESIGN APPROVAL	
APPROVED	
NAME	
POSITION	MANAGER
DATE	17/05/22
DESIGN PREPARED BY	B-Line Drafting on behalf of Burton

TFNSW RECOMMENDATION	
ROAD DESIGN ENGINEERING	
NAME	Neil C. Leitch
POSITION	W. P. C. A. L.
DATE	1/06/2022
NETWORK OPERATIONS	
NAME	Neil C. Leitch
POSITION	W. P. C. A. L.
DATE	1/06/2022

TFNSW ACCEPTANCE	
ACCEPTED	
NAME	Neil C. Leitch
POSITION	W. P. C. A. L.
DATE	1/06/2022
ACCEPTED BY	
Network Operations	
SECTION	

TRANSPORT FOR NEW SOUTH WALES	
BLACKTOWN COUNCIL AREA	
TRAFFIC SIGNALS AT	
WALLGROVE ROAD (MR515), SUBWAY ROAD AND	
ACCESS ROAD	
HORSLEY PARK	
DESIGN LAYOUT	

EXISTING		PROPOSED	
CADD FILE:	VV5058_TDL-1_A.dgn		
SCALE	5 0 (1:200) 5 10	ISSUE	A
FILE	SF2020/139656	SUPERSEDES SHEET/ISSUE	2/A
REG No.	DS2020/000569	TCS No.	5058
		SHEET	TDL-1

Civil Staging Plan – Stage 2

LEGEND

NEW TEMPORARY BARRIER (RED)

NEW LINE MARKING (RED)

EXISTING TEMPORARY BARRIER (BLUE)

EXISTING MARKING (BLUE)

SAFETY FENCE (ATF FENCE OF SIMILAR)

CONSTRUCTION ACCESS GATE

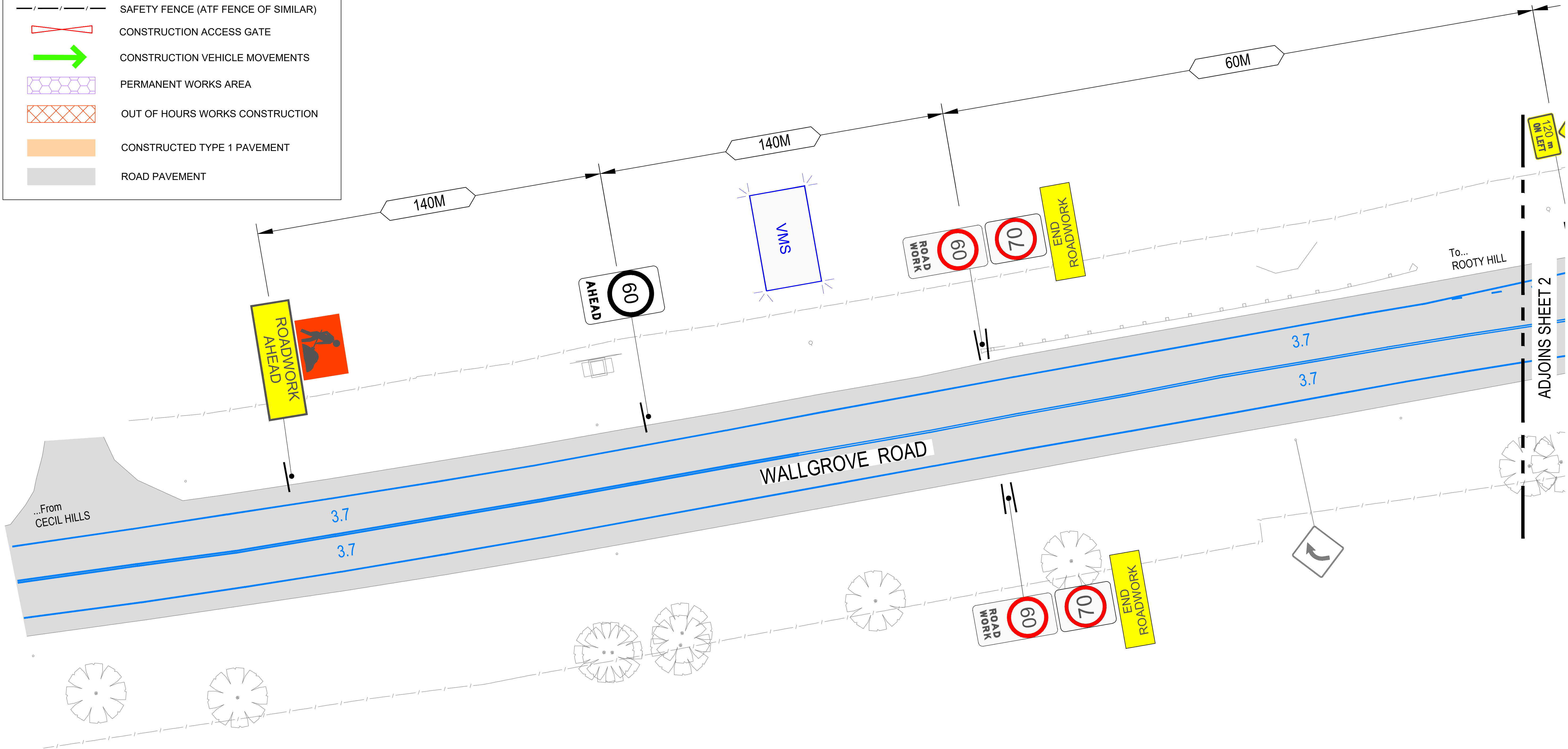
CONSTRUCTION VEHICLE MOVEMENTS

PERMANENT WORKS AREA

OUT OF HOURS WORKS CONSTRUCTION

CONSTRUCTED TYPE 1 PAVEMENT

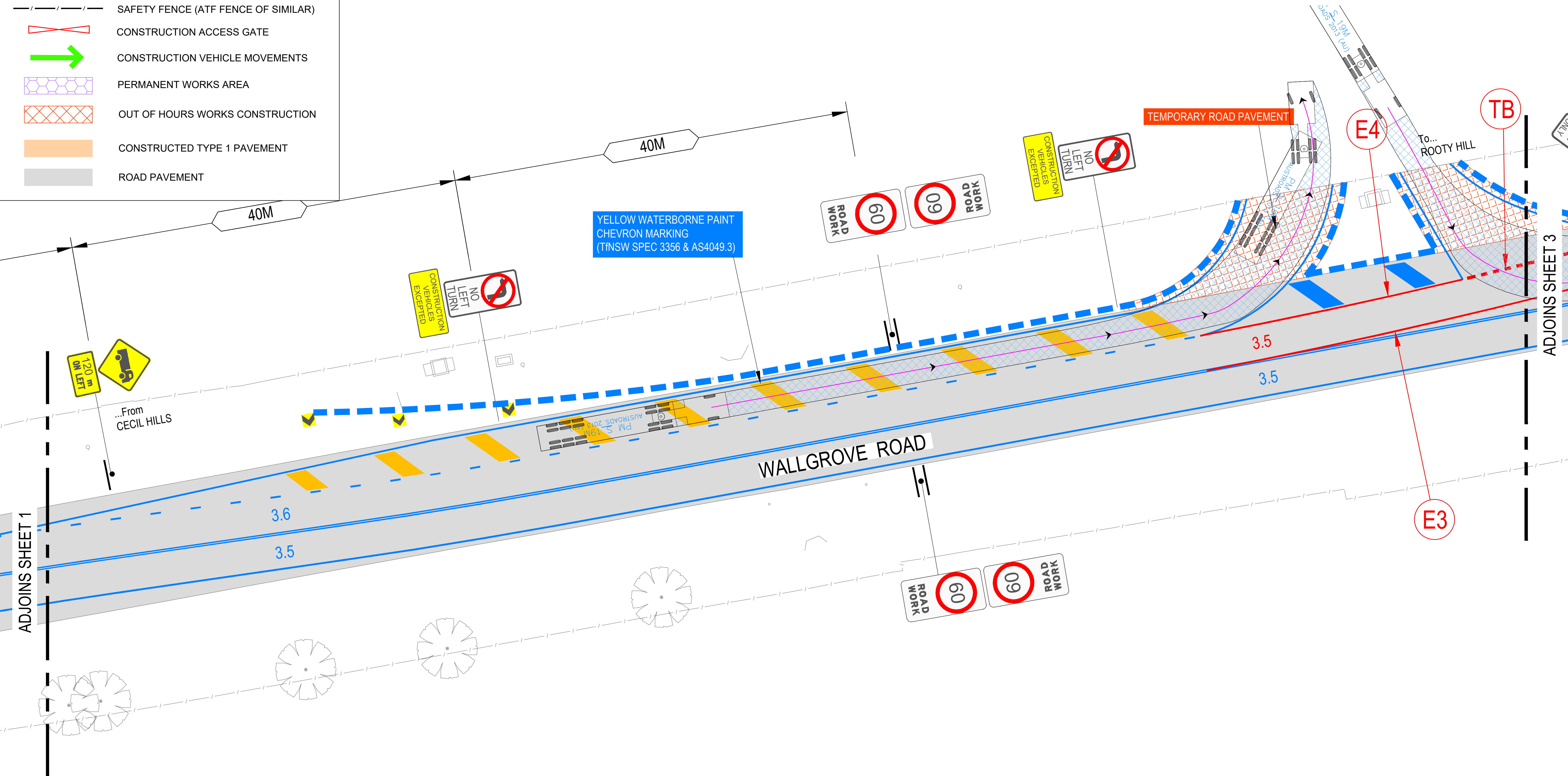
ROAD PAVEMENT



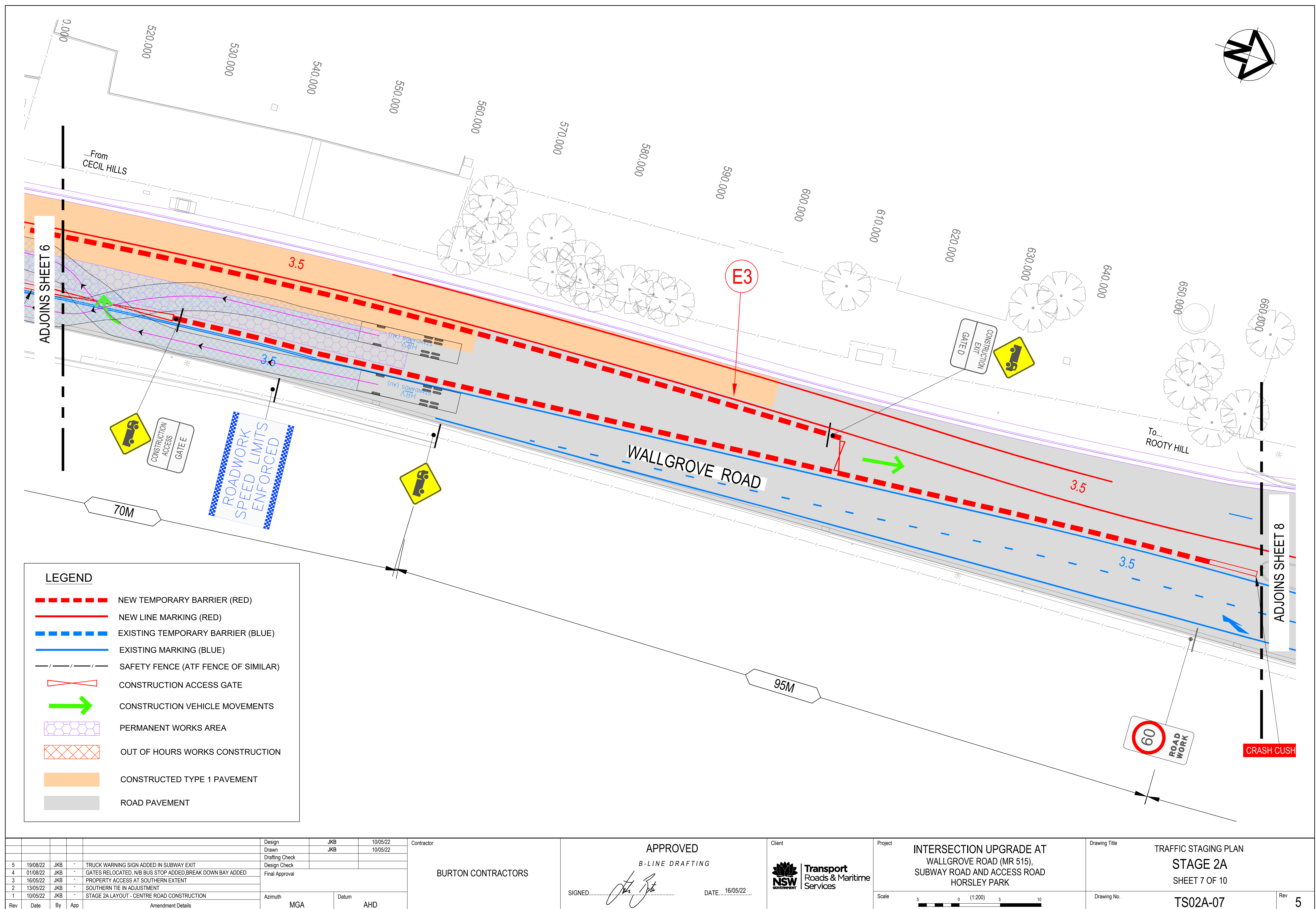
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					Drawn	JKB	10/05/22			B-LINE DRAFTING	NSW GOVERNMENT	INTERSECTION UPGRADE AT WALLGROVE ROAD (MR 515), SUBWAY ROAD AND ACCESS ROAD HORSLEY PARK	TRAFFIC STAGING PLAN
					Drafting Check								STAGE 2A
					Design Check								SHEET 1 OF 10
5	19/08/22	JKB	-	TRUCK WARNING SIGN ADDED IN SUBWAY EXIT	Final Approval			BURTON CONTRACTORS	SIGNED.....	DATE 16/05/22		Scale	Drawing No.
4	01/08/22	JKB	-	GATES RELOCATED, N/B BUS STOP ADDED, BREAK DOWN BAY ADDED								5 0 5 10 (1:200)	TS02A-01
3	16/05/22	JKB	-	PROPERTY ACCESS AT SOUTHERN EXTENT									Rev
2	13/05/22	JKB	-	SOUTHERN TIE IN ADJUSTMENT									5
1	10/05/22	JKB	-	STAGE 2A LAYOUT - CENTRE ROAD CONSTRUCTION									
Rev	Date	By	App	Amendment Details	Azimuth	MGA	Datum	AHD					

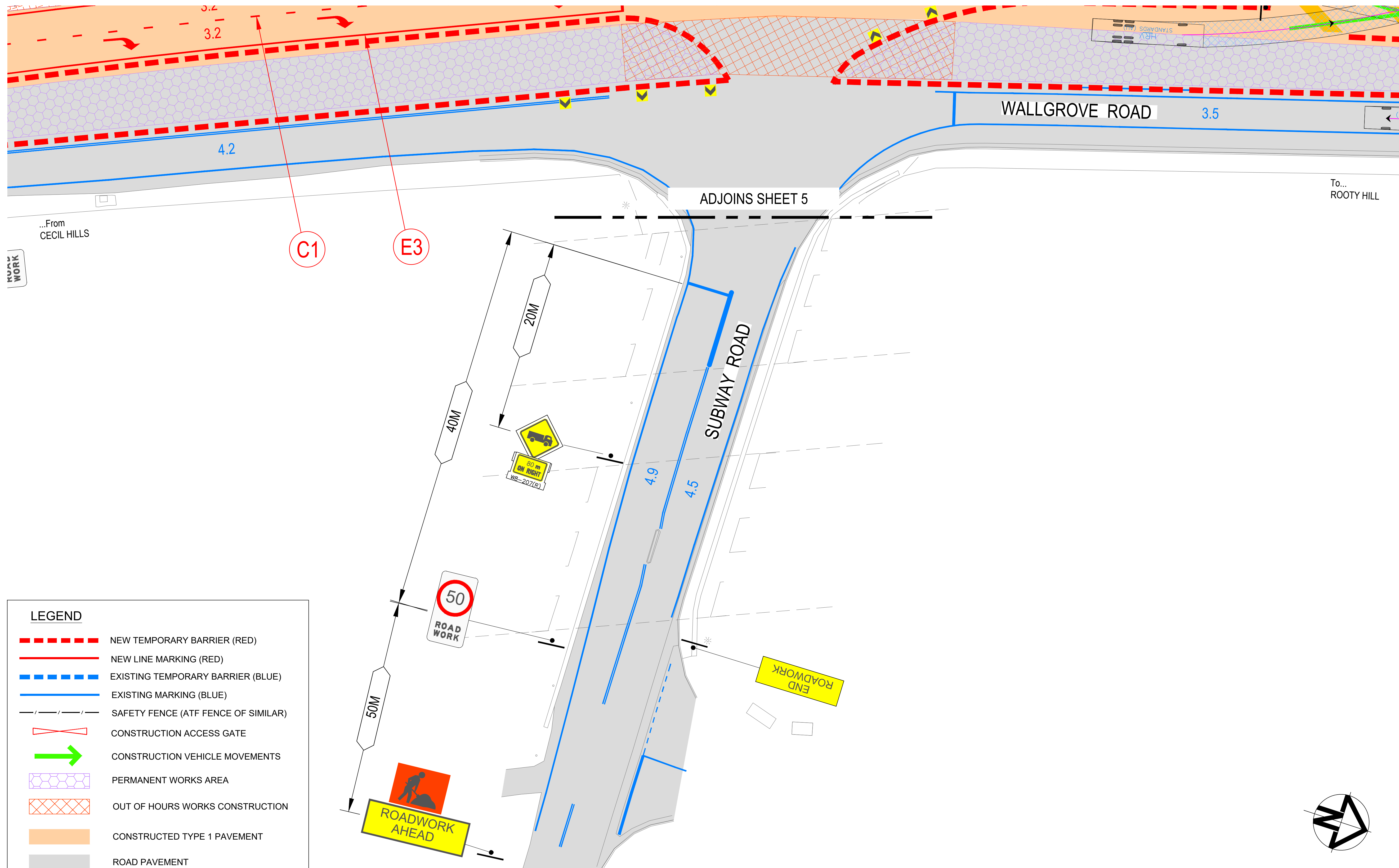
LEGEND

	NEW TEMPORARY BARRIER (RED)
	NEW LINE MARKING (RED)
	EXISTING TEMPORARY BARRIER (BLUE)
	EXISTING MARKING (BLUE)
	SAFETY FENCE (ATF FENCE OF SIMILAR)
	CONSTRUCTION ACCESS GATE
	CONSTRUCTION VEHICLE MOVEMENTS
	PERMANENT WORKS AREA
	OUT OF HOURS WORKS CONSTRUCTION
	CONSTRUCTED TYPE 1 PAVEMENT
	ROAD PAVEMENT



					Design	JKB	10/05/22	Contractor	APPROVED B-LINE DRAFTING	Client  Transport Roads & Maritime Services	Project INTERSECTION UPGRADE AT WALLGROVE ROAD (MR 515), SUBWAY ROAD AND ACCESS ROAD HORSLEY PARK	Drawing Title TRAFFIC STAGING PLAN STAGE 2A SHEET 2 OF 10							
					Drawn	JKB	10/05/22					BURTON CONTRACTORS	Scale 5 0 5 10 (1:200)	Drawing No. TS02A-02	Rev 5				
5	19/08/22	JKB	-	TRUCK WARNING SIGN ADDED IN SUBWAY EXIT	Drafting Check						Final Approval					SIGNED..... DATE 16/05/22	Drawing No. TS02A-02	Rev 5	
4	01/08/22	JKB	-	GATES RELOCATED, N/B BUS STOP ADDED BREAK DOWN BAY ADDED	Design Check								Azmuth MGA	Datum AHD					
3	16/05/22	JKB	-	PROPERTY ACCESS AT SOUTHERN EXTENT											By App				Amendment Details
2	13/05/22	JKB	-	SOUTHERN TIE IN ADJUSTMENT															
1	10/05/22	JKB	-	STAGE 2A LAYOUT - CENTRE ROAD CONSTRUCTION															
Rev	Date	By	App	Amendment Details															



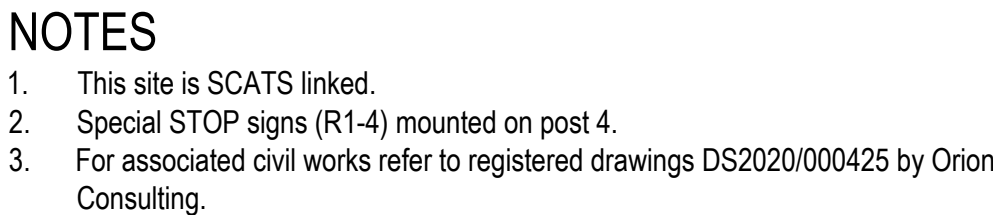
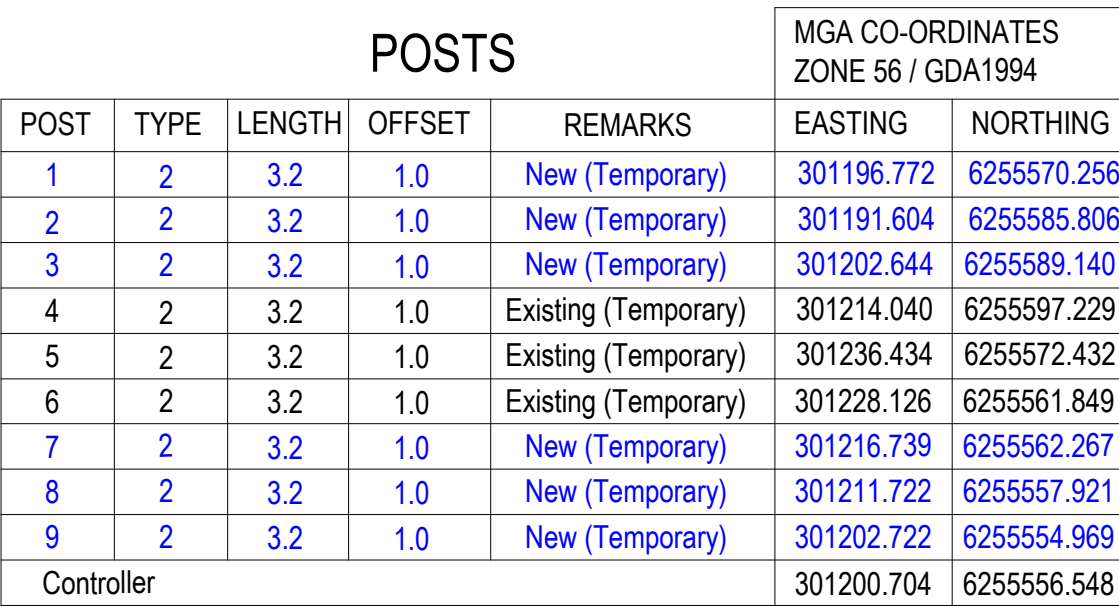


					Design	JKB	10/05/22	Contractor
					Drawn	JKB	10/05/22	
					Drafting Check			
					Design Check			
					Final Approval			
5	19/08/22	JKB	-	TRUCK WARNING SIGN ADDED IN SUBWAY EXIT	BURTON CONTRACTORS	MGA	Datum	AHD
4	01/08/22	JKB	-	GATES RELOCATED, N/B BUS STOP ADDED, BREAK DOWN BAY ADDED				
3	16/05/22	JKB	-	PROPERTY ACCESS AT SOUTHERN EXTENT				
2	13/05/22	JKB	-	SOUTHERN TIE IN ADJUSTMENT				
1	10/05/22	JKB	-	STAGE 2A LAYOUT - CENTRE ROAD CONSTRUCTION				
Rev	Date	By	App	Amendment Details				

APPROVED	
B-LINE DRAFTING	
SIGNED.....	DATE 16/05/22

Client	Project	Drawing Title
	INTERSECTION UPGRADE AT WALLGROVE ROAD (MR 515), SUBWAY ROAD AND ACCESS ROAD HORSLEY PARK	TRAFFIC STAGING PLAN STAGE 2A SHEET 10 OF 10
Scale	Drawing No.	Rev
	TS02A-10	5

TCS Staging Plan – Stage 2



4. This TCS design is to facilitate the construction of the Ultimate TCS layout (refer to Sheet 1A).
5. Construction Activities -
 - a) Install temporary posts 1, 2, 3, 7, 8 & 9.
 - b) Re-cut detectors 10 & 11 to ultimate location.
 - c) Re-cut detectors 5 & 8.
 - d) Detectors 2, 3, 4, 6, 7, 10 & 11 remain disconnected and disabled.
 - e) Install 'No Left Turn' Vehicles Under 20m Excepted' signs (size B) on posts 1 & 5.
 - f) Install 'No Right Turn' signs (Size B) on posts 4 & 7.
 - g) Lamp load installed on V3 & V6 controller terminals.
 - h) Signal groups V3, V6, V7, V8, V9, V10, V11, V12, P1, P2, P3 & P4 remain disconnected and disabled.
 - i) Phases 'B', 'E', 'E1' & 'E2' removed from SCATS.
 - j) Ensure V4 filter mode in 'A' phase is OFF.
 - k) Controller and supply are existing.
 - l) Existing personality to be used (Sheet TDL-1A).

TRANSPORT FOR NEW SOUTH WALES

BLACKTOWN COUNCIL AREA

TRAFFIC SIGNALS AT

WALLGROVE ROAD (MR515), SUBWAY ROAD AND

ACCESS ROAD

HORSLEY PARK

SIGN LAYOUT

EXISTING ☐		PROPOSED ☒	
CADD FILE: VV5058_TDL-2_A.dgn			
SCALE  (1:200)		ISSUE A	
FILE SF2020/139656		SUPERSEDES SHEET/ISSUE TDL-1/A	
REG No. DS2020/000569		TCS No. 5058	
		SHEET TDL-2	

Civil Staging Plan – Stage 3A

LEGEND

NEW TEMPORARY BARRIER (RED)

NEW LINE MARKING (RED)

EXISTING TEMPORARY BARRIER (BLUE)

EXISTING MARKING (BLUE)

SAFETY FENCE (ATF FENCE OF SIMILAR)

CONSTRUCTION ACCESS GATE

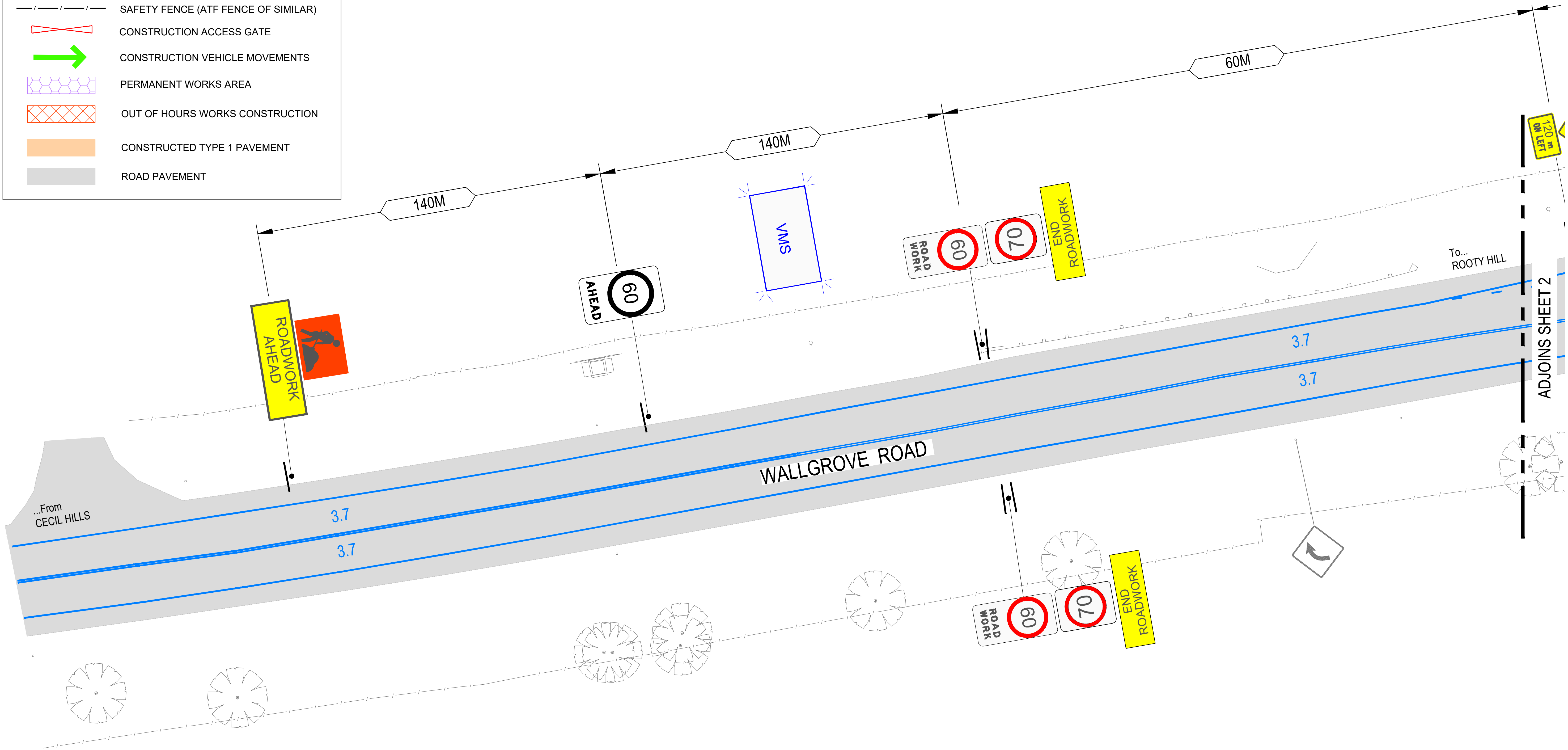
CONSTRUCTION VEHICLE MOVEMENTS

PERMANENT WORKS AREA

OUT OF HOURS WORKS CONSTRUCTION

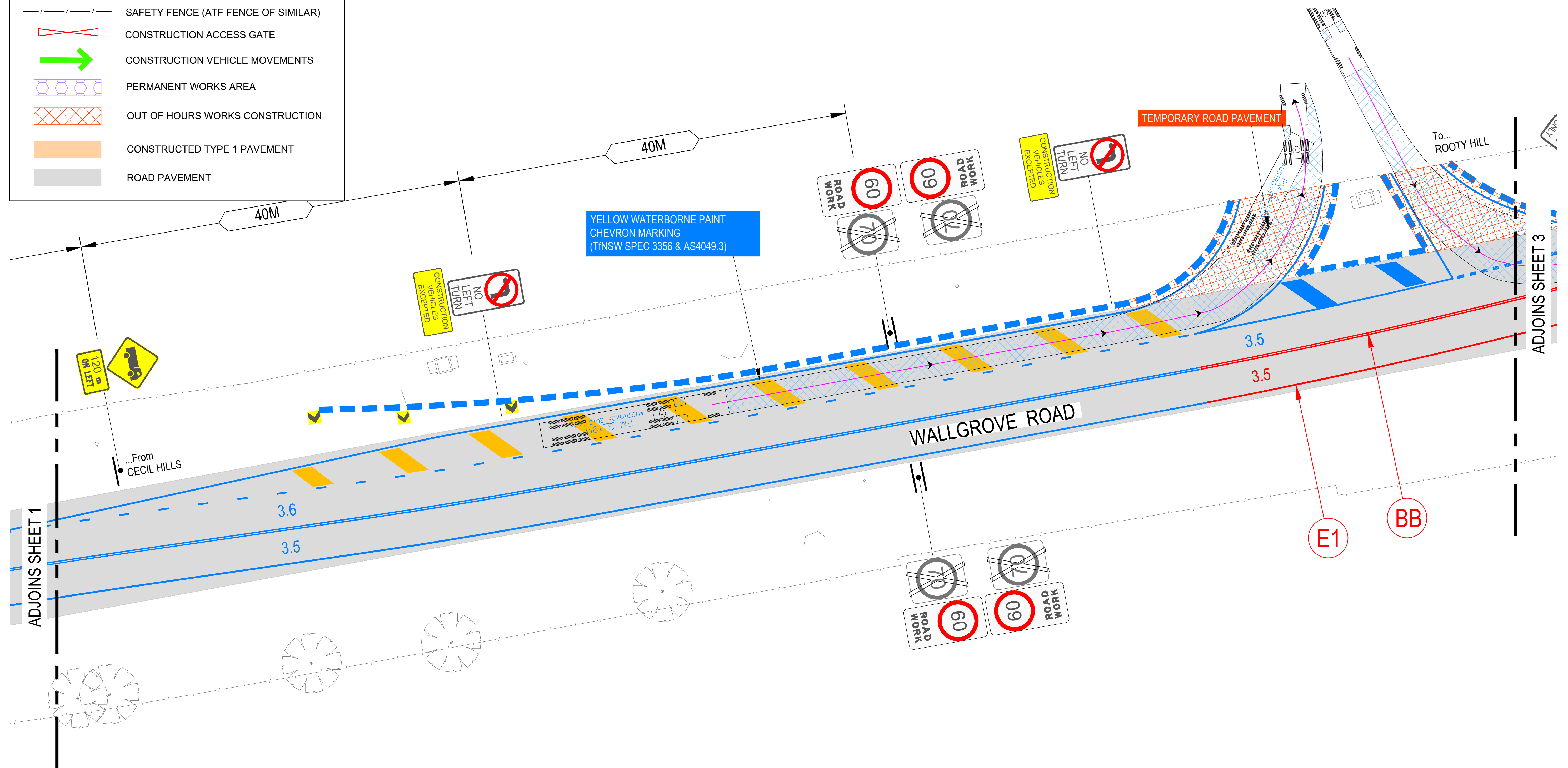
CONSTRUCTED TYPE 1 PAVEMENT

ROAD PAVEMENT



					Design	JKB	10/05/22	Contractor	APPROVED B-LINE DRAFTING 	Client	 Transport Roads & Maritime Services	Project	INTERSECTION UPGRADE AT WALLGROVE ROAD (MR 515), SUBWAY ROAD AND ACCESS ROAD HORSLEY PARK	Drawing Title	TRAFFIC STAGING PLAN STAGE 3A SHEET 1 OF 10	Drawing No.	TS03A-01	Rev	5
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					Drafting Check														
					Design Check														
					Final Approval														
5	19/08/22	JKB	-	TRUCK WARNING SIGN ADDED IN SUBWAY EXIT	Azimuth		MGA	Datum	AHD										
4	01/08/22	JKB	-	GATES RELOCATED, N/B BUS STOP ADDED, BREAK DOWN BAY ADDED															
3	16/05/22	JKB	-	PROPERTY ACCESS AT SOUTHERN EXTENT															
2	13/05/22	JKB	-	SOUTHERN TIE IN ADJUSTMENT															
1	10/05/22	JKB	-	STAGE 3A LAYOUT - EASTERN CONSTRUCTION															
Rev	Date	By	App	Amendment Details															

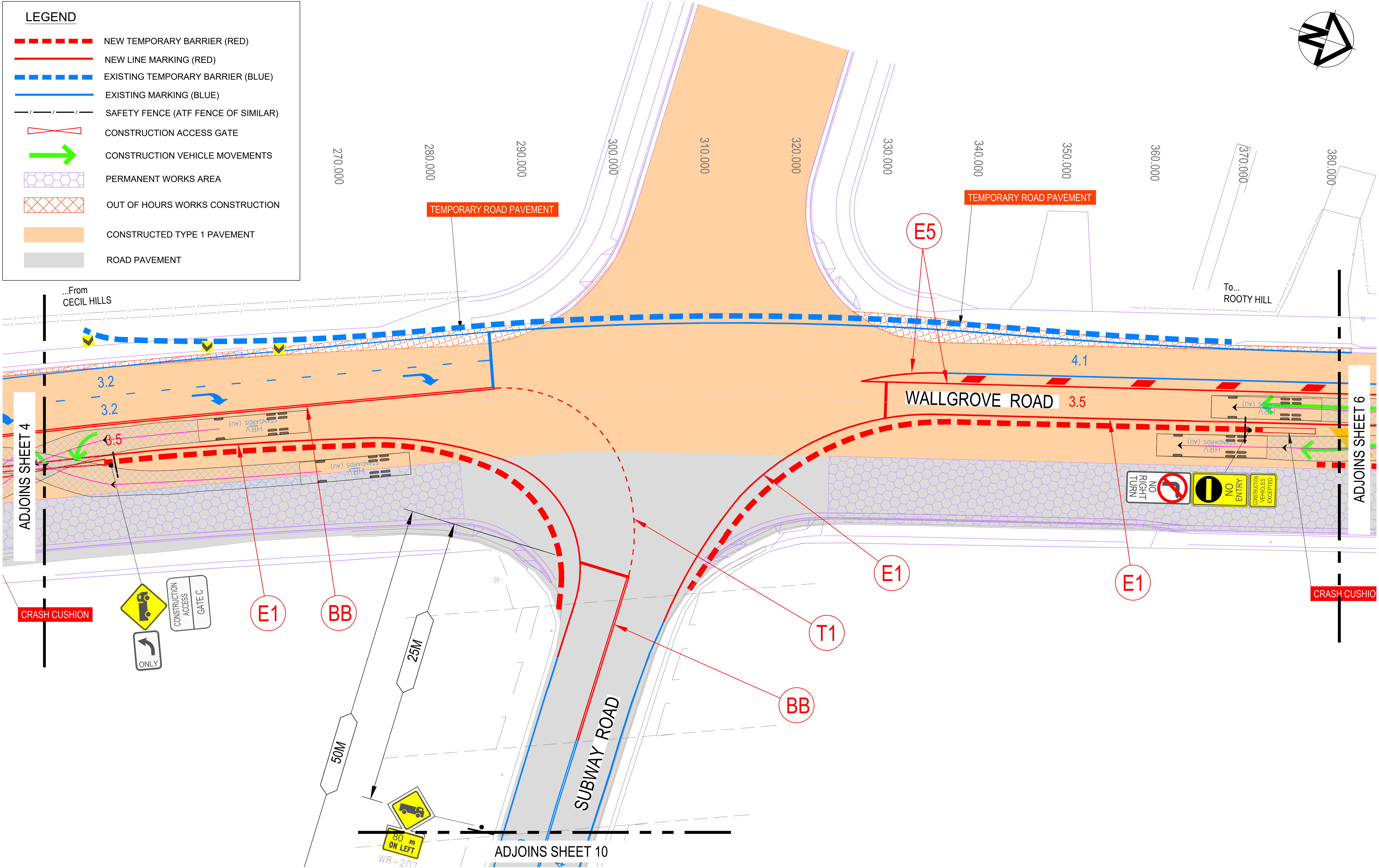
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	NEW LINE MARKING (RED)
	EXISTING TEMPORARY BARRIER (BLUE)
	EXISTING MARKING (BLUE)
	SAFETY FENCE (ATF FENCE OF SIMILAR)
	CONSTRUCTION ACCESS GATE
	CONSTRUCTION VEHICLE MOVEMENTS
	PERMANENT WORKS AREA
	OUT OF HOURS WORKS CONSTRUCTION
	CONSTRUCTED TYPE 1 PAVEMENT
	ROAD PAVEMENT

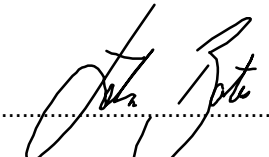


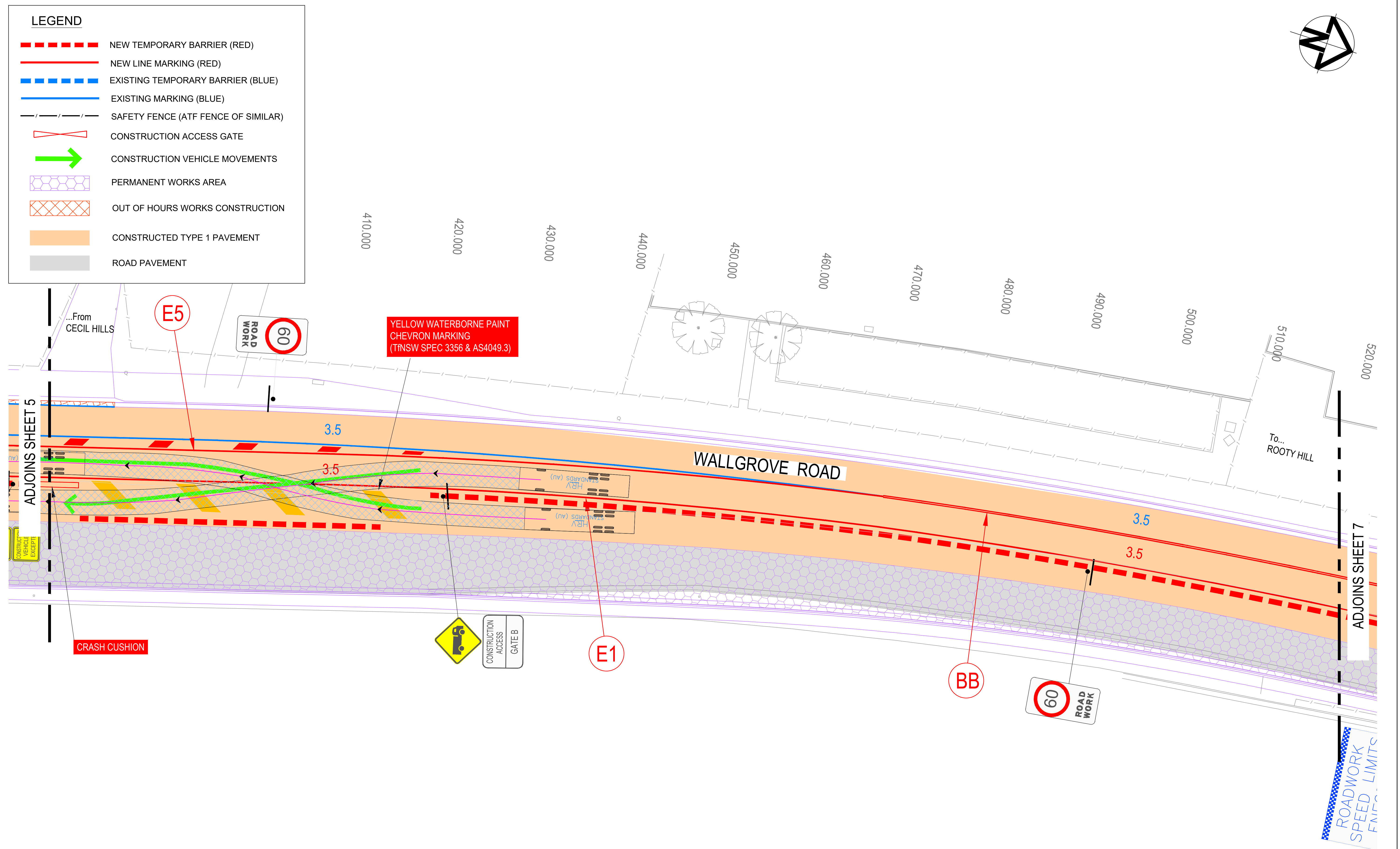
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					Drawn	JKB	10/05/22					STAGE 3A			
					Drafting Check						SHEET 2 OF 10				
5	19/08/22	JKB	-	TRUCK WARNING SIGN ADDED IN SUBWAY EXIT	Design Check						BURTON CONTRACTORS	SIGNED.....  DATE 16/05/22	Scale 5 0 5 10 (1:200)	Drawing No. TS03A-02	Rev 5
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2	13/05/22	JKB	-	SOUTHERN TIE IN ADJUSTMENT											
1	10/05/22	JKB	-	STAGE 3A LAYOUT - EASTERN CONSTRUCTION											
Rev	Date	By	App	Amendment Details	Azimuth	MGA	Datum	AHD							

LEGEND

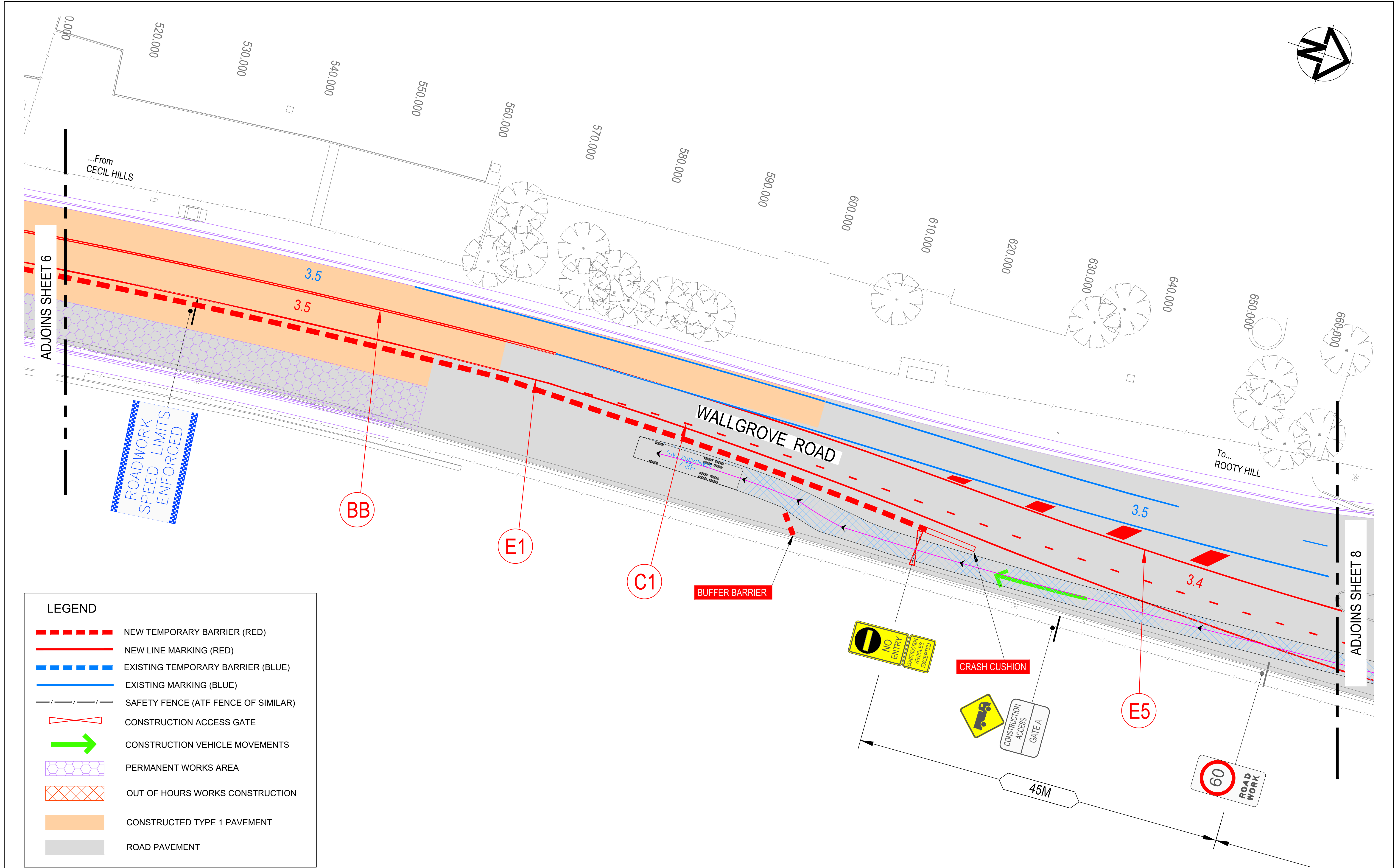
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- NEW LINE MARKING (RED)
- EXISTING TEMPORARY BARRIER (BLUE)
- EXISTING MARKING (BLUE)
- SAFETY FENCE (ATF FENCE OF SIMILAR)
- CONSTRUCTION ACCESS GATE
- CONSTRUCTION VEHICLE MOVEMENTS
- PERMANENT WORKS AREA
- OUT OF HOURS WORKS CONSTRUCTION
- CONSTRUCTED TYPE 1 PAVEMENT
- ROAD PAVEMENT



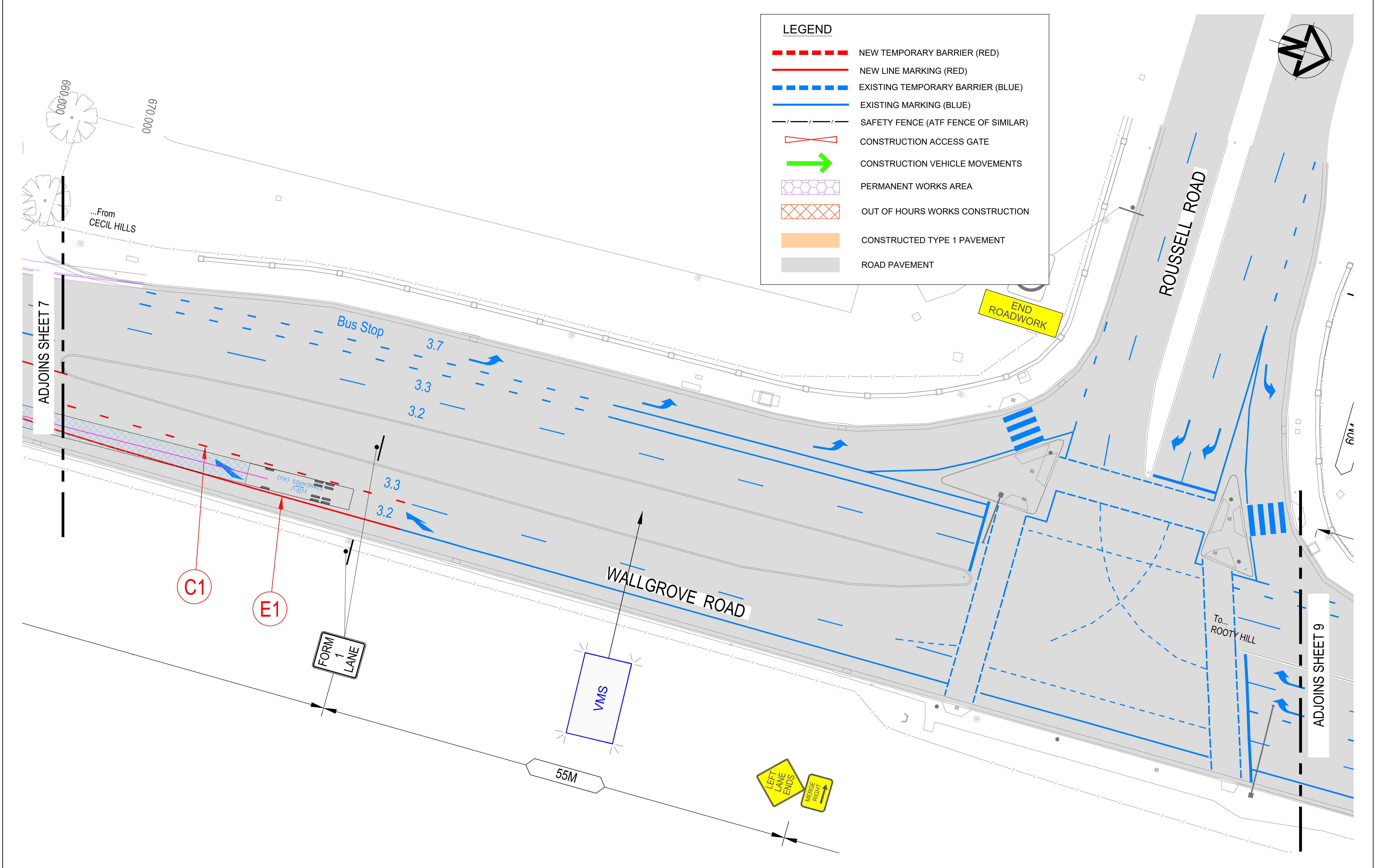
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				Design Check										
				Final Approval										
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4	01/08/22	JKB	-	GATES RELOCATED, N/B BUS STOP ADDED, BREAK DOWN BAY ADDED										
3	16/05/22	JKB	-	PROPERTY ACCESS AT SOUTHERN EXTENT										
2	13/05/22	JKB	-	SOUTHERN TIE IN ADJUSTMENT										
1	10/05/22	JKB	-	STAGE 3A LAYOUT - EASTERN CONSTRUCTION										
Rev	Date	By	App	Amendment Details				Azimuth MGA	Datum AHD					

