Our Ref: 80216045-CV1B-RP-001:AL
Contact: Robert Lewis

1 May 2018

AMP Capital Investors
50 Bridge Street
Sydney NSW 2000

Attention: Robert Lewis

Cardno (NSW/ACT) Pty Ltd
ABN 95 001 145 035

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203 Pacific Highway
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Australia

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Dear Mr Lewis,

MARRICKVILLE METRO S75W PROPOSED MODIFICATION
RESPONSE TO SUBMISSIONS

Introduction

AMP Capital Investors have submitted an application to modify the existing Concept Plan Approval under Section 75W of the Environmental Planning & Assessment Act 1979. This application seeks to modify the existing Major Project Approval No. 09_0191, relating to the Stage 1 development of the Marrickville Metro Shopping Centre. Consent authorities and agencies have since submitted key issues for the proposed development. Cardno on behalf of AMP Capital Investors have prepared this letter in response to these submissions.

Key Traffic and Parking Issues

Traffic and Parking have raised the following issue:

> *'3. Provide additional information to demonstrate that the movement and interaction of vehicles and pedestrians in Smidmore Street can occur safely, having regard to the operation of the existing loading dock, the entry/exit ramp to the existing carpark and the roundabouts.'*

Cardno have completed turnpath analyses for various vehicles. The turnpaths demonstrate safe traffic flow around the existing entry/exit ramp and proposed roundabout by showing 99th percentile car entry, exit and U-turn movements. Refer to **Appendix A** for turnpath sketches.

The turnpaths also demonstrate that vehicles under 7m total length accessing the existing loading dock without encroaching other vehicle and pedestrian pathways. Vehicles exceeding 7m will require local pedestrian traffic control and retracting of the proposed removable bollards to access the existing Smidmore street loading dock. Refer to **Appendix A** for turnpath sketches.

Key Transport for NSW Issues

Transport for NSW have raised the following issues:

> *'Swept path analysis should be prepared to demonstrate the proposed road configuration on Smidmore Street is adequate to accommodate the manoeuvring of the proposed community bus service.'*

Cardno have completed turnpath analyses for community bus service movements. The turnpaths demonstrate safe and adequate movement throughout proposed Smidmore Street arrangement inbound, through fare and outbound movements. Turnpath analysis also shows U-turn movements for community buses at the proposed Smidmore Street roundabout. Refer to **Appendix A** for turnpath sketches.

'The proposed Smidmore Street design should clearly delineate the vehicle pathway by using pavers of different colour texture for vehicle pathway to those around it to alert pedestrians in relation vehicle movements within the public domain shared zone.'

Cardno in conjunction with Site Image have specified differentiated pavers for the vehicle pathway within the proposed public domain shared zone. Refer to **Appendix B** for preliminary pavement plans and landscaping paving specifications.

'A signage and road marking plan should be provided to appropriately notify pedestrians of the shared nature of the public domain.'

Appropriate pedestrian notification around the proposed shared zone is shown on the signage and line marking plan included in **Appendix C**. These details are as per RMS standards for shared zones. This includes signage delineating the start and end of the shared zone. Longitudinal line marking is shown to additionally highlight the edge of the nominated vehicle pathway. Other methods are also proposed such as changes in pavement, removal of street kerbs and inclusion of bollards. Refer to **Appendix C** for preliminary signage and line marking plans.

'The applicant should provide further information on how the existing loading dock will be operated and accessed from Smidmore Street. Swept path analysis should be prepared to demonstrate the adequacy for truck access having regards to the proposed roundabout and one-way access off Murray Street'

This item is addressed by Cardno's response to Item 3 in the Key Traffic and Parking Issues above. Refer to **Appendix A** for turnpath sketches.

Key Inner West Council Issues

Inner West Council have raised the following issues:

'2. Council do not approve of the retention of the loading dock on Smidmore Street due to pedestrian vehicle conflict'

Design workshops have been held with Inner West council traffic engineers to agree a concept design and management plan that would safely allow the dock to operate. The proposed Smidmore streetscape works drawings in **Appendix A and B** shows loading dock vehicle access and nearby pedestrian traffic separated by bollards with intermediate chain link wire. There is also visual differentiation via the use of different pavement specifications. These design considerations will differentiate the loading dock access area, separate vehicle/pedestrian movements and mitigate potential pedestrian vehicle conflict. However, larger vehicles require infrequent access to the loading dock. These vehicle movements will require the retraction of the bollards and local pedestrian traffic control as discussed above. Refer to **Appendix A** for loading dock vehicle movements and **Appendix B** for preliminary pavement plans and specifications.

'3. Swept paths should be provided for Smidmore Street, with larger vehicles being able to manoeuvre around the roundabout without having to undertake a 3-point turn.'

The turnpaths analysis demonstrates safe large vehicles movements around the proposed roundabout by showing the community bus accomplishing U-turns. Refer to **Appendix A** for turnpath sketches.

'3m x 3m splay corners are required on junctions of Smidmore/ Murray, Edinburgh/ Murray, Edinburgh/ Smidmore'

Inner West Council Development Control Plans (DCP) require dedicated splay corners, as public land, for road widening purposes and to improve sightlines at intersections and to increase footpath areas.

The proposed development works do not widen roads near the Smidmore/Murray and Edinburgh/ Smidmore intersections. Splays are therefore not required at because the proposed works do not negatively impact the existing intersection sightlines or decrease footpath areas. Refer to **Appendix D**.

Vehicles at the Edinburgh/ Murray intersection

The proposed development shows a 2.4 x 2.4m splay at the Edinburgh/ Murray intersection, which is the maximum splay achievable that enables the retention of the existing factory brickwork walls. The proposed roadworks provide a 3m footpath width which is consistent with the wider development. The resulting sight lines and safe stopping distances are also compliant with the relevant Austroads standards for a conservative classification of Edinburgh Road as an arterial road. Furthermore, Austroads standards specifies a typical driver reaction time of 2 seconds. A 3.0 x 3.0m splay will provide an additional reaction time of 0.36 seconds compared to the proposed 2.4 x 2.4m splay, which has a negligible impact in the context of the 2 seconds driver reaction time adopted by Austroads. Refer to **Appendix E** for the sight distance calculations and further technical commentary on the Edinburgh/ Murray intersection.

Pedestrians