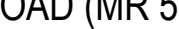


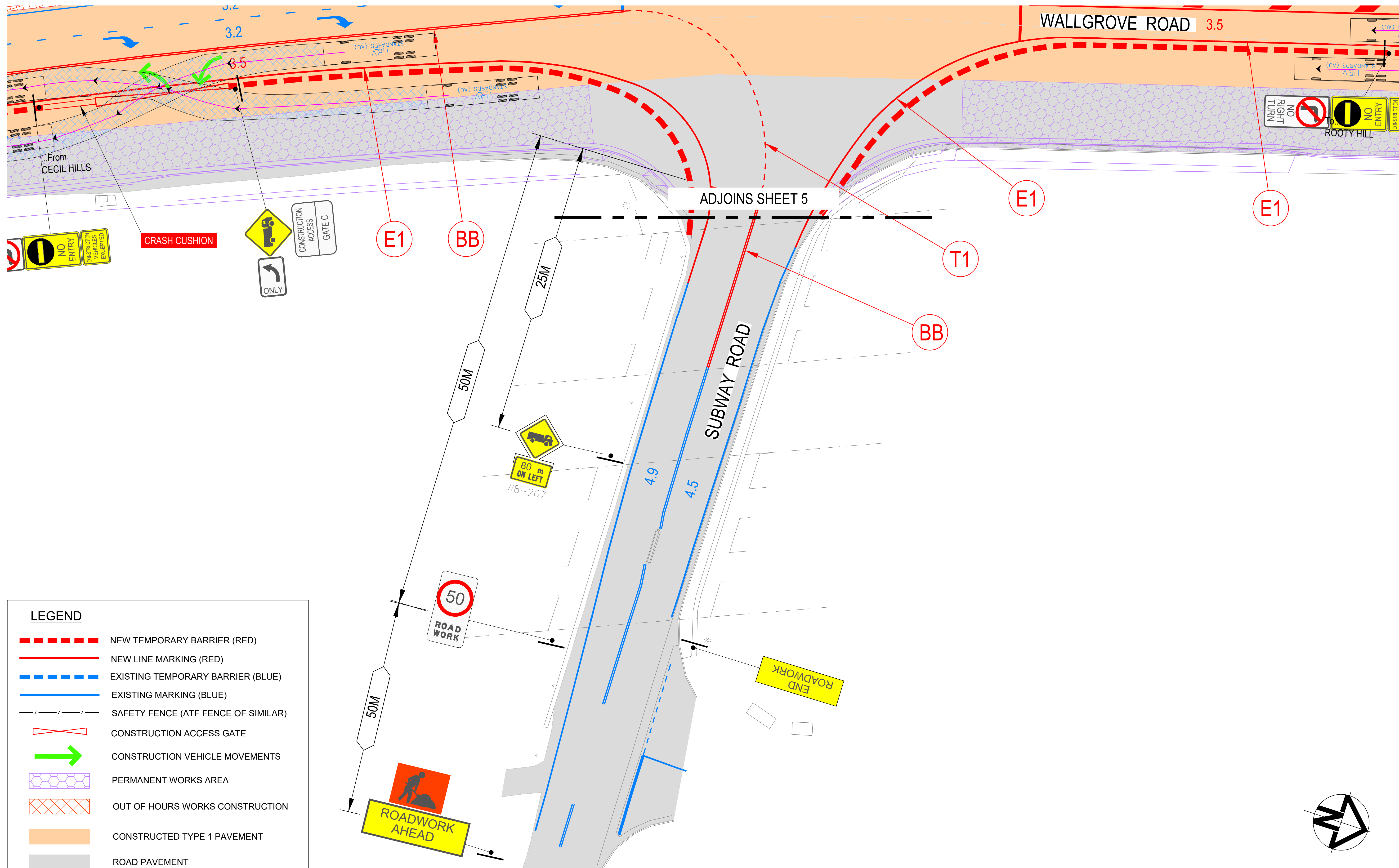
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4	01/08/22	JKB	-	GATES RELOCATED, N/B BUS STOP ADDED, BREAK DOWN BAY ADDED	Final Approval								
3	16/05/22	JKB	-	PROPERTY ACCESS AT SOUTHERN EXTENT									
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Rev	Date	By	App	Amendment Details	Azimuth	MGA	Datum						AHD



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					Design Check												
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1	10/05/22	JKB	-	STAGE 3A LAYOUT - EASTERN CONSTRUCTION													
Rev	Date	By	App	Amendment Details													

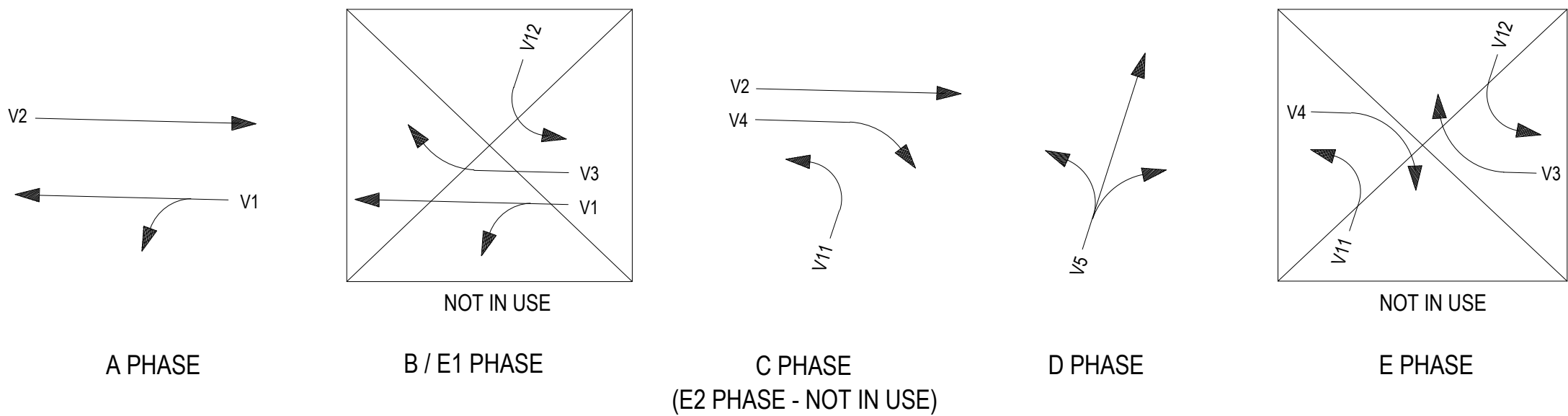


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				Drafting Check									
				Design Check									
				Final Approval									
5	19/08/22	JKB	-	TRUCK WARNING SIGN ADDED IN SUBWAY EXIT				BURTON CONTRACTORS					
4	01/08/22	JKB	-	GATES RELOCATED, N/B BUS STOP ADDED, BREAK DOWN BAY ADDED									
3	16/05/22	JKB	-	PROPERTY ACCESS AT SOUTHERN EXTENT									
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Rev	Date	By	App	Amendment Details				Azimuth MGA	Datum AHD				

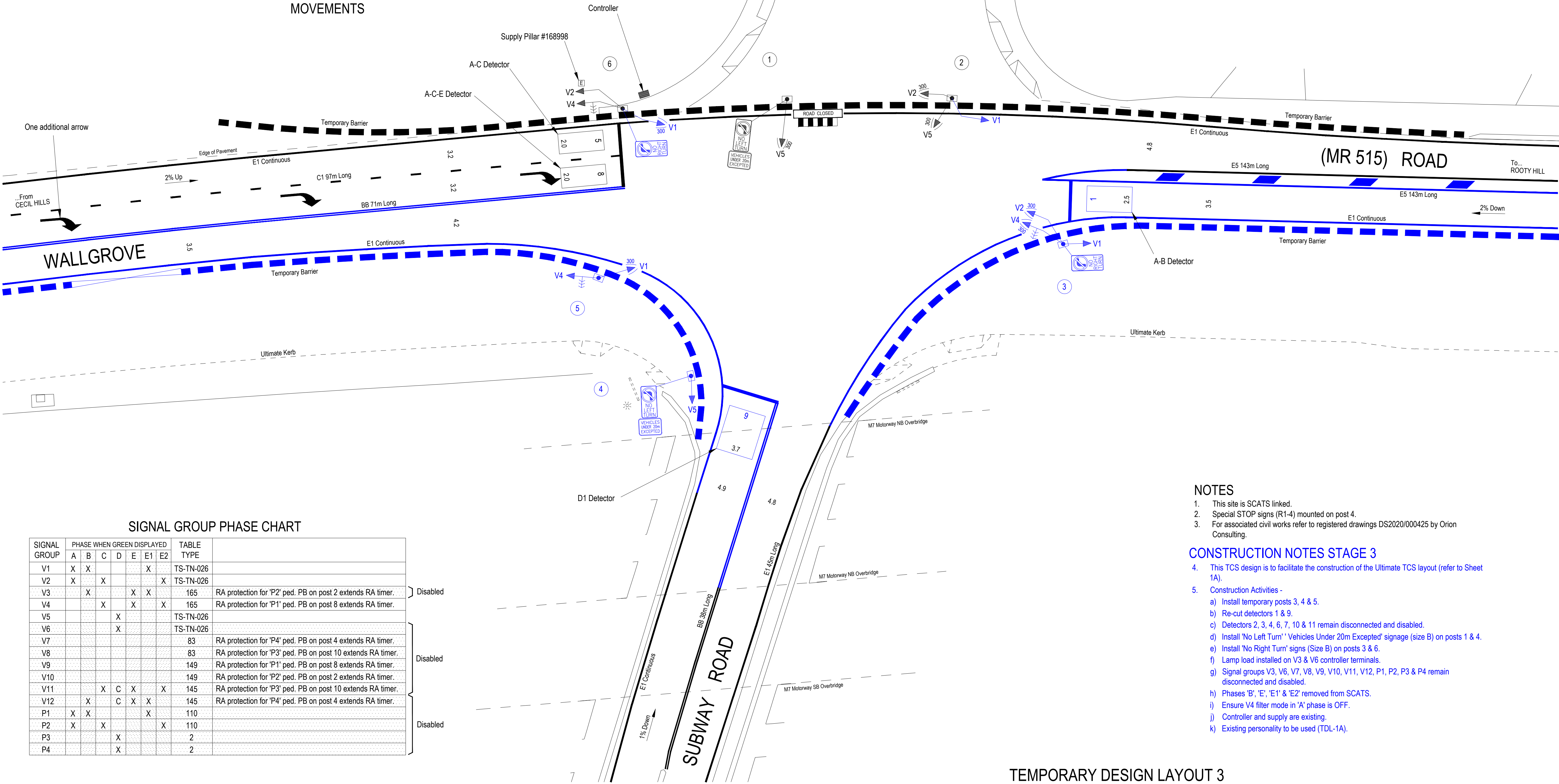


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					Drawn	JKB	10/05/22							
					Drafting Check									
					Design Check									
					Final Approval									
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4	01/08/22	JKB	-	GATES RELOCATED, N/B BUS STOP ADDED, BREAK DOWN BAY ADDED										
3	16/05/22	JKB	-	PROPERTY ACCESS AT SOUTHERN EXTENT										
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1	10/05/22	JKB	-	STAGE 3A LAYOUT - EASTERN CONSTRUCTION										
Rev	Date	By	App	Amendment Details										

TCS Staging Plan – Stage 3A



MOVEMENTS



POSTS					MGA CO-ORDINATES ZONE 56 / GDA1994	
POST	TYPE	LENGTH	OFFSET	REMARKS	EASTING	NORTHING
1	2	3.2	1.0	Existing (Temporary)	301196.772	6255570.256
2	2	3.2	1.0	Existing (Temporary)	301191.604	6255585.806
3	2	3.2	1.0	New (Temporary)	301201.983	6255600.805
4	2	3.2	1.0	New (Temporary)	301225.892	6255569.666
5	2	3.2	1.0	New (Temporary)	301219.481	6255557.892
Controller					301200.704	6255556.548

SIGNAL GROUP PHASE CHART

SIGNAL GROUP	PHASE WHEN GREEN DISPLAYED						TABLE TYPE	
	A	B	C	D	E	E1 E2		
V1	X	X			X		TS-TN-026	
V2	X		X			X	TS-TN-026	
V3		X		X	X		165	RA protection for 'P2' ped. PB on post 2 extends RA timer.
V4			X		X	X	165	RA protection for 'P1' ped. PB on post 8 extends RA timer.
V5				X			TS-TN-026	
V6				X			TS-TN-026	
V7							83	RA protection for 'P4' ped. PB on post 4 extends RA timer.
V8							83	RA protection for 'P3' ped. PB on post 10 extends RA timer.
V9							149	RA protection for 'P1' ped. PB on post 8 extends RA timer.
V10							149	RA protection for 'P2' ped. PB on post 2 extends RA timer.
V11			X	C	X	X	145	RA protection for 'P3' ped. PB on post 10 extends RA timer.
V12		X		C	X	X	145	RA protection for 'P4' ped. PB on post 4 extends RA timer.
P1	X	X				X	110	
P2	X		X			X	110	
P3				X			2	
P4				X			2	

NOTES

- This site is SCATS linked.
- Special STOP signs (R1-4) mounted on post 4.
- For associated civil works refer to registered drawings DS2020/000425 by Orion Consulting.

CONSTRUCTION NOTES STAGE 3

- This TCS design is to facilitate the construction of the Ultimate TCS layout (refer to Sheet 1A).
- Construction Activities -
 - Install temporary posts 3, 4 & 5.
 - Re-cut detectors 1 & 9.
 - Detectors 2, 3, 4, 6, 7, 10 & 11 remain disconnected and disabled.
 - Install 'No Left Turn' 'Vehicles Under 20m Excepted' signage (size B) on posts 1 & 4.
 - Install 'No Right Turn' signs (Size B) on posts 3 & 6.
 - Lamp load installed on V3 & V6 controller terminals.
 - Signal groups V3, V6, V7, V8, V9, V10, V11, V12, P1, P2, P3 & P4 remain disconnected and disabled.
 - Phases 'B', 'E', 'E1' & 'E2' removed from SCATS.
 - Ensure V4 filter mode in 'A' phase is OFF.
 - Controller and supply are existing.
 - Existing personality to be used (TDL-1A).

TEMPORARY DESIGN LAYOUT 3

A ORIGINAL ISSUE

PUBLIC UTILITY LEGEND		REFERENCE PLANS	
HYDRANT	□	SYMBOLS/ABRVS	VD003-6
STOP VALVE	▲	STD POSN CMPT	VD001-5
GAS VALVE	±	INSTL STOP DET	VC005-17
SEWER MANHOLE	⊕	VEH GROUP OP	TS-TN-019
COMMS PIT	⬢	DET LOGIC OP	TS-TN-020
ELECT LIGHT POLE	○	PED MVT OP	TS-TN-021
POWER POLE	○	SDO	TS-TN-026
STAY POLE	⊙		
TELEPHONE BOX	⊞	SURVEYOR : Orion Consulting	
COMMS PILLAR	●	DATE : 2019	

U.B.D. Ref.	Map 207 GT
I.S.G.	E : 313 919
CO-ORDS N :	1 242 520
DESIGNED : R BATES	
CHECKED : J BATES	
J BATES	
SITE CHECKED	
J BATES	
RECOMMENDED	

DESIGN APPROVAL	
APPROVED	
NAME	
POSITION	MANAGER
DATE	17/05/22
DESIGN PREPARED BY	B-Line Drafting on behalf of Burton

TFNSW RECOMMENDATION	
ROAD DESIGN ENGINEERING	
NAME	
POSITION	
DATE	
NETWORK OPERATIONS	
NAME	Neil C. Leitch
POSITION	W. P. C. A. L.
DATE	7/06/2022

TFNSW ACCEPTANCE	
ACCEPTED	
NAME	Neil C. Leitch
POSITION	W. P. C. A. L.
DATE	7/06/2022
ACCEPTED BY	
Network Operations	
SECTION	

TRANSPORT FOR NEW SOUTH WALES	
BLACKTOWN COUNCIL AREA	
TRAFFIC SIGNALS AT	
WALLGROVE ROAD (MR515), SUBWAY ROAD AND	
ACCESS ROAD	
HORSLEY PARK	
DESIGN LAYOUT	

EXISTING		PROPOSED	
CADD FILE:	VV5058_TDL-3_A.dgn		
SCALE	5 0 10 (1:200)	ISSUE	A
FILE	SF2020/139656	SUPERSEDES SHEET/ISSUE	TDL-2/A
REG No.	DS2020/000569	TCS No.	5058
		SHEET	TDL-3

Annexure D – Traffic Risk Assessment

Current Revision – Rev 2

SECTION 1: PROJECT DETAILS and RISK ASSESSMENT DEVELOPMENT & AUTHORISATION							
Project:	Wallgrove Road Intersection Upgrade	Project No:	423	Date TRA Developed:	27/04/2022	Developed by (name):	Nibraas Ahmad

REVISION CONTROL											
Revision:	0	Date:	27/04/2022	Revised by (name):	Nibraas Ahmad	Revision:		Date:		Revised by (name):	
Revision:	1	Date:	21/06/2022	Revised by (name):	Alex Ruello	Revision:		Date:		Revised by (name):	
Revision:	2	Date:	08/08/2022	Revised by (name):	Alex Ruello	Revision:		Date:		Revised by (name):	
Revision:		Date:		Revised by (name):		Revision:		Date:		Revised by (name):	

SECTION 5: RISK ASSESSMENT		
What is an ACTIVITY? An activity is the construction task being undertaken. E.g. Operation of an articulated dump truck to transport material on site. What is a HIGH RISK ACTIVITY? A high risk activity requires a worker to a hold licence, competency or Burton Contractors work permit/approval to perform the activity. This is due to the hazardous nature of the work. What is a HAZARD? A hazard is anything that could cause harm. E.g. Articulated dump truck tray rolling over while transporting material on site. What is a RISK? A risk is the assessment and determination of likelihood and consequence of the hazard occurring. E.g. crush injury to operator or nearby pedestrian from articulated dump truck tray rolling over. Using the Risk Matrix, allocate the Risk Score based on the consequence – e.g. permanent disability / fatality, and likelihood – e.g. likely to occur. The Risk Score is where the two points intersect – for this example it is a 3. The risk must be assessed before control measures are applied, and again after control measures are applied to verify if the risk has been eliminated or reduced.	Hierarchy of Controls Burton Contractors employs a Hierarchy of Controls which is split into 3 levels of control. Each level describe the ways in which a risk can be controlled. The higher the level of control, the greater level of protection and reliability is provided in effectively controlling the risk. The most effective form of control is elimination, however where this is not possible, a combination of Level 2 and/or 3 controls must be applied to minimise the risk. Risk Matrix The risk matrix provided below is used to distribute risks into four categories – Critical, High, Medium and Low. A task with an identified risk of Critical must not proceed. The Project Manager must escalate the high risk activity with Construction Manager & QSE Team Leader to identify strategies to reduce risk or where Director approval is required where risk cannot be lowered to acceptable level. For further information on either the Hierarchy of Controls or the Risk Matrix of please consult Burton Procedure PR-007 Risk Management or the QSE Department.	How to look for hazards: A simple way to begin looking for hazards can be by dividing your workplace into logical workplace groupings, such as: - Task hazards (working on machines, loading the truck, excavating around services, tools / equipment / material used for the task); - Workplace hazards (road works, in and around schools and playgrounds, depth and location of excavations, surrounding works); - Environmental hazards (weather conditions – strong wind, rain, extreme heat); There are many other activities that can be undertaken to help with identifying hazards. These include: - Walking through and inspecting each task or location; - Consulting with workers. Ask about any problems they have encountered or how the job should be carried out safely; - Consider the following: - How people use equipment and materials; - How suitable the equipment used for the task is; and - How people could be injured directly and indirectly by the various workplace hazards.

		CONSEQUENCE			
		CRITICAL	HIGH	MEDIUM	LOW
LIKELIHOOD	Almost certainly will occur	1	2	4	7
	Likely to occur	3	5	8	11
	Possibility to occur	6	9	12	15
	Unlikely to occur	10	13	16	18
	Could occur rarely	14	17	19	20
Injury		Permanent disability / Fatality	Hospitalisation / <6 months lost time injury.	>6 months lost time injury / Medical treatment injury.	First aid – No lost time injury.
Environmental		Unplanned event likely to cause significant long term environmental impact and require an extensive rehabilitation.	Unplanned event likely to cause a serious environmental impact and require rehabilitation.	Unplanned event likely to cause a minor environmental impact and require rehabilitation.	Negligible unplanned event immediately contained and recovered within control system. No environmental impact.
Property / Plant		>\$50k. Major damage or total loss.	\$10k – \$50k. Significant damage.	\$2k-\$10K. Minor damage.	<\$2k. Very minor damage
Stakeholders		Significant adverse national public, media attention. Major litigation likely. Licence to operate threatened.	Significant adverse local, public, media attention. Serious Regulatory breach Prosecution/fine likely.	Minor adverse local, public or media attention. Significant scrutiny from Regulator, Minor prosecution or litigation possible.	Public concerns restricted to local complaints. Ongoing scrutiny from Regulator, prosecution unlikely.

RISK SCORE	CATEGORY
1 – 6	Critical
7 – 10	High
11 – 14	Medium
15 – 20	Low

A task with an identified risk of **Critical must not proceed**. The Project Manager must escalate the high risk activity with Construction Manager & QSE Team Leader to identify strategies to reduce risk or where Director approval is required where risk cannot be lowered to acceptable level.

Likelihood	Definition	Frequency Scale
Almost certainly will occur	Would expect the event to occur every time the activity is undertaken (daily), >90% of the time the activity is undertaken.	Every day
Likely to occur	Would expect the event to occur at least once a week if the activity was done regularly, 60 – 90% of the time the activity was undertaken.	Every week
Possibility to occur	Would expect the event to occur once per month if the activity was done regularly, 30 – 60% of the time the activity was undertaken.	Every month
Unlikely to occur	Would expect the event to occur once during the project <30% of the time the activity was undertaken.	Duration of project
Could occur rarely	Would expect the event to occur only in exceptional circumstances <5% of the time the activity was undertaken whether performed regularly or infrequently.	Duration of project

HIGH

▲

LEVEL OF PROTECTION

▼

LOW

LEVEL 1

Eliminate the hazard

▼

LEVEL 2

Substitute the hazard

Isolate the hazard

Implement engineering controls

▼

LEVEL 3

Administrative controls (e.g. signs)

Personal Protective Equipment (PPE)

▲

RELIABILITY OF CONTROLS

▼

LEAST

			- Monitor fire and modify actions accordingly	
Damage to utilities	11	ISOLATE ENGINEERING ADMINISTRATIVE	- Ensure Dial Before You Dig procedures are in place and implemented. Obtain Permit to Excavate Record prior to commence work. Obtain relevant spotters if required for High Risk services - Implement Working around Utility / Excavation SWMS. - Notify emergency services and relevant utility authority if any damage occurred. If required, isolate the incident area. - If required, implement traffic control measures at the incident scene, and notify FCC/BCC/TfNSW/CJM. - Report on incident for input into review process (preventive action). - Traffic lanes shall be made to operational as soon as road occupancy repair works completed. - Steel plates to be on site for road crossings, to be implemented to M209 spec.	18
Dust	11	SUBSTITUTE ISOLATE ENGINEERING ADMINISTRATIVE	- Monitor weather bureau websites and notices. - Where necessary liaise with emergency services agencies, BCC/FCC/TMC. - Implement CEMP relevant Air Quality Management sub-plan for weather condition. Minimise dust build-up within the work areas. - If the road network is affected notify BCC/FCC/TMC. - Remove any current short-term traffic control operations and limit the use of Traffic Controllers. - As required, install appropriate traffic controls and or advance warning signs to warn of hazard. - Monitor storm and review controls accordingly.	15
Early Construction Start Time	8	ELIMINATE SUBSTITUTE ADMINISTRATIVE	- Plan all works to avoid working outside of daylight hours. Obtain relevant approvals from agencies. - Assess the impacts on the community and road users. - Follow processes outlined in the CCL Plan to ensure stakeholders are provided with advance notice. - Utilise VMS to notify the motorists of any changed traffic conditions. - Implement appropriate traffic controls to minimise impact on the road network, including the operation of bus services.	15
Night Works	5	SUBSTITUTE ISOLATE ENGINEERING ADMINISTRATIVE	- Night work is generally high risk by the nature of the work – ensure Construction Manager & QSE team Leader are aware of scheduled night works - Refer to General Mobile Plant Controls. - ROL & TCP for work - Prior notification to residents of work. Night shifts not to exceed parameters outlined in the OOHW permit approval - Set up detour as per TCP - Sufficient lighting required for work - Ground workers to be in white overalls for visibility - Monitor queuing of traffic - Pos comms for traffic controllers - Pos comms for excavator operator & truck driver	13
End of queue management (local roads only)	11	SUBSTITUTE ISOLATE ENGINEERING ADMINISTRATIVE PPE	- Review traffic volumes to estimate end of queue location for the proposed stoppage time. - Notify road users about the expected delays. - Install VMS as required to notify and warn approaching traffic. - In addition to the standard TCP, implement end of queue traffic controls as per section - Consult and follow 4.6 of the TCAWS v06.1 manual. - Develop contingency plans for a stoppage 10 minutes and more. - Additional daymakers to be installed on queue approach as required	15
Extreme (high/low) temperature	12	ELIMINATE SUBSTITUTE ADMINISTRATIVE	- Monitor weather bureau website and notices. - Ensure staff are provided with adequate water and resources to mitigate dehydration. Reschedule works to avoid extreme temperature periods. - During hot weather periods, limit the length of short term stoppages on the road network, and ensure water is available on site. - When traffic controllers are in operation, ensure they are provided with appropriate PPE, water and relieved at regular frequencies. - Regular inspect the road network adjacent to works. Monitor weather conditions.	15
Fog	12	ELIMINATE	- No work shall be undertaken in fog unless appropriate sight distance is available.	15

		ADMINISTRATIVE	- Keep the traffic lanes and shoulder clear all the time. - Monitor conditions regularly and be prepared for changes in weather. Flashing yellow lamps shall be mounted on warning signs. - Rotating flashing yellow lamps shall be mounted on all construction plant and vehicles. - Install RRPMS and delineation devices along all temporary works	
General Media Misinformation	12	ELIMINATE ADMINISTRATIVE	- Construction staff to be instructed not to provide comments to media or political enquiries. - Construction staff to be instructed to record the name, organisation and mobile number of the media contact and immediately contact their supervisor. - Liaise regularly with stakeholders. - Provide a single point of contact for the project. - Release regular project updates and information to stakeholders. Monitor feedback and the various media to identify trends.	15
Haulage Operations	13	ELIMINATE SUBSTITUTE ISOLATE ENGINEERING ADMINISTRATIVE PPE	- Plan all routes to maximise safety and minimise impact on the road network. - Comply with the haulage operation requirements stipulated within the Traffic Management Plan. - Prepare and implement specific Vehicle Movement Plans and associated Traffic Guidance Schemes. - Coordinate haulage operations and road occupancies. - Monitor haulage routes and review Vehicle Movement Plans as required. As a contingency, identify suitable alternative routes.	16
Heavy Vehicle Breakdown	12	SUBSTITUTE ISOLATE ENGINEERING ADMINISTRATIVE PPE	- If the vehicle is obstructing travel lanes, notify BCC/FCC/TMC immediately. - Where possible, provide initial response and install traffic controls to make site safe.	16
High Volumes of heavy vehicles	15	ELIMINATE SUBSTITUTE ISOLATE ENGINEERING ADMINISTRATIVE	- Give consideration of the high percentage of heavy vehicles during the construction phase. - Plan all works to avoid restrictions, impacts and speed limit reductions overnight during peak heavy vehicle periods. - Provide a high standard of traffic controls to warn, inform and guide heavy vehicles through the work areas. - Implement temporary works that comply with the TfNSW's Road Design Guide, provide a safe road environment, and accommodate the movements of heavy vehicles.	18
Impacts to Emergency Services	11	SUBSTITUTE ISOLATE ENGINEERING ADMINISTRATIVE	- Design and implement emergency service accesses in all phases of construction. - Inform and regularly update emergency services in regards to the site gates and accesses. - Consult with emergency services on access restrictions and alternative arrangements. Provide 24 hour contact number to all emergency services.	15
Increased traffic generated by project	11	ELIMINATE SUBSTITUTE ISOLATE ENGINEERING ADMINISTRATIVE	- Estimate the potential traffic generated by the project. - Review existing traffic volume with increased project generated volume to determine the potential impact it will have on the road network. - Give consideration to the potential increased traffic volumes when preparing the TCP's. Where required, modify traffic controls to accommodate increased traffic volumes. - Monitor the road network and implement traffic management solutions, as required to maintain the performance of the road network.	15
Localized and flash flooding	4	ELIMINATE SUBSTITUTE ISOLATE ENGINEERING ADMINISTRATIVE	- Consult Burton generated Flood Contingency Plan. - Implement Incident Emergency Spill Plan. Support Emergency Services Agencies. - If the road network is affected notify BCC/FCC/TMC. - Where required, assist with the removal of drainage obstructions. - Where possible, install appropriate traffic controls and or advance warning signs to warn of hazard. - Monitor flood levels and review controls accordingly.	12
Major Congestion	8	ELIMINATE SUBSTITUTE ISOLATE ENGINEERING	- Analyse possible impacts due to works, using traffic modelling where necessary and analyse, to identify issues. - Develop traffic schemes to mitigate congestion where possible. Program works during low traffic periods. - Through Traffic Management Plan process, and information signage, alert public to likely congestion and delays. - Monitor road network for congestion, review traffic management measures where required.	12

		ADMINISTRATIVE		
Major Incidents	8	ELIMINATE SUBSTITUTE ISOLATE ENGINEERING ADMINISTRATIVE PPE	- Maintain regular contact and liaison with BCC/FCC/TMC. - Ensure procedures are in place to deal with the various types of incidents. - Monitoring of the roads will identify unsafe road conditions, unplanned incidents, non- conforming traffic control measures and unusual congestion. - When required use appropriate traffic control measures, including traffic controllers, signage, pavement markings and lighting. - TCPs to be designed and installed in accordance with TCAWS manual. Establish and implement TCPs. - Report on incident to input into review process (preventative action).	12
Minor Vehicle Crashes	9	ELIMINATE SUBSTITUTE ISOLATE ENGINEERING ADMINISTRATIVE PPE	- If an unplanned incident occurs, notify emergency services. - Assist in providing a high standard of traffic controls to warn, inform and guide motorists, through the work areas. - Implement temporary works that comply with the TfNSW Road Design Guide, and provide a safe road environment. - Where possible, provide initial response and install traffic controls to make site safe and assist vehicle occupants. - Support emergency services.	12
Public transport disruptions	9	ELIMINATE SUBSTITUTE ISOLATE ENGINEERING ADMINISTRATIVE	- Consult regularly with public transport operators with regard to proposed changes to public transport arrangements, alternative arrangements need to be agreed with Operator. - Install temporary information signage to inform public transport users of changes to services and new stop locations and routes. - Provide information for public transport operators for call centres and websites regarding changes to services.	12
Seasonal traffic variations – school holidays, public holidays	15	ELIMINATE SUBSTITUTE ISOLATE ENGINEERING ADMINISTRATIVE	- Maintain regular contact and liaison with TMC and Local Police Command. - Schedule work, if possible to avoid conflict with seasonal traffic increases or conversely to utilise quieter periods to benefit project activities for road related matters.	18
Tracking debris onto travel lanes	8	ELIMINATE SUBSTITUTE ISOLATE ENGINEERING ADMINISTRATIVE	- Install primary environmental controls to prevent tracking onto roadways. - When required, apply secondary controls (water carts, street sweepers) to remove debris from the road surface. - Traffic Control Site Manager to conduct daily inspection and monitoring of road surface conditions, if necessary to assist traffic control to make safe until debris cleared. - Report on incident for input into review process (preventive action)	12
Traffic control at work site	9	ELIMINATE SUBSTITUTE ISOLATE ENGINEERING ADMINISTRATIVE	- Implement a high standard of traffic controls to warn, inform and guide motorists through the work areas. - Develop TGSs in accordance with TfNSW TCAWS, G10 and AS 1742.3 requirements. - Long term TGSs to be prepared by SafeWorkNSW ‘Prepare traffic management plans and traffic guidance schemes’ ticket holder along with ‘Carry out risk management process’ ticket holder - Ensure all staff and subcontractors are trained and certified as competent persons to perform any traffic control task. - Site Management Team to conduct regular inspections of traffic controls and assist to rectify minor deficiencies. - Conduct regular inspections and audits. - Review traffic controls to suit changes to site conditions. Rectify any deficiencies as a matter of urgency.	12
Unknown Oversize Load Transport	13	ELIMINATE SUBSTITUTE ISOLATE ENGINEERING ADMINISTRATIVE	- Instruct staff to be on the lookout for over dimension loads approaching the work areas, and where required modify the travel paths accordingly. - When the over dimension movement seems to be in breach of the TfNSW requirements, record vehicle details and notify TMC. - If the vehicle is considered a safety hazard to other road users notify the police.	16
Reduced Lane Widths (where and if utilised)	8	ELIMINATE SUBSTITUTE ISOLATE	- Reduce speed limit throughout site from 60km/h to 40km/h during night works - Provide advanced warning signage / notification of changed traffic conditions - 3.0m lane widths are to be maintained at a minimum and conforming with AGRD	12

		ENGINEERING ADMINISTRATIVE	- Swept paths to be considered for all turns within the work zone if affecting turning paths	
Reduction in edge clearance from 0.5m to 0.3m Risks Include Cyclist Collision Narrow shoulder/cycleway Reduce breakdown facilities Hampered turn paths Narrow carriageway Increased shyline effect	8	ELIMINATE SUBSTITUTE ISOLATE ENGINEERING ADMINISTRATIVE	- Provide advanced warning signage / notification of changed traffic conditions - Swept paths to be considered for all turns within the work zone and included on staging plans showing the type of vehicle size permitted. Turn paths must not conflict or cross line marking or intersect other turn paths for concurrent vehicle movements (ie at traffic lights) - Lane geometry is to be drafted and designed by a Traffic Engineer to ensure that vehicles can safely travel through the worksite. - Ensure appropriate sight distances are observed and factored for B Double haul routes - Deflection behind concrete barriers to be compliant to manufacturer standards - Reduce existing speed limit from 70km/h down to 60km/h - Provide alternate path provisions or detour routes for cyclists through areas of reduced edge clearance. - Alternate routes or path provisions to have clear advanced signage to direct cycle traffic - Alternate routes to be clear of trip hazards, safely delineated, have sufficient lighting, be wheelchair compliant, have sufficient sight distances for vehicles and pedestrians and be accessible at all times and to all pedestrian push buttons. - Provide generally 3.5m wide lanes for increased travel lane where edge clearance has been reduced from 0.5m to 0.3m - Provide appropriate facilities for potential vehicle breakdowns to allow for continued traffic flow - Undertake independent Road Safety Audit after barrier installation where reduced edge clearances are present - Provide long continuous barrier lengths / runs in staging plans to reduce shy line effects by reducing number of gates / breaks in barrier runs - Maintain consistent offset of barriers from line marking to reduce driver reaction to isolated objects or features	12

APPLICABLE LEGISLATION, STANDARDS, CODES OF PRACTICE AND GUIDANCE MATERIAL				
Hazard/Risk	Legislation	Standard	Codes of Practice	Guidance Materials
1. Legal Compliance	WHS Act 2011 Part 2 Division 3 WHS Regulation 2017 Chapter 6 Part 6.3 & Part 6.4 Workplace Injury Management & Workers Compensation Act 1998 (NSW) Workplace Injury Management & Workers Compensation Regulation 2002 (NSW) Workers Compensation Act 1987 (NSW) Workers Compensation Regulation 2016 (NSW) Workers' Compensation (Dust Diseases) Act 1942 (NSW) Workers' Compensation (Dust Diseases) Regulation 2013 (NSW)	AS 4801 Occupational Health and Safety Management Systems ISO 9001 Quality Management Systems	COP: How to manage work health and safety risks COP: Work health and safety consultation, coordination and cooperation COP: Construction work	Guidelines for Health Surveillance – NOHSC
2. Emergency Management	WHS Act 2011 Part 3 WHS Regulation 2017 Chapter 3 Part 3.2 Division 4 Workplace Injury Management & Workers Compensation Act 1998 (NSW) Workplace Injury Management & Workers Compensation Regulation 2002 (NSW) Workers Compensation Act 1987 (NSW) Workers Compensation Regulation 2016 (NSW) Workers' Compensation (Dust Diseases) Act 1942 (NSW) Workers' Compensation (Dust Diseases) Regulation 2013 (NSW)	AS 1885.1 Workplace injury and disease recording standards AS 1319 Safety signs for the occupational environment AS 3745 Planning for emergencies in facilities AS 1851 Maintenance of fire protection systems and equipment	COP: First aid in the workplace COP: Managing the work environment and facilities COP: Work health and safety consultation, coordination and cooperation COP: Construction work	
3. Plant and Equipment	WHS Act 2011. Part 2. Division 3 WHS Regulation 2017 Chapter 5 Part 5.1 Division 7	AS 2294 Earth-Moving Machinery - Protective Structures HB 9 Occupational Personal Protection AS 1418 Cranes, hoists and winches AS 2294 Earthmoving machinery – Protective structures AS 2359 Powered industrial trucks AS 2550 Cranes, hoists and winches – safe use AS 2958 Earthmoving Machinery – Safety –Wheeled machines	COP: Excavation work COP: Managing the risks of plant in the workplace Moving plant on construction sites code of practice Work near overhead power lines code of practice COP: Demolition work COP: Construction work	SWA - Working in the vicinity of overhead and underground electric lines - Guidance material SWA - Cranes guidance material SWA Information sheet - Using powered mobile plant as a crane Guidelines for Integrating OHS into National Industry Training Packages - NOHSC Guidelines for OHS Competency Standards for the Operation of

APPLICABLE LEGISLATION, STANDARDS, CODES OF PRACTICE AND GUIDANCE MATERIAL				
Hazard/Risk	Legislation	Standard	Codes of Practice	Guidance Materials
		AS 4024 series - Safety of Machinery AS 4987 Earth-Moving Machinery - Tip-over protection structure (TOPS) for compact excavators AS 4991 Lifting devices ISO 8643:1997: Earthmoving machinery–Hydraulic excavator and backhoe loader boom-lowering control device–Requirements and tests. AS 1788.2 Abrasive Wheels - Selection, care and use AS/NZS 3947.3 Low voltage switchgear and control gear, switches, disconnectors, switch-disconnectors and fuse combination units AS 61508.6 Functional safety of safety related systems AS 62061 Safety of machines: Functional safety of safety related electrical, electronic and programmable electronic systems ISO 13849.1 Safety of machinery: Safety-related parts of control systems - General principles ISO 12100 Safety of machinery - General principles for design		Load shifting Equipment and other Types of Specified Equipment – NOHSC National OHS Certification Standards for Users and Operators of Industrial Equipment - NOHSC National Standard for Plant - NOHSC
5. Traffic	WHS Act 2011 WHS Regulation 2017 Chapter 4 Part 4.5	AS 1742 Manual of uniform traffic control devices AS 4687 Temporary fencing and hoardings	COP: Construction work	Australian Road Rules TfNSW Traffic Control at Worksite Manual Version 6 Austroads - Guide to Road Design SWA - Traffic Management Guide: Construction Work SWA - Traffic Management - General Guide SWA - Information Sheet - Traffic Management SWA - Traffic hazard checklist SWA - Traffic control measures checklist RMS Specifications: G10 Traffic Management RMS Specifications: G22 Work Health and Safety
6. Manual Handling	WHS Act 2011 WHS Regulation 2017 Chapter 4 Part 4.2		COP: Hazardous manual tasks COP: How to manage work health and safety risks	National Standard for Manual Tasks - NOHSC
7. Management of Subcontractors	WHS Act 2011 Part 2 Division 3 WHS Regulation 2017 Chapter 6 Part 6.3 & Part 6.4		COP: Work health and safety consultation, coordination and cooperation COP: Induction for Construction Work COP: Construction work COP: How to manage work health and safety risks COP: Management risks of plant in the workplace	
15. Alcohol and Drugs	WHS Act 2011 WHS Regulation 2017		COP: Work health and safety consultation, coordination and cooperation COP: How to manage work health and safety risks	
16. Travelling to and from Sites	WHS Act 2011 WHS Regulation 2017 Chapter 3 Part 3.2		COP: How to manage work health and safety risks COP: Construction work	
18. Noise	WHS Act 2011 WHS Regulation 2017 Chapter 4 Part 4.1 Protection of the Environment Operations Act 1997	AS/NZS 1269 Occupational Noise Management AS 2012 Acoustics - Measurement of airborne noise emitted by earth-moving machinery and agricultural tractors AS 1217 Measurement of airborne sound emitted by machines AS 2436 Guide to noise and vibration control on construction, demolition and maintenance sites AS 1055 Acoustics - Description and measurement of environmental noise HB 9 Occupational personal protection	COP: Managing noise and preventing hearing loss at work COP: How to manage work health and safety risks COP: Construction work	A guide to the Noise Policy for Industry (2017) (EPA) NSW Road Noise Policy (TfNSW) Construction Noise and Vibration Guideline (TfNSW) National Standard for Occupational Noise - NOHSC Control Guide Management of Noise at Work - NOHSC
20. Workplace Environment and Facilities	WHS Act 2011 WHS Regulation 2017 Chapter 3 Part 3.2	AS/NZS 1680 Interior and workplace lighting AS/NZS 1668 The use of ventilation and air conditioning in buildings	COP - Amenities for Construction Work - Work cover NSW COP: Managing the work environment and facilities COP: Work health and safety consultation, coordination and	

APPLICABLE LEGISLATION, STANDARDS, CODES OF PRACTICE AND GUIDANCE MATERIAL				
Hazard/Risk	Legislation	Standard	Codes of Practice	Guidance Materials
			cooperation	
21. Use of Small Plant	WHS Act 2011 WHS Regulation 2017 Chapter 5 Part 5.1 Division 7	AS ISO 5439 Mechanical vibration - Measurement and vibration of human exposure to hand-transmitted vibration HB 9 Occupational Personal Protection	COP: Construction work COP: Managing the risks of plant in the workplace	
22. Site Access and Egress	WHS Act 2011 WHS Regulation 2017 Chapter 3 Part 3.2		COP: Construction work Traffic Management: Guide for construction work COP: Demolition Work COP: Excavation Work	
27. Fatigue	WHS Act 2011 WHS Regulation 2017		COP: Work health and safety consultation, coordination and cooperation COP: How to manage work health and safety risks	Guide to managing the risk of fatigue at work
28. Public / Pedestrians	WHS Act 2011 WHS Regulation 2017	AS 4586 Slip resistance classification of pedestrian surface materials AS 4663 Slip resistance measurement of existing pedestrian surfaces AS 1319 Safety signs for the occupational environment	COP: Work health and safety consultation, coordination and cooperation COP: Managing the risk of falls at workplace Preventing Falls in Construction Codes of Practice COP: Construction Work COP: Excavation Work	
30. Night Work	WHS Act 2011 WHS Regulation 2017		COP: How to manage work health and safety risks COP: Managing the work environment and facilities COP: Construction work	Traffic Control at Worksite Manual v6 TfNSW Spec G10
31. Bullying, Violence, Harassment	WHS Act 2011 WHS Regulation 2017 Anti-Discrimination Act 1977		COP: Work health and safety consultation, coordination and cooperation COP: How to manage work health and safety risks	

Annexure E – Traffic Incident Management Plan

Current Revision – Rev 3

1. SITE SPECIFIC INFORMATION

Site Compound Location: 813-913 Wallgrove Road, Horsley Park
Site Works Location: 813-913 Wallgrove Road, Horsley
Site access and egress is from access gates from Wallgrove Road Site Communication via Radio UHF Channel 11

2. PROJECT CONTACTS

Position	Name	Location	Phone
Project Manager	Alex Ruello	Site	0408 289 903
Engineer	Joseph George	Site	0447 064 127
Site Supervisor	Peter Cullen	Site	0418 280 086
Warden	Peter Cullen	Site	0418 280 086
Construction Manager	Joseph Aouad	Site / Office	0418 425 316
WHSE Coordinator	Mark Franklin	Site	0408 117 872
QSE Systems Team Leader	Melinda Brown	Office	0421 831 826
Homebush Office		3/11-21 Underwood Road	(02) 9581 5550

	
Peter Cullen Site Supervisor PH: 0418 280 086 First Aid officer Chief Warden 24 hr Emergency Contact	Mark Franklin WHS Coordinate PH: 0408 117 872 First Aid Officer

3. EXTERNAL EMERGENCY CONTACTS

Emergency Contact	Phone	Authority
Ambulance / Fire / Police	000	Emergency services
Poisons Information Centre	131 126	Poison information
Jemena	131 909	Gas
Ausgrid	131 388	Electricity authority
Endeavour Energy	131 003	Electricity authority
Transgrid	1800 027 253	Overhead electricity
Sydney Water	132 090	Water service
AAPT / PowerTel	1800 786 306	Fibre Optic
Ucomm	1300 275 662	Fibre Optic
NBN	1800 687 626	Fibre Optic
AARnet	6222 3530	Fibre Optic
TPG	1300 993 011	Fibre Optic
Telstra	132 203	Comms
Optus	1800 505 777	Comms
RMS – Traffic Enquiry	132 701	Roads Authority
RMS – Traffic Management Centre	131 700	Roads Authority
WorkCover NSW	131 050	Work Health Safety Authority
EPA NSW (Environmental Incidents)	131 555	Environmental Authority
DBYD	1100	Underground services
Call DBYD for current service strike contacts or http://www.1100.com.au/safeexcavation/emergencies		
<i>Local Hospital (9.5km)</i>	(02) 9881 1555	Mt Druitt Hospital
<i>Local Medical Centre (2.9km)</i>	(02) 9620 2880	Horsley Park Medical Centre
<i>Local Police Station (8.8km)</i>	(02) 8788 5199	Wetherill Park Police Station
<i>Local Council</i>	(02) 9839 6000	Blacktown Council
<i>Local Council</i>	(02) 9725 0222	Fairfield Council
<i>Eastern Creek Towing</i>	0412 296 966	
<i>Wetherill Park Towing</i>	(02) 9757 2666	
<i>Prestige Vehicle Transport</i>	0407 264 471	

4. EMERGENCY EQUIPMENT LOCATIONS

Equipment	Type	Location	Inspection/Test Frequency
First aid kit	Wall mount kit	Site office Burton	Quarterly
First aid kit	Portable response kit	Delegates Office	Quarterly
First aid kit	Portable response kit	Supervisor vehicle	Quarterly
First aid kit	Portable response kit	Site engineer	Quarterly
First aid kit	Portable response kit	Leading Hand	Quarterly
Spill kit	120L response kit	Site container	6 monthly
Spill kit	Portable satchel type	Supervisor vehicle	6 monthly
Spill kit	Portable satchel type	Leading hand vehicle	6 monthly
Fire Extinguisher	9kg AB (E) dry chem	Site Office Burton	6 monthly
Fire Extinguisher	9kg AB (E) dry chem	Delegates office	6 monthly
Fire Extinguisher	9kg AB (E) dry chem	Container	6 monthly
Fire Extinguisher	9kg AB (E) dry chem	Lunchroom	6 monthly
Fire Extinguisher	9kg AB (E) dry chem	Toilet	6 monthly
Fire Blanket	N/A	Burton lunchroom	6 montly
Two-way radio	Portable handheld ICOM BC-160	Site office burton	During emergency evacuation drill
Two-way radio	Portable handheld ICOM BC-160	Site Supervisor	During emergency evacuation drill
Two-way radio	Portable handheld ICOM BC-160	Leading hand	During emergency evacuation drill

5. EMERGENCY RESPONSE EQUIPMENT RISK ASSESSMENT

Location of the workplace		
Nearest hospital	Mt Druitt Hospital	
Nearest medical centre	Horsley Park Medical Centre	
Maximum time to medical service	5 minutes (medical centre)	
Number and composition of workers and other persons at the workplace		
Number of workers	< 20	
Number of other persons	< 5 (TfNSW etc)	
Shifts	Day and night	
Overtime worked	TBA	
Remote or isolated workers	Nil	
Work activities	Emergency	Response requirements
Road construction; Asphalting, line marking, spray sealing Interaction of workspace with other site activities	1. Traffic incident – minor – severe injuries of road users. 2. Impact with workers – unlikely although serious / fatal injuries. 1. Fire / explosion from leaking fluids	Ensure no addition personnel placed in danger Assess IP condition Apply First Aid Contact relevant Emergency Services 000 Fire extinguishers - Extinguish fire if safe to do so Ensure area is secured and access unobstructed/controlled for emergency services Contact stakeholder; TfNSW, SafeWork etc.
Boring, piers & head beam Road construction	3. Traffic incident – minor – severe injuries of road users. 4. Impact with workers – unlikely although serious / fatal injuries. 5. Fire / explosion from leaking fluids	Ensure no addition personnel placed in danger Apply First Aid Contact relevant Emergency Services 000 Contact stakeholder e.g. Utility Owners, TfNSW, WorkCover etc.
Utilities – installation, unexpected finds Trenching Potholing	1. Electrocution 2. Contaminated material 3. Minor / serious cuts 4. Impact injuries (pipes etc.) 5. Asbestos	Ensure no addition personnel placed in danger Apply First Aid Contact relevant Emergency Services 000 DBYD

TRAFFIC INCIDENT MANAGEMENT PLAN

Procedure: PR-007 Emergency Management

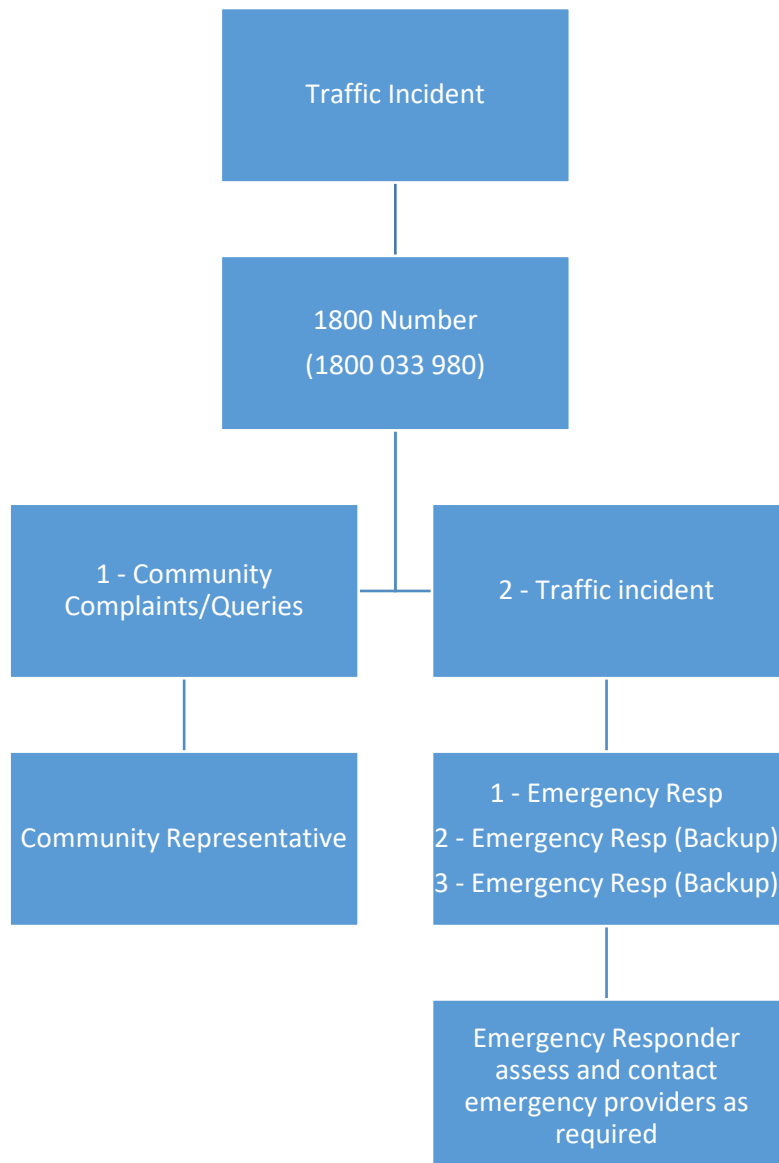
		Contact stakeholder e.g. Utility Owners, TfNSW, WorkCover etc.
Excavation (minor)	1. Collision / impact 2. Fire 3. Explosion – flammable materials	Ensure no addition personnel placed in danger Extinguish fire if safe to do so Apply First Aid Contact relevant Emergency Services 000 Contact stakeholder e.g. Utility Owners, TfNSW, WorkCover etc.
Chemical spills / leaks Use of chemicals for minor tasks	1. Skin contact (likely – possible) 2. Splashback into eye (possible) 3. Inhalation (minor inhalation risk present, severe inhalation risk unlikely) 4. Ingestion (very unlikely)	Ensure no addition personnel placed in danger, maintain awareness of possible chemical splashes or fumes etc. Apply First Aid Contact relevant Emergency Services 000 Contact stakeholder e.g. Utility Owners, TfNSW, WorkCover etc. First aid kit: Eye wash Others: Fresh air; hand wash; Poisons Info help line Fire extinguishers
General construction activities & ground workers Tree removal, trimming, mulching Waste classification, sampling, geotech investigations Manual work – lifting, pulling, pushing, etc. to undertake general manual tasks	1. Muscular strains 2. Sprains 3. Cuts / abrasions 4. Friction / other burns 5. Fragments in eyes 6. Animal bites 7. Heat / cold	Ensure no addition personnel placed in danger Apply First Aid Contact relevant Emergency Services 000 Contact stakeholder e.g. Utility Owners, RMS, WorkCover etc. Site and Vehicle First Aid Kits
Require first aid and emergency response equipment		
Number of first aiders needed	minimum x 1	
Training and competencies for first aiders	Provide First Aid (HLTAID001, HLTAID002, HLTAID003)	
Number and location of kits	Site office x 1. Additional kits in Supervisor & Engineers vehicles.	
Contents of first aid kits	Comprehensive workplace kit. – This would be adequate for the site due to the number of workers anticipated not to be >25 at a time.	
Kit maintenance	Inspect and replenish kits quarterly	
Fire extinguishers	Standard type AB(E) sufficient for site – likely locations include plant, lunchroom facilities or hazardous substances. Locations on site for extinguishers include crib room, container & site office. 9kg recommended in order to manage a small site	

TRAFFIC INCIDENT MANAGEMENT PLAN

Procedure: PR-007 Emergency Management

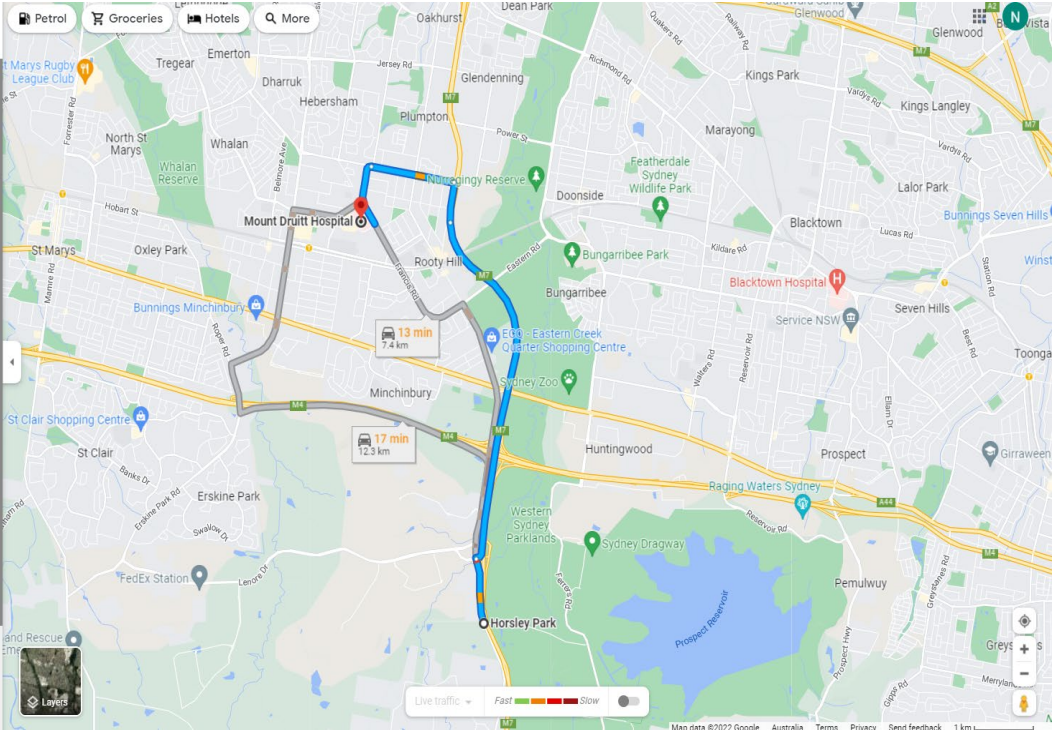
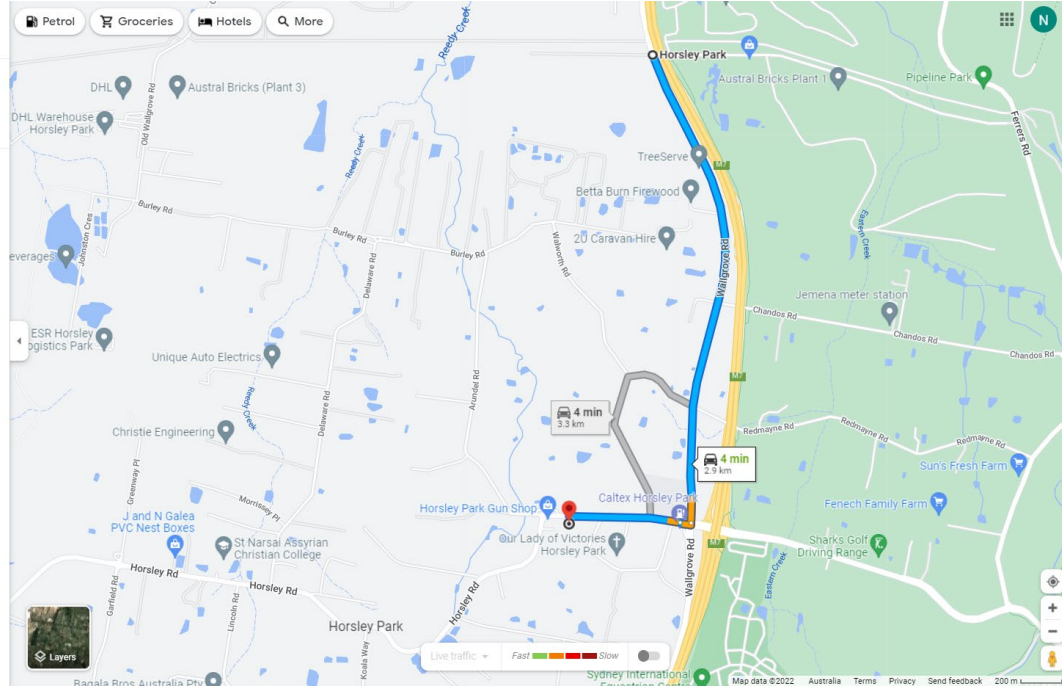
	fire or plant engine fire.
Spill kits	Container x1. Additional kits in Supervisor & Engineers vehicles.
Communication equipment	Minimum 1 set of 2-way radios
Transportation	Company Vehicle at minimum present on site
Comments	Close proximity to medical facilities and emergency services– no stretcher or AED required.
Assessment completed by	Mark Franklin
Date of Assessment	03/03/2021

6. TRAFFIC INCIDENT PROCEDURE



TRAFFIC INCIDENT MANAGEMENT PLAN

Procedure: PR-007 Emergency Management

7. MEDICAL EMERGENCY LOCATION		
HOSPITAL – Mt Druitt Hospital	Address – 75 Railway St, Mt Druitt	Phone – 9881 1555
← from Horsley Park, New South Wales 2175 to Mount Druitt Hospital, 75 Railway St, Mount Druitt 10 min (9.7 km) via M7 Fastest route, the usual traffic ▲ This route has tolls. Horsley Park New South Wales 2175 ↑ Head north on Wallgrove Rd 1.0 km ↗ Use the right 2 lanes to turn right to merge onto M7 ▲ Toll road 5.7 km ↖ Take the Woodstock Ave exit towards Rooty Hill/Mt Druitt ▲ Toll road 650 m ↖ Use any lane to turn left onto Woodstock Ave Go through 1 roundabout 1.4 km ↖ Keep left to continue on Duke St 600 m ↗ At the roundabout, continue straight onto Railway St 400 m Mount Druitt Hospital 75 Railway St, Mount Druitt NSW 2770 		
HEALTHCARE CENTRE – Horsley Park medical centre	Address - 1818 The Horsley Dr, Horsley Park	Phone 9620 2880
← from Horsley Park, New South Wales 2175 to Horsley Park Medical Centre, 1818 The Horsley Dr 4 min (2.9 km) via Wallgrove Rd Fastest route, lighter traffic than usual Horsley Park New South Wales 2175 ↑ Head south on Wallgrove Rd 2.3 km ↗ Turn right at The Horsley Dr 62 m ↖ Continue onto The Horsley Dr Destination will be on the left 550 m Horsley Park Medical Centre 1818 The Horsley Dr, Horsley Park NSW 2175 These directions are for planning purposes only. You may find that construction projects, traffic, weather or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route. 		

8. SITE PLAN – ASSEMBLY AREAS



9. GENERAL EMERGENCY RESPONSE & SITE EVACUATION RESPONSE

1. DETERMINE TYPE OF EMERGENCY

The type of emergency will determine the response procedure. Is it: MEDICAL, ENVIRONMENTAL – SPILL, FIRE, VEHICLE ACCIDENT etc.

2. RAISE ALARM

Contact the Emergency Services on 000 and provide the following information:

1. The exact location of the emergency;
2. Type and extent of the emergency; and
3. Any special equipment or personnel required for rescue.

Follow all instructions issued by the 000 operator then raise the alarm in the workplace by contacting Emergency Warden or member of your Project Team or fellow workers. Once the Project Team is aware of the situation they must notify the QSE Department as soon as possible.

Notify workers to evacuate using most appropriate and available means – 2way radio, mobile phone, runner (verbal).

3. CONTAIN INCIDENT – EXTINGUISH FIRE / MOP SPILL

Only attempt to contain the incident if it is safe to do so and you are trained in the use of emergency equipment – fire extinguisher, spill kit.

4. EVACUATE TO ASSEMBLY AREA

Check for hazards to ensure workers and others are not at risk from flammable materials, live electricity, exposure to substances. If you are not directly involved in containing the emergency and immediately upon being instructed to evacuate your work location, leave by the designated or safest / direct route.

Ensure all personnel around you are aware of the evacuation and assemble at nominated Evacuation Assembly Area/s to be accounted for. If you are aware of any missing workers, report it to a member of your Emergency Warden or Project Team IMMEDIATELY.

5. EVACUATE INJURED PERSONS

Assist and if possible, remove seriously injured persons from the accident area, only if no further danger exists and providing it is safe to do so. Do not disturb the scene of the incident, except to make the area safe.

6. FOLLOW INSTRUCTIONS OF EMERGENCY SERVICES

You must remain in assembly area until otherwise instructed for a safe return to your work area by Emergency Services, or your Emergency Warden.

Emergency Wardens and the Project Team must account for all personnel on site and assist Emergency Services Personnel as instructed.

7. Incident Notification and Report

If not already done, contact Burton Contractors Business Manager Construction or QSE Team Leader to notify of the event.

A **TP-019 Incident Report** is to be completed post emergency. The report must be forwarded to the QSE Department via email:

gse@burtoncontractors.com.au

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SITE EMERGENCY SCENARIOS AND RESPONSE PROCEDURES

ANY LIFE THREATENING EMERGENCY CALL 000
CONTACT SITE SUPERVISOR: Peter Cullen – 0418 280 086

EMERGENCY	IMPACT	RESPONSE PROTOCOL	EQUIPMENT
General public vehicle incident on site	Immediate Injury to drivers and/or workers on site. Escalation of incident with additional vehicles becoming involved in the incident Release of fluids Possibility of Fire Traffic signals struck by vehicle & un-operational Power pole struck by vehicle downing powerlines	Stop work determine if risk of injury or further incident to other workers or plant in the work zone. Notify Site Supervisor Contact emergency services 000 Contact Utility Owner (If required) Contact stakeholder; Gazcorp Contact TMC Provide first aid to injured persons (if permitted) UHF radios notify operators to remain away from incident. Traffic control implemented to manage localised traffic (if on-site) Area kept clear for Utility Owners vehicle and/or Emergency services to attend Do not approach any down powerlines and manage area to keep bystanders away Notify Environmental Coordinator for release of fluids only	Traffic controller & stop/slow bat Traffic cones Bollards First Aid kit & Spill kit Fire extinguisher UHF Radios Spill Kit
Plant / vehicle incident on site (contained to work area)	Immediate threat or Injury to Operator, drivers, and other workers. Release of fluids	Stop work, determine if risk of injury or further incident to other workers or plant exists, if no risk, move plant away from area and await instructions Notify Site Supervisor	Traffic cones Bollards First Aid kit

TRAFFIC INCIDENT MANAGEMENT PLAN

EMERGENCY	IMPACT	RESPONSE PROTOCOL	EQUIPMENT
Plant collision Plant rollover	Possibility of Fire	Contact emergency services 000 (If required) Notify Asset owner (If not Burton) UHF radios notify operators to remain away from incident. Traffic control implemented to manage localised traffic (if on-site) Notify Environmental Coordinator for release of fluids only Apply first aid to injured persons (if any) Attempt to control the spill or extinguish fire if not putting yourself at risk Contain spill within site, use available resources (i.e. spill kits), attempt to contain & prevent entering stormwater system Clean up the affected area Contact stakeholder; Gazcorp Plant / vehicles to remain out of service until repairs or inspection by competent person conducted	Spill kit Fire extinguisher Traffic controller & stop/slow bat
Overhead Services Strike Power, Street lighting, and communications interrupted	Electric shock to workers Electrical fire Loss of services to public Traffic congestion / delays if across road Damage to Burton's reputation	Stop work determine if risk of injury or further incident to other workers or plant in the work zone or residents. Notify Site Supervisor & TMC Contact emergency services 000 (If Required) Contact stakeholder; Utility Owners Apply first aid or CPR to injured worker Ask additional first aiders to assist with CPR (If required) UHF radios notify operators to remain away from incident. Traffic control implemented to manage localised traffic (if on-site) If no immediate danger of fire, operator to stay in cabin until given all clear to	Traffic controller & stop/slow bat Traffic cones Bollards First Aid kit Fire extinguisher UHF Radios

TRAFFIC INCIDENT MANAGEMENT PLAN

EMERGENCY	IMPACT	RESPONSE PROTOCOL	EQUIPMENT
		move. Exclusion zone to be established around area. Downed power cables are not to be approached. All vehicles/plant to be isolated and no other vehicle permitted in area Area kept clear for Utility Owners vehicle and/or Emergency services to attend Contact residents of service disruption (if any) Contact stakeholders; Gazcorp, SafeWork.	
Underground services strike Sewer, water, Gas and communications	Loss of services to public Electrocution Contamination of local properties Damage to Burton's reputation Explosion, fire	Stop work determine if risk of injury or further incident to other workers, plant in the work zone or residents. Notify Site Supervisor Contact emergency services 000 (If Required) Contact stakeholder; Utility Owners Apply first aid or CPR to injured worker Ask additional first aiders to assist with CPR (If required) UHF radios notify operators to remain away from the area. Traffic control implemented to manage localised traffic (if on-site) Exclusion zone to be established around area. All vehicles/plant to be isolated and no other vehicle permitted in area Area kept clear for Utility Owners vehicle and/or Emergency services to attend Contact residents of service disruption (if any) Contact stakeholders; Gazcorp, SafeWork.	First aid kit Fire extinguisher Traffic controller & stop/slow bat Traffic cones Bollards UHF Radios
Excavation / Trench Collapse	Engulfment - Workers exposed to Life threatening injuries.	Stop work	Hand Tools

TRAFFIC INCIDENT MANAGEMENT PLAN

Procedure: PR-007 Emergency Response

EMERGENCY	IMPACT	RESPONSE PROTOCOL	EQUIPMENT
		Advise other workers to evacuate trench Notify Site Supervisor Contact emergency services 000 Apply first aid to injured worker UHF radio notify all workers to remain away from area. Traffic control implemented to manage localised traffic (if on-site) Exclusion zone to be established around area. Area kept clear for Emergency services to attend If risk of further collapse do not enter area or attempt rescue Attempt to identify, locate the position and number of the trapped workers. If person visible (if safe to do so) remove as much material as possible to ensure they can breathe. Contact stakeholders; Gazcorp, SafeWork.	Ladders Excavators Traffic controller & stop/slow bat First Aid kit Bollards Flagging Emergency Services – Police, Ambulance, Fire/Rescue UHF Radios
Fall from Height	Injured worker / potential death of a person	Assess the situation- Do not attempt to move the injured person Stop work determine if risk of injury or further incident to other workers or plant in the work zone. Notify Site Supervisor Contact emergency Services 000 UHF radio notify all workers to remain away from area. Traffic control implemented to manage localised traffic (if on-site) Exclusion zone to be established around area. Apply first aid to injured worker Area kept clear for Emergency services to attend	Traffic controller & stop/slow bat First Aid kit Bollards Flagging Emergency Services – Police, Ambulance, Fire/Rescue UHF Radios

TRAFFIC INCIDENT MANAGEMENT PLAN

EMERGENCY	IMPACT	RESPONSE PROTOCOL	EQUIPMENT
		Contact stakeholders; Gazcorp, SafeWork.	
Unexpected Find	Discovery of: Asbestos, other hazardous substances, aboriginal, archaeological, heritage.	Stop work Notify Site Supervisor Notify all workers to remain away from area Isolate area and install signage Notify relevant authorities Do not re-enter until advised by authorities / relevant consultants Contact stakeholder; Gazcorp.	Bollards Flagging Signage – exclusion zone UHF Radios
Other external emergency – e.g.; Incident at adjoining properties that continued work operations could affect emergency response and continued operation.	An external emergency outside construction site	Stop work and turn off machines Notify Site Supervisor UHF radio Notify all workers to remain away from area Contact emergency services 000 (if required) Stop work and prepare to evacuate area (if required). Contact stakeholder; Gazcorp.	Emergency Services – Fire/Rescue, Ambulance or Police UHF Radios
Plant fire	Plant damage Injury to workers	Stop work and turn off machine Evacuate plant Notify Site Supervisor Contact Fire/Rescue 000 (if required) Ensure no addition personnel placed in danger Assess IP condition Apply First Aid	Fire extinguisher First aid kit Hose / water cart Barricading Traffic controller to direct traffic & stop/slow bat UHF Radios

TRAFFIC INCIDENT MANAGEMENT PLAN

Procedure: PR-007 Emergency Response

EMERGENCY	IMPACT	RESPONSE PROTOCOL	EQUIPMENT
		UHF radio Notify all workers to remain away from area Traffic control implemented to manage localised traffic (if on-site) If no risk to workers attempt to extinguish fire if safe to do so Isolate area Contact stakeholders; Utility Owners, Gazcorp, SafeWork.	
Medical emergency – other E.g. Heart attack	Injured worker / potential death of a person	Remain calm, assess the situation. Do not attempt to move the injured person Notify Site Supervisor Contact Ambulance 000 UHF radio Notify all workers to remain away from area Traffic control implemented to manage localised traffic (if on-site) Assess IP condition Commence CPR until ambulance arrives or first aid as required Ask additional first aiders to assist with CPR Contact stakeholder; Gazcorp, SafeWork	First Aid Kit UHF Radios
Localised site fire	Placing human life and property at risk. Death or injury to flora and fauna.	Stop work in area If no risk to persons remove any flammable or combustible materials from the area of the fire. Contact Fire/Rescue 000 Notify Site Supervisor Ensure no addition personnel placed in danger Assess IP condition	Hose / water cart Fire Extinguishers Barricading First Aid Kit Traffic controller to direct traffic & stop/slow bat UHF Radios

TRAFFIC INCIDENT MANAGEMENT PLAN

EMERGENCY	IMPACT	RESPONSE PROTOCOL	EQUIPMENT
		Apply First Aid UHF radio Notify all workers to remain away from area Traffic control implemented to manage localised traffic (if on-site) Contact stakeholder; Gazcorp If no risk to workers attempt to extinguish fire if safe to do so Isolate area	
Uncontrolled Sediment Discharge	Discharge of sediment laden water	Stop work, control source of sediment (e.g. divert water around stockpiles). Install additional sediment controls such as gravel inlet filters and sediment fences. Notify site supervisor & Environmental Coordinator Contact stakeholder; Gazcorp	Spill Kits Mobile Plant UHF Radios
Substance spill – Oil, Diesel	Discharge of oily water to storm water. Contamination of soil and groundwater. Damage to reputation.	Stop in the area where the spill occurred. Notify site supervisor & Environmental Coordinator Spill response kits are kept at all sites for deployment in the event of an oil spill. Attempt to control the spill if not putting yourself at risk Contain spill within site, use available resources (i.e. spill kits), attempt to contain & prevent entering stormwater system Clean up the affected area Contact stakeholder; Gazcorp	Spill Kit Wash facilities PPE as per SDS requirements UHF Radios
Substance Spill – Chemical	Discharge of chemicals to storm water. Contamination of soil and groundwater.	Stop work in the area where the spill occurred. Notify site supervisor & Environmental Coordinator Spill response kits are kept at all sites for deployment in the event of an oil spill. Attempt to control the spill if not putting yourself at risk	Spill Kits First aid kit Wash facilities PPE as per SDS

TRAFFIC INCIDENT MANAGEMENT PLAN

Procedure: PR-007 Emergency Response

EMERGENCY	IMPACT	RESPONSE PROTOCOL	EQUIPMENT
	Damage to reputation.	Contain spill within site, use available resources (i.e. spill kits), attempt to contain & prevent entering stormwater system Clean up the affected area Contact stakeholder; Gazcorp	requirements UHF Radios
Flooding into open Excavation and/or Trench	Flooding damage to assets Fall into Trench/Excavation-injury or death caused by drowning Engulfment – Trench/Excavation Wall collapse	Notify Site Supervisor Ensure no addition personnel placed in danger Contact Emergency Services 000 Assess IP condition Apply First Aid and/or commence CPR Ask additional first aiders to assist with CPR UHF radio Notify all workers to remain away from area Traffic control implemented to manage localised traffic (if on-site) Contact stakeholder e.g., Utility Owners, Gazcorp, SafeWork Isolate area Park all plant above and/or away from the flood AREA	Submersible pump Vac Truck Barricading and/or ATF Traffic controller to direct traffic & stop/slow bat UHF Radios

DRSABCD

IN AN EMERGENCY CALL **TRIPLE ZERO (000)** FOR AN AMBULANCE

**D**

Dangers?

Ensure the area is safe for yourself, others and the patient.

**R**

Responsive?

Check for a response: ask name, squeeze shoulders.

No response? Send for help.

Response? Make comfortable and monitor response.

**S**

Send for help

Call triple zero (000) for an ambulance or ask another person to make the call.

**A**

Open Airway

Open the mouth and check the airway for foreign material.

Foreign material? Place in the recovery position and clear the airway.

No foreign material? Leave in position.

Open the airway by tilting the head back with a chin lift.

**B**

Normal Breathing?

Check for breathing: look, listen, feel for 10 seconds.

Not normal breathing? Ensure an ambulance has been called; start CPR.

Normal breathing? Place in the recovery position and monitor breathing.

**C**

Start CPR

30 chest compressions : 2 breaths.

Continue CPR until help arrives or the patient starts breathing.

**D**

Attach defibrillator (AED)

and follow the voice prompts.



Learn first aid • 1300 ST JOHN • www.stjohn.org.au

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10. Acknowledgement of ERP

I acknowledge that I have been inducted into this Emergency Response Plan and have read and understood the contents. I understand my responsibilities and what is required of me should an emergency occur.

Name	Position/Role	Signature	Date
Peter Cullen	Site Supervisor/ Emergency Warden First Aid Officer		
Alex Ruello	Project Manager		
Mark Franklin	First Aid Officer		

Annexure F – Subway Road Business Correspondence

Veolia approval for proposed truck restrictions

From: [Bernhart, Stephen](#)
To: [Alex Ruello](#)
Cc: [Promit Biswas](#); [Jim Hennessy](#)
Subject: Re: Job-423-WGR - Wallgrove Road Intersection Upgrade - Veolia
Date: Monday, 9 May 2022 5:31:39 PM
Attachments: [image007.png](#)

Hi Alex,

I have passed on your details to one of our contractors (JK Williams) who is working onsite at the moment. As mentioned previously, they will be floating mobile plant on/off site.

In general, Veolia is comfortable with the proposed access changes, provided that it does not restrict access for floating mobile plant on/off site. We will not be operating b-double length vehicles.

Regards,

Stephen Bernhart
Manager - Horsley Park Waste Management Facility
Veolia Australia & New Zealand

Mobile: +61 418 687 384
716 - 752 Wallgrove Road / Horsley Park / NSW 2175 Australia
www.veolia.com/ANZ



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On Mon, 9 May 2022 at 08:03, Alex Ruello <Alex.Ruello@burtoncontractors.com.au> wrote:

Hi Stephen,

Friendly reminder about the below proposal and Veolia's acceptance of the configuration changes.

Regards,

Alex Ruello
Project Manager
Burton Contractors Pty Ltd

T: 0408 289 903
M: 0408 289 903
F: 02 9581 5551
E: Alex.Ruello@burtoncontractors.com.au



Sydney Office
Homebush Business Village
Unit 3/11-21 Underwood Rd
Homebush NSW 2140
T: 02 9581 5550 F: 02 9581 5551



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From: Alex Ruello
Sent: Wednesday, 27 April 2022 4:03 PM
To: Bernhart, Stephen <stephen.bernhart@veolia.com>
Cc: Promit Biswas <promit.biswas@veolia.com>; Jim Hennessy <jim.hennessy@veolia.com>
Subject: RE: Job-423-WGR - Wallgrove Road Intersection Upgrade - Veolia

Hi Stephen,

Apologies for the delay in our response. We are currently in the process of developing our TMP. We have reached out and made contact with the potentially affected stakeholders so we can finalise the temporary traffic design to be included as part of our TMP.

Looking at the snapshot of the intersection below, Burton are currently looking at a design that restricts 26m B-Double movements in all directions in and out of the private road (Called "Subway Road" in our design) onto Wallgrove Road. The temporary design will cater for 19m semi-trailer trucks during the approximate 1 year long works scheduled to start in June/July 2022.

Can you please advise if the proposed changes are acceptable to Veolia?



Regards,

Alex Ruello
Project Manager
Burton Contractors Pty Ltd

T: 0408 289 903
M: 0408 289 903
F: 02 9581 5551
E: Alex.Ruello@burtoncontractors.com.au



Sydney Office
Homebush Business Village
Unit 3/11-21 Underwood Rd
Homebush NSW 2140
T: 02 9581 5550 F: 02 9581 5551



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From: Bernhart, Stephen <stephen.bernhart@veolia.com>
Sent: Tuesday, 19 April 2022 11:46 AM
To: Alex Ruello <Alex.Ruello@burtoncontractors.com.au>
Cc: Promit Biswas <promit.biswas@veolia.com>; Jim Hennessy <jim.hennessy@veolia.com>
Subject: Re: Job-423-WGR - Wallgrove Road Intersection Upgrade - Veolia

Hi Alex,

Thank you for reaching out to advise of the upcoming works.

To enable us to have a better understanding of the works and the potential impacts on our operations, would you be able to provide us with a Traffic Management Plan for the works?

We will be floating earthmoving equipment into/out of our facility over and above normal truck movements and we will need to understand how the works may affect these movements as well..

Regards,

Stephen Bernhart
Manager - Horsley Park Waste Management Facility
Veolia Australia & New Zealand

Mobile: +61 418 687 384
716 - 752 Wallgrove Road / Horsley Park / NSW 2175 Australia
www.veolia.com/ANZ

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On Fri, 15 Apr 2022 at 14:38, Hennessy, Jim <jim.hennessy@veolia.com> wrote:

For you ?

----- Forwarded message -----

From: **Alex Ruello** <Alex.Ruello@burtoncontractors.com.au>
Date: Thu, 14 Apr 2022 at 10:08 am
Subject: Job-423-WGR - Wallgrove Road Intersection Upgrade - Veolia
To: jim.hennessy@veolia.com <jim.hennessy@veolia.com>
Cc: Joseph Aouad <Joseph.Aouad@burtoncontractors.com.au>

Hi Jim,

You may remember me from my most recent project with Burton at Erskine Park Road. Vijay has passed on your contact details as the best contact for discussing the below topic. If you are not the best contact for this, it would be appreciated if you could point me in the right direction.

As you may know, there is a planned upgrade for Wallgrove Road which affects the intersection that runs beneath the M7 to one of Veolia's landfill sites. I will be the Project Manager from Burton managing this upgrade.

For us to complete the upgrade, we will need to make changes to the existing road and traffic conditions which may have some impact on the access to your business. We will not be able to implement any change that may negatively impact access without written consent from the affected business. The existing intersection is configured as a 'seagull' priority intersection that gives right of way to North-South traffic on Wallgrove Road, making access in and out of "Subway Road" difficult at times. The ultimate design is a set of traffic lights at this intersection which will eliminate the difficulty of accessing your business for truck sizes up to and including B-Doubles.

To manage traffic during the upgrade of Wallgrove Road, we propose to put in a set of temporary traffic lights immediately that will serve the same purpose as the ultimate design. This will give an immediate benefit to all businesses that are accessed from "Subway Road". However, during the preliminary development of the temporary traffic signal design, we found that maintaining safe turn paths for B-Double truck movements in and out of the intersection was not practical. The most balanced design that we currently have allows for truck sizes up to and including 19m Semi-trailers, being the next size down from B-doubles in terms of turn path space requirements.

The construction phase of the project will run for approximately 11 months from the time that we commence the implementation of the temporary traffic signals, approximately scheduled for a June/July 2022 start. Burton are seeking approval from Veolia to temporarily restrict B-Double trucks from accessing "Subway Road" during the construction phase of the project. We will be seeking this same approval from all other stakeholders on "Subway Road". We understand that you may have some questions or require more information from us regarding the works and we will be happy to address any queries that you have. I am happy to answer any queries via email or alternatively coordinate a time for a Teams meeting to go through the above in more detail. The approval from affected stakeholders is critical for our approval to commence construction works and would appreciate a rapid response.

Please do not hesitate to contact me on the below details

Regards,

Alex Ruello
Project Manager
Burton Contractors Pty Ltd

T: 0408 289 903
M: 0408 289 903
F: 02 9581 5551
E: Alex.Ruello@burtoncontractors.com.au



Sydney Office
Homebush Business Village
Unit 3/11-21 Underwood Rd
[Homebush NSW 2140](#)
T: 02 9581 5550 F: 02 9581 5551



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--

Regards

Jim Hennessy
NSW Sales Manager - Resource Recovery
NSW STATE OFFICE

P: [+61 2 9841 2844](tel:+61298412844) / M: [+61 429 128 368](tel:+61429128368)

Corner Unwin & Shirley Streets/ Rosehill/ NSW 2142 Australia
www.veolia.com

Austral / Brickworks approval for proposed truck restrictions

Alex Ruello

From: Avery Spackman <Avery.Spackman@australbricks.com.au>
Sent: Wednesday, 18 May 2022 11:55 AM
To: Alex Ruello
Cc: Emily Antonio; Sean Cribb

Hi Alex

Austral bricks are giving you permission to proceed as discussed with the intersection on Wallgrove road.

Regards Avery

Avery Spackman

General Manager Austral Bricks NSW

Direct 02 9830 7776

Mobile 0414 408 224

Tel 02 9830 7700

Fax 02 9830 7770

Email Avery.Spackman@australbricks.com.au

Austral Bricks

2 Latitude Road

Horsley Park NSW 2175

www.australbricks.com.au



Get social with us!

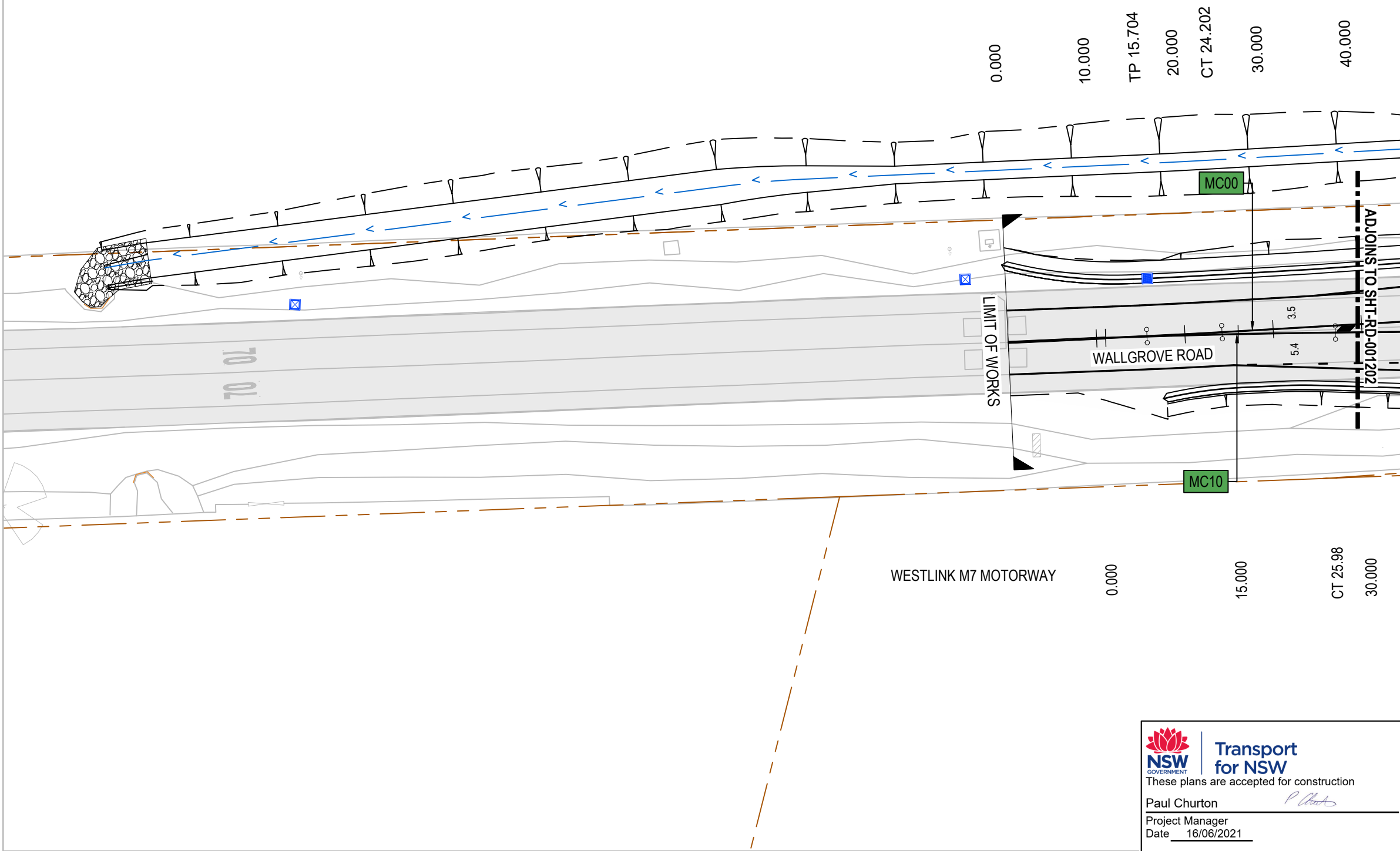


Annexure G – Ultimate Design Civil Drawings



FROM HORSLEY PARK

TO EASTERN CREEK



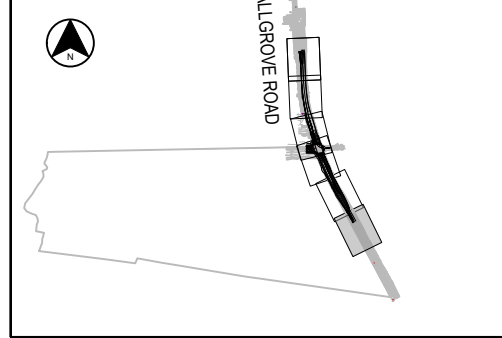
LEGEND

- ROAD CONTROL LINE
- CADASTRAL BOUNDARY
- PROPOSED DESIGN
- EXISTING SURVEY
- ROAD CONTROL LINE LABEL
- EXISTING PAVEMENT
- EXISTING STORMWATER PIT
- NEW STORMWATER PIT
- PIPE CONNECTION TO EXISTING PIT
- ADJUST / MODIFY EXISTING PIT INLET
- SURVEY CONTROL MARKER
- SAFETY BARRIER

NOTES

- FOR GENERAL NOTES, REFER TO SHT-GE-000021 AND SHT-GE-000022.
- FOR DRAINAGE, REFER TO SHT-SM-001001 TO SHT-GE-001006.
- FOR LINEMARKING DETAILS, REFER TO SHT-RF-001001 TO SHT-RF-001006 AND SHT-RF-004001 TO SHT-RF-004002.
- FOR UTILITIES, REFER TO SHT-UT-001001 TO SHT-UT-001006, SHT-UT-001011 TO SHT-UT-001016 AND SHT-UT-004001 TO SHT-UT-004004.

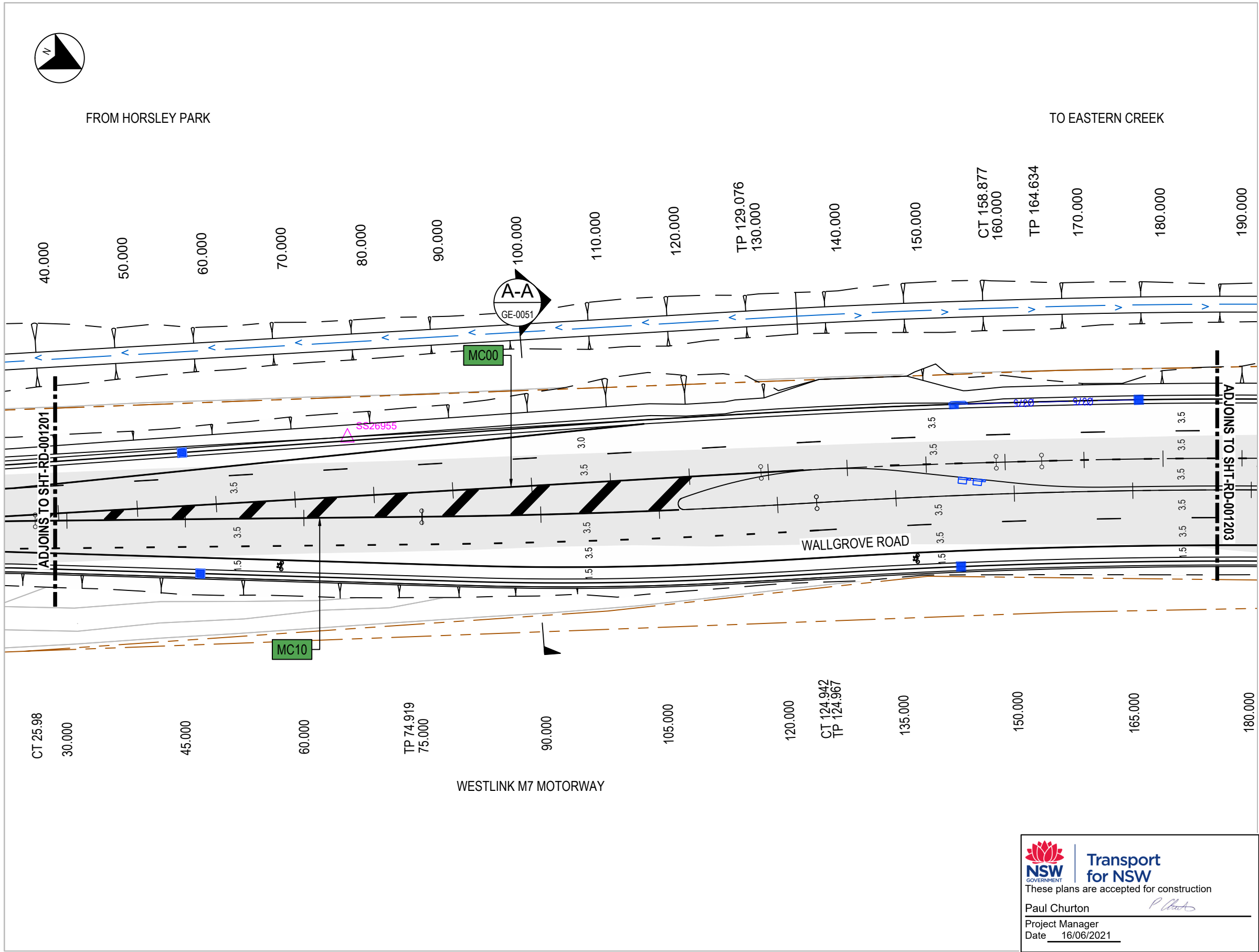
KEYPLAN



NSW GOVERNMENT | **Transport for NSW**
These plans are accepted for construction
Paul Churton
Project Manager
Date 16/06/2021

ACCEPTED FOR CONSTRUCTION

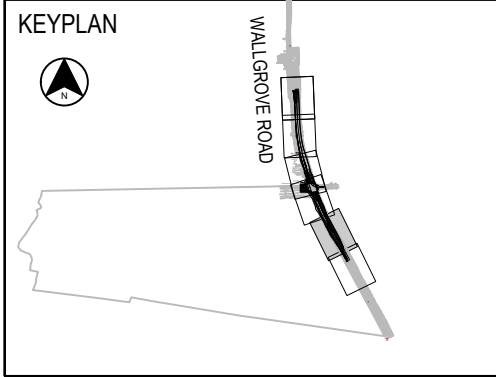
DRAWING FILE LOCATION / NAME C:\12d\data\ORION-SYN01\05-RD Wallgrove Road Upgrade_20302\DWGS\Xref\RMS_CIVIL-GE-SHT_A3.dwg				DESIGN LOT CODE		DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING		PLOT DATE / TIME			PLOT BY			CLIENT			A3			
EXTERNAL REFERENCE FILES				REV	DATE	AMENDMENT / REVISION DESCRIPTION		WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING		DRAWINGS / DESIGN PREPARED BY			TITLE	NAME	DATE	GAZCORP		
	0	31.07.2020	50% DETAILED DESIGN		P.BYRUM			 ABN:25 604 089 981 PO Box 7936, BAULKHAM HILLS NSW 2153 T:02 8660 0035 E:info@orionconsulting.com.au		DRAWN	JASON BOVIS	31.07.2020	PREPARED FOR SYDNEY DIVISION NETWORK DEVELOPMENT							
	1	11.11.2020	80% DETAILED DESIGN		P.BYRUM					DRG CHECK	PHILIP BYRUM	31.07.2020								
	2	18.02.2021	100% DETAILED DESIGN		P.BYRUM					DESIGN	PHILLIP STODDART	31.07.2020								
	3	01.04.2021	ACCEPTED FOR CONSTRUCTION		P.BYRUM					DESIGN CHECK	PHILIP BYRUM	31.07.2020								
						CO-ORDINATE SYSTEM MGA Z56		HEIGHT DATUM AHD		DESIGN MNGR	PHILIP BYRUM	31.07.2020							TNSW REGISTRATION No. DS2020/000425			PART -
										PROJECT MNGR	PAUL CHURTON	31.07.2020				ISSUE STATUS ACCEPTED FOR CONSTRUCTION		EDMS No. -	SHEET No. SHT-RD-001201	ISSUE 3



LEGEND

- ROAD CONTROL LINE
- CADASTRAL BOUNDARY
- PROPOSED DESIGN
- EXISTING SURVEY
- ROAD CONTROL LINE LABEL
- EXISTING PAVEMENT
- EXISTING STORMWATER PIT
- NEW STORMWATER PIT
- PIPE CONNECTION TO EXISTING PIT
- ADJUST / MODIFY EXISTING PIT INLET
- SURVEY CONTROL MARKER
- SAFETY BARRIER

- NOTES**
- FOR GENERAL NOTES, REFER TO SHT-GE-000021 AND SHT-GE-000022.
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 - FOR UTILITIES, REFER TO SHT-UT-001001 TO SHT-UT-001006, SHT-UT-001011 TO SHT-UT-001016 AND SHT-UT-004001 TO SHT-UT-004004.



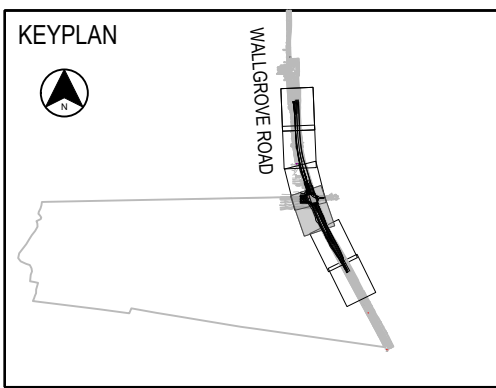
Transport for NSW
These plans are accepted for construction
Paul Churton
Project Manager
Date 16/06/2021

ACCEPTED FOR CONSTRUCTION

DRAWING FILE LOCATION / NAME C:\12d\data\ORION-SYN0105-RD Wallgrove Road Upgrade_20302\DWGS\Xref\RMS_CIVIL-GE-SHT_A3.dwg				DESIGN LOT CODE		DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING		PLOT DATE / TIME		PLOT BY		CLIENT		A3			
EXTERNAL REFERENCE FILES		REV	DATE	AMENDMENT / REVISION DESCRIPTION		WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING		DRAWINGS / DESIGN PREPARED BY		TITLE	NAME	DATE	GAZCORP		
		0	31.07.2020				P.BYRUM			 ABN 25 604 069 981 PO Box 7936, BALU KHAM HILLS NSW 2153 T:02 9660 9035 E:info@orionconsulting.com.au		DRAWN	JASON BOVIS	31.07.2020			
		1	11.11.2020	50% DETAILED DESIGN			P.BYRUM					DRG CHECK	PHILIP BYRUM	31.07.2020			
		2	18.02.2021	80% DETAILED DESIGN			P.BYRUM					DESIGN	PHILIP BYRUM	31.07.2020			
		3	01.04.2021	100% DETAILED DESIGN ACCEPTED FOR CONSTRUCTION			P.BYRUM					DESIGN CHECK	PHILIP BYRUM	31.07.2020			
								DESIGN MNGR	PHILIP BYRUM	31.07.2020	PREPARED FOR SYDNEY DIVISION NETWORK DEVELOPMENT		TNSW REGISTRATION No. DS2020/000425	PART -			
								CO-ORDINATE SYSTEM MGA Z56	HEIGHT DATUM AHD	PROJECT MNGR	PAUL CHURTON	31.07.2020	ISSUE STATUS ACCEPTED FOR CONSTRUCTION	EDMS No. -		SHEET No. SHT-RD-001202	ISSUE 3

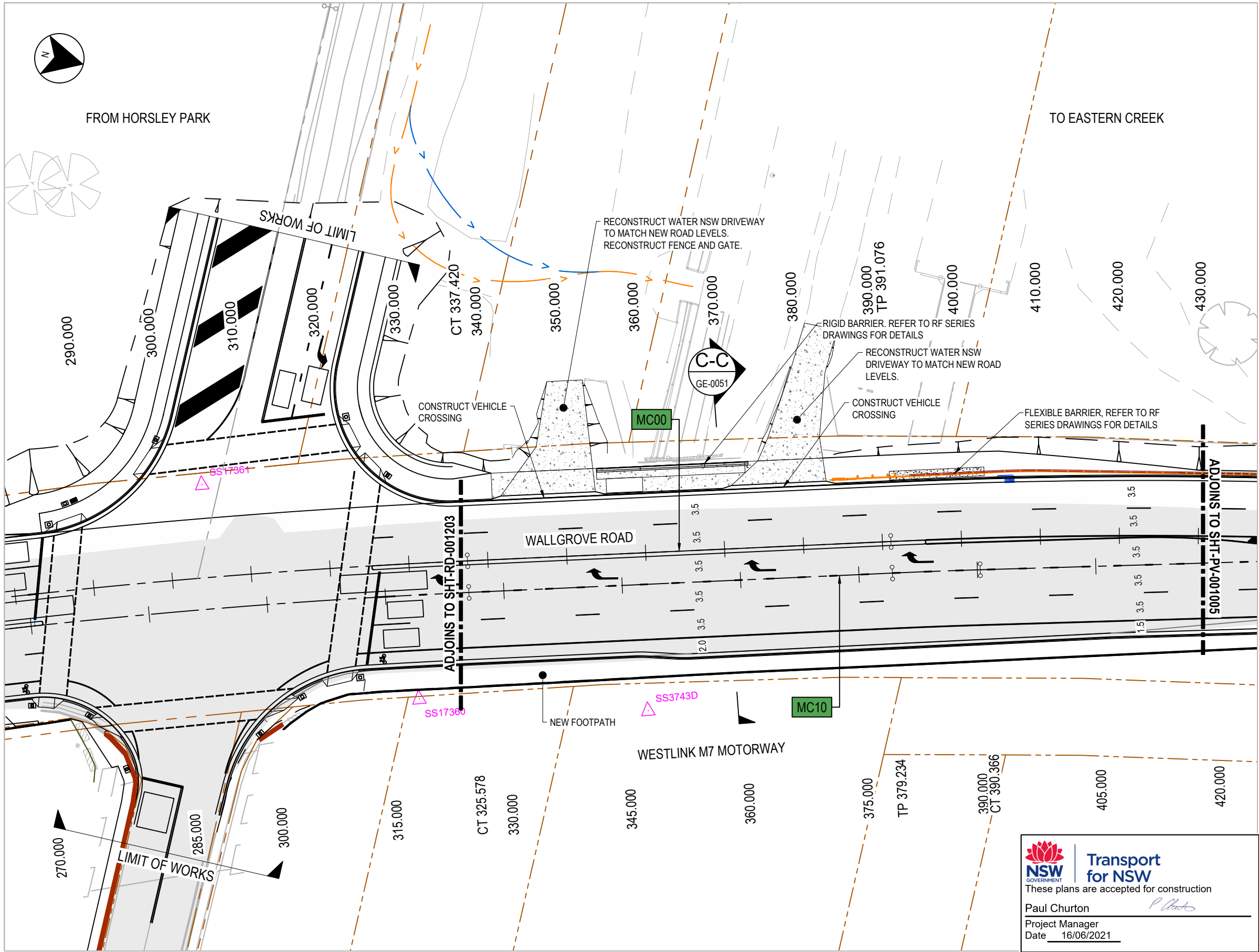


- ## NOTES
1. FOR GENERAL NOTES, REFER TO SHT-GE-000021 AND SHT-GE-000022.
 2. FOR DRAINAGE, REFER TO SHT-SM-001001 TO SHT-GE-001006.
 3. FOR LINEMARKING DETAILS, REFER TO SHT-RF-001001 TO SHT-RF-001006 AND SHT-RF-004001 TO SHT-RF-004002.
 4. FOR UTILITIES, REFER TO SHT-UT-001001 TO SHT-UT-001006, SHT-UT-001011 TO SHT-UT-001016 AND SHT-UT-004001 TO SHT-UT-004004.



ACCEPTED FOR CONSTRUCTION

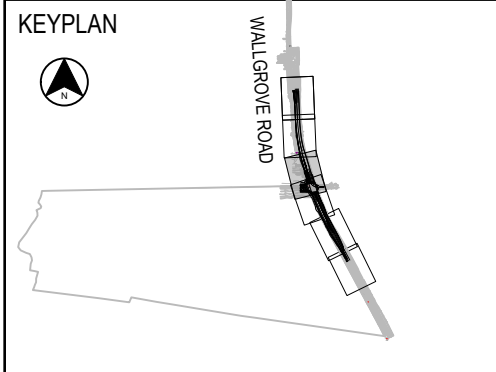
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																	PROJECT MNGR	PAUL CHURTON	31.07.2020					



LEGEND

- ROAD CONTROL LINE
- CADASTRAL BOUNDARY
- PROPOSED DESIGN
- EXISTING SURVEY
- ROAD CONTROL LINE LABEL
- EXISTING PAVEMENT
- EXISTING STORMWATER PIT
- NEW STORMWATER PIT
- PIPE CONNECTION TO EXISTING PIT
- ADJUST / MODIFY EXISTING PIT INLET
- SURVEY CONTROL MARKER
- SAFETY BARRIER

- NOTES**
- FOR GENERAL NOTES, REFER TO SHT-GE-000021 AND SHT-GE-000022.
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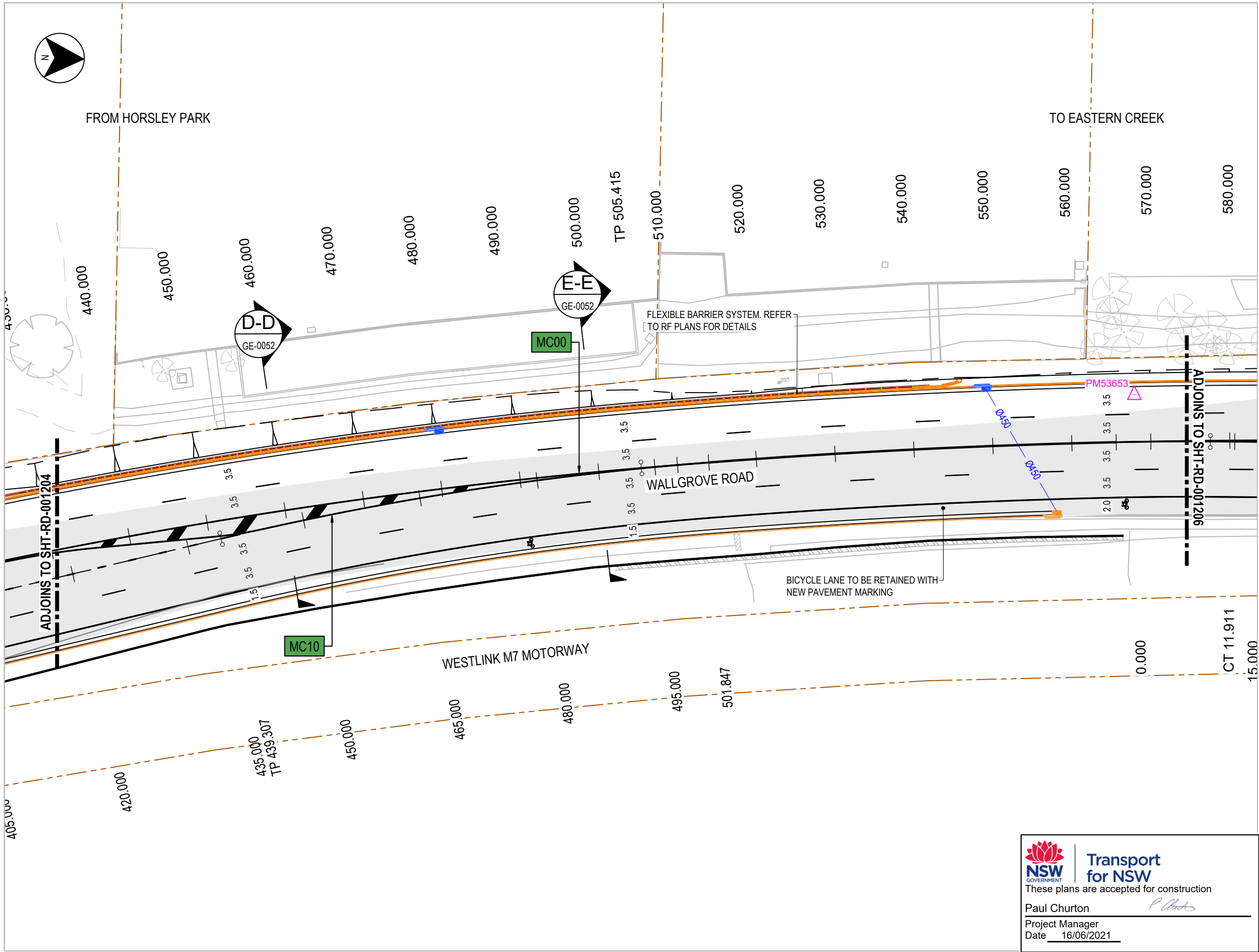


Transport for NSW
These plans are accepted for construction

Paul Churton
Project Manager
Date 16/06/2021

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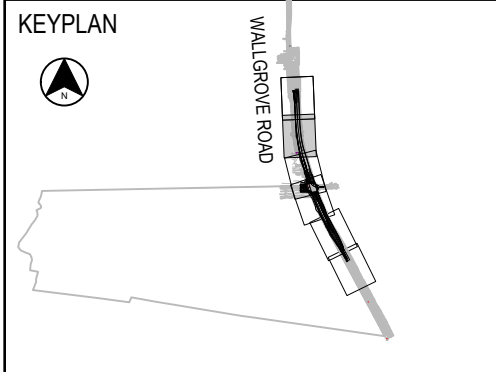
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		1	11.11.2020	80% DETAILED DESIGN			P.BYRUM					DRG CHECK	PHILIP BYRUM		31.07.2020			
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												PROJECT MNGR	PAUL CHURTON		31.07.2020			
PREPARED FOR SYDNEY DIVISION NETWORK DEVELOPMENT															TNSW REGISTRATION No	DS2020/000425	PA	
															ISSUE STATUS	EDMS No.	SHEET No.	IS
															ACCEPTED FOR CONSTRUCTION	-		SHT-0011204



LEGEND

- ROAD CONTROL LINE
- CADASTRAL BOUNDARY
- PROPOSED DESIGN
- EXISTING SURVEY
- ROAD CONTROL LINE LABEL
- EXISTING PAVEMENT
- EXISTING STORMWATER PIT
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NSW GOVERNMENT
Transport for NSW
These plans are accepted for construction
Paul Churton
Project Manager
Date 16/06/2021

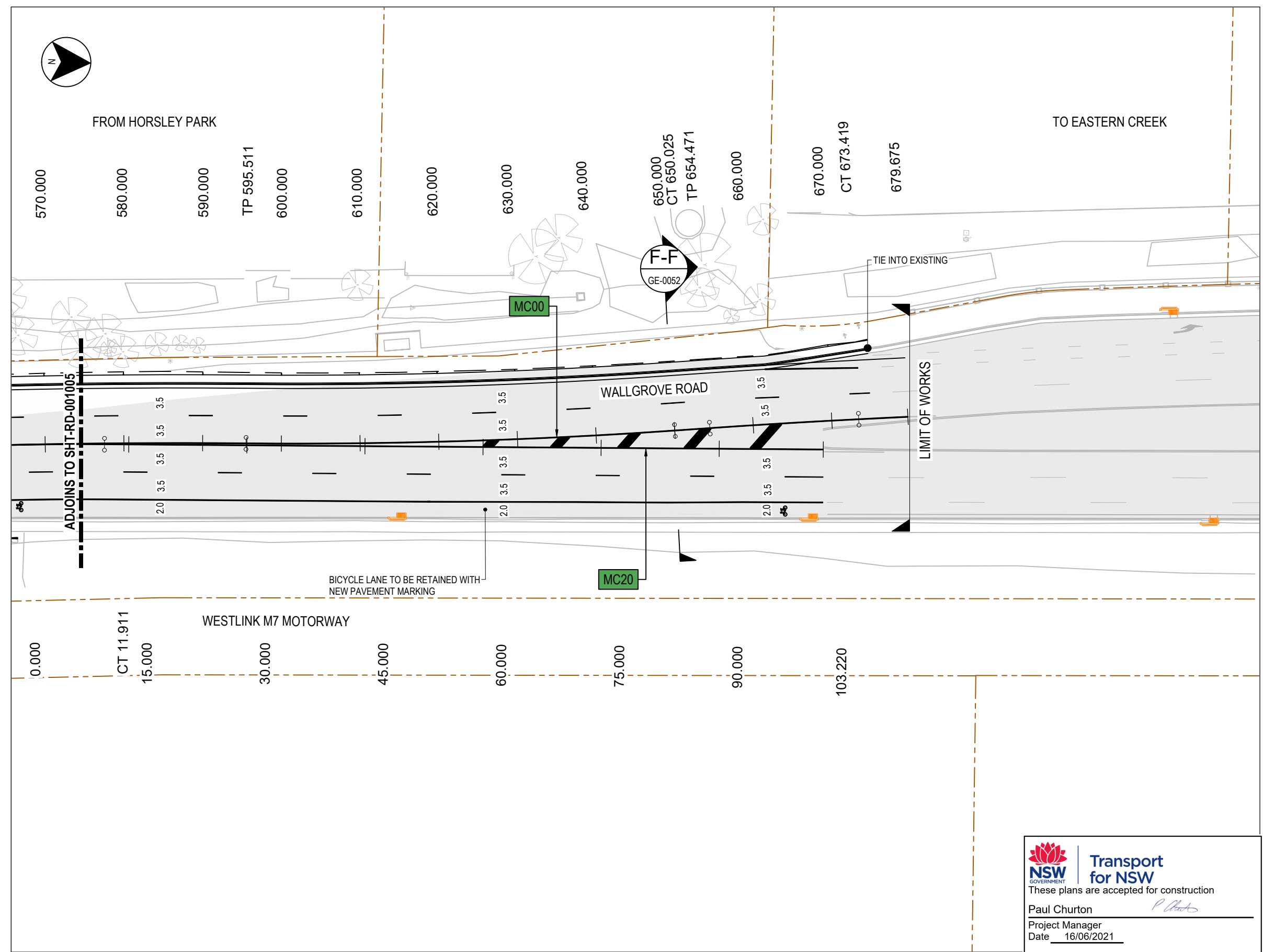
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				2		18.02.2021		100% DETAILED DESIGN				P.BYRUM			
				3		01.04.2021		ACCEPTED FOR CONSTRUCTION				P.BYRUM			

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED

Last saved by: ADMINISTRATOR(---) Last Plotted: 2021-04-01

150mm ON A3 SIZE ORIGINAL



LEGEND

000'0

ROAD CONTROL LINE

CADASTRAL BOUNDARY

PROPOSED DESIGN

EXISTING SURVEY

MXXX ROAD CONTROL LINE LABEL

EXISTING PAVEMENT

EXISTING STORMWATER PIT

NEW STORMWATER PIT

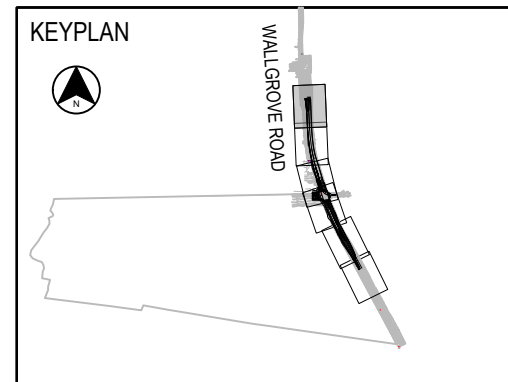
PIPE CONNECTION TO EXISTING PIT

ADJUST / MODIFY EXISTING PIT INLET

STN SURVEY CONTROL MARKER

SAFETY BARRIER

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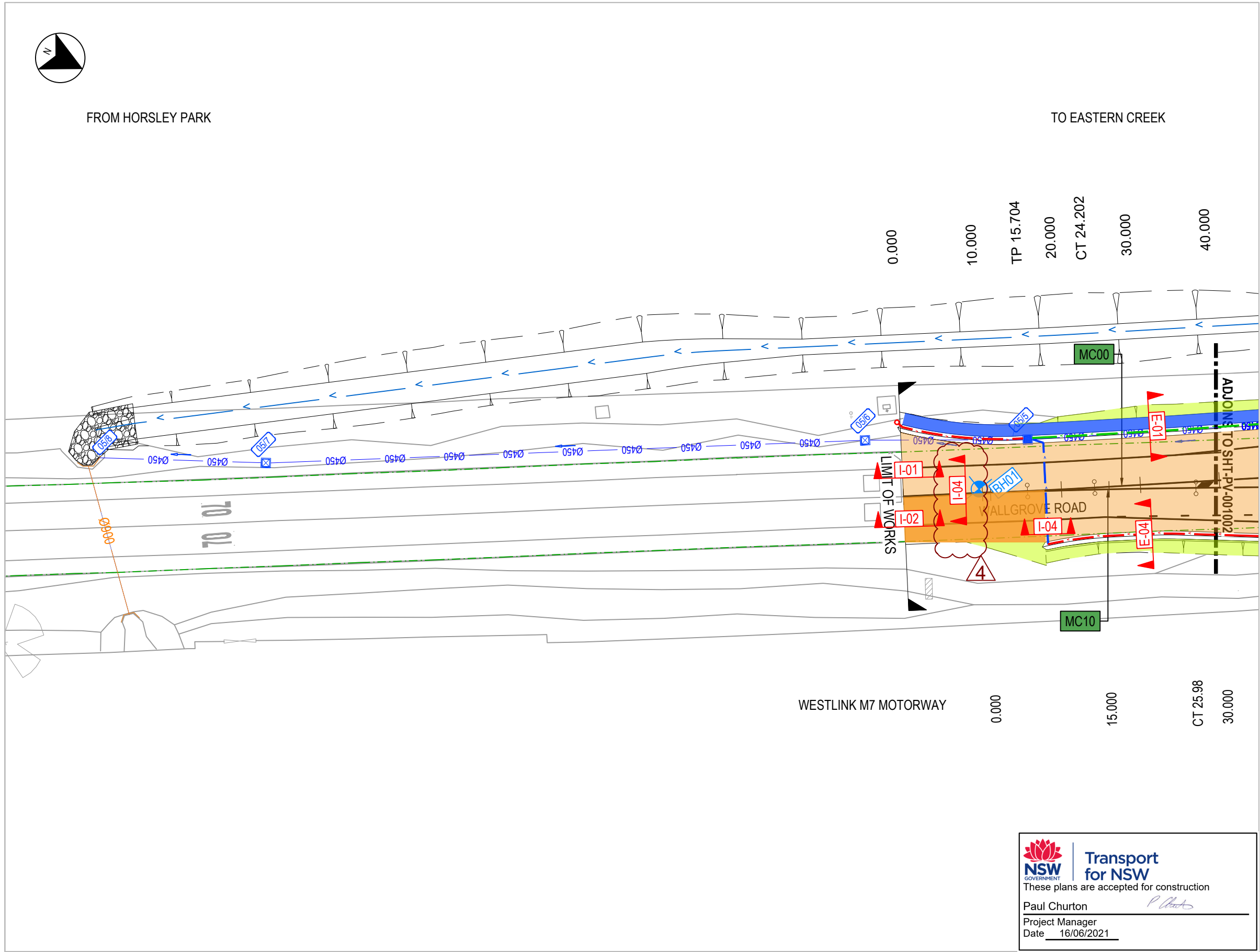
Project Manager

Date 16/06/2021

ACCEPTED FOR CONSTRUCTION

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EXTERNAL REFERENCE FILES				REV	DATE	AMENDMENT / REVISION DESCRIPTION		WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING		DRAWINGS / DESIGN PREPARED BY			TITLE	NAME	DATE	GAZCORP			
				0	31.07.2020	50% DETAILED DESIGN		P.BYRUM	 1 : 500 FULL SIZE A3		 ABR25 624 069 981 PO Box 7936, BAULKHAM HILLS NSW 2153 T:02) 9660 9035 E:info@orionconsulting.com.au			DRAWN	JASON BOVIS	31.07.2020					
				1	11.11.2020	80% DETAILED DESIGN		P.BYRUM						DRG CHECK	PHILIP BYRUM	31.07.2020					
				2	18.02.2021	100% DETAILED DESIGN		P.BYRUM						DESIGN	PHILLIP STODDART	31.07.2020					
				3	01.04.2021	ACCEPTED FOR CONSTRUCTION		P.BYRUM						DESIGN CHECK	PHILIP BYRUM	31.07.2020					
										CO-ORDINATE SYSTEM MGA Z56		HEIGHT DATUM AHD		DESIGN MNGR	PHILIP BYRUM	31.07.2020	PREPARED FOR SYDNEY DIVISION NETWORK DEVELOPMENT		TNSW REGISTRATION No. DS2020/000425		PART -
														PROJECT MNGR	PAUL CHURTON	31.07.2020	ISSUE STATUS ACCEPTED FOR CONSTRUCTION		EDMS No. -	SHEET No. SHT-RD-001206	ISSUE 3

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LEGEND FOR PAVEMENT TYPES

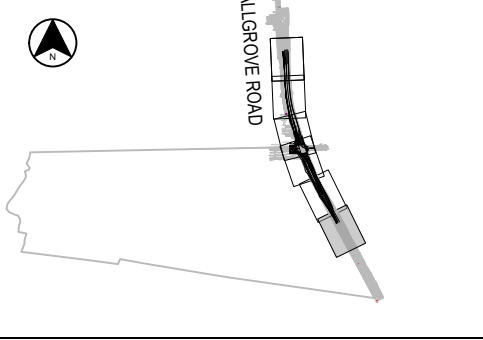
- T1 - TYPE 1 PAVEMENT
- P1 - PEDESTRIAN FOOTPATH
- RM1 - RAISED CONCRETE MEDIAN
- M&R - MILL AND RESHEET
- M&C - MILL AND CORRECTION
- GV - GRASSED VERGE
- CD1- CONCRETE ACCESS DRIVEWAY
- P2 - STRUCTURAL CONCRETE FOOTPATH
- HFA - HIGH FRICTION ASPHALT (PAFV>58)
- BATTER - GEO GRID TREATMENT
- BATTER

- ROAD CONTROL LINE
- CADASTRAL BOUNDARY
- PROPOSED DESIGN
- EXISTING SURVEY
- ROAD CONTROL LINE LABEL
- EXISTING STORMWATER PIT
- NEW STORMWATER PIT
- EXISTING PAVEMENT EDGE
- SUBSURFACE TRENCH DRAIN
- COMBINED STORMWATER/SUBSURFACE DRAIN
- INTERFACE DRAIN
- FLUSHING POINT

NOTES

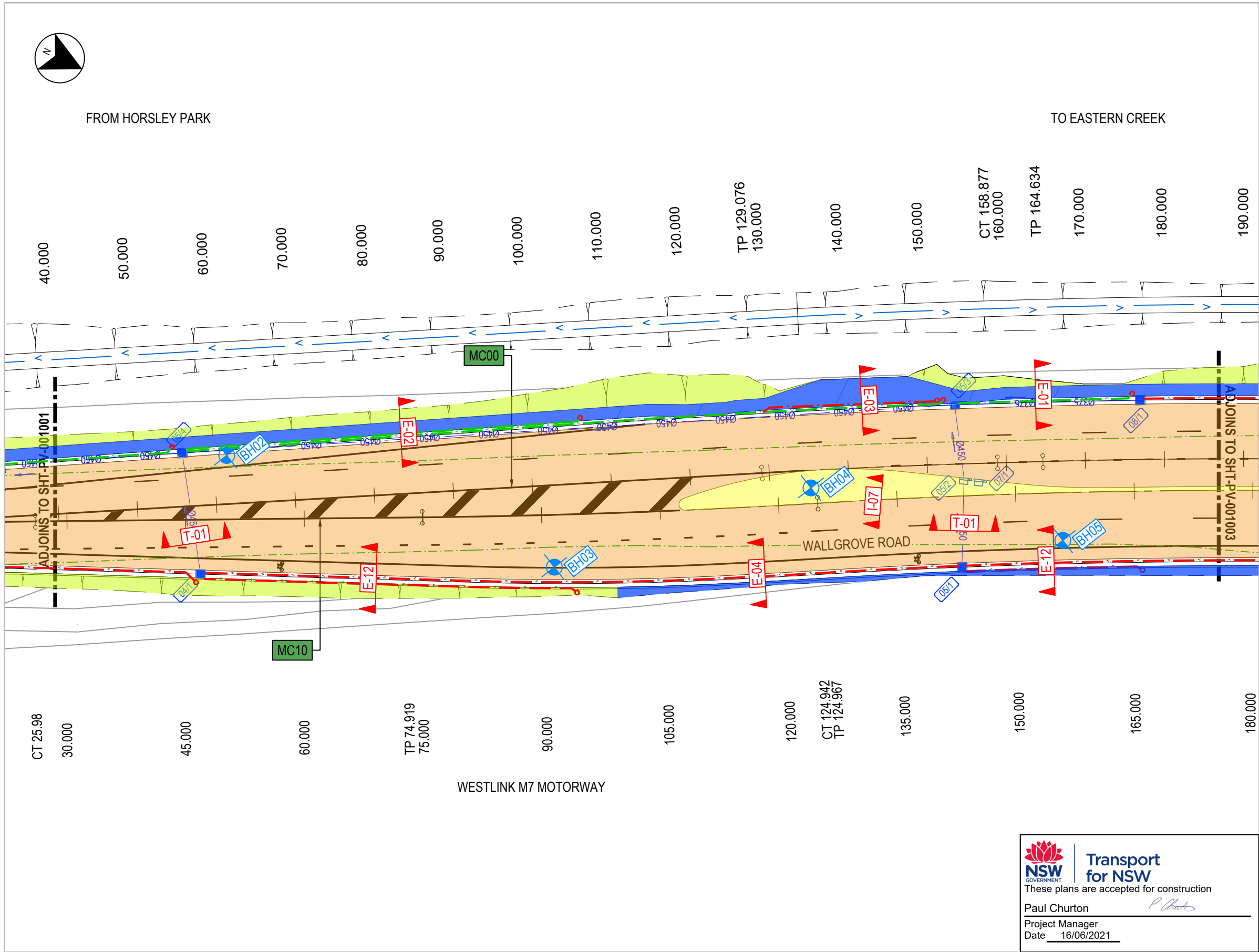
- ALL DIMENSIONS ARE IN METRES UNO.
- FOR GENERAL NOTES, REFER TO SHT-GE-000021 AND SHT-GE-000022.
- FOR PAVEMENT PROFILE DETAILS, REFER TO SHT-PV-005001.
- FOR KERB MEDIAN TYPES AND SETOUT DETAILS, REFER TO RD-SERIES.

KEYPLAN



ACCEPTED FOR CONSTRUCTION

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EXTERNAL REFERENCE FILES				REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING			DRAWINGS / DESIGN PREPARED BY			TITLE	NAME	DATE	GAZCORP PREPARED FOR SYDNEY DIVISION NETWORK DEVELOPMENT				TNSW REGISTRATION No. DS2020/000425				PART -		
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									CO-ORDINATE SYSTEM MGA Z56			HEIGHT DATUM AHD			PROJECT MNGR	PAUL CHURTON	31.07.2020											



LEGEND FOR PAVEMENT TYPES

- T1 - TYPE 1 PAVEMENT
- P1 - PEDESTRIAN FOOTPATH
- RM1 - RAISED CONCRETE MEDIAN
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- HFA - HIGH FRICTION ASPHALT (PAFV>58)
- BATTER - GEO GRID TREATMENT
- BATTER

NOTES

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KEYPLAN

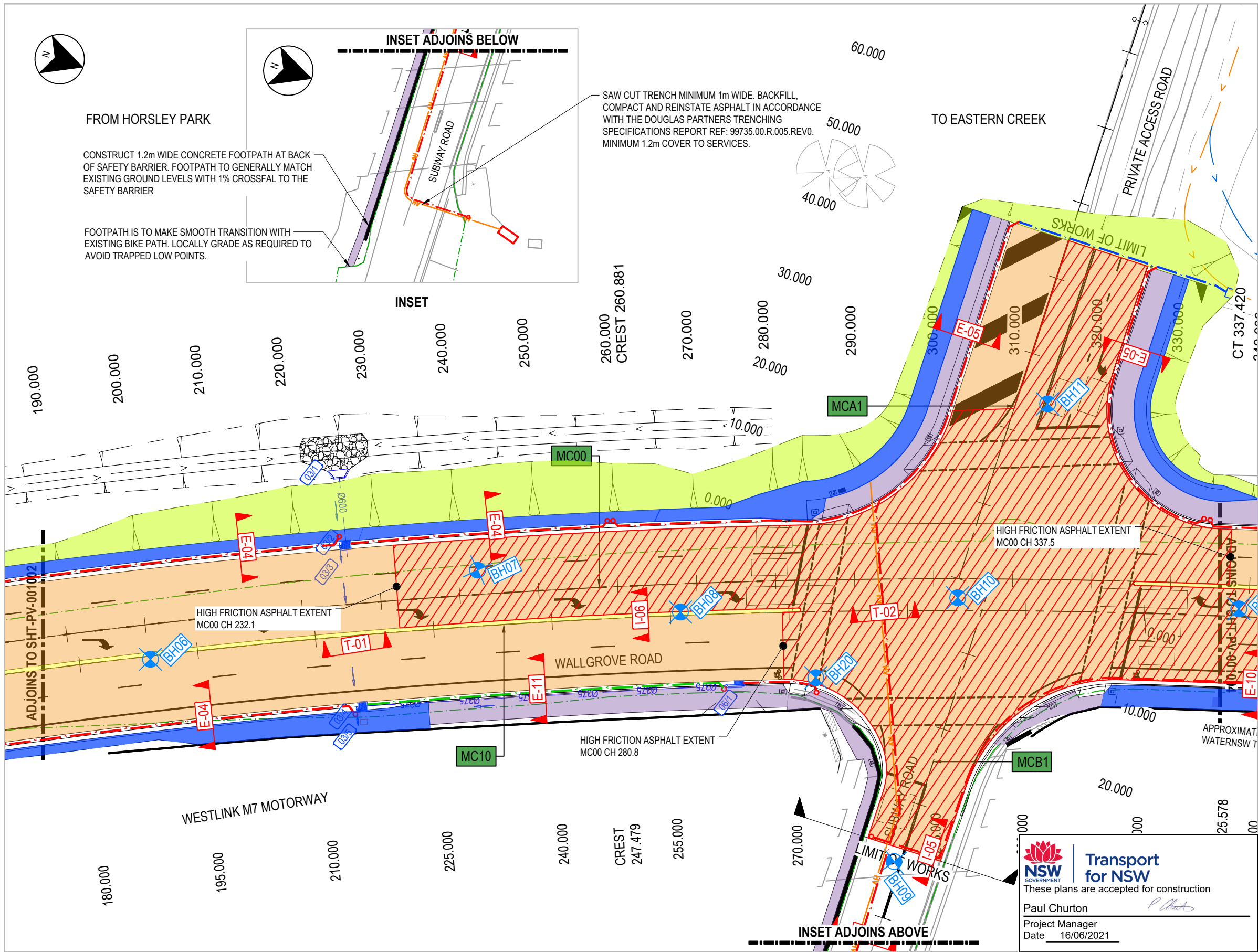
WALLGROVE ROAD

Transport for NSW
These plans are accepted for construction

Paul Churton
Project Manager
Date 16/06/2021

ACCEPTED FOR CONSTRUCTION

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												DESIGN MNGR PHILIP BYRUM		31.07.2020							
												PROJECT MNGR PAUL CHURTON		31.07.2020							



LEGEND FOR PAVEMENT TYPES

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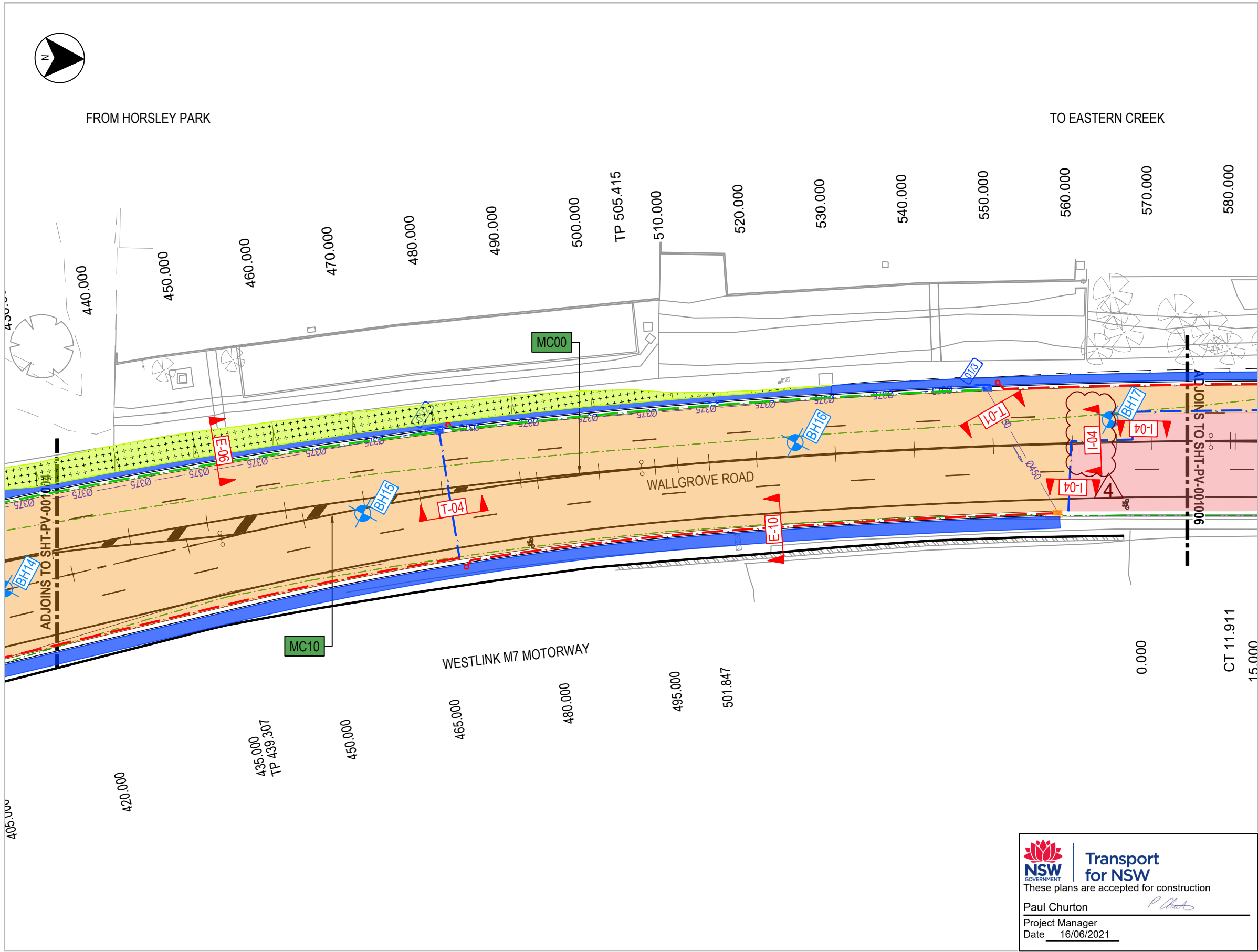
KEYPLAN

WALLGROVE ROAD

Transport for NSW
These plans are accepted for construction
Paul Churton
Project Manager
Date 16/06/2021

ACCEPTED FOR CONSTRUCTION

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LEGEND FOR PAVEMENT TYPES

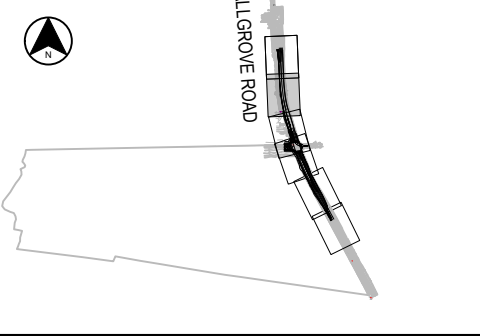
- T1 - TYPE 1 PAVEMENT
- P1 - PEDESTRIAN FOOTPATH
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KEYPLAN



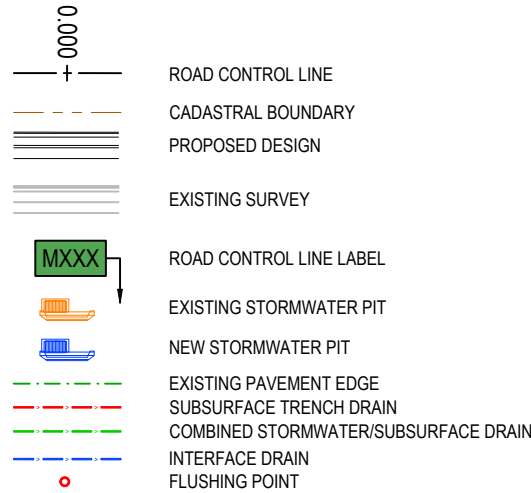
NSW GOVERNMENT
Transport for NSW
These plans are accepted for construction
Paul Churton
Project Manager
Date 16/06/2021

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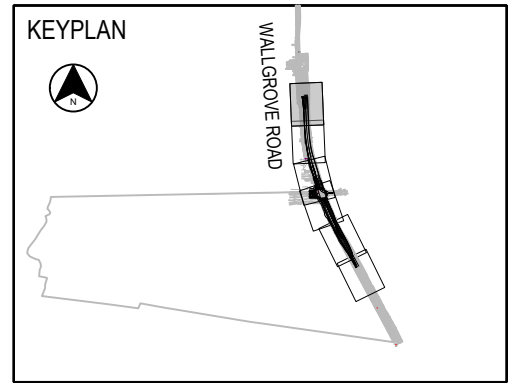
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														PROJECT MNGR	PAUL CHURTON	31.07.2020	ISSUE STATUS ACCEPTED FOR CONSTRUCTION			EDMS No. -	SHEET No. SHT-PV-001005	ISSUE 4	



	T1 - TYPE 1 PAVEMENT
	P1 - PEDESTRIAN FOOTPATH
	RM1 - RAISED CONCRETE MEDIAN
	M&R - MILL AND RESHEET
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	BATTER - GEO GRID TREATMENT
	BATTER

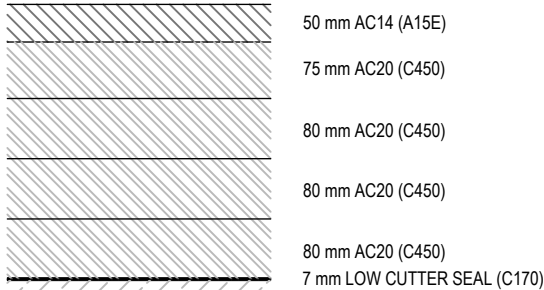


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4. FOR KERB MEDIAN TYPES AND SETOUT DETAILS, REFER TO RD-SERIES.



ACCEPTED FOR CONSTRUCTION

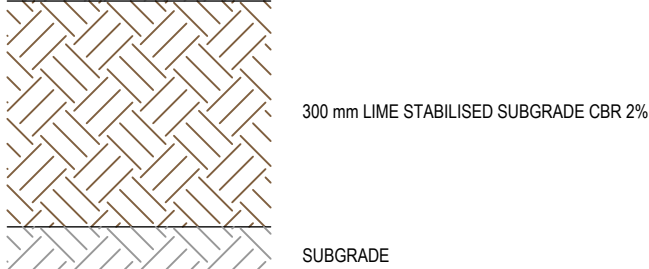
DRAWING FILE LOCATION / NAME C:\12d\Sdata\ORION-SYN01\05-RD Wallgrove Road Upgrade_20302\DWGS\Xref\RMS_CIVIL-GE-SHT_A3.dwg				DESIGN LOT CODE		DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING				PLOT DATE / TIME			PLOT BY			CLIENT		FAIRFIELD CITY COUNCIL - LOCAL GOVERNMENT AREA 19-0108 - MR515 WALLGROVE ROAD, HORSELY PARK INTERSECTION UPGRADE PAVEMENT PLAN				A3
EXTERNAL REFERENCE FILES				REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING		DRAWINGS / DESIGN PREPARED BY			TITLE	NAME	DATE	GAZCORP	PREPARED FOR SYDNEY DIVISION NETWORK DEVELOPMENT	TNSW REGISTRATION No. DS2020/000425			PART
				0	31.07.2020	50% DETAILED DESIGN		P.BYRUM			   ABN:25 604 089 981 PO Box 7936, BAULKHAM HILLS NSW 2153 T:02 8660 0035 E:info@orionconsulting.com.au			DRAWN	JASON BOVIS	31.07.2020			SHEET 6 OF 6			-
				1	11.11.2020	80% DETAILED DESIGN		P.BYRUM						DRG CHECK	PHILIP BYRUM	31.07.2020						
				2	18.01.2021	100% DETAILED DESIGN		P.BYRUM						DESIGN	PHILLIP STODDART	31.07.2020						
				3	01.04.2021	ACCEPTED FOR CONSTRUCTION		P.BYRUM						DESIGN CHECK	PHILIP BYRUM	31.07.2020						
				4	22.04.2021	INTERFACE TAG UPDATED		P.BYRUM						DESIGN MNGR	PHILIP BYRUM	31.07.2020						
										PROJECT MNGR	PAUL CHURTON	31.07.2020										
									CO-ORDINATE SYSTEM MGA Z56		HEIGHT DATUM AHD								ISSUE STATUS ACCEPTED FOR CONSTRUCTION	EDMS No. -	SHEET No. SHT-PV-001006	ISSUE 4



50 mm AC14 (A15E)
75 mm AC20 (C450)
80 mm AC20 (C450)
80 mm AC20 (C450)
80 mm AC20 (C450)
7 mm LOW CUTTER SEAL (C170)



300 mm SELECT MATERIAL ZONE
(MIN. CBR 30%)
SUBGRADE



300 mm LIME STABILISED SUBGRADE CBR 2%
SUBGRADE



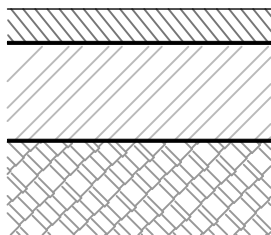
PAVEMENT TYPE - T1
FULL DEPTH AC



50 mm AC14 (A15E)
TACKCOAT
EXISTING PAVEMENT (REFER TO NOTE 3)



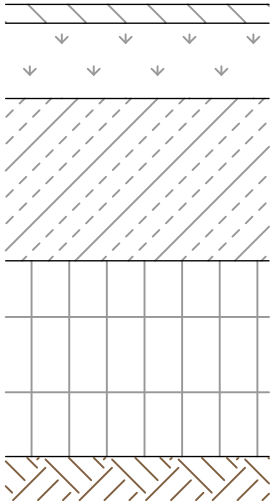
PAVEMENT TYPE - M&R
MILL AND RESHEET (EXISTING PAVEMENT)



50 mm AC14 (A15E)
TACKCOAT
AC10 OR AC14 ASPHALT CORRECTION LAYER
(REFER TO NOTES 2 AND 3)
TACKCOAT
EXISTING PAVEMENT (REFER TO NOTE 5)



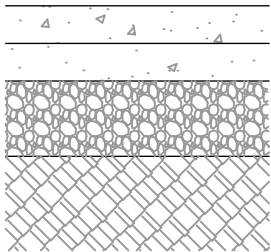
PAVEMENT TYPE - M&C
MILL AND CORRECTION (EXISTING PAVEMENT)



TURF
100 mm TURF UNDERLAY
200mm MIN. CULTIVATED SUBGRADE
260 mm (AND VARIES) COMPACTED VERGE MATERIAL
SUBGRADE



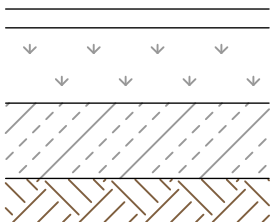
PAVEMENT TYPE - GV
GRASSED VERGE (TfNSW R44)



MIN. 100 mm 25MPa CONCRETE
WITH SL72 MESH AND BROOM
FINISH (REFER TO NOTE 5)
100 mm DGS20
EXISTING PAVEMENT
OR GENERAL FILL



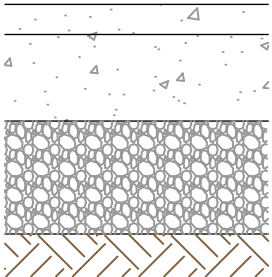
PAVEMENT TYPE - RM1
RAISED CONCRETE MEDIAN



HYDROSEED TO LANDSCAPE DETAILS
100 mm VENM IMPORTED ORGANIC TOPSOIL (TfNSW
SPECIFICATION R178)
100 mm MIN. CULTIVATED SUBGRADE. REMOVE ALL
EXTRANEIOUS MATERIAL FROM SITE
SUBGRADE



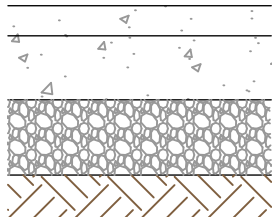
BATTER



150 mm THICK 32MPa CONCRETE WITH SL82 MESH
WITH 40 mm TOP COVER
150 mm DGS20
EXISTING SUBGRADE OR PREPARED
FORMATION



PAVEMENT TYPE - CD1
CONCRETE ACCESS DRIVEWAY



MIN. 125 mm 25 MPa CONCRETE WITH SL72
REINFORCING MESH AND 40 mm COVER
(REFER TO NOTES 5)
100 mm DGS20
EXISTING SUBGRADE OR PREPARED
FORMATION



PAVEMENT TYPE - P1
PEDESTRIAN FOOTPATH
(TO BE CONSTRUCTED TO FAIRFIELD CITY
COUNCIL'S CONSTRUCTION SPECIFICATION
AND TfNSW R44)



450mm CONCRETE FOOTING. REFER TO
STRUCTURAL ENGINEERING DRAWINGS BY
K.F. WILLIAMS AND ASSOCIATES (PROJECT
NUMBER KF113525, DRAWINGS S000, S100
AND S101 REV B DATED 25.01.2021)



PAVEMENT TYPE - P2
STRUCTURAL CONCRETE FOOTPATH
(SUBJECT TO STRUCTURAL DESIGN)

NOTES

1. ALL PAVEMENTS, FOOTPATHS AND RAISED MEDIANS ARE CONSTRUCTED TO TfNSW SPECIFICATIONS.
2. CORRECTIVE COURSE THICKNESS WILL VARY TO MATCH REVISED SURFACE LEVELS.
3. SEAL ALL CRACKS IN THE EXISTING PAVEMENT AFTER MILLING AND SWEEPING LOOSE DEBRIS IN ACCORDANCE WITH M211. 50mm OF THE EXISTING WEARING SURFACE IS TO BE MILLED AND REMOVED.
4. PEDESTRIAN FOOTWAY IS TO BE IN ACCORDANCE WITH FAIRFIELD CITY COUNCIL'S STANDARD DRAWING S-501.
5. SURFACE OF THE COMPACTED UNBOUND GRANULAR MATERIAL MUST BE MOISTENED PRIOR TO PLACING THE CONCRETE TO MINIMISE MOISTURE LOSS.



Transport
for NSW

These plans are accepted for construction

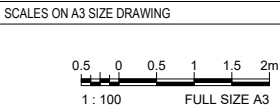
Paul Churton

Project Manager

Date 16/06/2021

ACCEPTED FOR CONSTRUCTION

DRAWING FILE LOCATION / NAME			
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EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION
	0	31.07.2020	50% DETAILED DESIGN
	1	11.11.2020	80% DETAILED DESIGN
	2	17.02.2021	100% DETAILED DESIGN
	3	01.04.2021	ACCEPTED FOR CONSTRUCTION



GAZCORP

PREPARED FOR
SYDNEY DIVISION
NETWORK DEVELOPMENT

FAIRFIELD CITY COUNCIL - LOCAL GOVERNMENT AREA
19-0108 - MR515 WALLGROVE ROAD, HORSELY PARK
INTERSECTION UPGRADE
PAVEMENT PROFILES

TfNSW REGISTRATION No. DS2020/000425

ISSUE STATUS
ACCEPTED FOR CONSTRUCTION

EDMS No.

SHEET No.
SHT-PV-005001

ISSUE
3

Annexure H – Ultimate Design TCS Drawings

NOTES

- This site is SCATS linked.
- Special STOP signs R1-4 are placed on Posts 2 and 7.
- Audio tactile push buttons are provided on posts 1, 2, 3, 4, 5, 8, 9 and 10.
- Single Diamond Overlap operation in accordance with TS-TN-026.
- CCTV Camera is mounted on Post 10.
- Kerb ramps to be constructed at all pedestrian crossings in accordance with RMS Standard (Road) Drawing R.0300-11.
- All civil construction works to be in accordance with detailed design prepared by Orion Consulting drawing no. DS2020/000425.

POSTS

POSTS	TYPE	LENGTH	OFFSET	REMARKS
1	2	4.1	1.0	EXISTING
2	5XL	-	1.0	EXISTING
3	2	4.1	1.0	EXISTING
4	9	-	1.0	EXIST (MA OUTREACH 7m)
5	2	3.2	1.0	EXISTING
6	2	4.1	1.0	EXISTING
7	2	4.1	1.3	EXISTING
8	2	3.2	0.8	EXISTING
9	2	4.1	1.0	EXISTING
10	9	-	1.0	EXIST (MA OUTREACH 7m)

3 additional arrows
at standard spacingD-E Detector
D2 Detector
7 additional arrows
at standard spacing

ACCESS ROAD

VACANT

Supply Pillar
Asset No. 168998

A-C Detectors

A-C-E Detector

4 additional arrows
at standard spacing

WALLGROVE

From
ROOBY HILL

L1 Continuous

L1 Continuous

L1 Continuous

L1 Continuous

L1 Continuous

L1 Continuous

L1 Continuous

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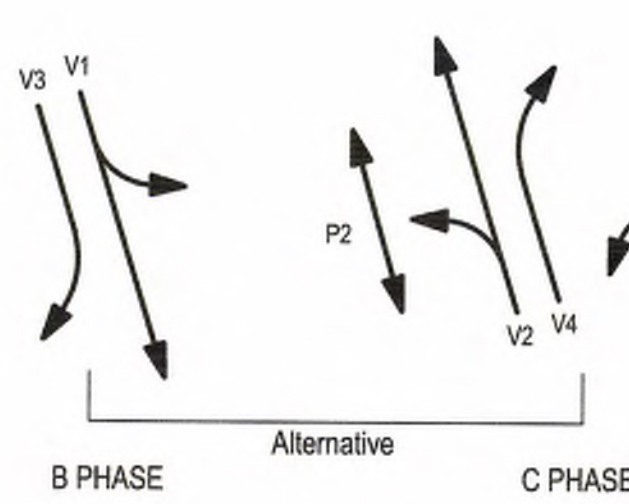
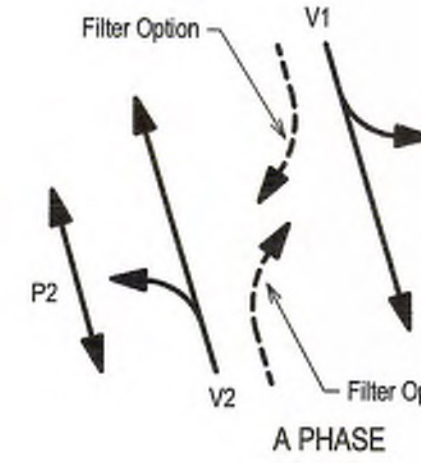
L1 Continuous

L1 Continuous

L1 Continuous

L1 Continuous

L1 Continuous



MOVEMENTS

DETECTOR SCHEDULE

D-E	FN	E1(PR)	D(E3)	E(E4)
SG/PS	DS	V6.V12	D	E
		E	RED(NEXT)	RED(NEXT)

SIGNAL GROUP PHASE CHART

SIGNAL GROUP	PHASE WHEN GREEN DISPLAYED							TABLE	REMARKS
	A	B	C	D	E	E1	E2		
V1	X	X				X		TS-TN-026	
V2	X		X				X	TS-TN-026	
V3		X			X	X		165	Timed Red Arrow protection for P2 pedestrians. Pushbutton on Post 2 extends protection, subject to timer, for P2 pedestrians.
V4			X		X		X	165	Timed Red Arrow protection for P1 pedestrians. Pushbutton on Post 8 extends protection, subject to timer, for P1 pedestrians.
V5				X				TS-TN-026	
V6				X				TS-TN-026	
V7				C				83	Timed Red Arrow protection for P4 pedestrians. Pushbutton on Post 4 extends protection, subject to timer, for P4 pedestrians.
V8				C				83	Timed Red Arrow protection for P3 pedestrians. Pushbutton on Post 10 extends protection, subject to timer, for P3 pedestrians.
V9	C							149	Timed Red Arrow protection for P1 pedestrians. Pushbutton on Post 8 extends protection, subject to timer, for P1 pedestrians.
V10	C							149	Timed Red Arrow protection for P2 pedestrians. Pushbutton on Post 2 extends protection, subject to timer, for P2 pedestrians.
V11			X	C	X		X	145	Timed Red Arrow protection for P3 pedestrians. Pushbutton on Post 10 extends protection, subject to timer, for P3 pedestrians.
V12		X		C	X	X		145	Timed Red Arrow protection for P4 pedestrians. Pushbutton on Post 4 extends protection, subject to timer, for P4 pedestrians.
P1	X	X				X		110	
P2	X		X				X	110	
P3				X				2	
P4				X				2	

PUBLIC UTILITY LEGEND		REFERENCE PLANS		U.B.D. Ref.	
HYDRANT	□	SYMBOLS/ABRVS	VD003-8	I.S.G.	E: 313 019
STOP VALVE	▲	STD POSN CMPT	VD001-5	CO-ORDS N:	1 242 520
GAS VALVE	▲	INSTL STOP DET	VD005-17	DESIGNED:	G VARLEY
SEWER MANHOLE	⊗	VEH GROUP OP	TS-TN-019	ROAD DELAY SOLUTIONS P/L	
COMMS PIT	⊗	DET LOGIC OP	TS-TN-020	CHECKED:	P STODART
ELECT LIGHT POLE	⊗	PED MNT OP	TS-TN-021	DATE:	10/05/2021
POWER POLE	⊗				
STAY POLE	⊗				
TELEPHONE BOX	⊗	SURVEYOR: Orion Consulting			
COMMS PILLAR	⊗	DATE:	2019		

DESIGN APPROVAL		RMS RECOMMENDATION		RMS ACCEPTANCE	
APPROVED		ROAD DESIGN ENGINEERING		ACCEPTED	
NAME	GLEN VARLEY	NAME	Philip Quigg	NAME	Dina Khamraeva
POSITION	DIRECTOR	POSITION	Network Safety Services	POSITION	Network Safety Services
DATE	10/05/2021	DATE	01/06/2021	DATE	14/06/2021

ROAD DELAY SOLUTIONS		ROADS AND MARITIME SERVICES	
ROAD DELAY SOLUTIONS P/L		BLACKTOWN COUNCIL AREA	
9 HORNET PLACE WARRIEWOOD NSW 2120		TRAFFIC SIGNALS AT	
AUSTRALIA		M.R.515 WALLGROVE ROAD, SUBWAY ROAD AND	
Mobile: 0414 800 912 Email: gvarley@rsdps.com.au		ACCESS ROAD	
		HORSLEY PARK	

DESIGN APPROVAL		RMS RECOMMENDATION		RMS ACCEPTANCE	
APPROVED		ROAD DESIGN ENGINEERING		ACCEPTED	
NAME	GLEN VARLEY	NAME	Philip Quigg	NAME	Dina Khamraeva
POSITION	DIRECTOR	POSITION	Network Safety Services	POSITION	Network Safety Services
DATE	10/05/2021	DATE	01/06/2021	DATE	14/06/2021

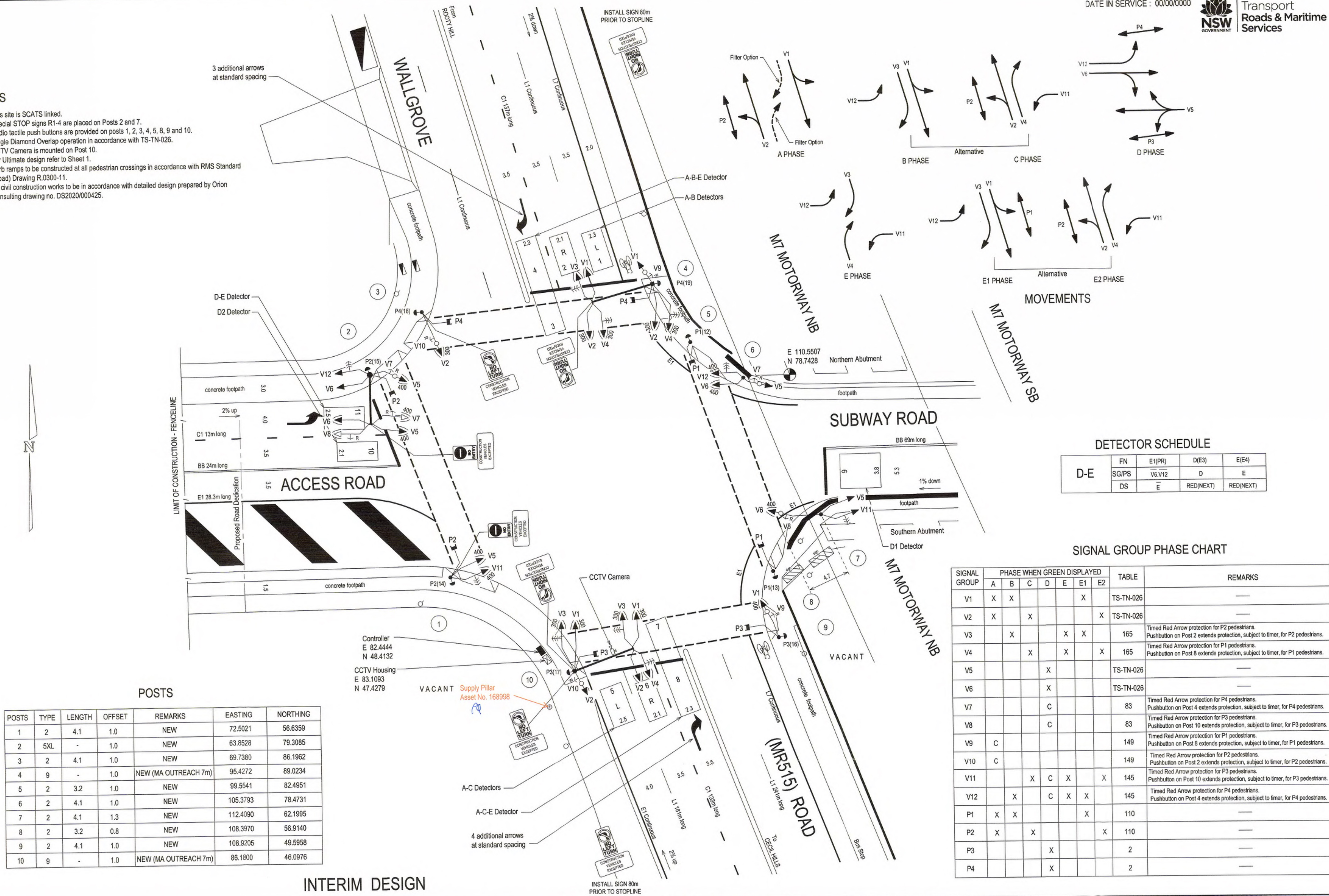
ROADS AND MARITIME SERVICES		BLACKTOWN COUNCIL AREA	
TRAFFIC SIGNALS AT		M.R.515 WALLGROVE ROAD, SUBWAY ROAD AND	
ACCESS ROAD		HORSLEY PARK	
DESIGN LAYOUT			

EXISTING		PROPOSED	
CADD FILE:	VV5058_DES_1a.dgn	CADD FILE:	VV5058_DES_1a.dgn
SCALE	5 0 (1:200) 5 10	SCALE	5 0 (1:200) 5 10
FILE	SF2020/139656	FILE	SF2020/139656
REG No.	DS2020/000569	REG No.	DS2020/000569
TCS No.	5058	TCS No.	5058
SHEET	1	SHEET	1

NOTES

1. This site is SCATS linked.
2. Special STOP signs R1-4 are placed on Posts 2 and 7.
3. Audio tactile push buttons are provided on posts 1, 2, 3, 4, 5, 8, 9 and 10.
4. Single Diamond Overlap operation in accordance with TS-TN-026.
5. CCTV Camera is mounted on Post 10.
6. For Ultimate design refer to Sheet 1.
7. Kerb ramps to be constructed at all pedestrian crossings in accordance with RMS Standard (Road) Drawing R.0300-11.
8. All civil construction works to be in accordance with detailed design prepared by Orion Consulting drawing no. DS2020/000425.

DATE IN SERVICE : 00/00/0000



POSTS	TYPE	LENGTH	OFFSET	REMARKS	EASTING	NORTHING
1	2	4.1	1.0	NEW	72.5021	56.6359
2	5XL	-	1.0	NEW	63.8528	79.3085
3	2	4.1	1.0	NEW	69.7380	86.1962
4	9	-	1.0	NEW (MA OUTREACH 7m)	95.4272	89.0234
5	2	3.2	1.0	NEW	99.5541	82.4951
6	2	4.1	1.0	NEW	105.3793	78.4731
7	2	4.1	1.3	NEW	112.4090	62.1995
8	2	3.2	0.8	NEW	108.3970	56.9140
9	2	4.1	1.0	NEW	108.9205	49.5958
10	9	-	1.0	NEW (MA OUTREACH 7m)	86.1800	46.0976

INTERIM DESIGN

A ORIGINAL ISSUE

PUBLIC UTILITY LEGEND	REFERENCE PLANS
HYDRANT	SYMBOLS/ABRVS
STOP VALVE	STD POSN CMPT
GAS VALVE	INSTL STOP DET
SEWER MANHOLE	VEH GROUP OP
COMMS PIT	DET LOGIC OP
ELECT LIGHT POLE	PED MVT OP
POWER POLE	SITE CHECKED
STAY POLE	
TELEPHONE BOX	
COMMS PILLAR	

U.B.D. Ref.	Map 207 G7
I.S.G. E	313 019
CO-ORDS N	1 242 520
DESIGNED	G VARLEY
CHECKED	P STODART
DATE	10.05.2021
SURVEYOR	Orion Consulting
DATE	2019

DESIGN APPROVAL	RMS RECOMMENDATION	RMS ACCEPTANCE
APPROVED	ROAD DESIGN ENGINEERING	ACCEPTED
NAME	NAME	NAME
POSITION	POSITION	POSITION
DATE	DATE	DATE

ROAD DELAY SOLUTIONS	NETWORK OPERATIONS
NAME	NAME
POSITION	POSITION
DATE	DATE

ROAD DELAY SOLUTIONS	NETWORK OPERATIONS
NAME	NAME
POSITION	POSITION
DATE	DATE

ROAD DELAY SOLUTIONS	NETWORK OPERATIONS
NAME	NAME
POSITION	POSITION
DATE	DATE

ROADS AND MARITIME SERVICES

BLACKTOWN COUNCIL AREA
TRAFFIC SIGNALS AT
M.R.515 WALLGROVE ROAD, SUBWAY ROAD AND
ACCESS ROAD
HORSLEY PARK

EXISTING ☐ PROPOSED ☒

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SCALE 5 0 (1:200) 5 10

FILE SF2020/139656

SUPERSEDES SHEET/ISSUE

REG No. DS2020/000569

TCS No. 5058

SHEET 2

Revision 6 - July 2017

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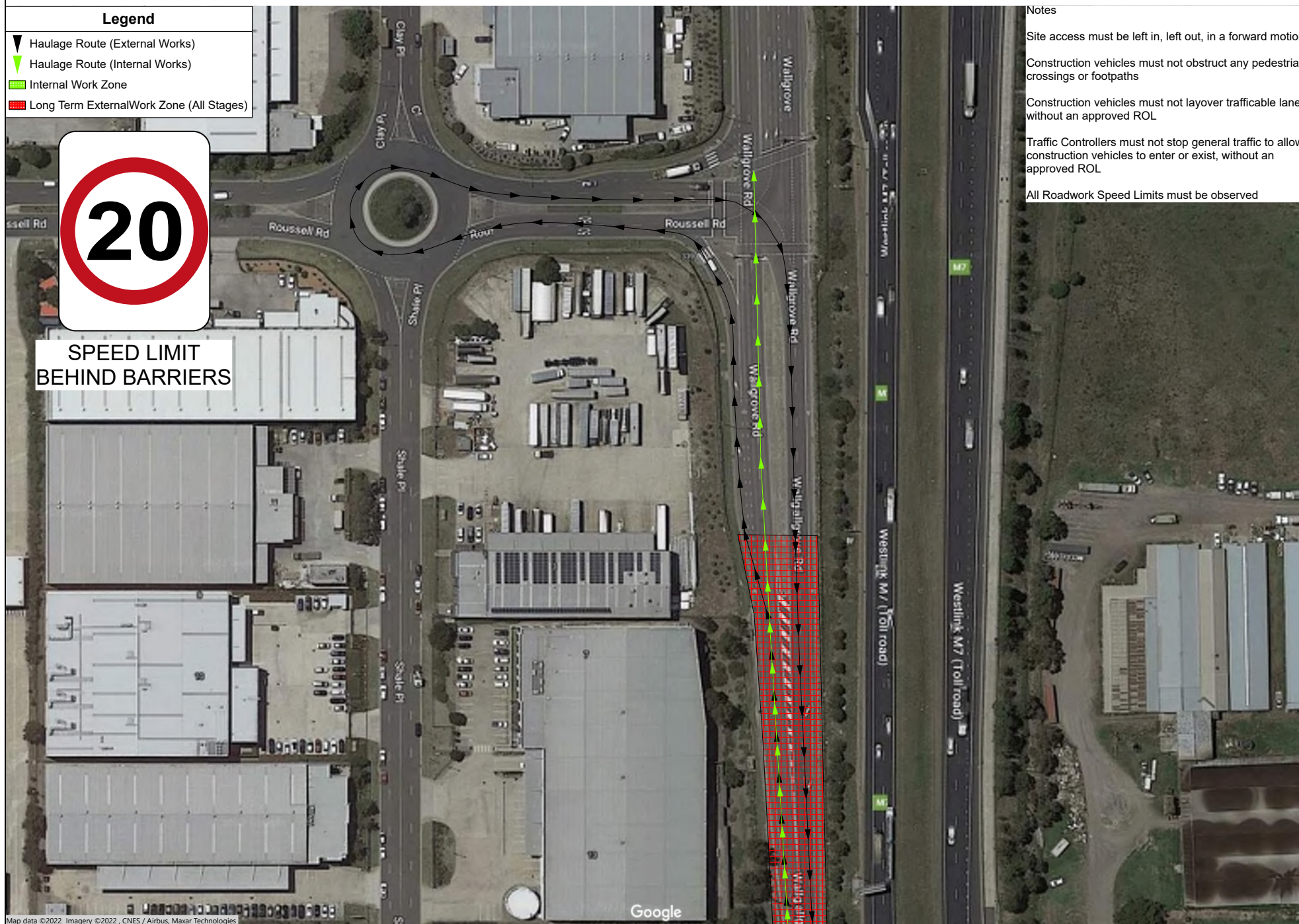
Annexure I – Vehicle Management Plan

Legend

- ▼ Haulage Route (External Works)
- ▲ Haulage Route (Internal Works)
- Internal Work Zone
- Long Term External Work Zone (All Stages)



SPEED LIMIT
BEHIND BARRIERS



Notes

Site access must be left in, left out, in a forward motion

Construction vehicles must not obstruct any pedestrian crossings or footpaths

Construction vehicles must not layover trafficable lanes without an approved ROL

Traffic Controllers must not stop general traffic to allow construction vehicles to enter or exist, without an approved ROL

All Roadwork Speed Limits must be observed

Legend

- ▼ Haulage Route (External Works)
- ▼ Haulage Route (Internal Works)
- Internal Work Zone
- Long Term ExternalWork Zone (All Stages)



SPEED LIMIT
BEHIND BARRIERS

Notes

- Site access must be left in, left out, in a forward motion
- Construction vehicles must not obstruct any pedestrian crossings or footpaths
- Construction vehicles must not layover trafficable lanes without an approved ROL
- Traffic Controllers must not stop general traffic to allow construction vehicles to enter or exist, without an approved ROL
- All Roadwork Speed Limits must be observed



Legend

- ▼ Haulage Route (External Works)
- ▼ Haulage Route (Internal Works)
- Internal Work Zone
- Long Term External Work Zone (All Stages)



SPEED LIMIT
BEHIND BARRIERS

Notes

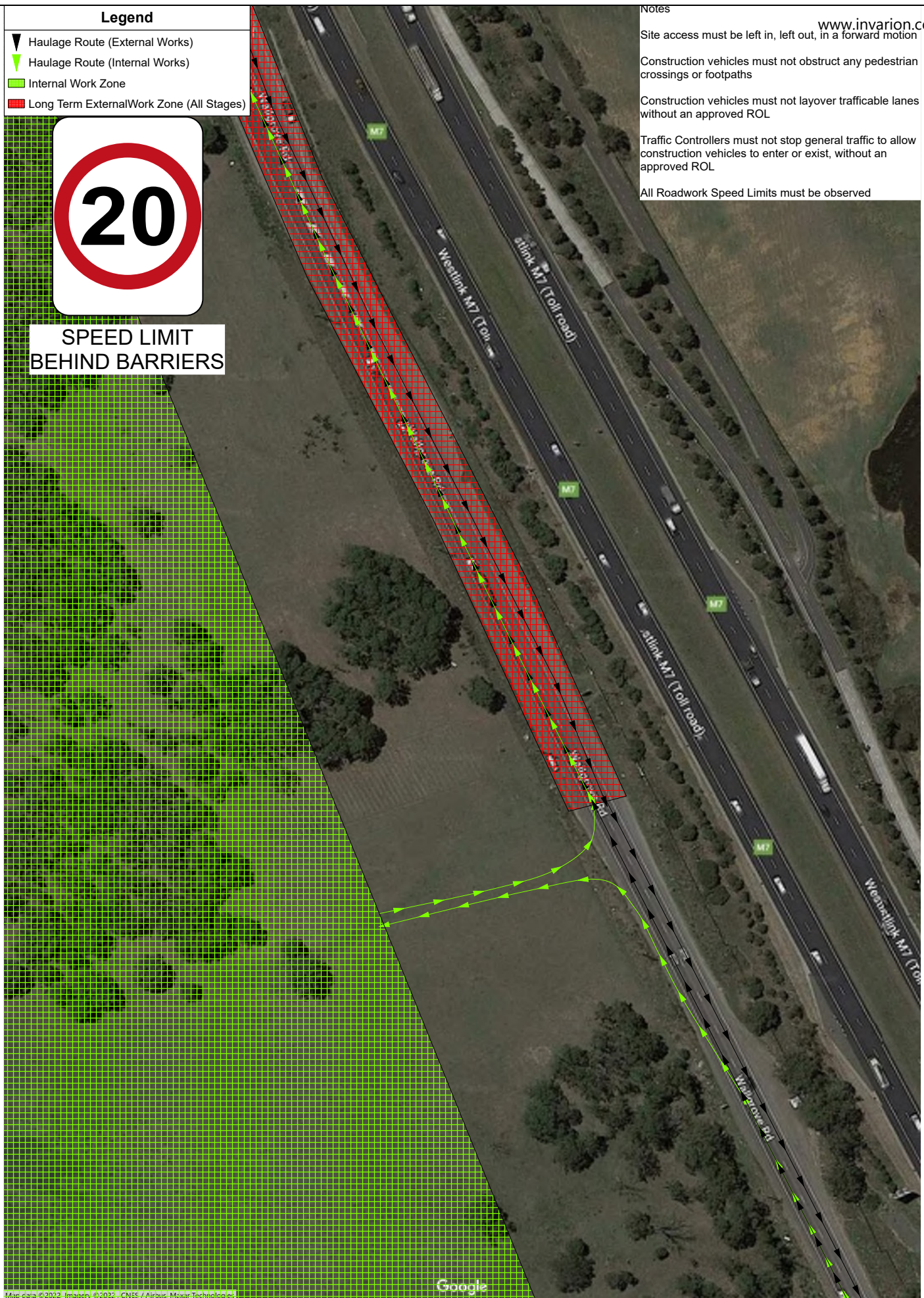
Site access must be left in, left out, in a forward motion www.invarion.com

Construction vehicles must not obstruct any pedestrian crossings or footpaths

Construction vehicles must not layover trafficable lanes without an approved ROL

Traffic Controllers must not stop general traffic to allow construction vehicles to enter or exist, without an approved ROL

All Roadwork Speed Limits must be observed



Legend

- ▼ Haulage Route (External Works)
- ▼ Haulage Route (Internal Works)
- Internal Work Zone
- Long Term External Work Zone (All Stages)



SPEED LIMIT
BEHIND BARRIERS

Notes

www.invarion.com

Site access must be left in, left out, in a forward motion

Construction vehicles must not obstruct any pedestrian crossings or footpaths

Construction vehicles must not layover trafficable lanes without an approved ROL

Traffic Controllers must not stop general traffic to allow construction vehicles to enter or exist, without an approved ROL

All Roadwork Speed Limits must be observed



Legend

- ▼ Haulage Route (External Works)
- ▼ Haulage Route (Internal Works)
- Internal Work Zone
- Long Term External Work Zone (All Stages)



SPEED LIMIT
BEHIND BARRIERS

Notes

Site access must be left in, left out, in a forward motion www.invarion.com

Construction vehicles must not obstruct any pedestrian crossings or footpaths

Construction vehicles must not layover trafficable lanes without an approved ROL

Traffic Controllers must not stop general traffic to allow construction vehicles to enter or exist, without an approved ROL

All Roadwork Speed Limits must be observed



Legend

-  Haulage Route (External Works)
-  Haulage Route (Internal Works)
-  Internal Work Zone
-  Long Term External Work Zone (All Stages)



**SPEED LIMIT
BEHIND BARRIERS**

Notes

Site access must be left in, left out, in a forward motion

Construction vehicles must not obstruct any pedestrian crossings or footpaths

Construction vehicles must not layover trafficable lanes without an approved ROL

Traffic Controllers must not stop general traffic to allow construction vehicles to enter or exist, without an approved ROL

All Roadwork Speed Limits must be observed



Legend

- ▼ Haulage Route (External Works)
- ▼ Haulage Route (Internal Works)
- Internal Work Zone
- Long Term External Work Zone (All Stages)



SPEED LIMIT
BEHIND BARRIERS

Notes

www.invarion.com

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Construction vehicles must not layover trafficable lanes without an approved ROL

Traffic Controllers must not stop general traffic to allow construction vehicles to enter or exist, without an approved ROL

All Roadwork Speed Limits must be observed



Legend

- ▼ Haulage Route (External Works)
- ▼ Haulage Route (Internal Works)
- Internal Work Zone
- Long Term External Work Zone (All Stages)



**SPEED LIMIT
BEHIND BARRIERS**

Notes

www.invarion.com

Site access must be left in, left out, in a forward motion

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Traffic Controllers must not stop general traffic to allow construction vehicles to enter or exist, without an approved ROL

All Roadwork Speed Limits must be observed



Legend

- ▼ Haulage Route (External Works)
- ▼ Haulage Route (Internal Works)
- Internal Work Zone
- Long Term External Work Zone (All Stages)



**SPEED LIMIT
BEHIND BARRIERS**

Notes

www.invarion.com

Site access must be left in, left out, in a forward motion

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Construction vehicles must not layover trafficable lanes without an approved ROL

Traffic Controllers must not stop general traffic to allow construction vehicles to enter or exist, without an approved ROL

All Roadwork Speed Limits must be observed



Legend

- ▼ Haulage Route (External Works)
- ▼ Haulage Route (Internal Works)
- Internal Work Zone
- Long Term External Work Zone (All Stages)



**SPEED LIMIT
BEHIND BARRIERS**

Notes

Site access must be left in, left out, in a forward motion

Construction vehicles must not obstruct any pedestrian crossings or footpaths

Construction vehicles must not layover trafficable lanes without an approved ROL

Traffic Controllers must not stop general traffic to allow construction vehicles to enter or exist, without an approved ROL

All Roadwork Speed Limits must be observed



Legend

- ▼ Haulage Route (External Works)
- ▼ Haulage Route (Internal Works)
- Internal Work Zone
- Long Term External Work Zone (All Stages)



SPEED LIMIT
BEHIND BARRIERS

Notes

www.invarion.com

Site access must be left in, left out, in a forward motion

Construction vehicles must not obstruct any pedestrian crossings or footpaths

Construction vehicles must not layover trafficable lanes without an approved ROL

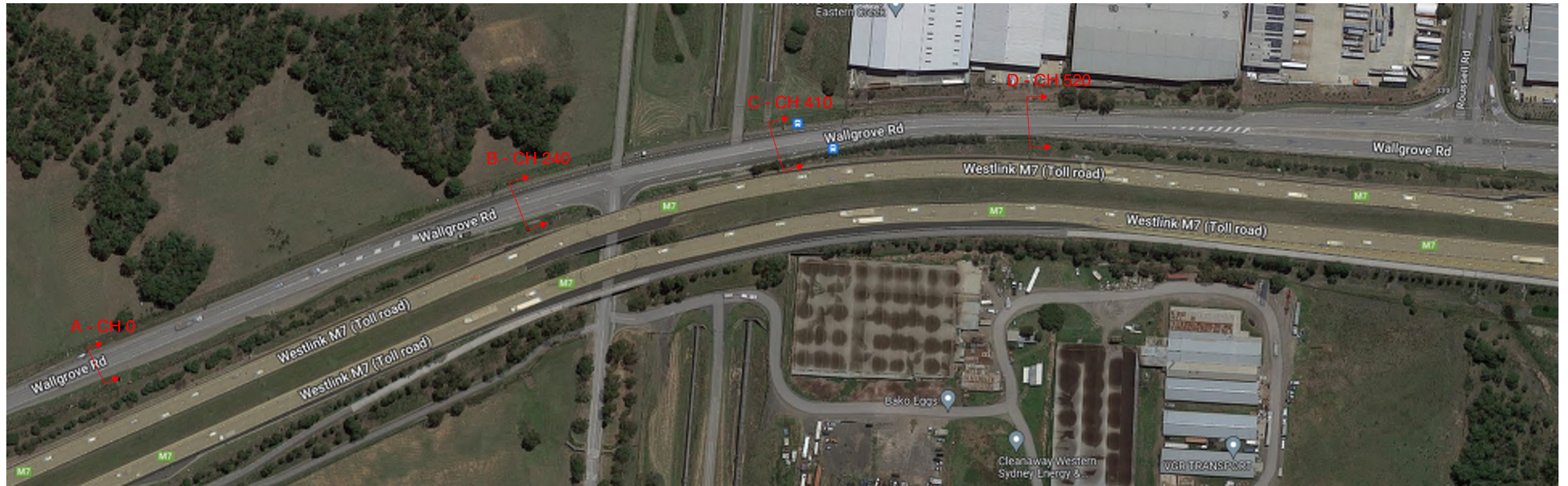
Traffic Controllers must not stop general traffic to allow construction vehicles to enter or exist, without an approved ROL

All Roadwork Speed Limits must be observed

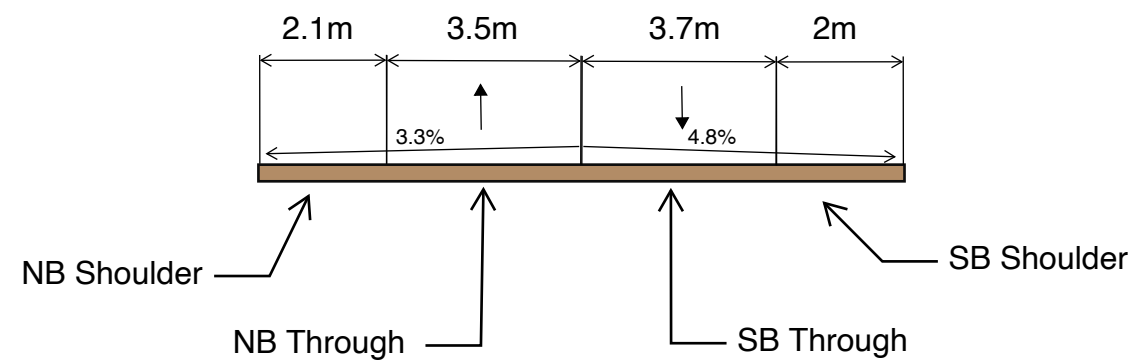


Annexure J – Cross Sections

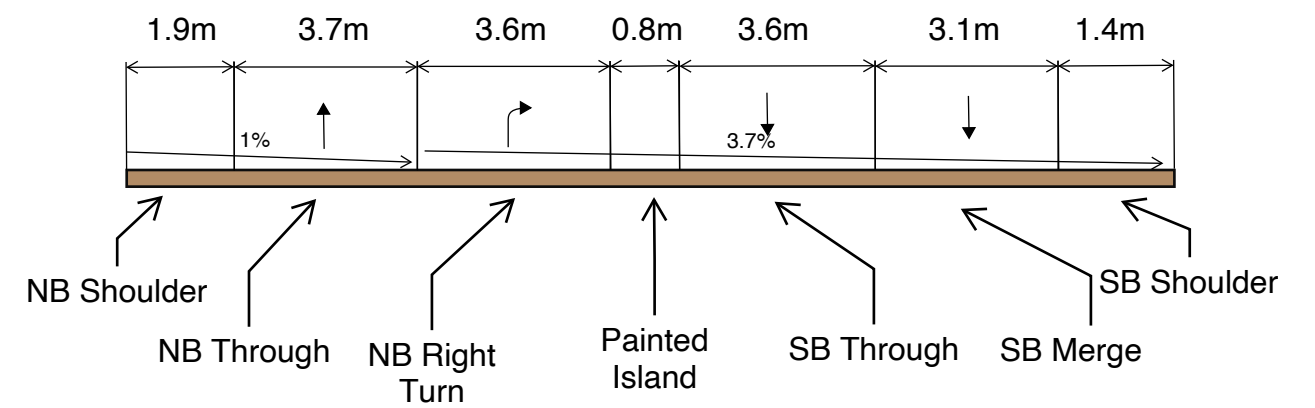
Existing Wallgrove Road Cross Sections - N.T.S.



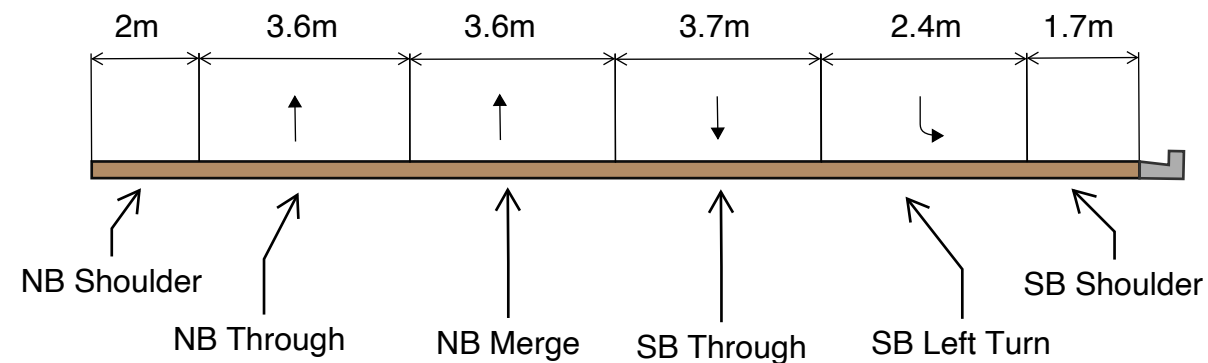
A - CH 0 - Existing



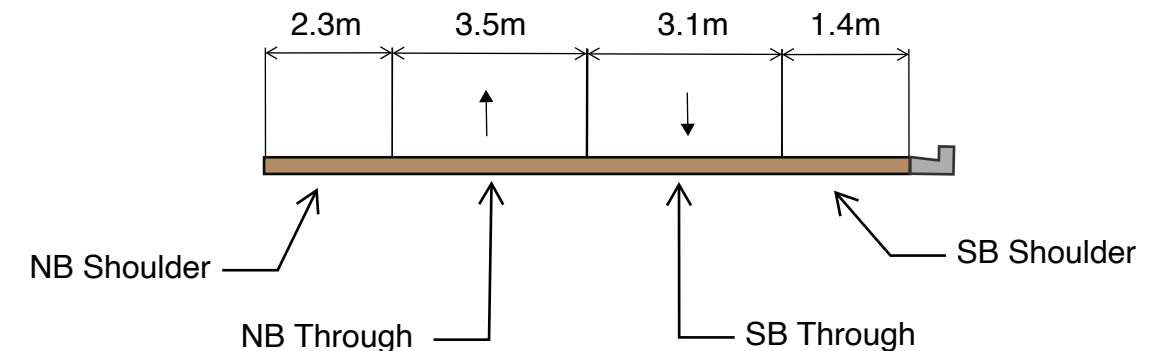
B - CH 240 - Existing



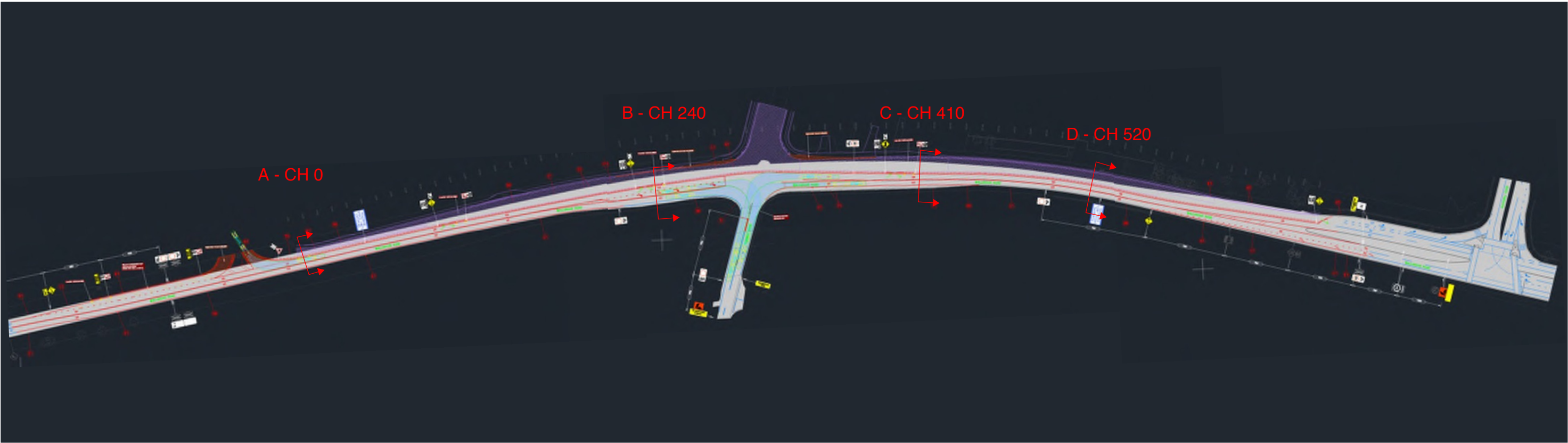
C - CH 410 - Existing



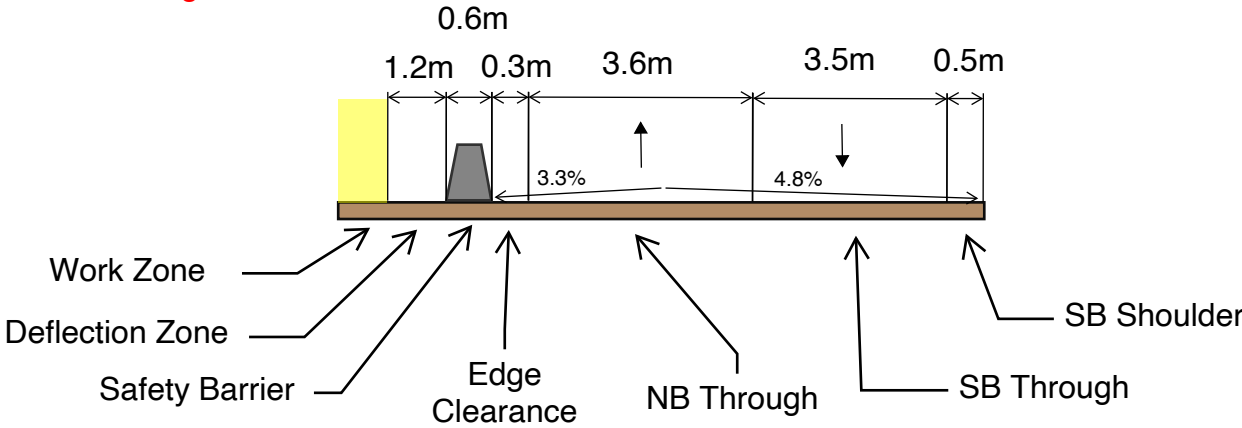
D - CH 520 - Existing



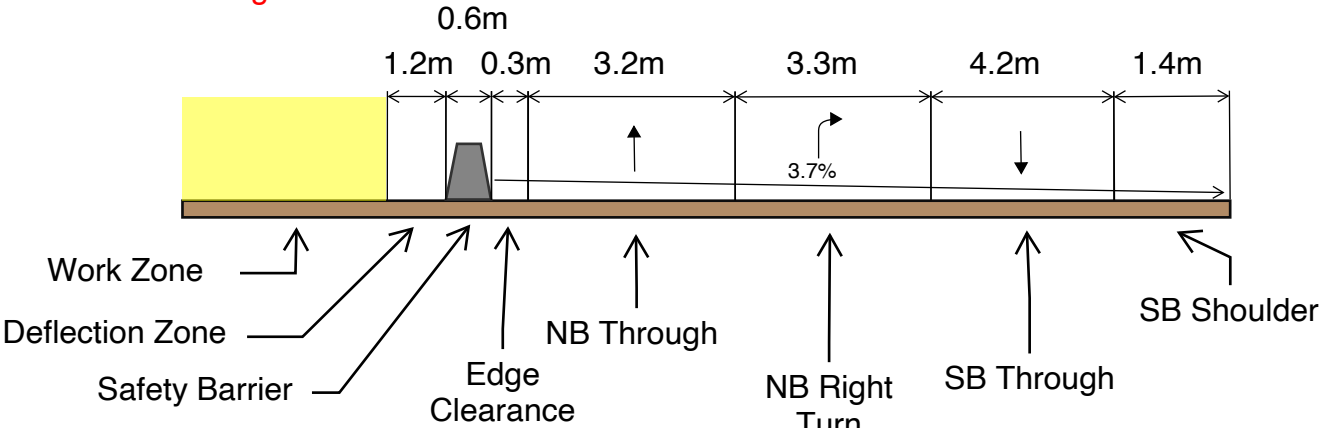
Stage 1 Wallgrove Road Cross Sections - N.T.S.



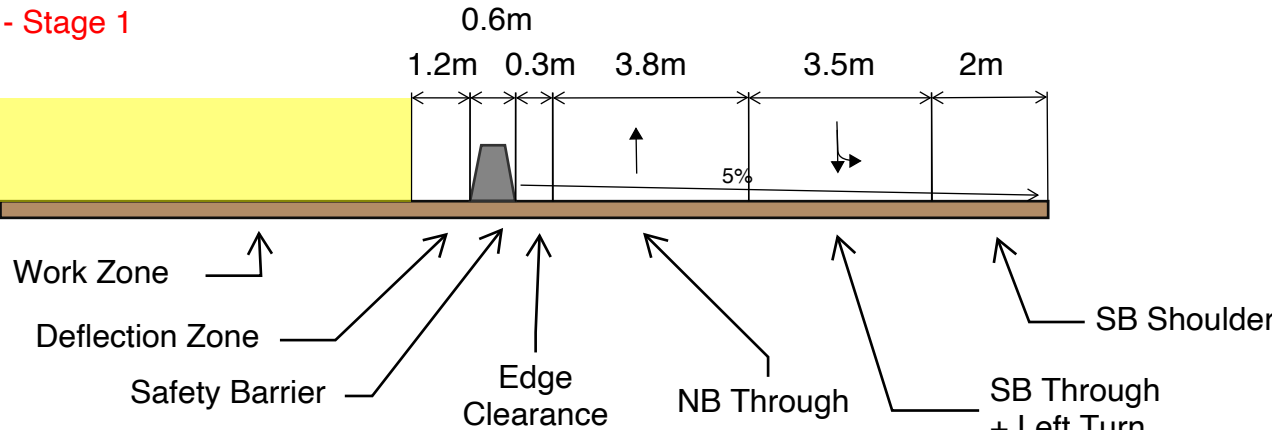
A - CH 0 - Stage 1



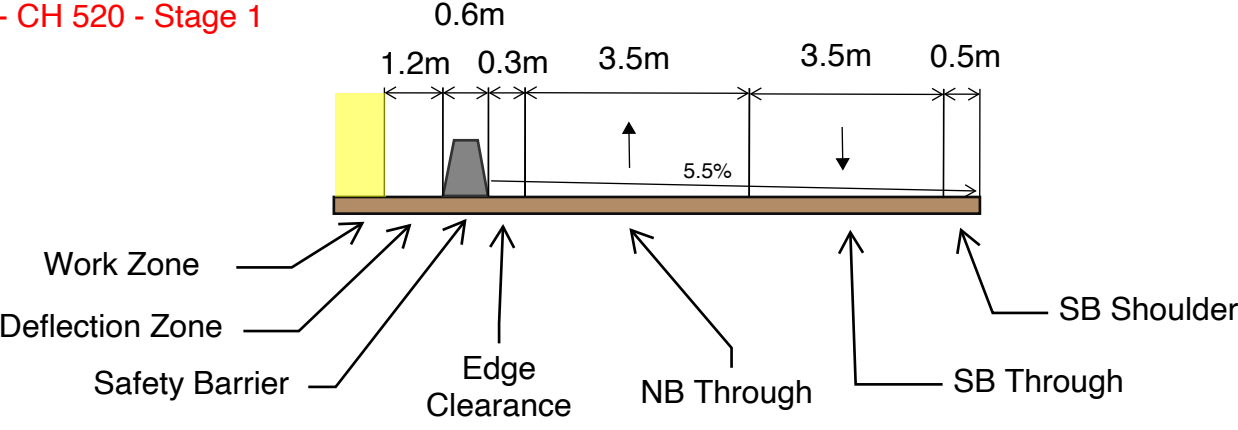
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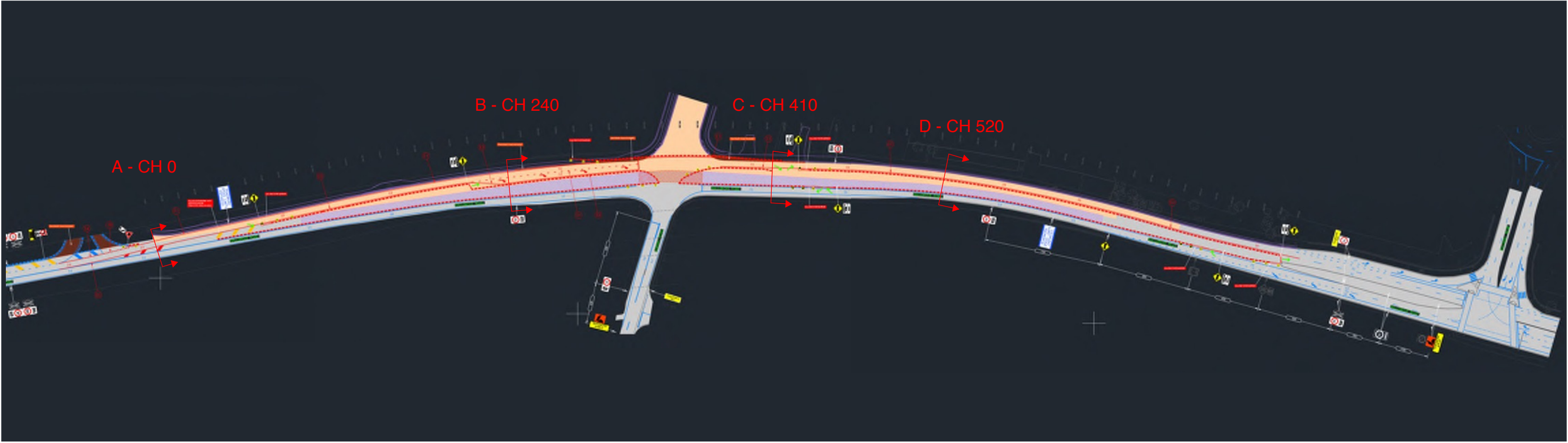
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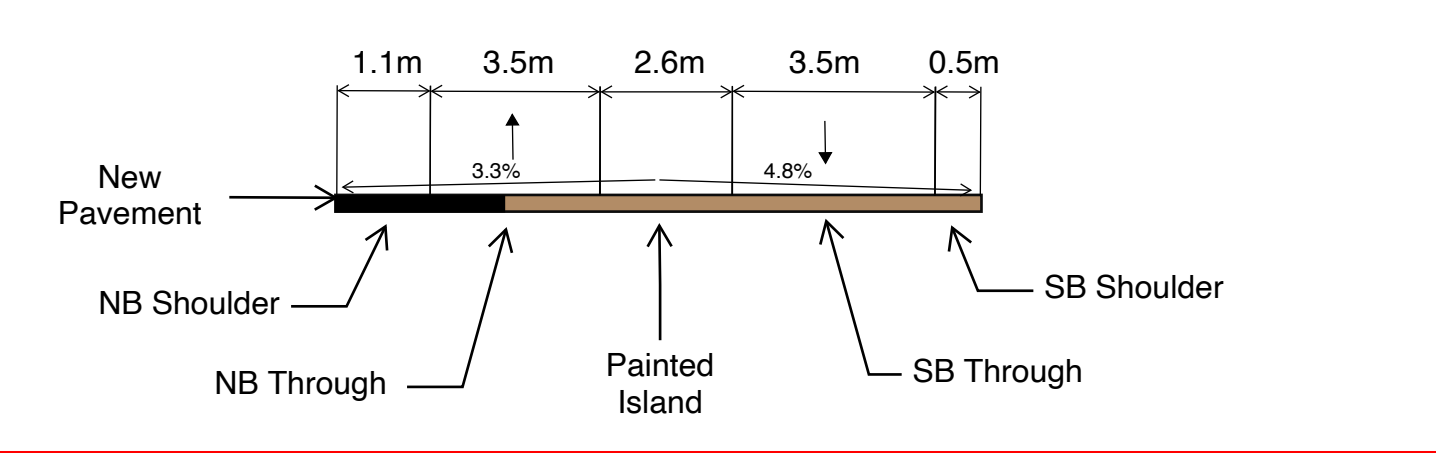
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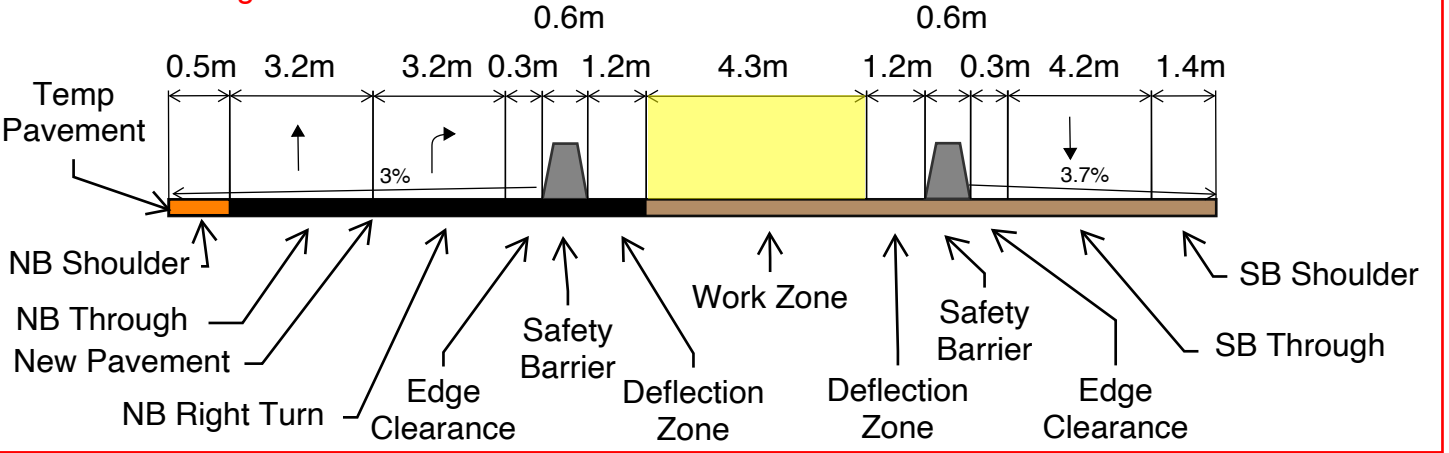
Stage 2 Wallgrove Road Cross Sections - N.T.S.



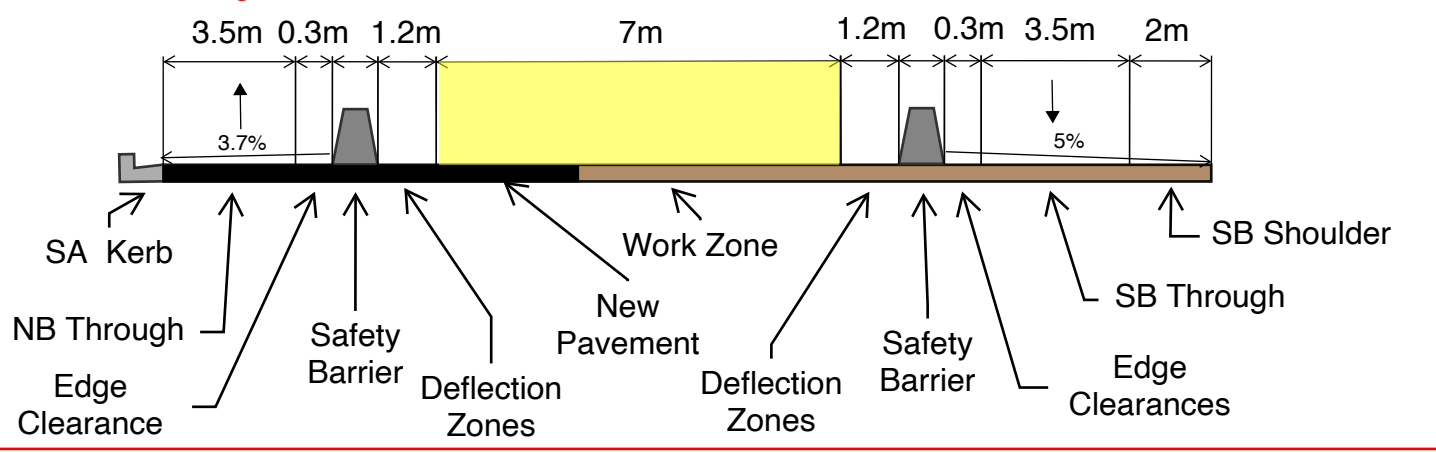
A - CH 0 - Stage 2



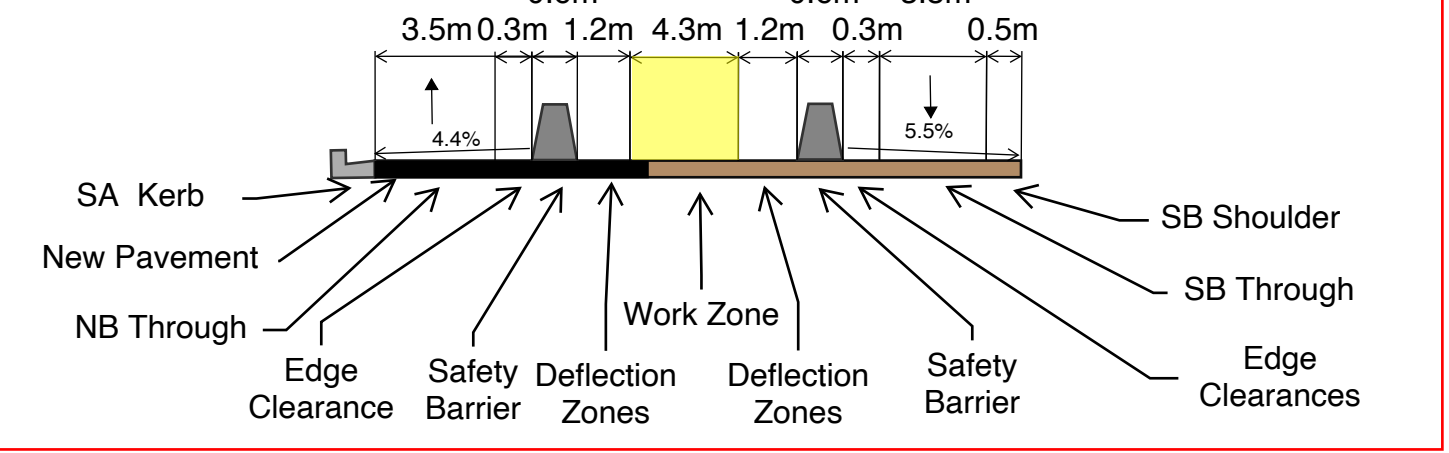
B - CH 240 - Stage 2



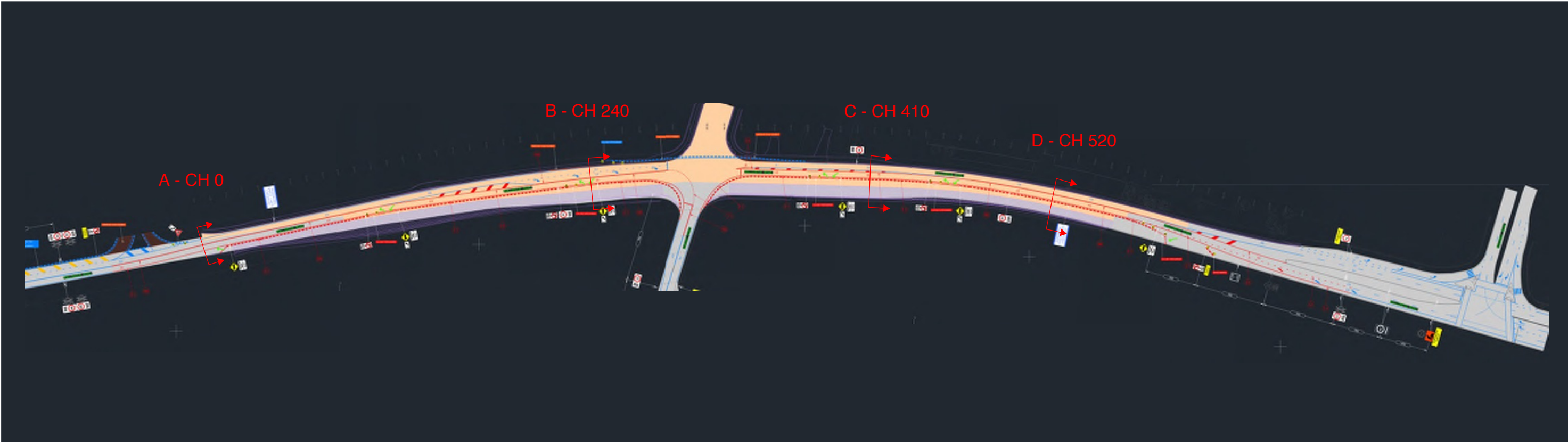
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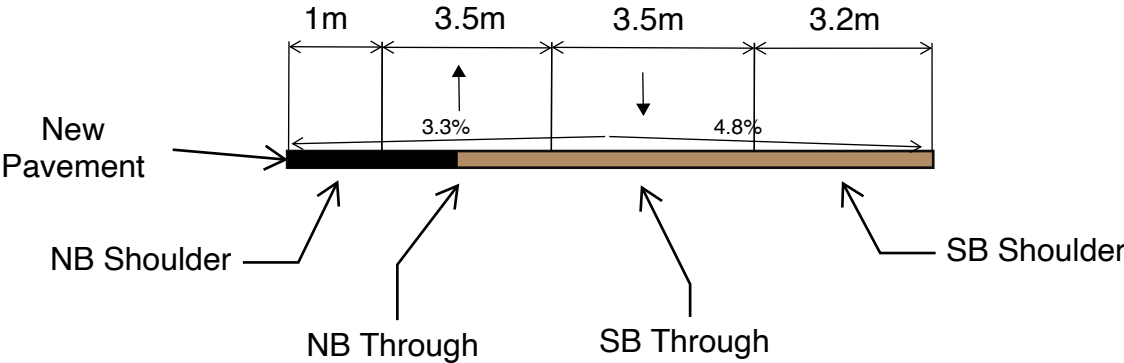
D - CH 520 - Stage 2



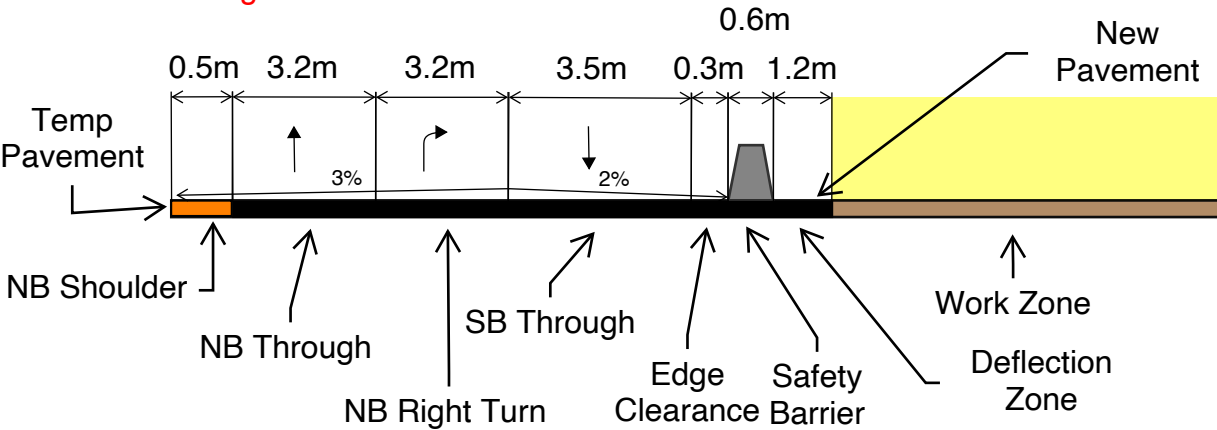
Stage 3A Wallgrove Road Cross Sections - N.T.S.



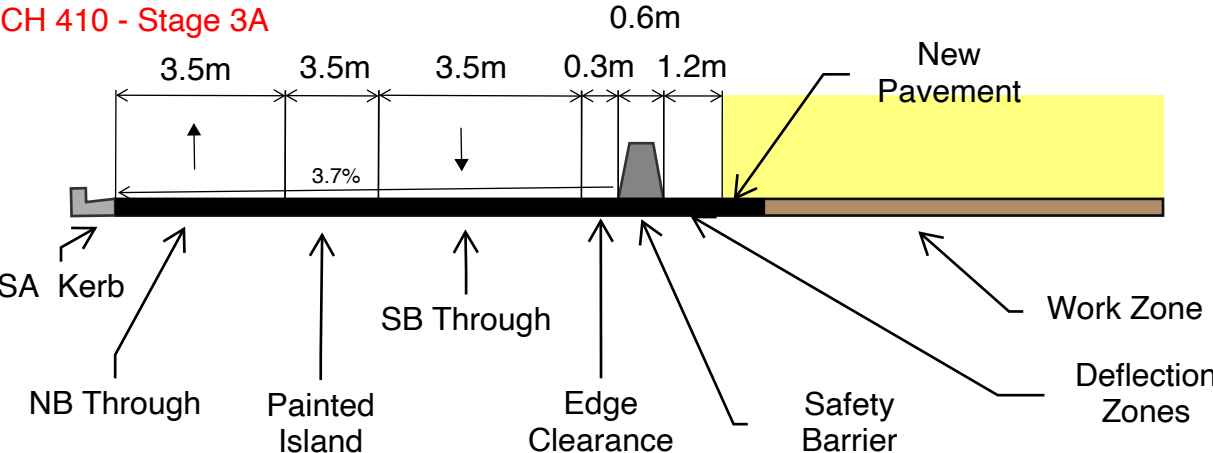
A - CH 0 - Stage 3A



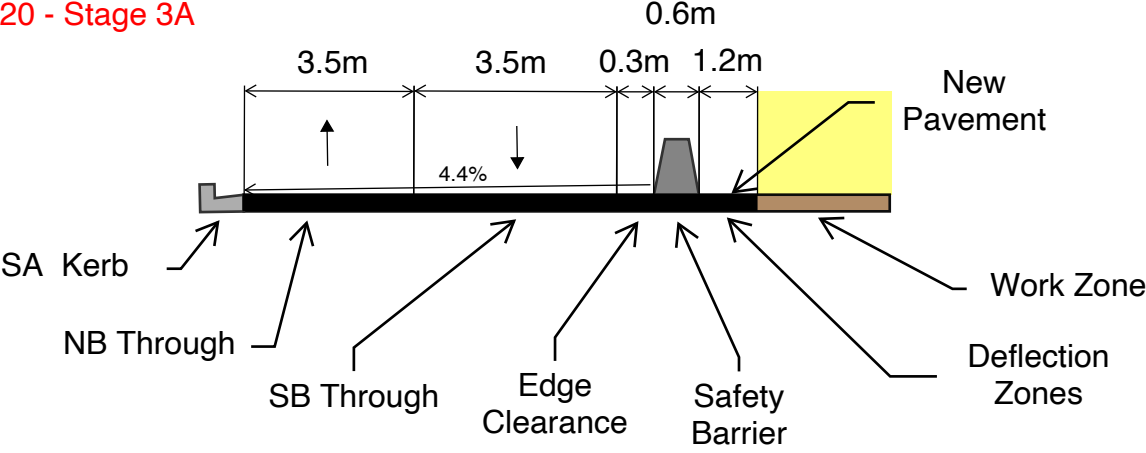
B - CH 240 - Stage 3A



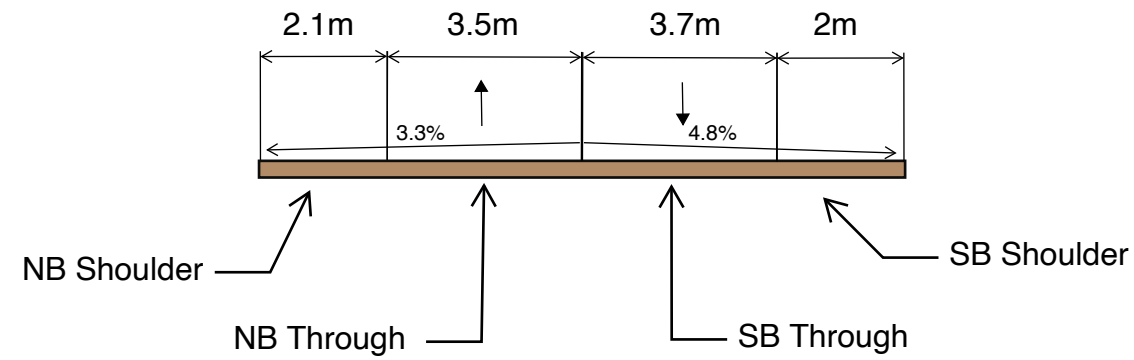
C - CH 410 - Stage 3A



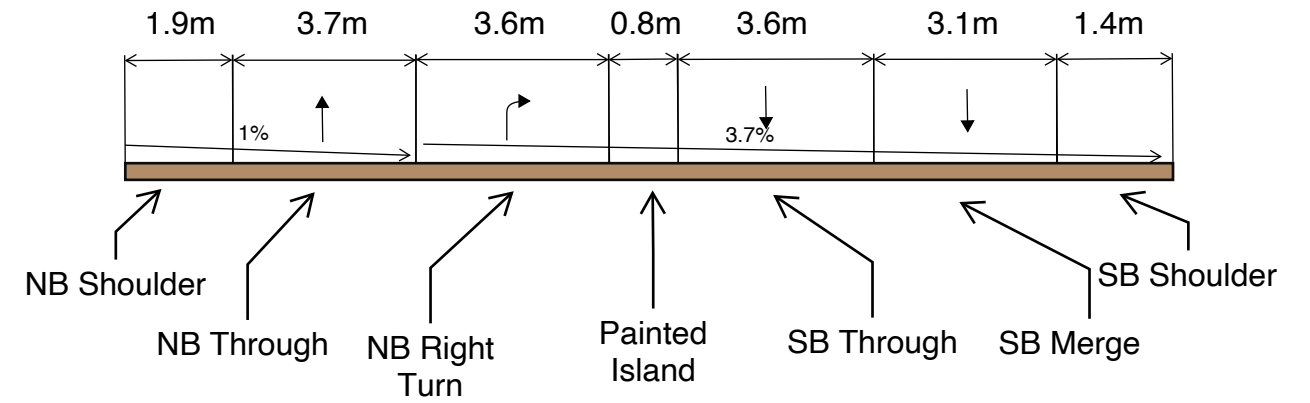
D - CH 520 - Stage 3A



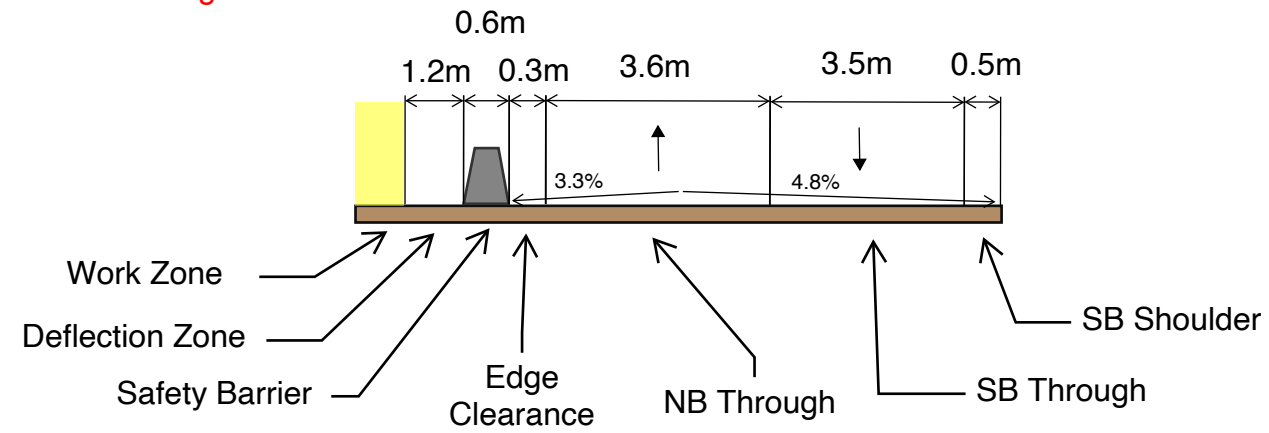
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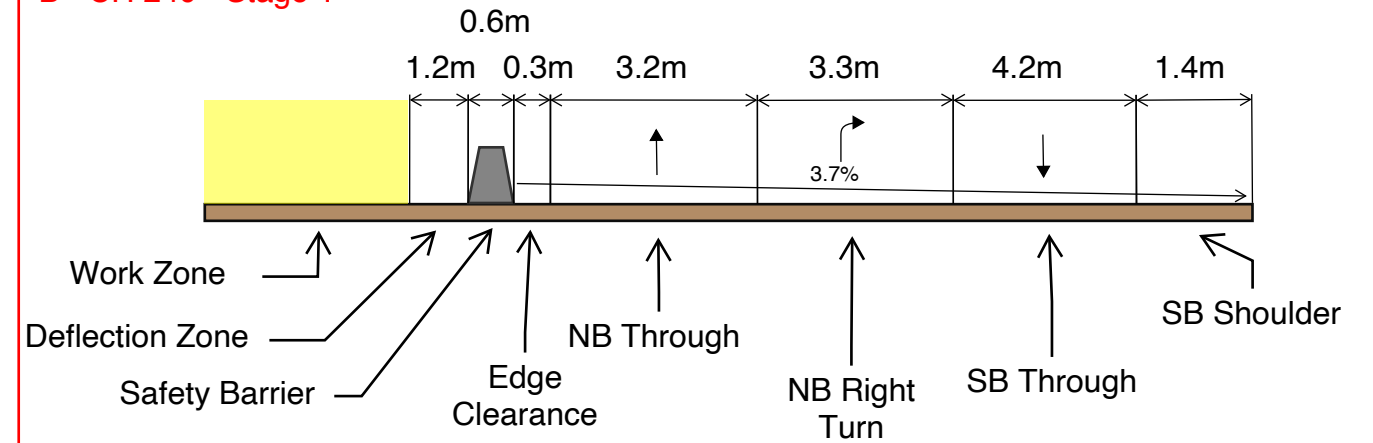
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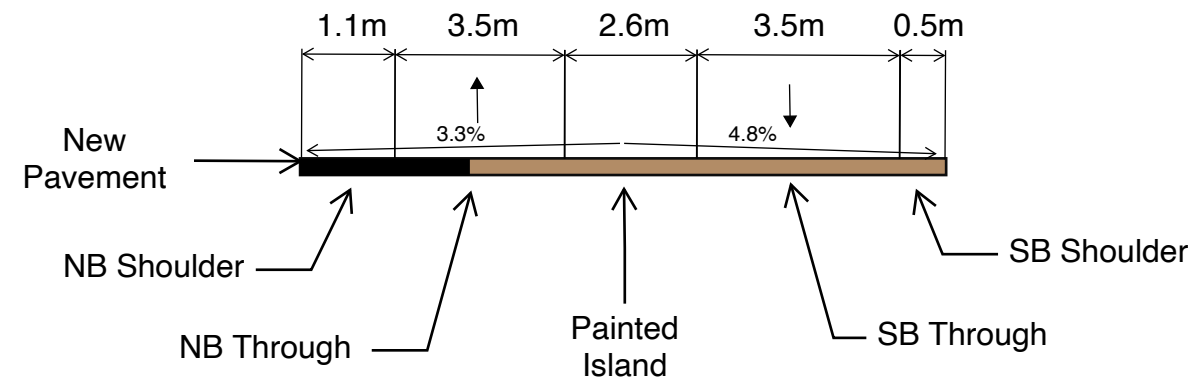
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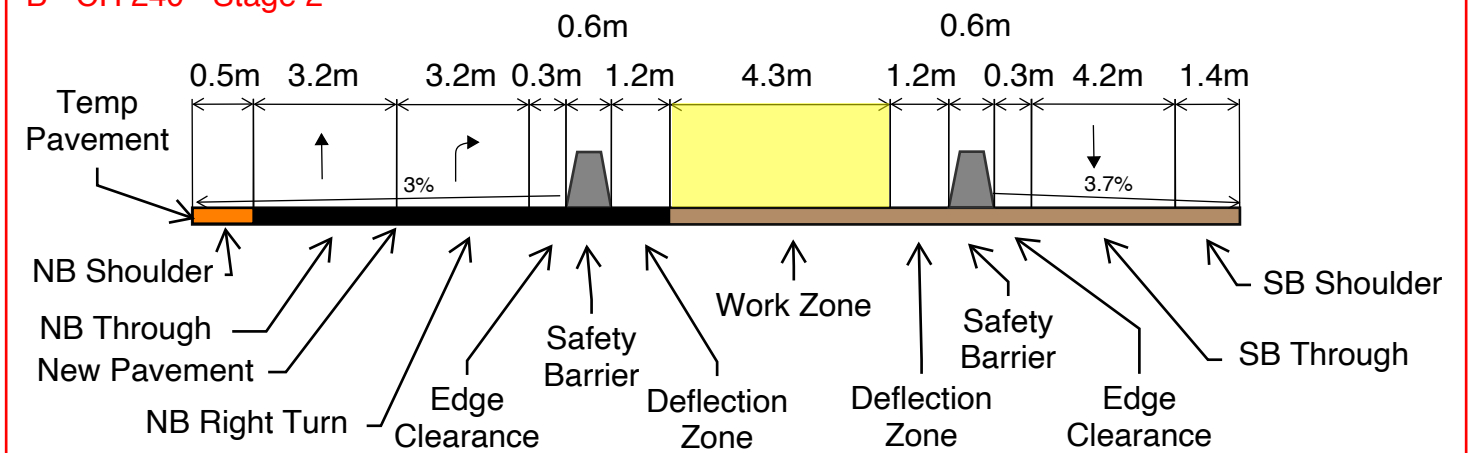
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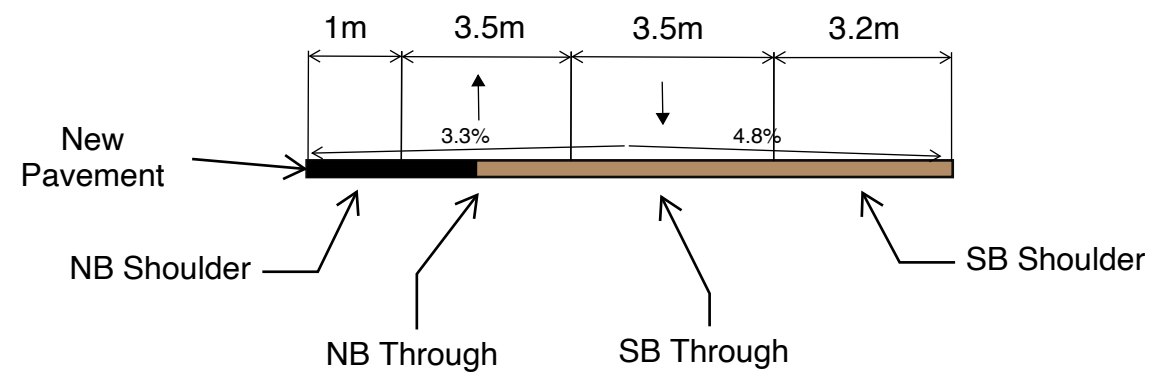
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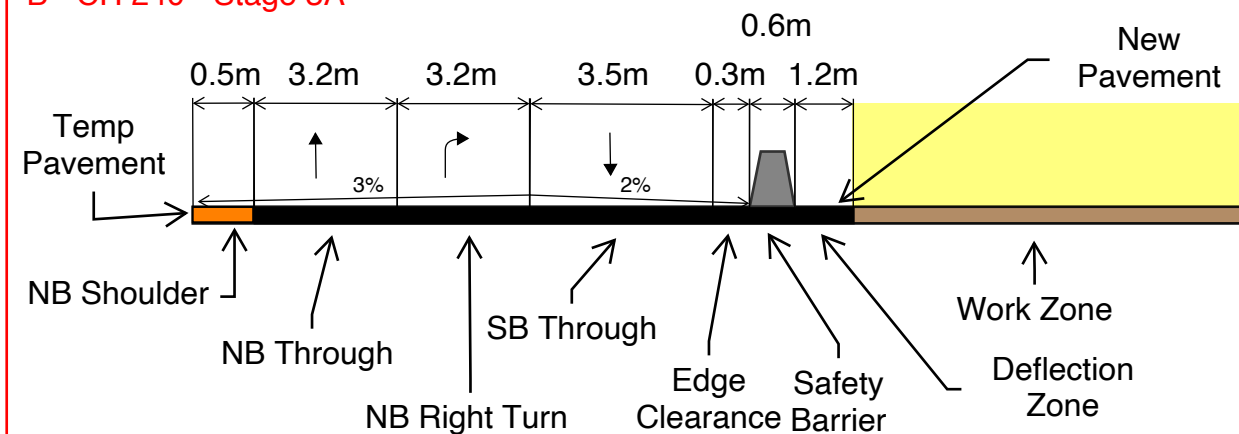
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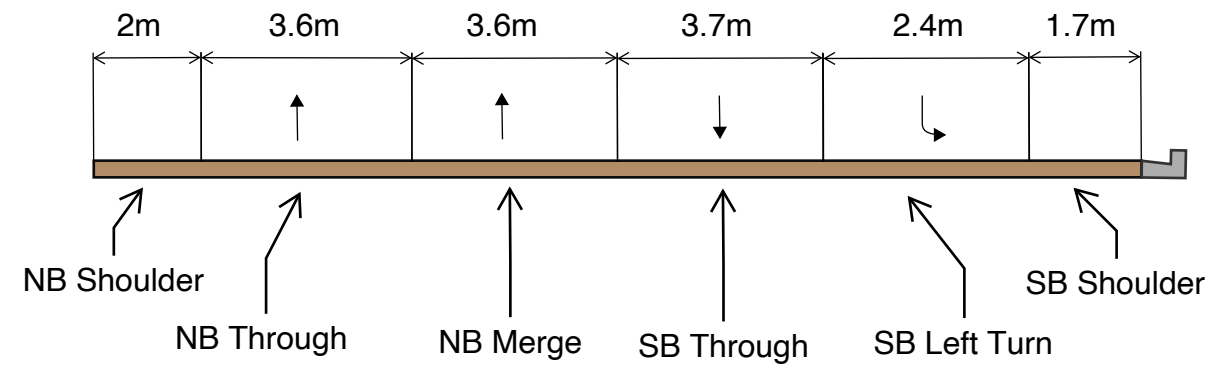
A - CH 0 - Stage 3A



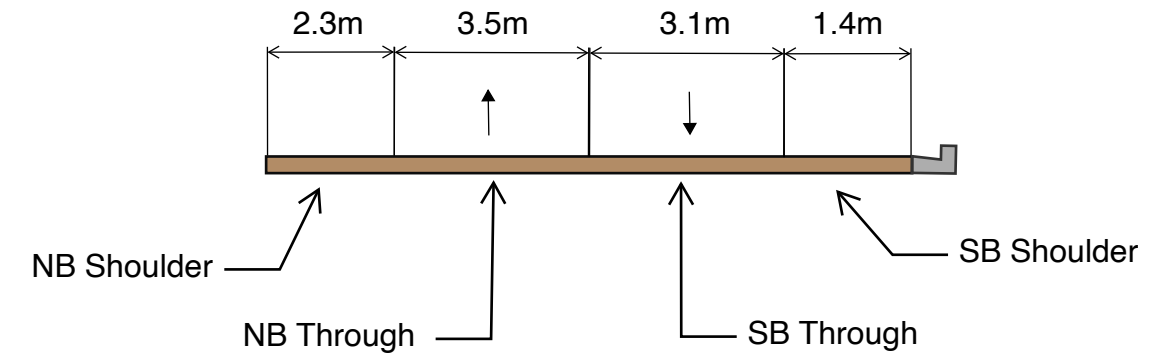
B - CH 240 - Stage 3A



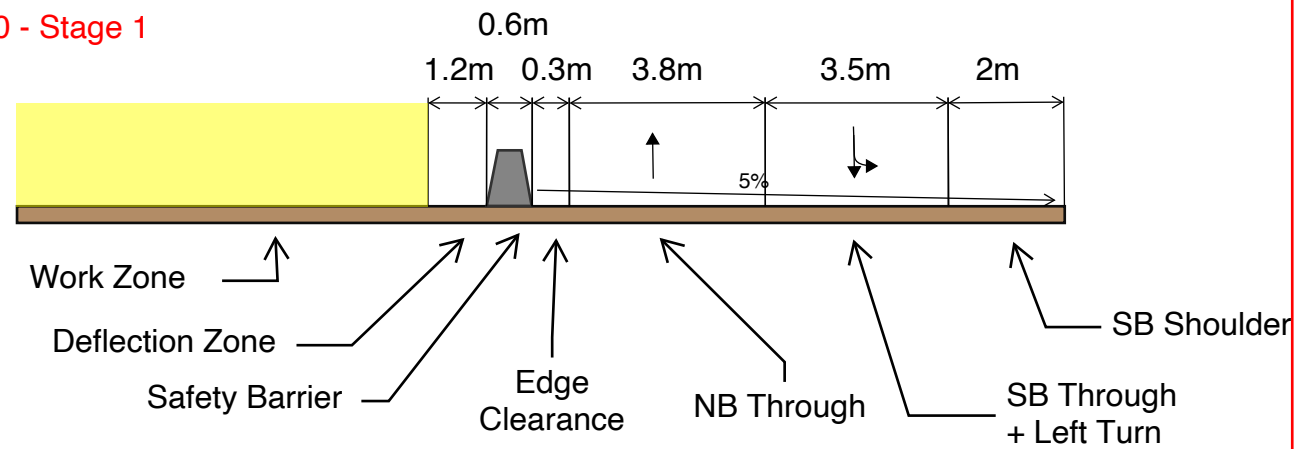
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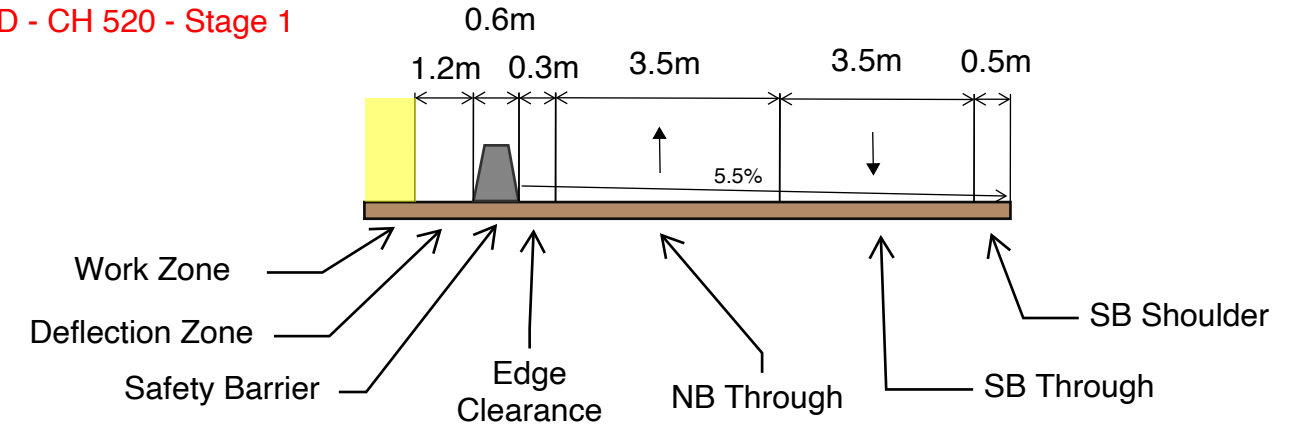
D - CH 520 - Existing



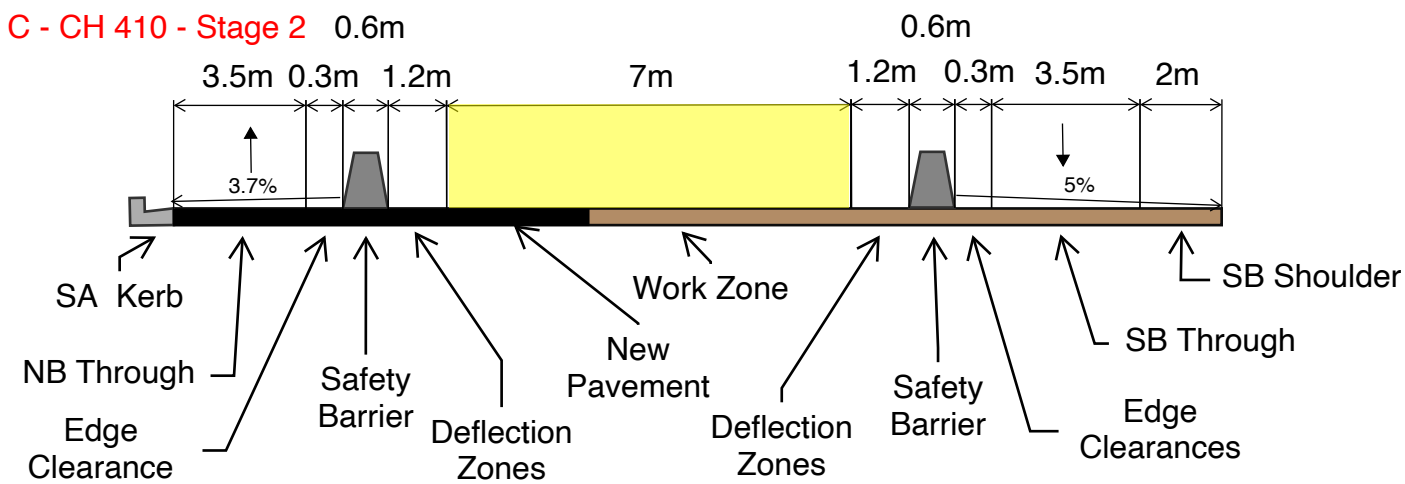
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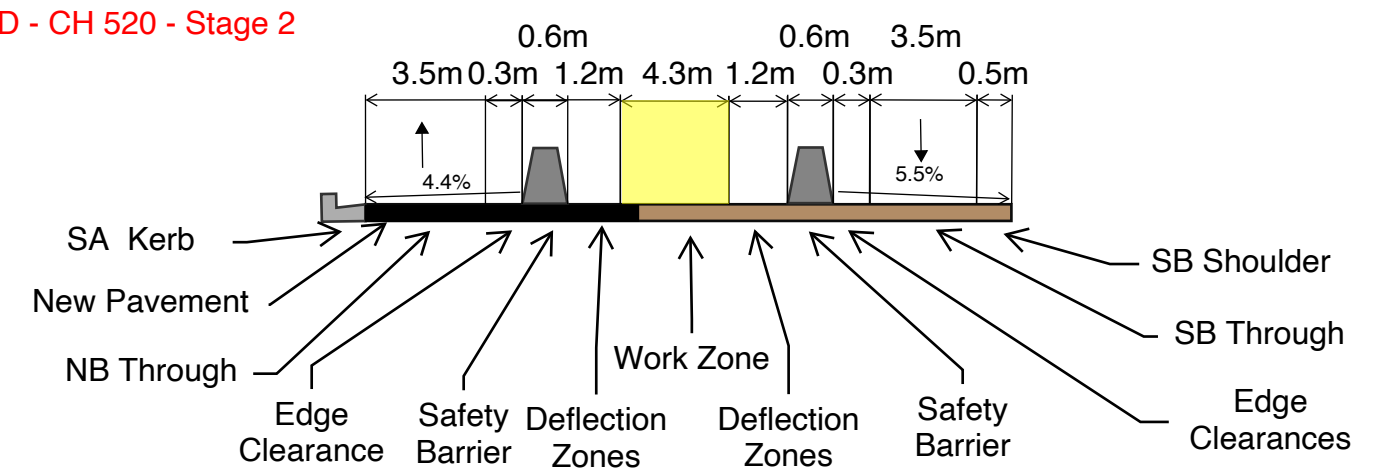
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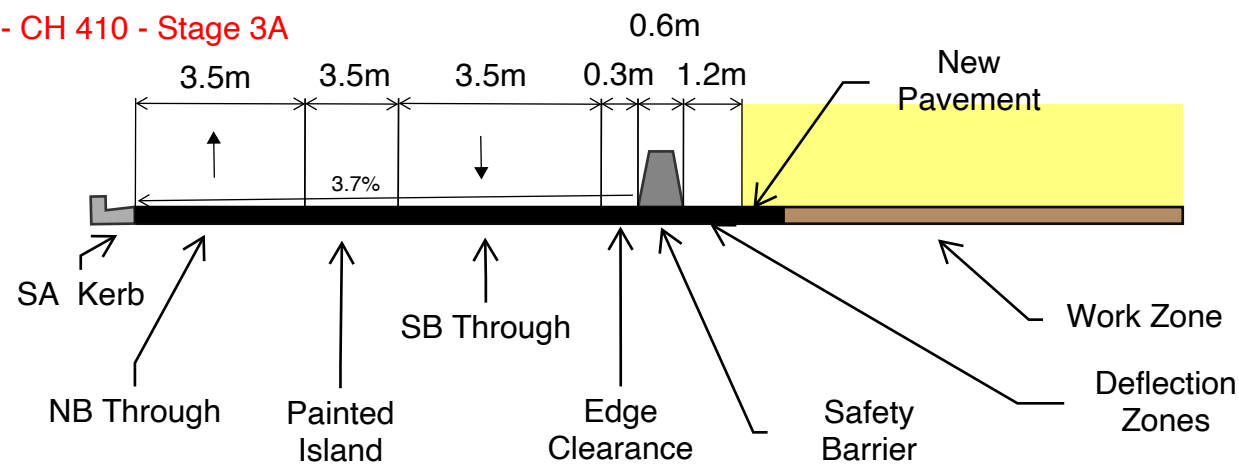
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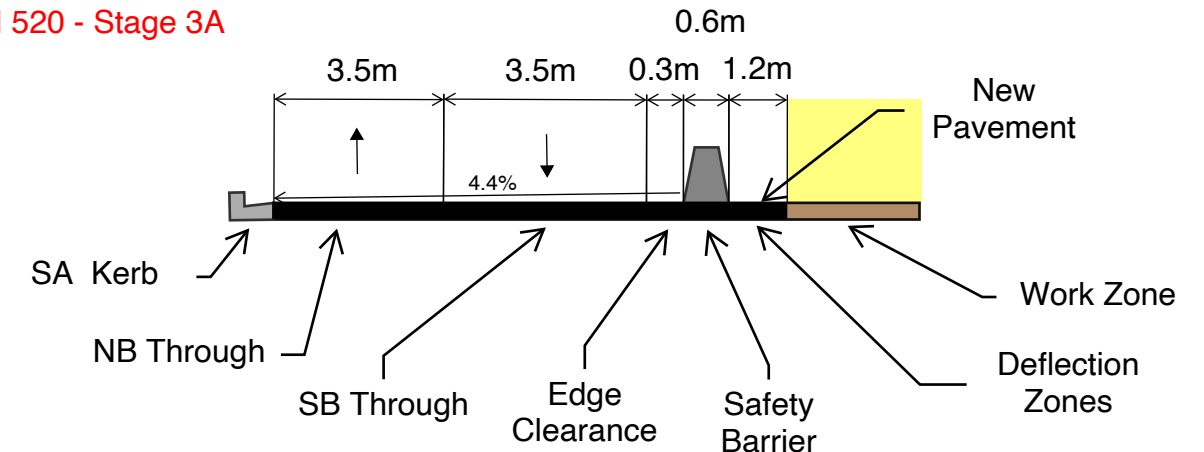
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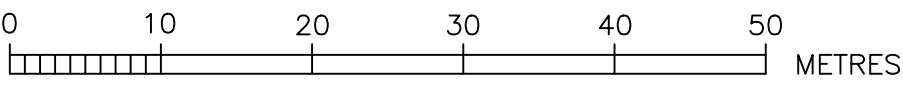
C - CH 410 - Stage 3A



D - CH 520 - Stage 3A



Annexure K – Sewer Design



NOTES :-

WATER SERVICING COORDINATOR: ROSE ATKINS RIMMER (INFRASTRUCTURE) Pty. Ltd
SHOP 7 & 8 M CENTRE
40 STERLING ROAD MINCHINBURY NSW 2770
Ph: (02) 9853 0200

SURVEY: RPS AUSTRALIA EAST Pty. Ltd.
LEVEL 13, 255 PITT STREET SYDNEY NSW 2000
Ph: (02) 8270 8300

FOR: GAZCORP Pty. Ltd.
5 VISCOUNT PLACE LIVERPOOL NSW 2170
Ph: (02) 9821 3588 / 0418 619 282

ALL WORKS & MATERIALS ARE TO BE IN ACCORDANCE WITH THE SEWERAGE CODE OF AUSTRALIA WSA 02-2002-2.2 (SYDNEY WATER EDITION - Version 4 - 2017) AND SYDNEY WATER'S TECHNICAL SPECIFICATION - CIVIL (Version 9.0).

ALL SERVICES SHOWN ARE INDICATIVE ONLY. A CURRENT SERVICES SEARCH & SITE CHECK OF ALL EXISTING SERVICES WILL BE REQUIRED PRIOR TO COMMENCEMENT OF ANY WORKS.

THE CONSTRUCTOR IS TO DETERMINE LEVELS & LOCATIONS OF SERVICES PRIOR TO CONSTRUCTION. VERTICAL AND HORIZONTAL CLEARANCE BETWEEN SEWERS AND UNDERGROUND SERVICES MUST BE IN ACCORDANCE WITH SECTION 4.4.5 OF THE SEWERAGE CODE OF AUSTRALIA WSA 02-2002-2.2 (SYDNEY WATER EDITION - Version 4).

ALL SURVEY MARKS ARE PEGS UNLESS OTHERWISE NOTED.

THE CONSTRUCTOR SHALL VERIFY ANY EXISTING INVERT LEVELS PRIOR TO CONSTRUCTION.
ANY DISCREPANCIES MUST BE REFERRED TO THE DESIGNER IMMEDIATELY PRIOR TO THE COMMENCEMENT
OF WORK.

ALL STRUCTURES TO BE IN ACCORDANCE WITH MAINTENANCE STRUCTURE SCHEDULE (SHEET 4).
SHOULD THE CONSTRUCTOR CHOOSE TO USE A DIFFERENT STRUCTURE TO THAT SHOWN IN THE SCHEDULE
THE W.S.C. MUST BE INFORMED IN WRITING FOR CONSIDERATION.

ALL STRUCTURES TO BE CONSTRUCTED TO PROPOSED FINISHED SURFACE LEVELS. THE
CONSTRUCTOR IS TO LIAISE WITH THE SITE SUPERINTENDENT TO VERIFY ALL FINAL LEVELS

PIPES TO BE MICROTUNNELLED IN STEEL ENCASING PIPE SHOWN ACCORDINGLY:

PIPES TO BE MICROTUNNELLED IN G.R.P. JACKING PIPE SHOWN ACCORDINGLY:

PIPES TO BE MICROTUNNELLED IN FREE BORE SHOWN ACCORDINGLY:

0 BUILDING OVER/ADJACENT TO SEWER. CONDITIONS APPLY. REFER TO TAP-IN.

1 ALL LEVELS ELECTRONICALLY GENERATED. NO LEVEL BOOK AVAILABLE

2 THE MINIMUM NUMBER OF COMPACTION TESTS REQUIRED TO SATISFY THE SEWERAGE CODE OF AUSTRALIA (CLAUSE 22.3.4.4) ARE:

MAINTENANCE STRUCTURES:

2 TESTS / 1m LAYER WITHIN 300mm OF EACH M.H. OR M.S. (138 Tests)

NOTE: LEVEL 1 GEOTECHNICAL INSPECTION MUST BE PROVIDED IN ACCORDANCE WITH AS 3798 FOR ALL EARTHWORKS EXCEEDING 3.0m FILL OR BACKFILL THICKNESS.

3 COUNCIL'S TREE PRESERVATION ORDER TO BE STRICTLY ADHERED TO. EXCAVATIONS IN THE VICINITY OF TREES ARE TO BE CARRIED OUT IN ACCORDANCE WITH ARBORIST SPECIFICATIONS AND UNDER THE SUPERVISION OF THE SITE ARBORIST (MANUAL OR HYDRO-EXCAVATION MAY BE REQUIRED).

NOTE: TREES SHOWN ON PLAN BASED ON THE CLIENT SUPPLIED SURVEY INFORMATION. ALL TREES MAY NOT HAVE BEEN SHOWN.

4 MICROTUNNEL CH00-CH515.93 & CH842.02-CH886.14 WITH DN300 (345 O.D.) SN20,000 G.R.P. PIPE WITH EXTERNAL R.R.J. COUPLINGS IN DN500 (508 O.D.) STEEL ENCASING PIPE (5PL). REFER TO SEW-1402-V & DETAIL 'A' ON SHEET 4.

MICROTUNNEL CH739.78-CH842.02 WITH DN300 (345 O.D.) SN20,000 G.R.P. PIPE WITH EXTERNAL R.R.J. COUPLINGS IN O.D.530 SN50,000 G.R.P. JACKING PIPE WITH STAINLESS STEEL COUPLINGS. REFER TO SEW-1402-V & DETAIL 'C' ON SHEET 4.

MICROTUNNEL Ch515.93-Ch739.78 WITH DN300 (345 O.D.) SN20,000 G.R.P. PIPE WITH EXTERNAL R.R.J. COUPLINGS IN A FREE BORE. REFER TO SEW-1402-V & DETAIL 'B' ON SHEET 4.

ENCASING PIPE SHALL BE INSTALLED CONCURRENTLY WITH THE TRENCHLESS EXCAVATION. IT IS THE RESPONSIBILITY OF THE CONSTRUCTOR TO ENSURE THE CONSTRUCTABILITY OF THE BORE - REFER TO TRENCHLESS CONSTRUCTION NOTES (SHEET 4). THE CONTRACTOR IS TO ENSURE THE MAXIMUM SLIPLINING LOAD AND SHORT TERM CRITICAL BUCKLING PRESSURE DURING INSTALLATION AND GROUTING DO NOT EXCEED THE MAXIMUM ALLOWABLE FOR THE PIPE.

5 VIBRATION MONITORING SHALL BE UTILISED AT ALL TIMES DURING THE CONSTRUCTION FOR SEWER
MICROTUNNELING UNDER WaterNSW PIPELINES. REFER TO WaterNSW 'GUIDELINES FOR DEVELOPMENT
ADJACENT TO THE UPPER CANAL & WARRAGAMBA PIPELINES' [Version 3, February 2020] FOR
REQUIREMENTS.

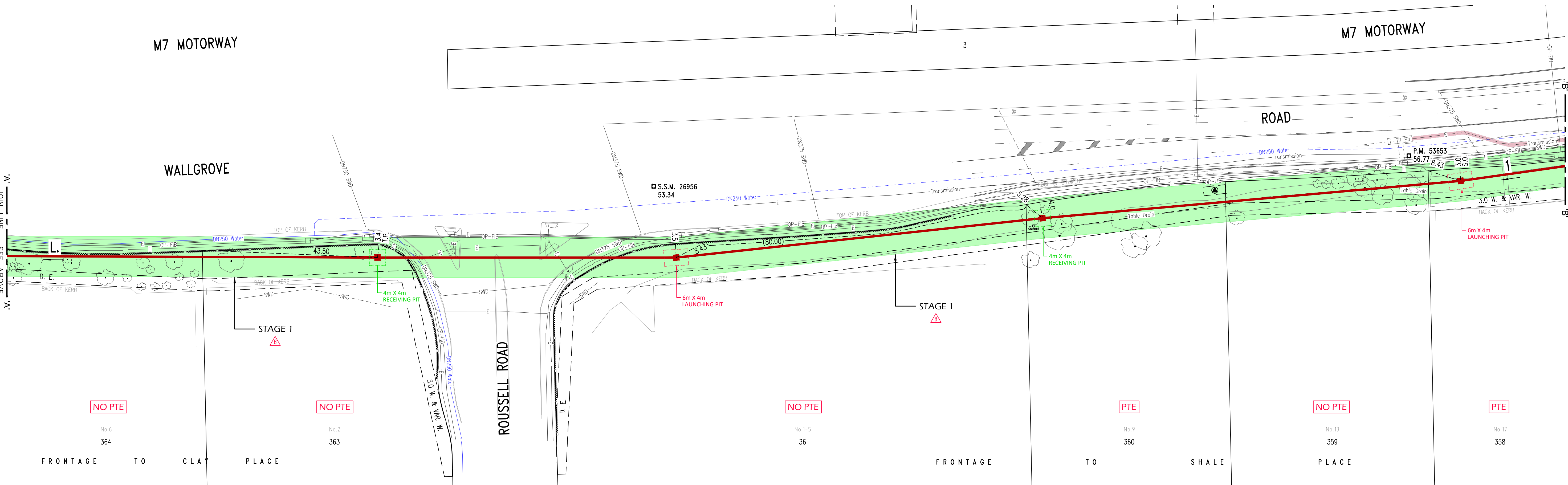
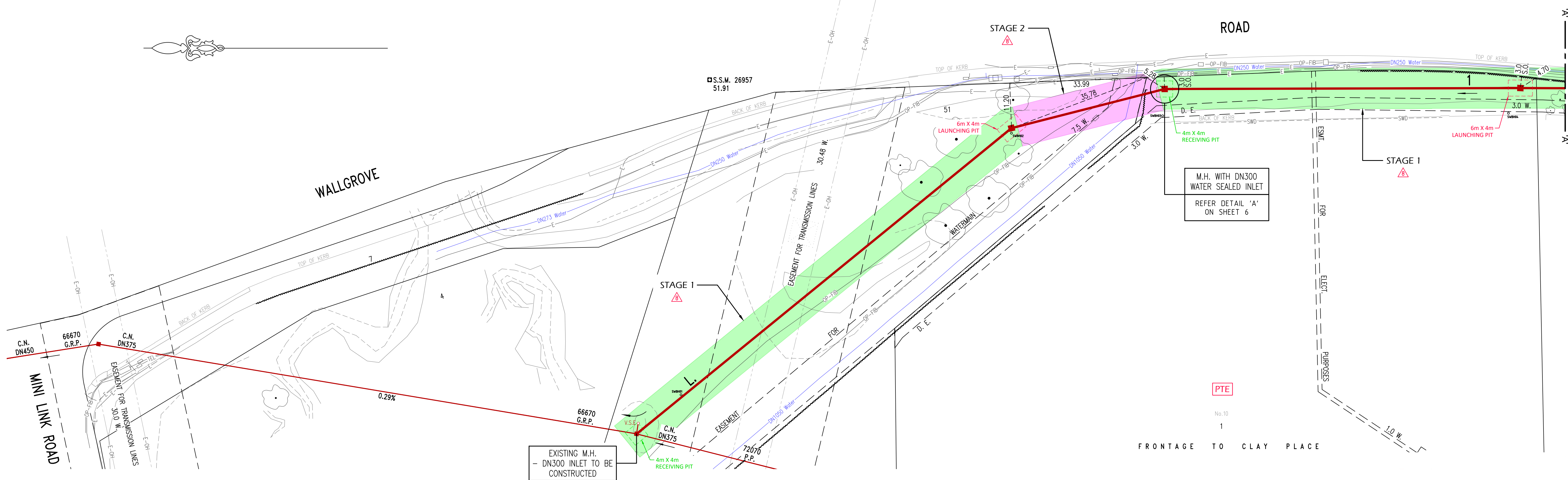
08	STAGING ADDED	K.G.	22/2/22
07	ON HOLD PENDING SYDNEY WATER APPROVAL	K.G.	8/2/22
06	M.H. ADDED AS PER SYDNEY WATER COMMENT	K.G.	26/8/21
05	STEEL ENCASING PIPE DETAIL UPDATED	K.G.	27/7/21
04	SYDNEY WATER COMMENTS ADDRESSED	K.G.	8/7/21
03	I.V. COMMENTS ADDRESSED	K.G.	12/3/21
02	ISSUE FOR WaterNSW APPROVAL	K.G.	23/2/21
01	DESIGN UPDATED FOR DISCUSSION	K.G.	21/8/20
00a	CONCEPT DESIGN FOR DISCUSSION	K.G.	19/3/20
00	CONCEPT DESIGN FOR DISCUSSION	K.G.	29/1/20
No.	REVISION DESCRIPTION	BY	DATE

PROPOSED INDUSTRIAL ESTATE

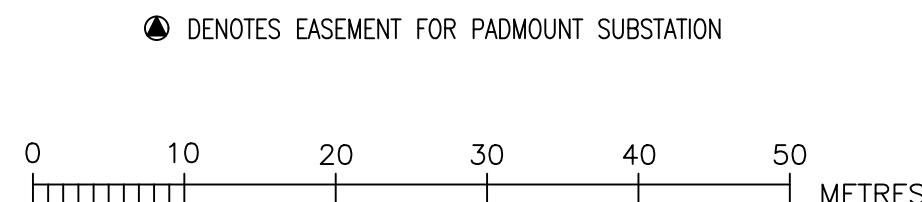
LOCALITY SKETCH

NOT TO SCALE

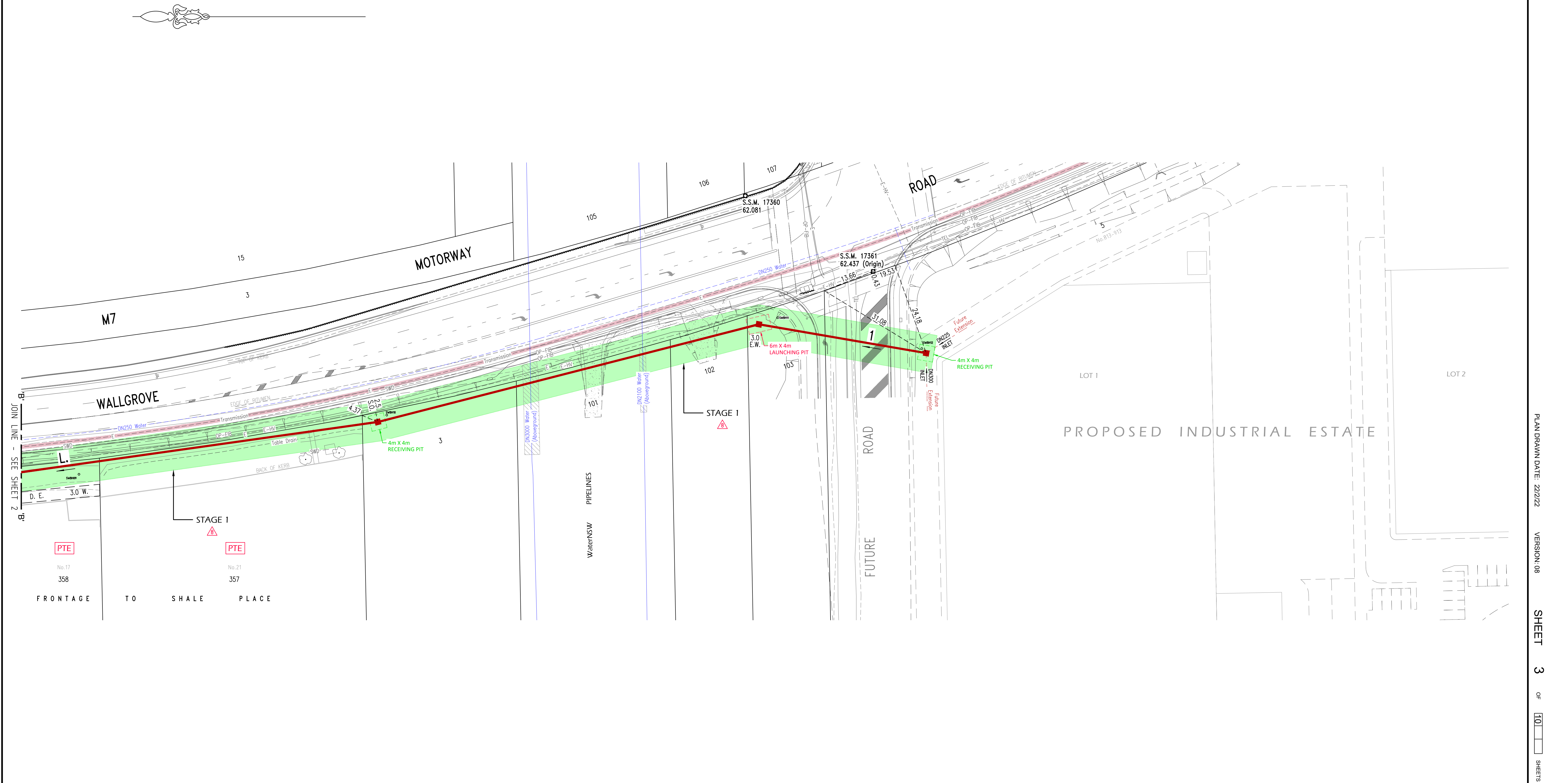
PLAN TO BE READ IN CONJUNCTION WITH CURRENT SYDNEY WATER STANDARDS SYDNEY WATER CORPORATION PRIOR TO COMMENCEMENT OF EXCAVATION FOR PROPOSED AND EXISTING SERVICES CONTACT :- DIAL BEFORE YOU DIG Ph. 1100 ELECTRICITY AUSGRID Ph. 131. 388 GAS JEMENA Ph. 131. 909 TELECOMMUNICATIONS . TELSTRA Ph. 132. 203 Ph. GIVING AT LEAST 48 HOURS NOTICE.	UTILITIES					WORK AS CONSTRUCTED CERTIFICATION					PIPE SCHEDULE					GDA 94		NO AMENDMENTS ARE TO BE MADE TO THIS PLAN WITHOUT REFERENCE TO SYDNEY WATER. THIS PLAN IS NOT NECESSARILY UP TO DATE OR CORRECT AND SYDNEY WATER ACCEPTS NO RESPONSIBILITY.		 SYDNEY WATER CORPORATION		
	TYPE	DATE	REF.	TYPE	DATE	REF.	DEVELOPER	WATER SERVICE CO-ORDINATOR	CONSTRUCTOR	COMPLETED	W.A.C. PREPARED	DESIGNER	I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS.	SIZE / O.D.	TYPE	CLASS	LENGTH					PIPE JOINING METHOD / NOTES	AUSTRALIAN HEIGHT DATUM		SCALES
	WATER:-DN100 Water	26/8/21	RPS											500	STEEL	-	560.05	JACKING PIPE W/ S.S. COUPLINGS (508 O.D.) ENCASING PIPE 6.4mm THICKNESS	PLAN 1:500 SECTION { HOR. 1:1000 VERT. 1:250		U.B. DIRECTORY 2007-D8 (Version 8.1 Digital)	
	STORMWATER:-SWD	26/8/21	RPS											300	G.R.P.	SN20000	886.14	(345 O.D.) EXTERNAL R.R.J. COUPLINGS				
	OPTIC FIBRE:-OP-FIB	26/8/21	RPS																			
	TELSTRA:-TEL	26/8/21	RPS																			
	AUSGRID:-E	26/8/21	RPS																			



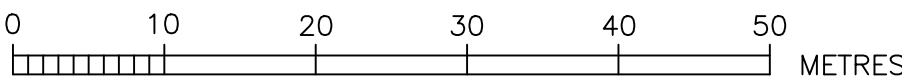
--- DENOTES STAGE 1 WORKS
--- DENOTES STAGE 2 WORKS



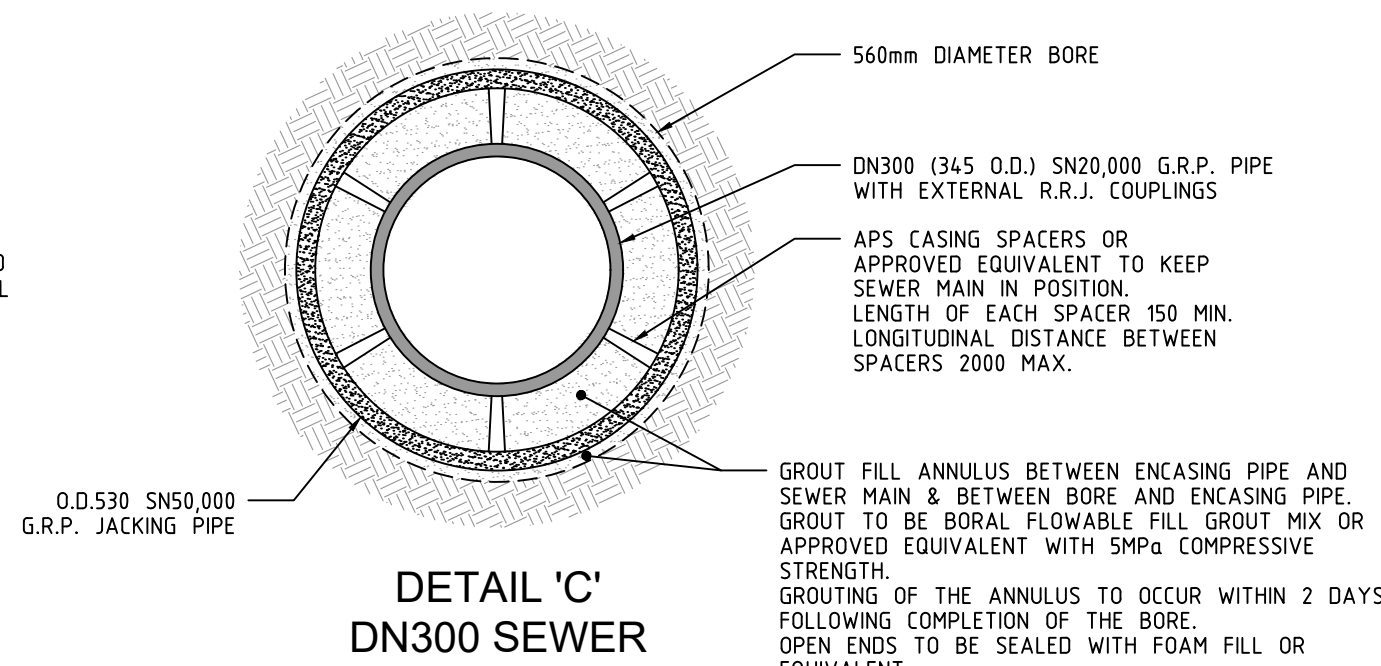
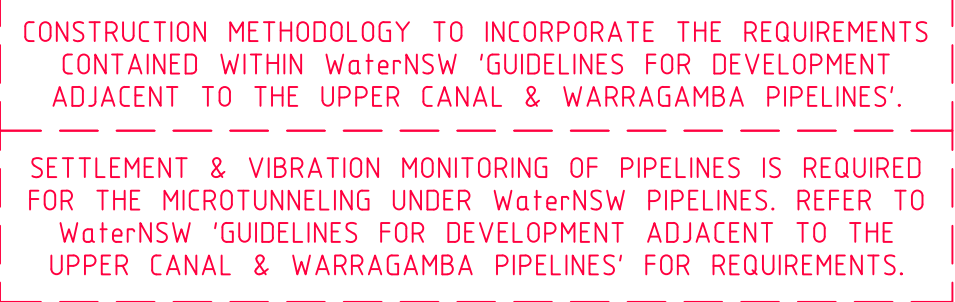
WORK AS CONSTRUCTED CERTIFICATION		SYDNEY WATER CORPORATION	
DEVELOPER			
W.S.C.			
CONSTRUCTOR		Case No. 181159ww	
COMPLETED			
W.A.C. PREPARED		SHT 2 OF 10 SHTS.	
DESIGNER		SYDNEY WATER CORPORATION	
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS		FOR DETAILS OF SERVICES SEE SHEET 1	



DENOTES STAGE 1 WORKS
DENOTES STAGE 2 WORKS



WORK AS CONSTRUCTED CERTIFICATION		Sydney WATER		SYDNEY WATER CORPORATION	
DEVELOPER	.....	Case No. 181159ww		SHT	3 OF 10 SHTS.
W.S.C.	.....				
CONSTRUCTOR	.....				
COMPLETED	.....	SYDNEY WATER CORPORATION			
W.A.C. PREPARED	.....				
DESIGNER	.....				
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS		FOR DETAILS OF SERVICES SEE SHEET 1			



DETAIL 'C'
DN300 SEWER
G.R.P. ENCASING PIPE
MICROTUNNEL SECTION
(NOT TO SCALE)

- b) SAFETY MANAGEMENT PLAN;
- c) QUALITY MANAGEMENT PLAN;
- d) STATEMENT OF CAPABILITY THAT THE PROPOSED EQUIPMENT AND METHODOLOGY SHALL BE CAPABLE OF ACHIEVING THE TOLERANCES IN LINE AND LEVEL AS SPECIFIED;
- e) SCHEDULE OF WORK;
- f) GROUND MONITORING EQUIPMENT AND METHODS (IF APPLICABLE);
- g) DRAWING OF THE WORK SITE, INCLUDING LOCATION AND FOOTPRINT OF EQUIPMENT, BORING PITS AND SLURRY CONTAINMENT PITS;
- h) METHOD OF SPILL/SLURRY/DISPERSAL FLUIDS, TRANSPORTATION FROM CUT FACE, NATURE OF HAULAGE EQUIPMENT AND DISPOSAL.
- i) CONTINGENCY PLANS DETAILING HOW STOPPAGES DUE TO OBSTRUCTIONS OR LOSS OF GROUND SHALL BE DEALT WITH.

1.3 OBSTRUCTION AND LOSS OF GROUND

- j) THE CONTRACTOR SHALL PROVIDE AT LEAST ONE SELF-CONTAINED BORING RIG IN GOOD OPERATING CONDITION, WITH SUFFICIENT TORQUE AND POWER, NECESSARY TO COMPLETE THE WORKS IN A SATISFACTORY MANNER;
- k) DEWATERING NOT PERMITTED DURING TRENCHLESS INSTALLATION, BUT, IF REQUIRED MAYBE PERMITTED FOR CONSTRUCTION OF ACCESS/RECOVERY SHAFTS. REFER TECHNICAL SPECIFICATION - CIVIL VERSION 9.0 FOR DEWATERING PROPOSAL.

1.4 RESPONSIBILITY FOR FINAL TRENCHLESS DESIGN & CONSTRUCTION

- THE CONTRACTOR SHALL INDEPENDENTLY EVALUATE THE FEASIBILITY OF THE PROPOSED TRENCHLESS INSTALLATION AND CONFORM SUITABILITY OF THE EQUIPMENT AND CONSTRUCTION PROCEDURES IN RELATION TO THE ACTUAL SITE TOPOGRAPHY, SOIL AND GROUNDWATER CONDITIONS, EXISTING SITE UTILITIES AND SURROUNDING AREAS.
- THE CONTRACTOR SHALL CONFIRM THAT THE PROPOSED CARRIER PIPE, SLEEVE PIPE & GROUT MIX AS DOCUMENTED ON THE DESIGN DRAWINGS ARE SUITABLE FOR INSTALLATION IN ACCORDANCE WITH HIS PROPOSED METHODOLOGY. WHERE A VARIATION TO THE BORE METHODOLOGY IS REQUIRED, THE CONTRACTOR SHALL PROVIDE BE RESPONSIBLE FOR THE FINAL DESIGN OF THE TRENCHLESS INSTALLATION. THE CONTRACTOR SHALL SUBMIT ALL NECESSARY DOCUMENTATION TO THE WSC FOR APPROVAL, PRIOR TO COMMENCEMENT OF ANY WORKS.



LINE NO.	CHAINAGE	TYPE	DN RISER	CLASS OF COVER	MATERIAL	COMMENTS
1	120.00	M.H.	1200	D	CAST IN-SITU	DTC-2202[E] (18/3/15)
1	159.19	M.H.	1200	D	CAST IN-SITU	M.H. WITH DN300 WATER SEALED INLET. REFER NOTES ON SHEET 5 & DETAIL 'A' ON SHEET 6.
1	247.42	M.H.	1200	D	CAST IN-SITU	DTC-2202[E] (18/3/15)
1	350.47	M.H.	1200	D	CAST IN-SITU	DTC-2202[E] (18/3/15)
1	424.56	M.H.	1200	D	CAST IN-SITU	DTC-2202[E] (18/3/15)
1	515.93	M.H.	1200	D	CAST IN-SITU	DTC-2200[F] (18/3/15)
1	620.05	M.H.	1200	D	CAST IN-SITU	DTC-2200[F] (18/3/15)
1	739.78	M.H.	1200	D	CAST IN-SITU	DTC-2200[F] (18/3/15)
1	842.02	M.H.	1200	D	CAST IN-SITU	REFER NOTES ON SHEET 5 & DETAIL 'K' & DEEP M.H. DETAILS ON SHEETS 9.
1	886.14	M.H.	1200	D	CAST IN-SITU	REFER NOTES ON SHEET 5 & DETAIL 'L' & DEEP M.H. DETAILS ON SHEETS 9.

WORK AS CONSTRUCTED CERTIFICATION		 SYDNEY WATER CORPORATION	
DEVELOPER W.S.C.		Case No. 181159ww	SHT 4 OF 10 SHTS.
CONSTRUCTOR COMPLETED			
W.A.C. PREPARED			
DESIGNER		SYDNEY WATER CORPORATION FOR DETAILS OF SERVICES SEE SHEET 1	

MAINTENANCE HOLE NOTES:

GENERAL NOTES:

- G1.

THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE FLOWING, SHEETS 1-4 AND SYDNEY WATER SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS THAT MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCIES IN THESE DOCUMENTS SHALL BE REFERRED TO THE SUPERINTENDENT FOR A DECISION BEFORE PROCEEDING WITH THE WORK.
- A. SEWERAGE CODE OF AUSTRALIA WSA-02-2002-2.2 SYDNEY WATER EDITION 1 - VERSION 4 - PART 3

B. WSA 201-2013-1.1 MANUAL FOR SELECTION AND APPLICATION OF PROTECTIVE COATINGS AND SYDNEY WATER SUPPLEMENT TO WSA 201

C. SYDNEY WATER STANDARD SPECIFICATION SS210 CORROSION PROTECTION AND REHABILITATION OF MAINTENANCE REV. 3

D. SYDNEY WATER LIST OF ACCEPTABLE PRODUCT SPECIFICATIONS.

E. WSA 114-2002 INDUSTRY STANDARD FOR CONCRETE SPECIAL CLASS

F. WSA-2011 INDUSTRY STANDARD FOR DUCTILE IRON ACCESS COVERS FOR WATER SUPPLY & SEWERAGE
- G2.

ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.
- G3.

THE CONTRACTOR SHALL CHECK AND BE RESPONSIBLE FOR THE CORRECTNESS OF ALL DIMENSIONS AND ANY DISCREPANCY SHALL BE REPORTED IMMEDIATELY TO THE SUPERINTENDENT. SETTING OUT DIMENSIONS AND SIZES OF STRUCTURAL MEMBERS SHALL NOT BE OBTAINED BY SCALING FROM THE DRAWINGS.
- G4.

WHERE PROPRIETARY PRODUCTS HAVE BEEN SPECIFIED, A SUITABLE EQUIVALENT MAY BE USED WHERE APPROVED BY SYDNEY WATER. PROPRIETARY PRODUCTS SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- G5.

STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND EXCAVATION IN THE VICINITY OF ADJACENT STRUCTURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO PART OF THE STRUCTURE SHALL BE OVER STRESSED. APPROVAL OF ALL PROPOSALS MUST BE GRANTED BY THE SUPERINTENDENT PRIOR TO THE COMMENCEMENT OF WORK.
- G6.

THE CONTRACTOR SHALL NOTIFY THE ENGINEER FORTY EIGHT (48) HOURS BEFORE THE REINFORCEMENT IS COMPLETED. THE CONTRACTOR SHALL ALLOW TWO (2) HOURS AFTER THE COMPLETION OF THE REINFORCEMENT FOR THE ENGINEER'S INSPECTION. CONCRETE SHALL NOT BE ORDERED UNTIL THE REINFORCEMENT IS APPROVED BY THE ENGINEER.
- G7.

ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT SAA CODES, THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITY AND THE SPECIFICATION.
- G8.

NO CHANGES SHALL BE MADE WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.
- G9.

U.N.O. DENOTES UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- G10.

AT THE COMPLETION OF WORKS, ALL DISTURBED AREAS INCLUDING ROAD PAVEMENTS, KERBS AND FOOTPATHS SHALL BE REINSTATED TO MATCH EXISTING ADJACENT MATERIAL.
- G11.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL SERVICES TO BE RELOCATED, ADJUSTED OR PROTECTED.
- G12.

ALL WATER STOPS ARE HYDROTITE CJ0725-3K OR APPROVED EQUIV. INSTALLED WITH MIN. 50 COVER TO THE EARTH FACE, IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.
- G13.

DESIGN LOADS:

LIVE LOAD = CLASS 'D' TO AS3996-2006

SURCHARGE AROUND STRUCTURES = 20kPa

GROUND WATER AT SURFACE
- G14.

ALL INTERNAL SURFACES (EXCLUDING BENCHING) OF MAINTENANCE HOLES SHALL BE PROVIDED WITH A PROTECTIVE COATING IN ACCORDANCE WITH WSA 201 AND SYDNEY WATER SUPPLEMENT. COATING SYSTEM SHALL BE CPL, EUH OR NOV.

FORMWORK:

- FW1.

FORMWORK AND CONCRETE FINISHES SHALL COMPLY WITH AS3610 SAA FORMWORK CODE. SURFACES EXPOSED TO VIEW TO - CLASS 2; SURFACES NOT EXPOSED TO VIEW - CLASS 4
- FW2.

CONCRETE SHALL ACHIEVE A MINIMUM COMPRESSIVE STRENGTH OF 25MPa PRIOR TO STRIPPING OF FORMWORK.

FOUNDATIONS:

- F1.

MINIMUM ALLOWABLE BEARING PRESSURES FOR MAINTENANCE HOLES SHALL BE 100kPa. ALLOWABLE BEARING CAPACITY TO BE CONFIRMED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO POURING MAINTENANCE HOLE BASE.
- F2.

ANY OVER-EXCAVATION OR VOIDS OF FOUNDATION MATERIALS TO BE FILLED WITH NORMAL CLASS N15 MASS CONCRETE TO AS 1379.
- F3.

BLINDING CONCRETE OR BEARING SURFACE SHALL BE SATURATED WITH WATER AND EXCESS REMOVED IMMEDIATELY PRIOR TO POURING CONCRETE BASE.

CONCRETE NOTES:

- C1.

CONCRETE DIMENSIONS SHOWN DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
- C5.

MINIMUM CLEAR COVER TO REINFORCEMENT SHALL BE 75mm AT INTERNAL FACE AND 55mm COVER AT EXTERNAL FACE UNO.
- C3.

CONCRETE SHALL BE SPECIAL CLASS SCC40 TO WSA 114-2002 AND AS3735 EXCEPT AS VARIED BELOW.

SECTION 4 - MIX DESIGN	
MINIMUM F'c AT 28 DAYS	40MPa
MINIMUM BINDER CONTENT	450kg/m³
MAXIMUM 56 DAY DRYING SHRINKAGE STRAIN	600x10 ⁻⁶
MAXIMUM WATER:CEMENT RATIO	0.45
SLUMP	80-120mm

SECTION 6 - SUPPLEMENTARY CEMENTITIOUS MATERIALS

THE TOTAL AMOUNT OF SUPPLEMENTARY CEMENTITIOUS MATERIALS SHALL NOT BE MORE THEN 60% BY WEIGHT OF THE TOTAL CEMENT MATERIAL.

SECTION 6.2 - FLYASH

THE MAXIMUM AMOUNT OF SLAG FLYASH SHALL BE 25% BY WEIGHT OF THE TOTAL CEMENT MATERIAL.

SECTION 6.3 - SLAG

THE MAXIMUM AMOUNT OF SLAG SHALL BE 50% BY WEIGHT OF THE TOTAL CEMENT MATERIAL.

SECTION 6.5 - AGGREGATES.

THE MAXIMUM NOMINAL SIZE OF AGGREGATE SHALL BE 20mm. RECYCLED MATERIAL OR SLAG PRODUCTS SHALL NOT BE USED AS AGGREGATES.

SECTION 6.7 - CHEMICAL ADMIXTURES.

WHERE TWO OR MORE ADMIXTURES ARE PROPOSED FOR INCORPORATION INTO A CONCRETE MIX THE MANUFACTURES SHALL CERTIFY THE COMPATIBILITY OF THE ADMIXTURES.

- C4.

ALL CONCRETE SHALL BE MECHANICALLY VIBRATED. THE VIBRATOR SHALL NOT BE USED TO SPREAD CONCRETE.
- C5.

CURING OF ALL CONCRETE TO BE ACHIEVED BY KEEPING SURFACES CONTINUOUSLY WET FOR A PERIOD OF 7 DAYS. POLYETHYLENE SHEETING OR WET HESSIAN MAY BE USED. POLYETHYLENE AND HESSIAN TO BE ADEQUATELY SECURED TO RESIST WIND AND TRAFFIC FORCES. ALTERNATIVE CURING MAY BE ACHIEVED BY APPLYING SIKA ANTISOL WB CURING COMPOUND OR APPROVED EQUIVALENT TO ALL SURFACES IN ACCORDANCE WITH THE MANUFACTURES REQUIREMENTS FOR A PERIOD OF 14 DAYS.
- C6.

CONCRETE SHALL ACHIEVE A MINIMUM COMPRESSIVE STRENGTH OF 32MPa PRIOR TO BACKFILLING AND TESTING OF STRUCTURES. BACKFILL SHALL BE PLACED AND COMPACTED EVENLY AROUND MAINTENANCE HOLES IN LAYERS NOT EXCEEDING 300mm LOOSE THICKNESS.
- C7.

ALL CONSTRUCTION JOINTS SHALL BE SCABBLED TO 3mm AMPLITUDE, WIRE BRUSH CLEANED, WATER STOP PLACED & PRIMED WITH CEMENT SLURRY IMMEDIATELY PRIOR TO PLACING CONCRETE.
- C8.

WATERSTOPS SHALL BE HYDROTITE CJ-0725-3K (25X7mm) HYDROPHILIC SEAL OR APPROVED EQUIVALENT.

STRUCTURAL CRITERIA:

- SD1.

SOIL PROPERTIES:

ø' = 30°

DENSITY (γ) = 20kN/m³

COEFFICIENT OF EARTH PRESSURE AT REST Ko = 0.5
- SD2.

LOADS:

LIVE LOAD:

SUBJECT TO VEHICULAR TRAFFIC - SM1600 TO AS5100.2

SURCHARGE AROUND STRUCTURES = 20 kPa

GROUND WATER AT SURFACE
- SD3.

CONCRETE EXPOSURE CLASSIFICATION: D (AS3735)

REINFORCEMENT NOTES:

- R1.

STEEL REINFORCING MATERIALS SHALL BE TO AS/NZS4671.

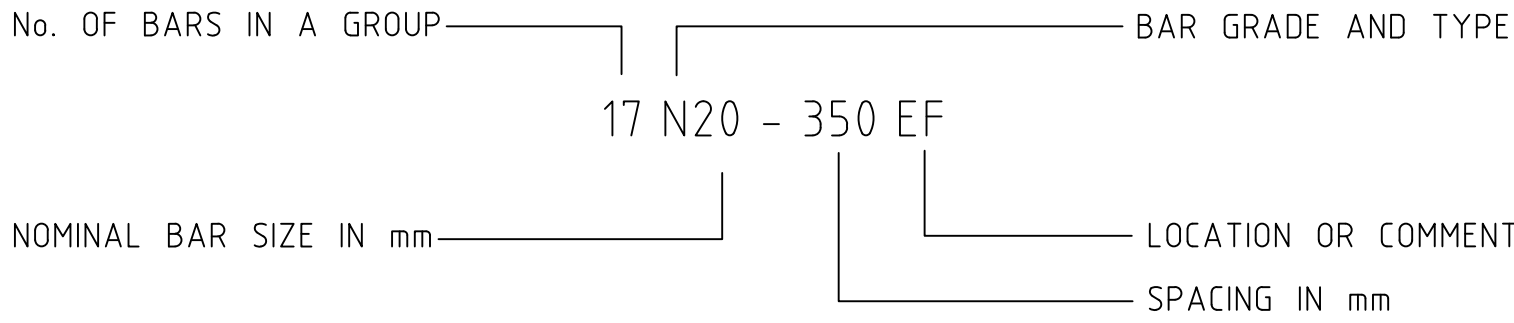
SHAPE - D

STRENGTH GRADE = 500MPa

DUCTILITY CLASS - N
- R2.

REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY: IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
- R3.

DESIGNATION OF REINFORCEMENT BARS AS IN EXAMPLE:



- R4.

THE FOLLOWING ABBREVIATIONS APPLY TO THE LOCATION OF REINFORCEMENT:

EW EACH WAY

EF EACH FACE

NF NEAR FACE

FF FAR FACE

B BOTTOM

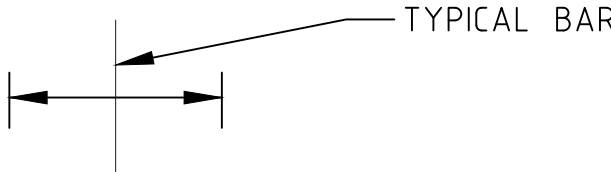
T TOP

CP CENTRALLY PLACED

BB BOTTOM BOTTOM (LAID FIRST)

TT TOP TOP (LAID FIRST)
- R5.

EXTENT OF BARS SHOWN THUS:



- R6.

SPLICE REINFORCEMENT ONLY AT LOCATIONS SHOWN ON DRAWINGS. LAP LENGTHS TO COMPLY WITH THE FOLLOWING UNLESS NOTED OTHERWISE.

BAR TYPE AND SIZE	VERTICAL BARS	HORIZONTAL BARS WITH MORE THAN 300mm OF CONCRETE BELOW BAR	OTHER LOCATIONS	90° COG LENGTH
N12	500	550	500	200
N16	700	800	700	200
N20	1000	1250	1000	250
N24	1200	1500	1200	300
N28	1400	1750	1400	350
N32	1600	1950	1600	400
N36	1700	2200	1700	450

- R7.

REINFORCEMENT SHALL BE SUPPORTED ON APPROVED PLASTIC OR PLASTIC TIPPED WIRE STOOLS AT NOT MORE THAN 600mm CENTRE BOTHWAYS IN SLABS AND AT 1000mm CENTRES IN BEAMS.
- R7.

LOAD BEARING WELDED JOINTS FOR THE TRANSMISSION OF LOADS BETWEEN REINFORCEMENT IS NOT PERMITTED.

NON LOAD BEARING WELDED JOINTS (TACK WELDS) TO KEEP REINFORCEMENT IN POSITION DURING FABRICATION, TRANSPORT & CONCRETING, IS PERMITTED WHERE WELDING WILL NOT IMPACT DUCTILITY OF REINFORCEMENT. WELDING SHALL BE IN ACCORDANCE WITH AS 1554.3.

LAP LENGTHS SHALL NOT BE REDUCED DUE TO WELDING.
- R8.

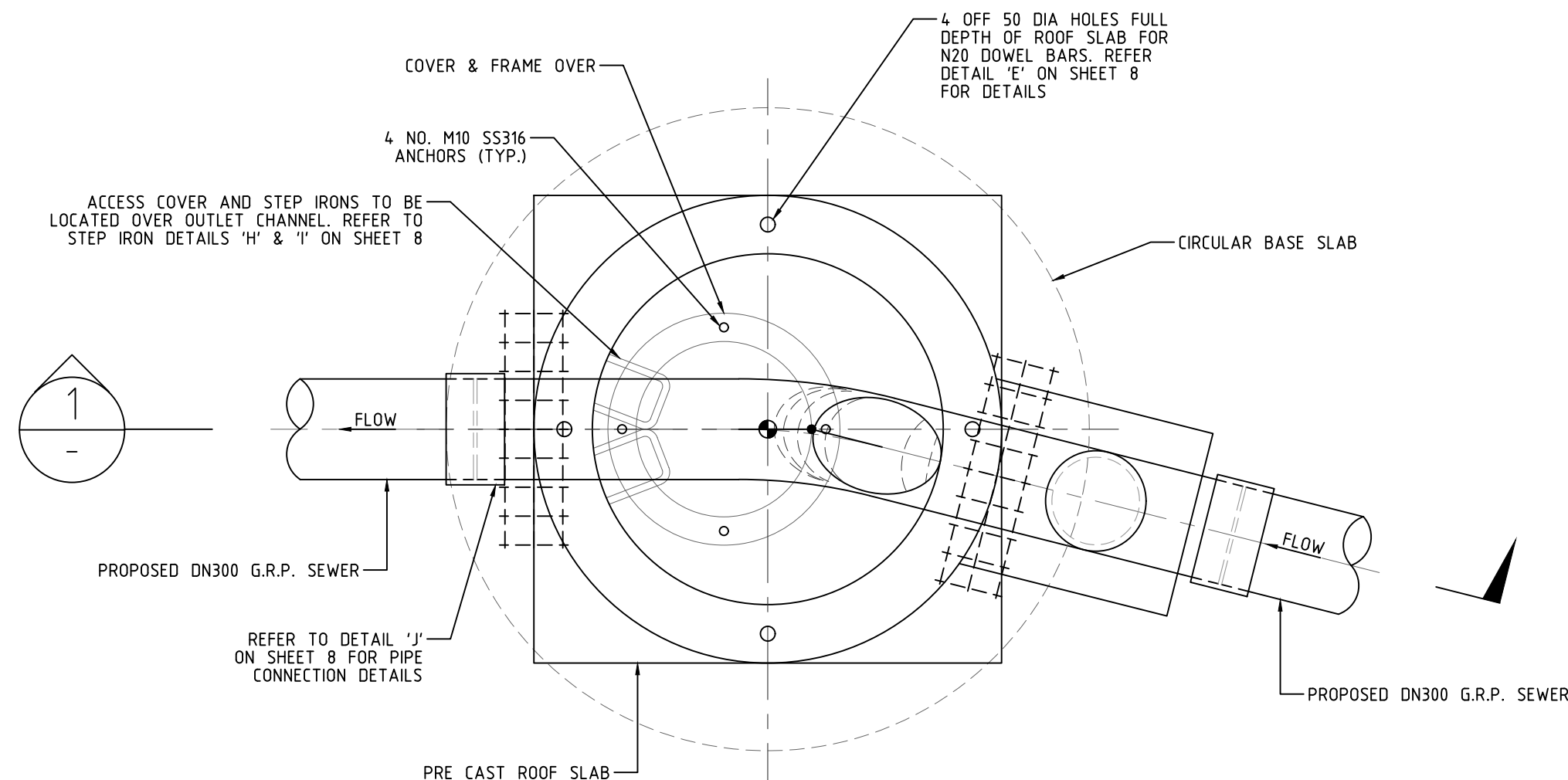
EXPOSURE CLASS B2 FOR EXTERNAL CONCRETE FACE;

EXPOSURE CLASS D FOR INTERNAL CONCRETE FACE.
- R9.

MINIMUM COVER TO BE 55mm FOR CLASS B2 EXPOSURE;

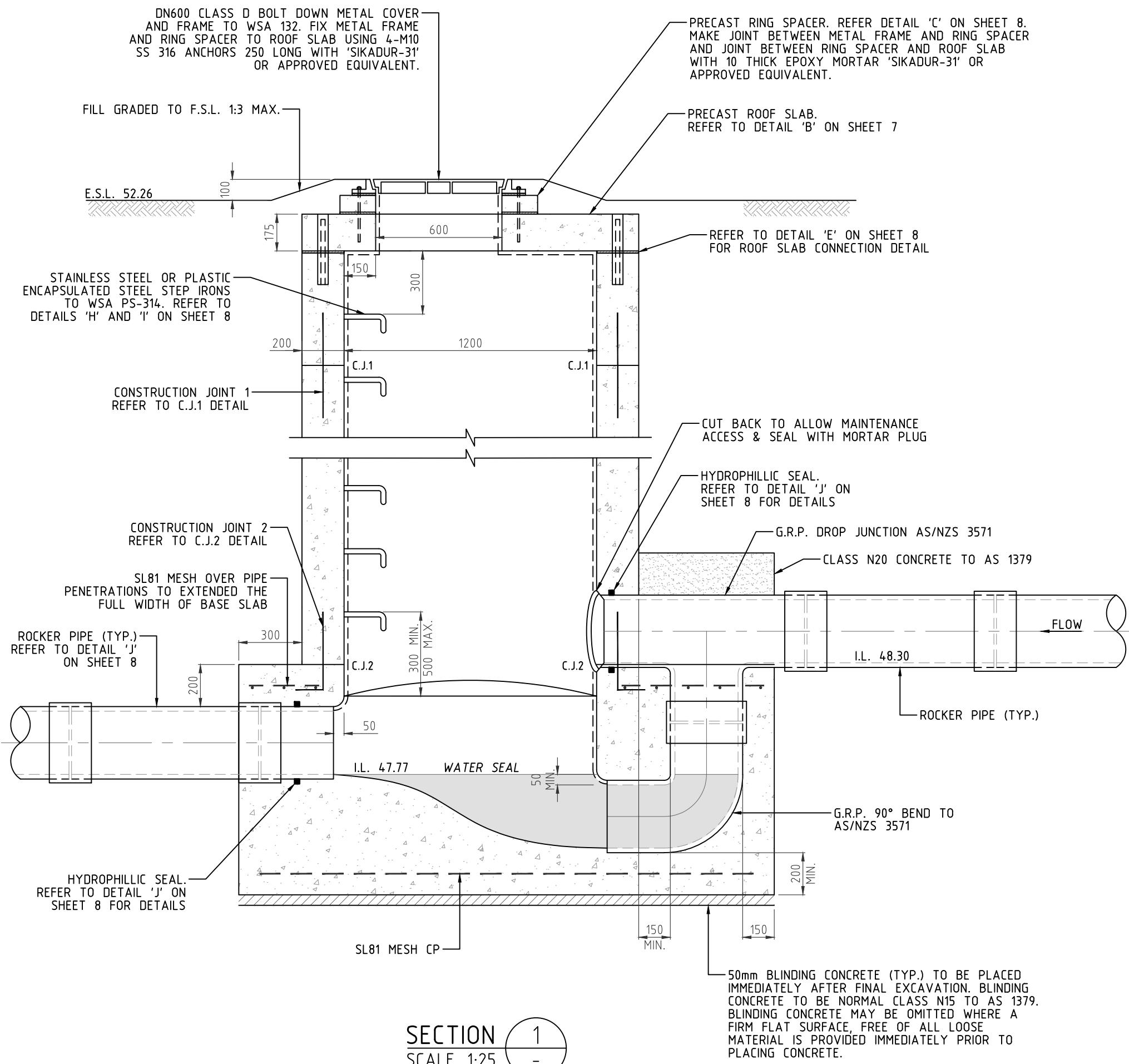
MINIMUM COVER TO BE 75mm FOR CLASS D EXPOSURE.

WORK AS CONSTRUCTED CERTIFICATION		SYDNEY WATER CORPORATION	
DEVELOPER	.....	Sydney WATER Case No. 181159ww SHT 5 OF 10 SHTS.	
W.S.C.	.....		
CONSTRUCTOR	.....		
COMPLETED	.....		
W.A.C. PREPARED	.....	SYDNEY WATER CORPORATION	
DESIGNER	.....		
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS		FOR DETAILS OF SERVICES SEE SHEET 1	

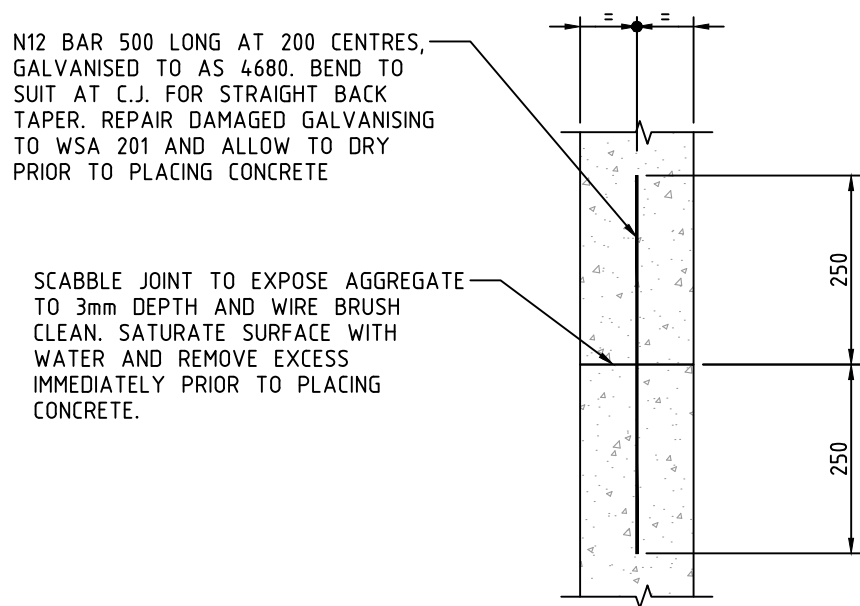


- DENOTES CENTRE OF M.H.
- DENOTES INTERSECTION POINT OF SEWERS

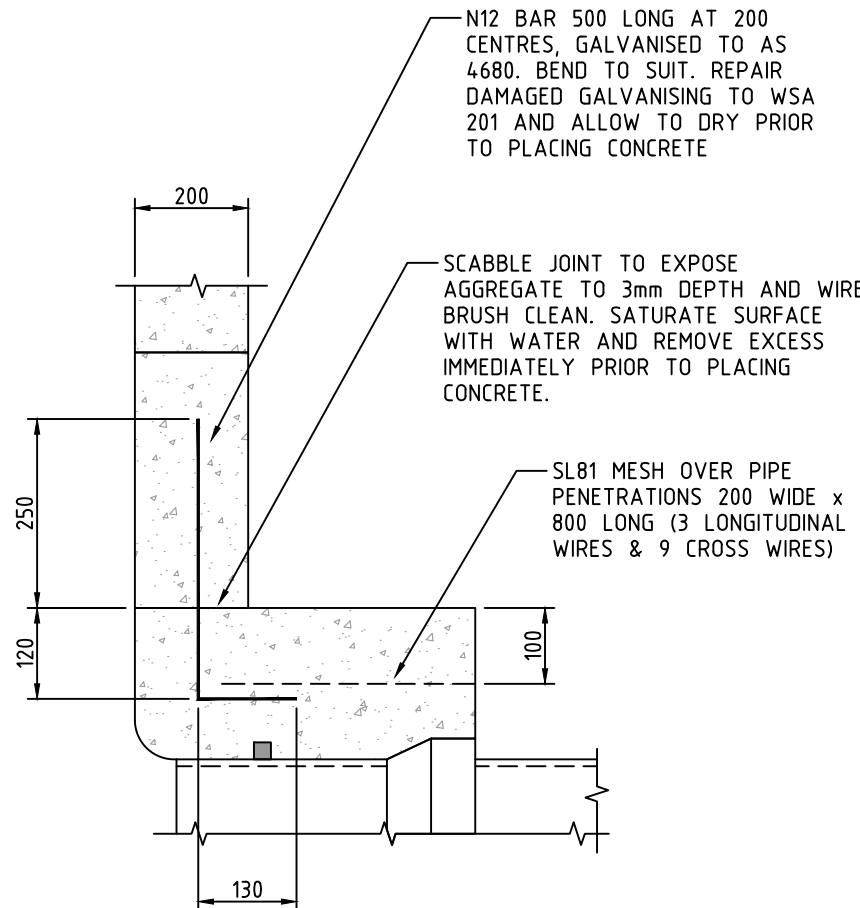
DETAIL 'A'
WATER SEALED M.H. DETAIL - PLAN
SCALE: 1:20



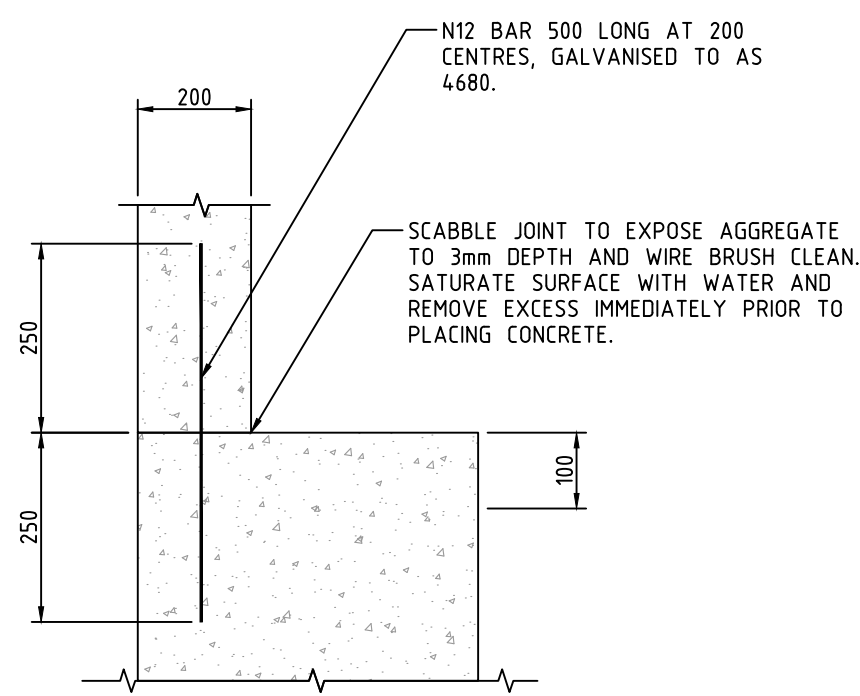
SECTION 1
SCALE 1:25



CONSTRUCTION JOINT (C.J.1)
NOT TO SCALE

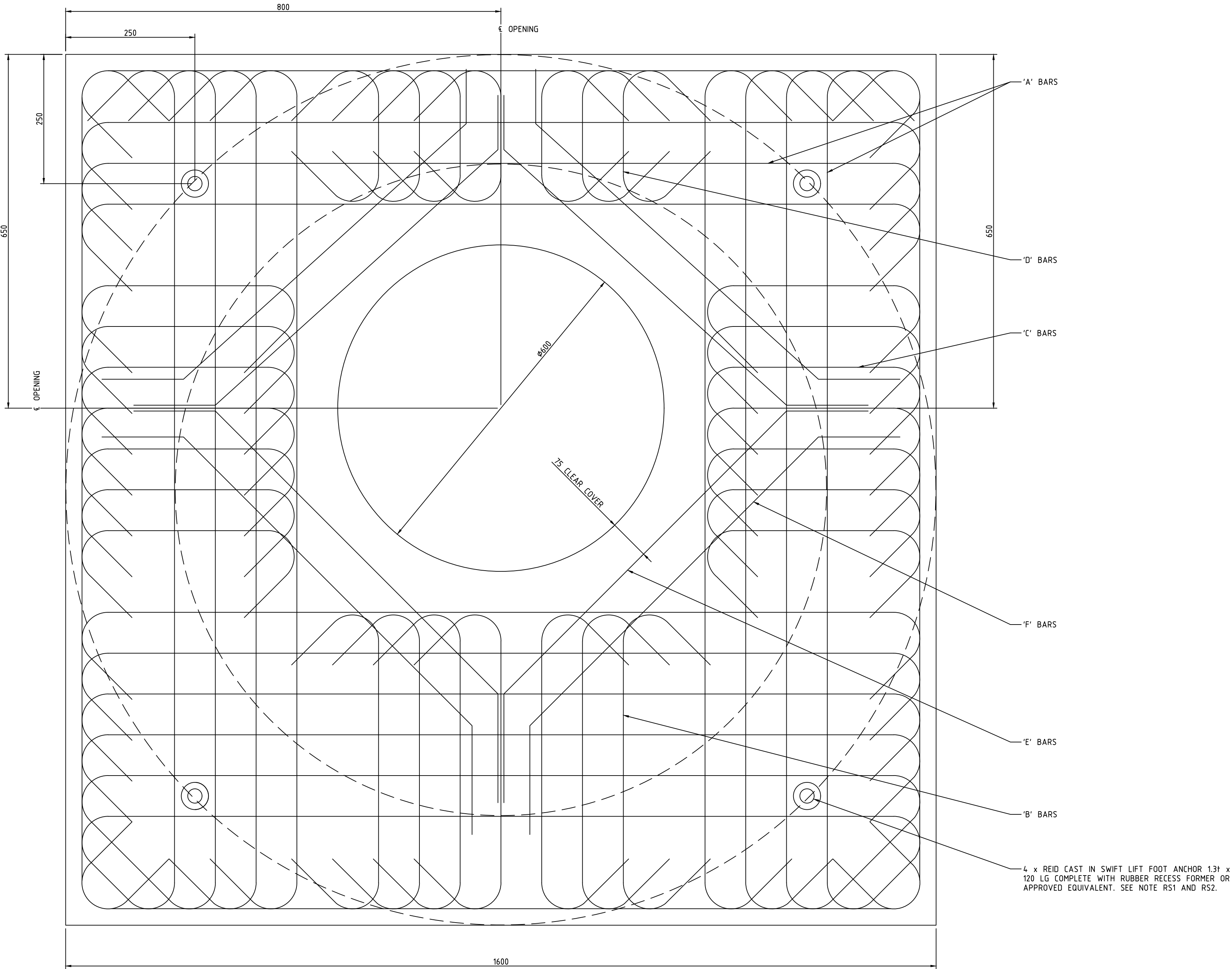


CONSTRUCTION JOINT (C.J.2)
(AT PIPE PENETRATIONS)
NOT TO SCALE



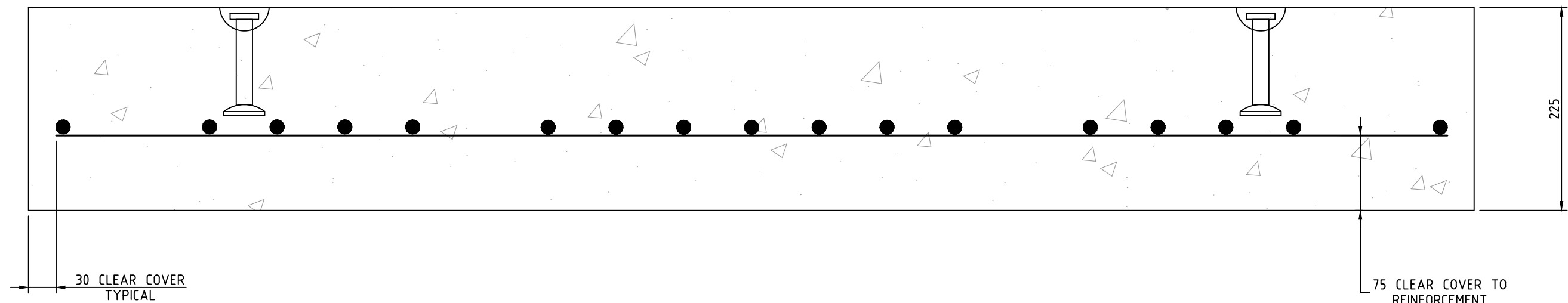
CONSTRUCTION JOINT (C.J.2)
(WITHOUT PIPE PENETRATIONS)
NOT TO SCALE

WORK AS CONSTRUCTED CERTIFICATION		SYDNEY WATER CORPORATION	
DEVELOPER	.....	Sydney WATER Case No. 181159ww | SHT 6 OF 10 SHTS.	
W.S.C.	.....		
CONSTRUCTOR	.....		
COMPLETED	.....		
W.A.C. PREPARED	.....	SYDNEY WATER CORPORATION FOR DETAILS OF SERVICES SEE SHEET 1	
DESIGNER	.....		
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS			



ROOF SLAB DESIGN LOADS	
DESIGN WHEEL LOAD	TYPICAL USE
8,000 kg (W80 TO AS 5100.2)	FOR PUBLIC AND PRIVATE ROAD CARRIAGEWAYS, FOOTPATHS / VERGES / MEDIAN STRIPS NOT RESTRICTED TO VEHICLES, DRIVEWAYS IN AREAS ZONED 'RESIDENTIAL', 'INDUSTRIAL OR COMMERCIAL', AND PARKLAND WITH NO RESTRICTION TO VEHICULAR ACCESS.

BAR SCHEDULE			
DESIGNATION	SHAPE	No.	BAR SIZE
A		21	N16
B		7	N16
C		14	N16
D		7	N16
E		4	N16
F		4	N16

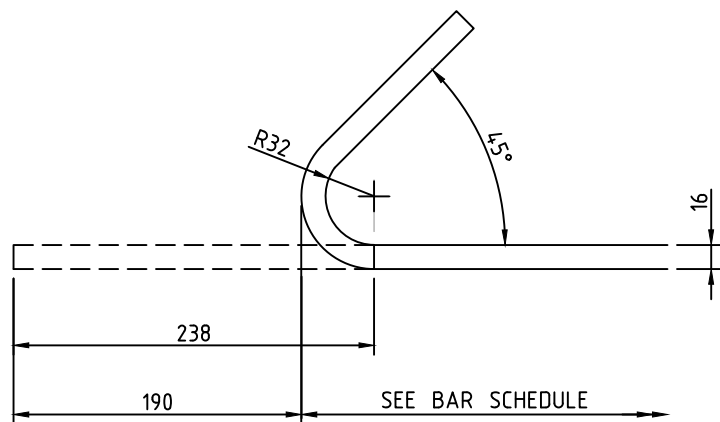


DETAIL 'B'

WATER SEALED M.H. ROOF SLAB

APPROXIMATE WEIGHT - 1.3 TONNE

NOT TO SCALE



N16 HOOK BENDING DETAILS

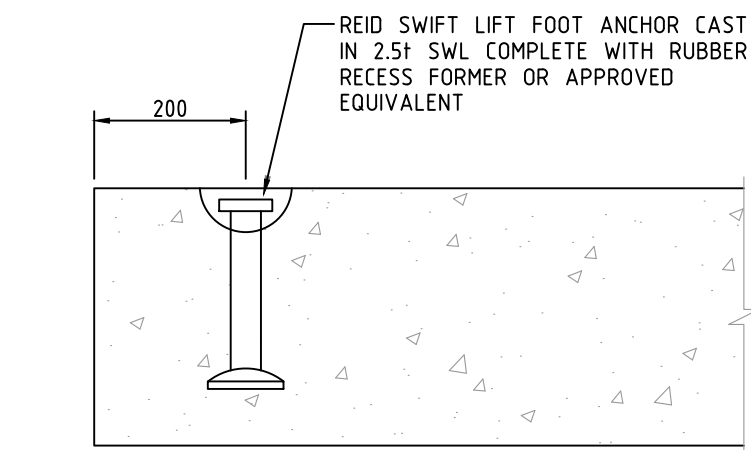
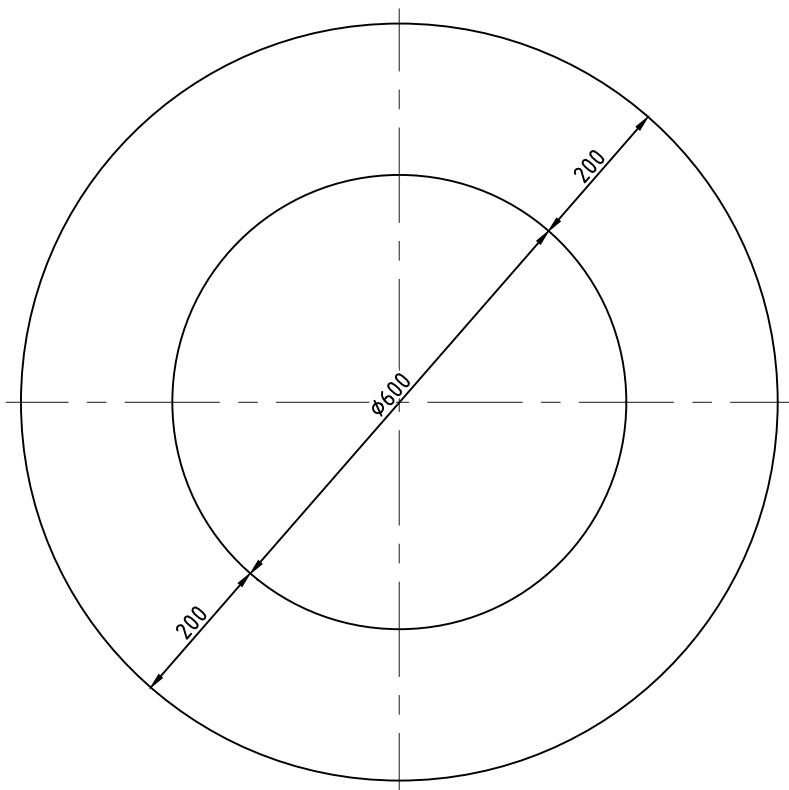
(NOT TO SCALE)

ROOF SLAB NOTES:

RS1. PRECAST CONCRETE ROOF SLAB SHALL HAVE A MINIMUM STRENGTH OF 25MPa AT TIME OF LIFTING.

RS2. SPREADER BARS MUST BE USED DURING LIFTING TO ENSURE LIFT FORCE IS VERTICAL.

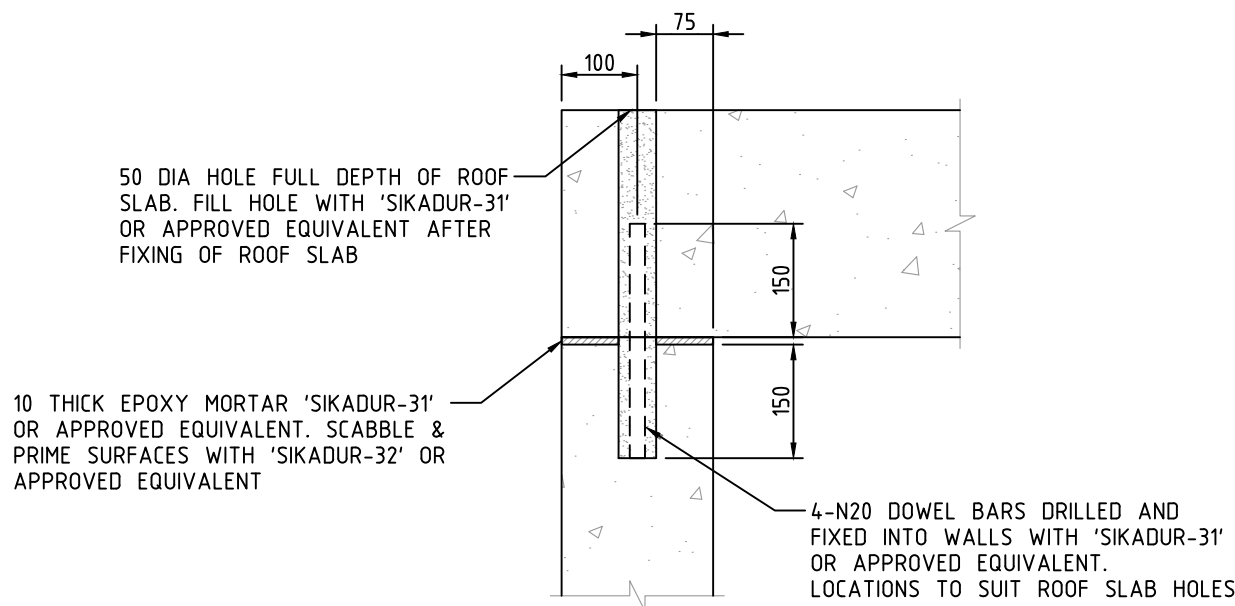
WORK AS CONSTRUCTED CERTIFICATION		Sydney WATER		SYDNEY WATER CORPORATION	
DEVELOPER	W.S.C.	Case No. 181159ww SHT 7 OF 10 SHTS.			
CONSTRUCTOR	COMPLETED				
W.A.C. PREPARED		SYDNEY WATER CORPORATION FOR DETAILS OF SERVICES SEE SHEET 1			
DESIGNER					
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS					



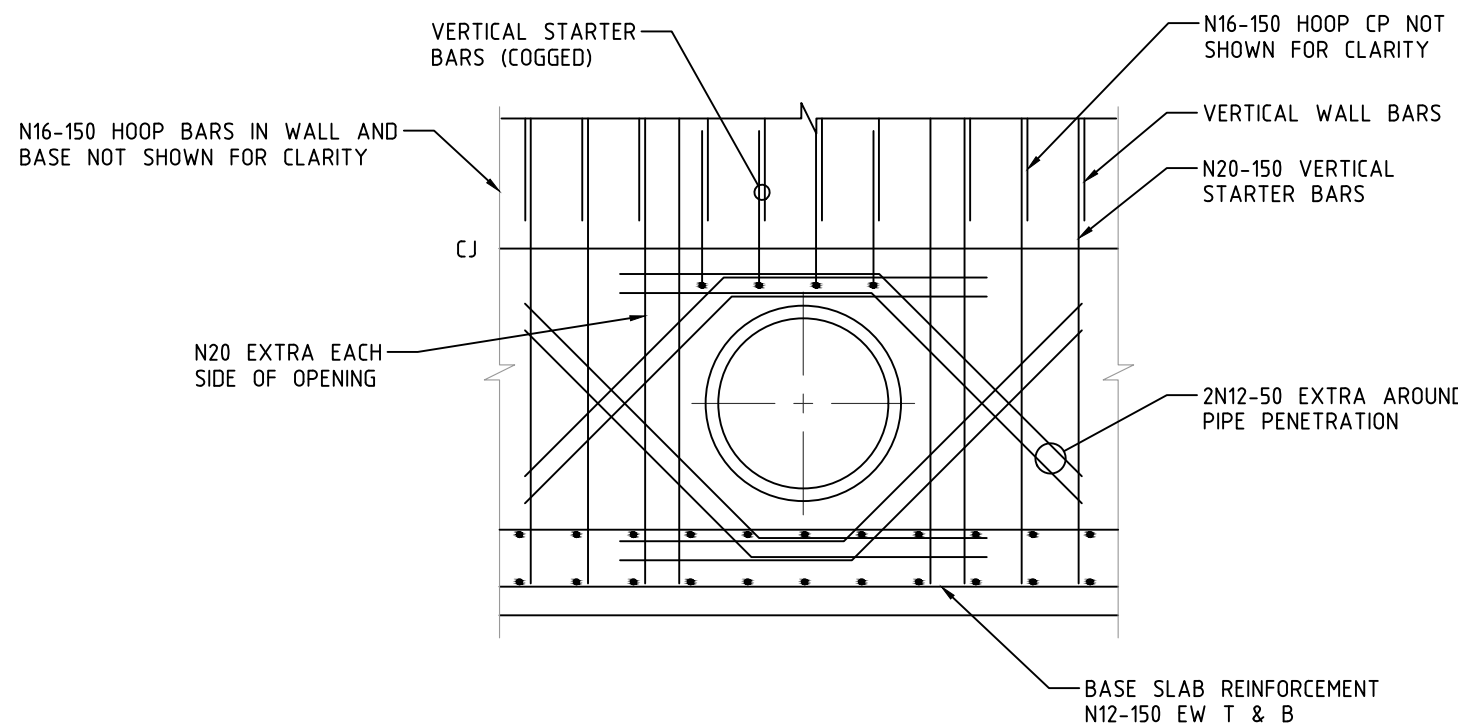
DETAIL 'D'
WATER SEALED M.H.
PRECAST ROOF CASTING DETAIL (TYP.)
(NOT TO SCALE)

NOTES:

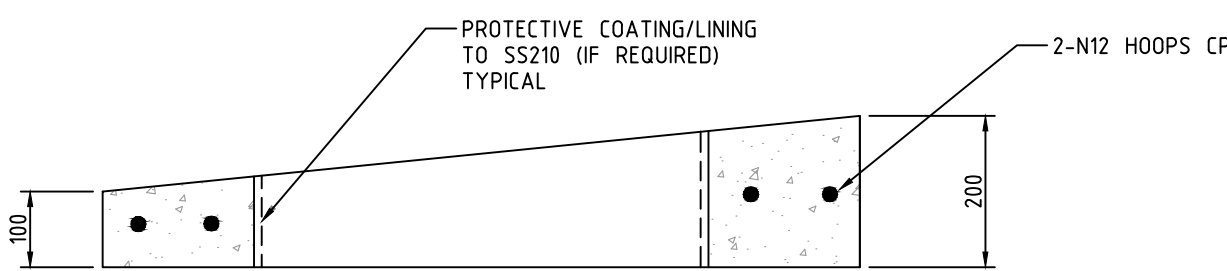
1. PRECAST CONCRETE ROOF PANEL TO HAVE A MINIMUM STRENGTH OF 25MPa AT LIFTING.
2. SPREADER BARS MUST BE USED DURING LIFTING TO ENSURE LIFT FORCE IS VERTICAL



DETAIL 'E'
WATER SEALED M.H.
PRECAST ROOF CONNECTION DETAIL (TYP.)
(NOT TO SCALE)



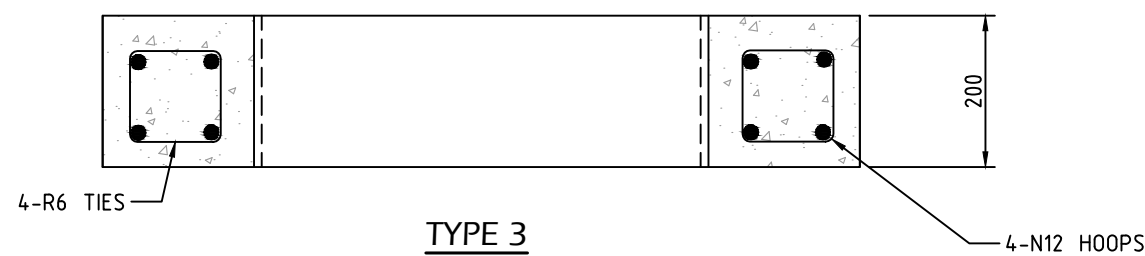
DETAIL 'F'
WATER SEALED M.H.
PENETRATION DETAIL IN BASE SLAB (TYP.)
(NOT TO SCALE)



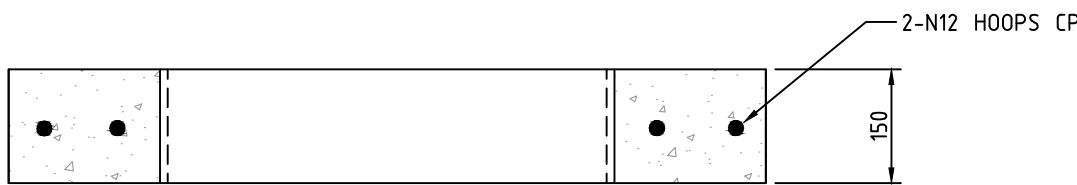
TYPE 5



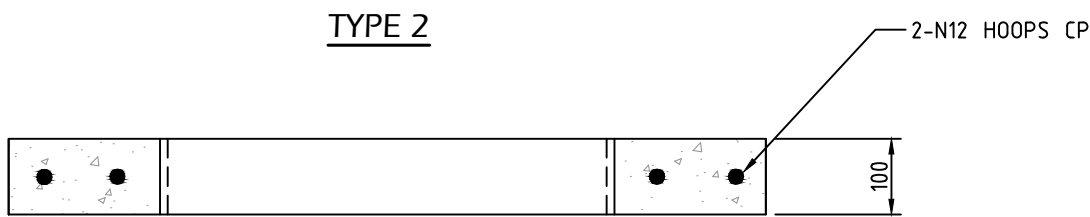
TYPE 4



TYPE 3

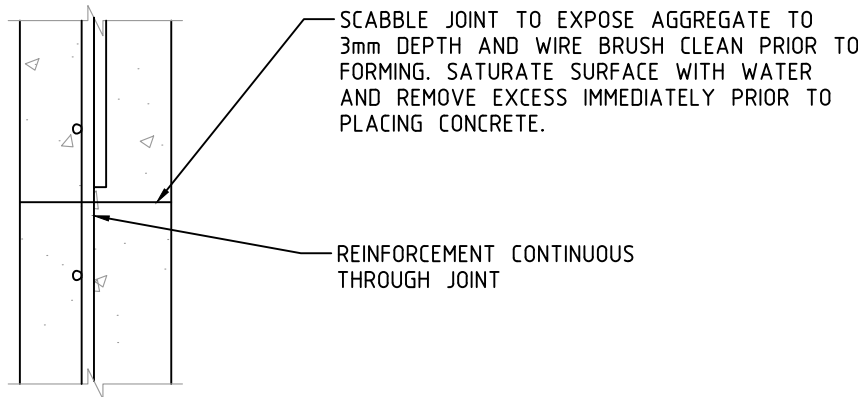


TYPE 2

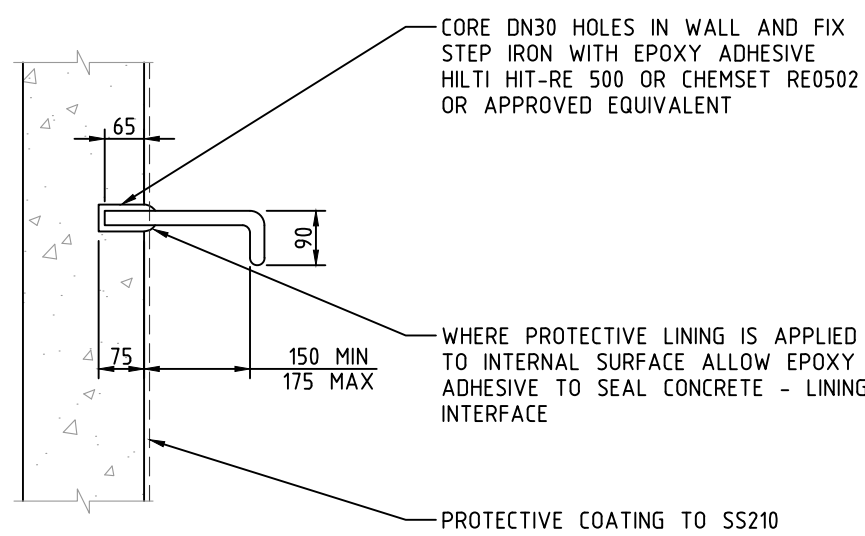


TYPE 1

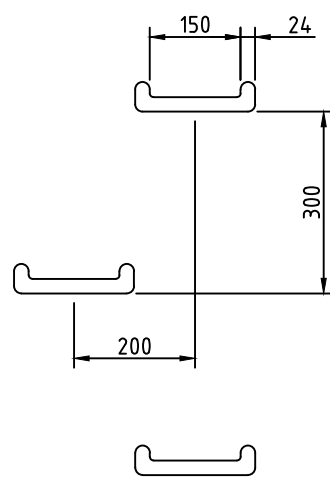
DETAIL 'C'
WATER SEALED M.H.
PRECAST RING SPACER DETAIL (TYP.)
(NOT TO SCALE)



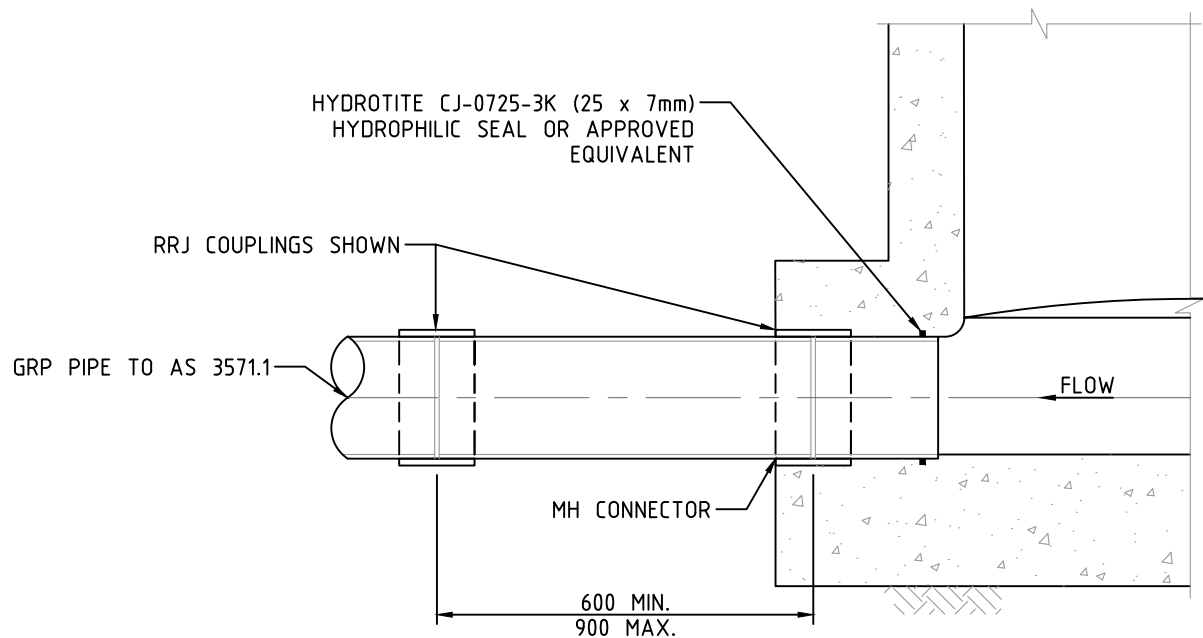
DETAIL 'G'
WATER SEALED M.H.
CONSTRUCTION JOINT DETAIL (TYP.)
(NOT TO SCALE)



DETAIL 'H'
WATER SEALED M.H.
STEP IRON FIXING DETAIL (TYP.)
(NOT TO SCALE)

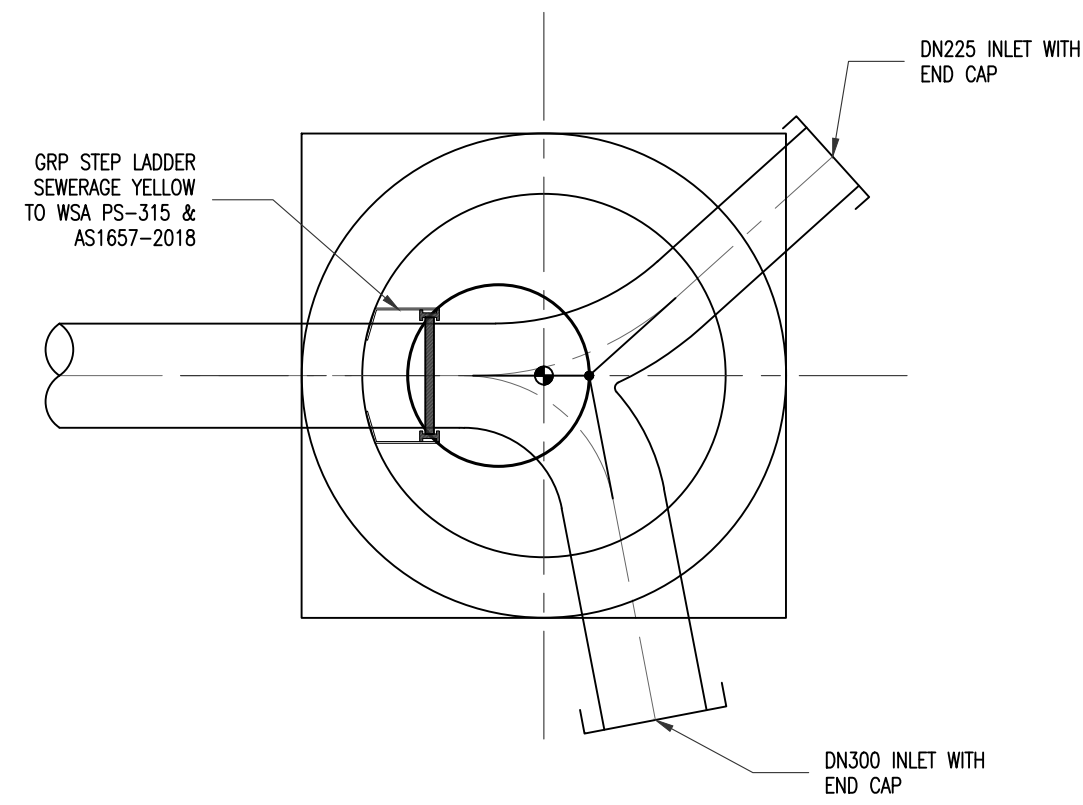


DETAIL 'I'
WATER SEALED M.H.
STEP IRON SET OUT DETAIL (TYP.)
(NOT TO SCALE)

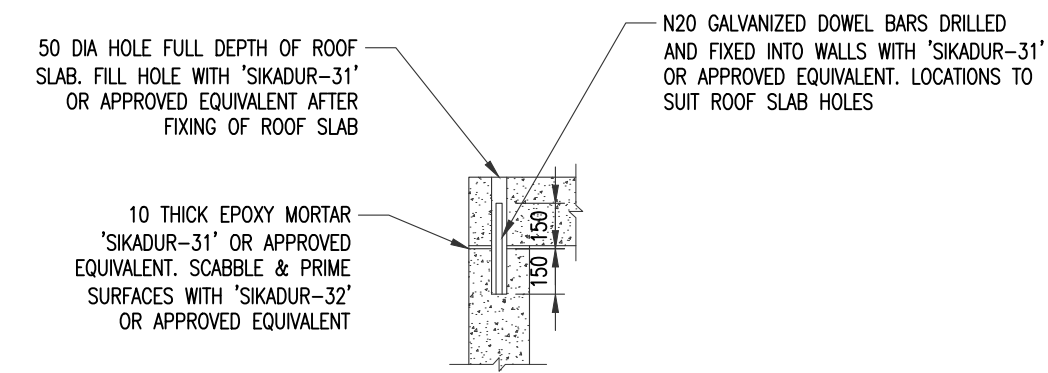


DETAIL 'J'
WATER SEALED M.H.
TYPICAL M.H. BASE FOR G.R.P. SLEEVE COUPLED PIPE
(NOT TO SCALE)

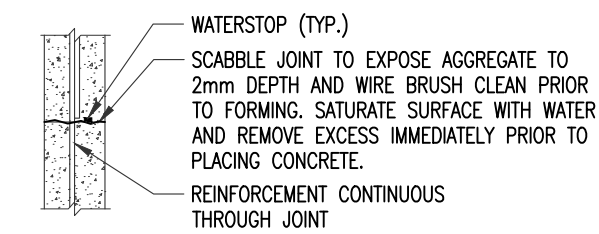
WORK AS CONSTRUCTED CERTIFICATION		Sydney WATER		SYDNEY WATER CORPORATION	
DEVELOPER		Case No. 181159ww		SHT 8 OF 10 SHTS.	
W.S.C.					
CONSTRUCTOR					
COMPLETED					
W.A.C. PREPARED					
DESIGNER		SYDNEY WATER CORPORATION			
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS		FOR DETAILS OF SERVICES SEE SHEET 1			



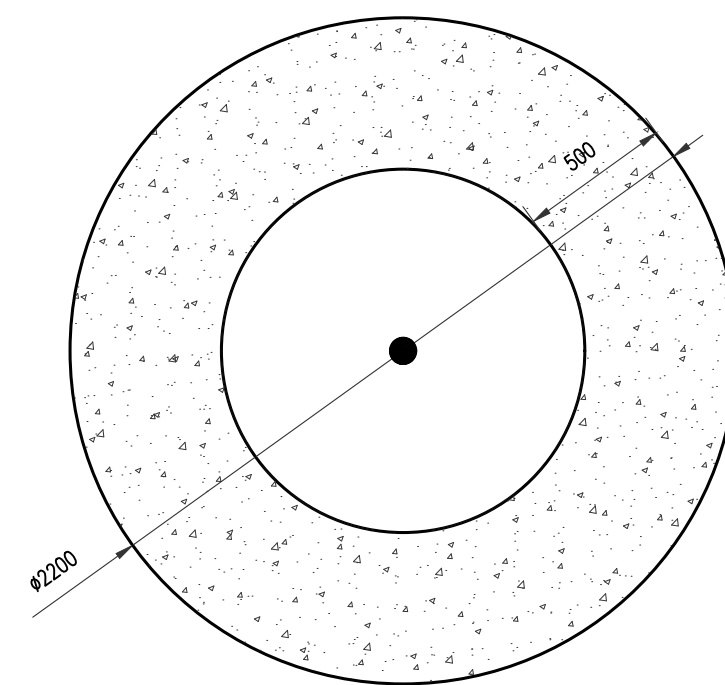
DETAIL 'L'
DEEP M.H. DETAIL - PLAN (Ch886.14)
SCALE 1:20



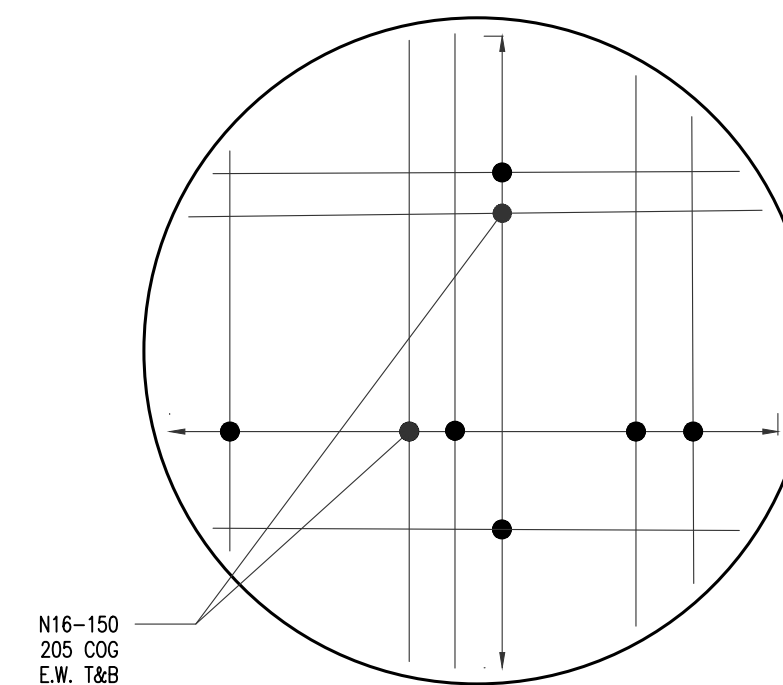
PRECAST ROOF CONNECTION DETAIL
SCALE: 1:20



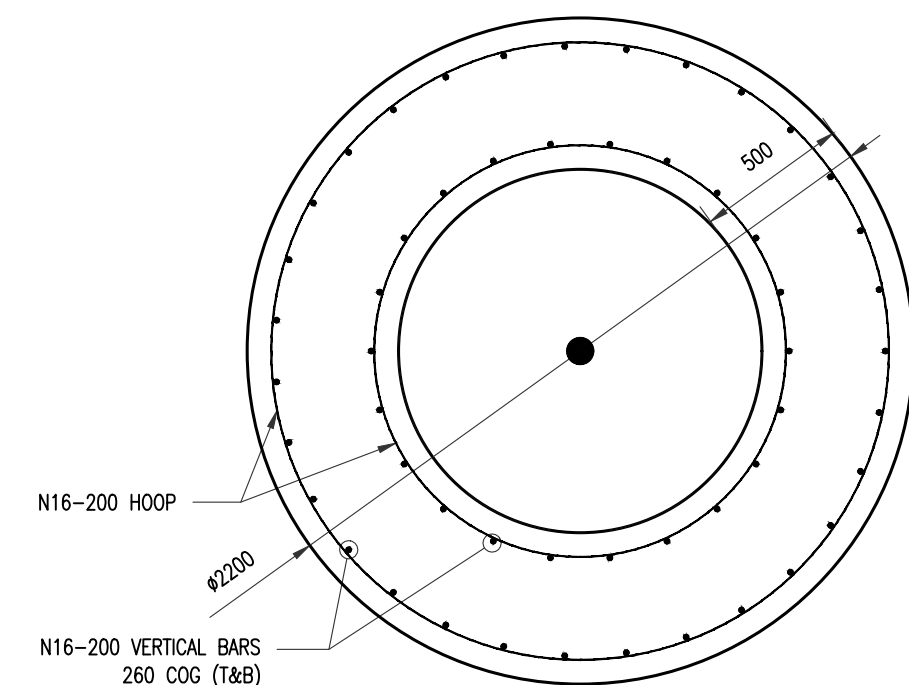
CONSTRUCTION JOINT DETAIL



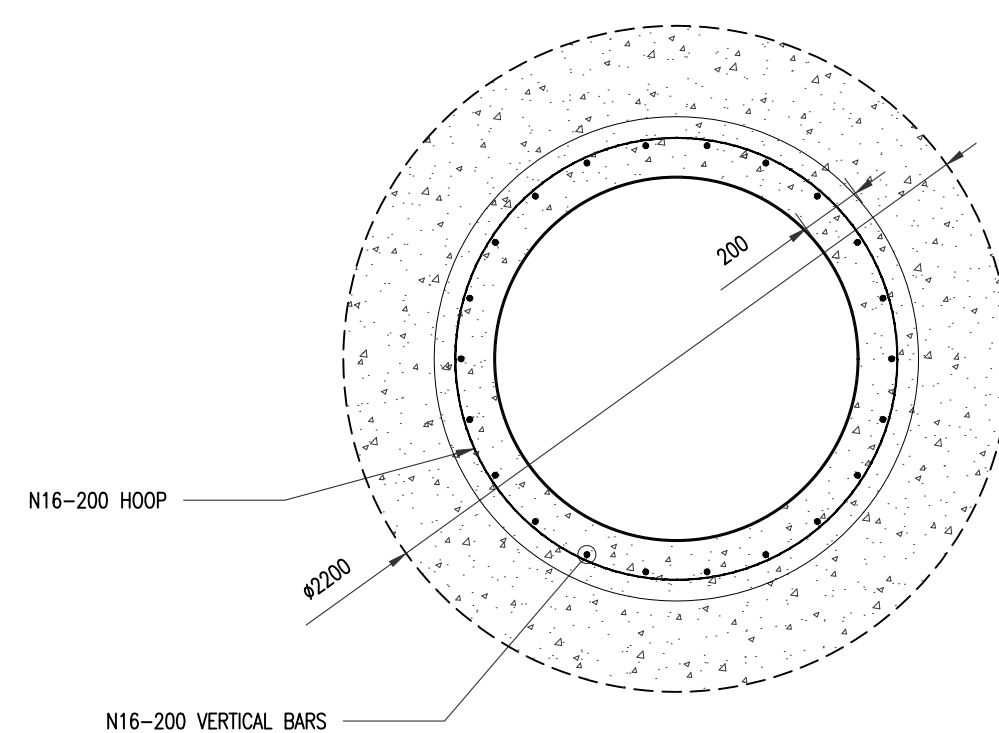
MH BASE FRAMING PLAN
SCALE 1:20



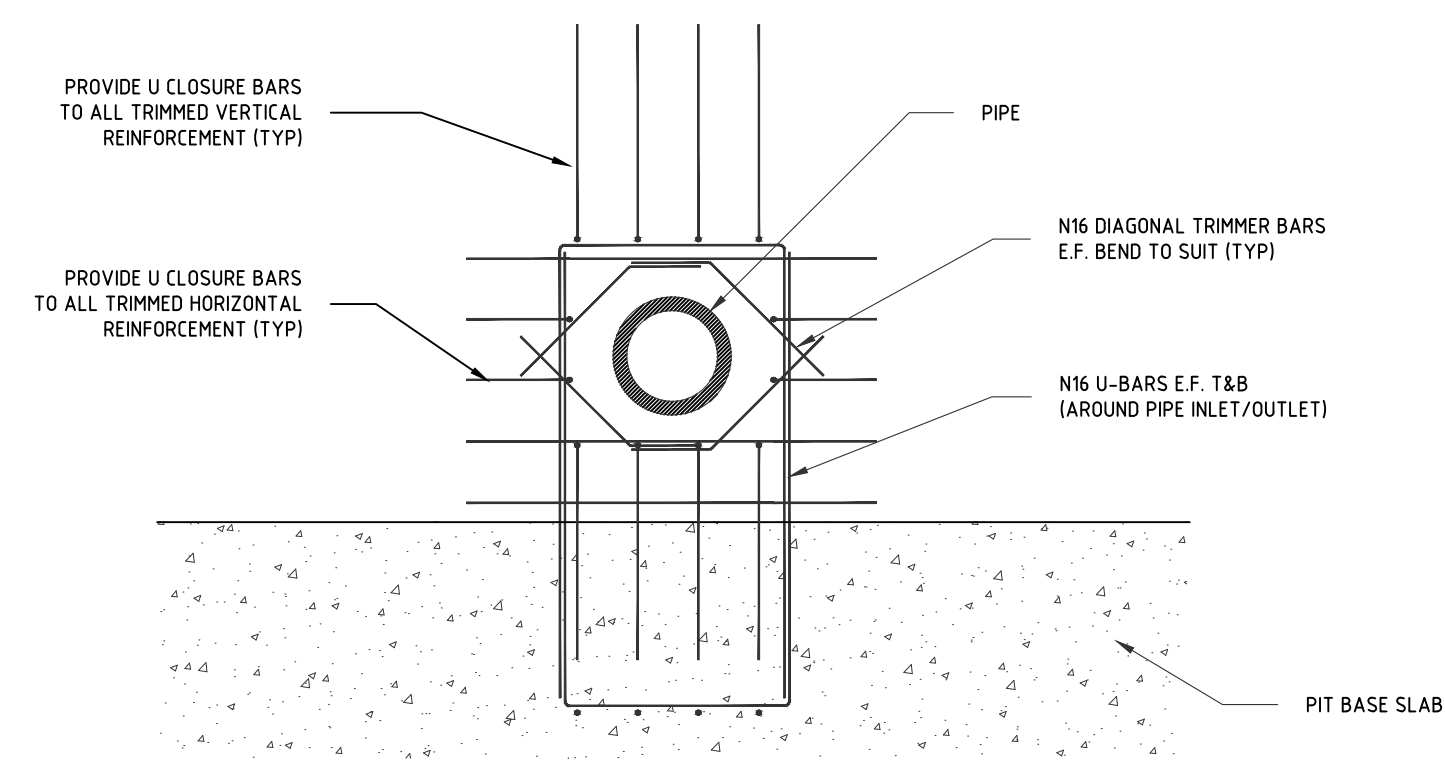
MH BASE REINFORCEMENT PLAN
SCALE 1:20



CHAMBER WALL REINFORCEMENT PLAN
SCALE 1:20



MH SHAFT REINFORCEMENT PLAN
SCALE 1:20



PIPE PENETRATION DETAIL AT PIT BASE
SCALE 1:20

MH DEPTH >10m DETAIL

WORK AS CONSTRUCTED CERTIFICATION		 SYDNEY WATER CORPORATION	
DEVELOPER	 Case No. 181159ww	SHT 9 OF 10 SHTS.	
W.S.C.			
CONSTRUCTOR			
COMPLETED			
W.A.C. PREPARED	SYDNEY WATER CORPORATION FOR DETAILS OF SERVICES SEE SHEET 1		
DESIGNER			
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS			

Annexure L – Alternate Bus Stop Consultation

Alex Ruello

From: Suthes Kumar <Suthes.KUMAR@transport.nsw.gov.au>
Sent: Friday, 5 August 2022 6:19 PM
To: Alex Ruello; Hannah Shilling
Cc: Joseph George; Bus Approval; Steve Grady; Adrian Prichard; Joseph Aouad
Subject: RE: 423 Wallgrove Road Upgrade - Bus stop - Wallgrove Road before Roussell Road, Eastern Creek

Hi Alex,

TfNSW has no objection to the proposed temporary relocation of the bus stops. Please update the TMP to reflect these changes.

Regards

Suthes Kumar

Project-Contract Manager

Developer Works

Greater Sydney

Transport for NSW

M: 0408 655 528 **E:** Suthes.Kumar@transport.nsw.gov.au

transport.nsw.gov.au

129a Orchardleigh Street

Yennora NSW 2161



**Transport
for NSW**



I acknowledge the Aboriginal people of the country on which I work, their traditions, culture and a shared history and identity. I also pay my respects to Elders past and present and recognise the continued connection to country.

Please consider the environment before printing this email.

From: Alex Ruello [mailto:Alex.Ruello@burtoncontractors.com.au]
Sent: Monday, 1 August 2022 11:10 AM
To: Hannah Shilling <hshilling@transitsystems.com.au>; Suthes Kumar <Suthes.KUMAR@transport.nsw.gov.au>
Cc: Joseph George <Joseph.George@burtoncontractors.com.au>; Bus Approval <BusApproval@transport.nsw.gov.au>; Steve Grady <sgrady@busways.com.au>; Adrian Prichard <aprichard@transitsystems.com.au>; Joseph Aouad <Joseph.Aouad@burtoncontractors.com.au>
Subject: RE: 423 Wallgrove Road Upgrade - Bus stop - Wallgrove Road before Roussell Road, Eastern Creek

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

Thanks for that Hannah,

Before we make the changes we will need to have some sort of approval from Transport & TMC.

Suthes – as soon as you are able, can you please advise if stops #1 and #4 are okay for Transport & TMC? If so, our revised TMP will be updated to reflect the changes.

Regards,
Alex Ruello
Project Manager
Burton Contractors Pty Ltd

T: 0408 289 903
M: 0408 289 903
F: 02 9581 5551
E: Alex.Ruello@burtoncontractors.com.au



Sydney Office
Homebush Business Village
Unit 3/11-21 Underwood Rd
Homebush NSW 2140
T: 02 9581 5550 F: 02 9581 5551



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From: Hannah Shilling <HShilling@transitsystems.com.au>
Sent: Monday, 1 August 2022 10:44 AM
To: Alex Ruello <Alex.Ruello@burtoncontractors.com.au>; Suthes Kumar <Suthes.KUMAR@transport.nsw.gov.au>
Cc: Joseph George <Joseph.George@burtoncontractors.com.au>; BusApproval@transport.nsw.gov.au; Steve Grady <sgrady@busways.com.au>; Adrian Prichard <APrichard@transitsystems.com.au>; Joseph Aouad <Joseph.Aouad@burtoncontractors.com.au>
Subject: RE: 423 Wallgrove Road Upgrade - Bus stop - Wallgrove Road before Roussell Road, Eastern Creek

Good Morning Alex,

We just went out with a bus to test whether the draw in bay southbound would be appropriate for a bus.

Thankfully the bus just fit, so we are happy to use the locations of stops 1 and 4 as the alternate stops.

Can you please arrange for Bus Zone signage to be installed?

Also can you please advise the start date of the change, once known.

Thanks.

Kind Regards,

Hannah Shilling
Network Project Planner

T: 02 8778 5853
A: Lot 2 Airfield Drive, Len Waters Estate NSW 2171

E: hshilling@transitsystems.com.au

I acknowledge the traditional owners of the land on which we live and work, and pay my respects to elders past, present and emerging.



Transit Systems NSW Reconciliation Action Plan
Artwork by Allan McKenzie, Gamilaroi / Wiradjuri Man

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From: Alex Ruello <Alex.Ruello@burtoncontractors.com.au>

Sent: Friday, 29 July 2022 5:41 PM

To: Hannah Shilling <HShilling@transitsystems.com.au>; Suthes Kumar <Suthes.KUMAR@transport.nsw.gov.au>

Cc: Joseph George <Joseph.George@burtoncontractors.com.au>; BusApproval@transport.nsw.gov.au; Steve Grady <sgrady@busways.com.au>; Adrian Prichard <APrichard@transitsystems.com.au>; Joseph Aouad <Joseph.Aouad@burtoncontractors.com.au>

Subject: RE: 423 Wallgrove Road Upgrade - Bus stop - Wallgrove Road before Roussell Road, Eastern Creek

Hannah & Suthes,

I have drafted the attached to present multiple options for alternate bus stop locations to try and short circuit the potential solution.

1. **Bus Stop #1** – There is a wider shoulder here that will fit a bus here. There is a concrete footpath that leads to the traffic lights and pedestrian crossing at the Roussell Road intersection. This would serve the SB direction only
2. **Bus Stop #2** – This is an alternate to the preferred Transit Systems location for NB and SB bus stop. This location offers the benefits of negating queuing traffic in the Roussell Road intersection
3. **Bus Stop #3** – This is Transit System's preferred location for both a NB & SB bus stop
4. **Bus Stop #4** – Alternate location for NB direction only

These can be mixed and matched in any combination to service both NB and SB. example #1 & #3, #2 & #4, #2 only, #3 only etc

Hannah – Can you please advise if any of the bus stop locations are not acceptable?

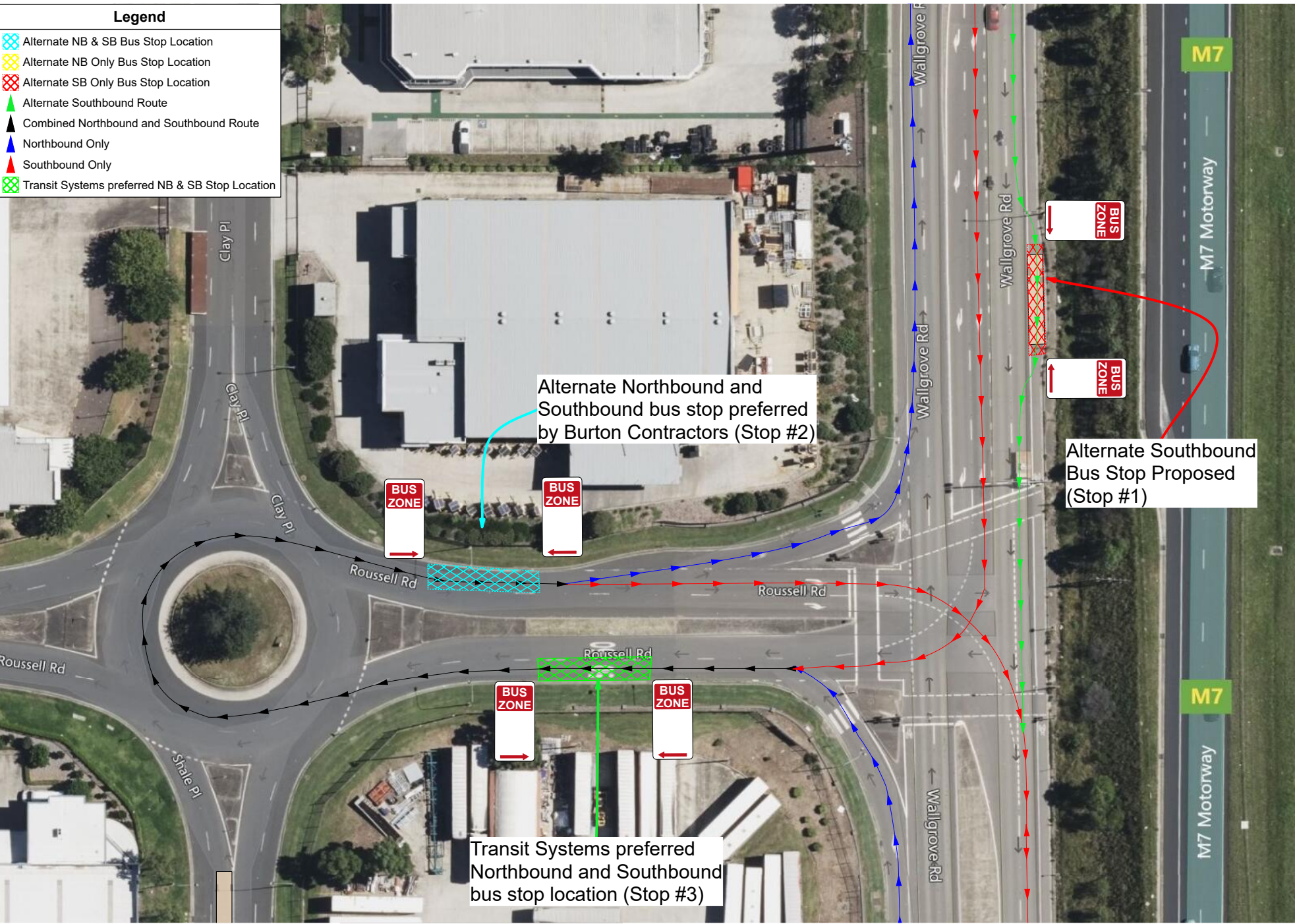
Suthes – Can you please advise if any of the proposed bus stop locations are not acceptable to TfNSW? Can you please also check with TMC to see if they have any objections to any of the proposed bus stop locations? We would prefer to have these approved in advance of the next CTMP submission to avoid another potential 20-day review cycle.

Thank you all in advance. Please let me know if the attached or explanation is not clear enough and I will do my best to explain.

Regards,
Alex Ruello
Project Manager
Burton Contractors Pty Ltd

Legend

- Alternate NB & SB Bus Stop Location
- Alternate NB Only Bus Stop Location
- Alternate SB Only Bus Stop Location
- Alternate Southbound Route
- Combined Northbound and Southbound Route
- Northbound Only
- Southbound Only
- Transit Systems preferred NB & SB Stop Location



Legend

 Alternate NB & SB Bus Stop Location

 Alternate NB Only Bus Stop Location

 Alternate SB Only Bus Stop Location

 Alternate Southbound Route

 Combined Northbound and Southbound Route

 Northbound Only

 Southbound Only

 Transit Systems preferred NB & SB Stop Location

Alternate Southbound
Bus Stop Proposed (Stop #4)

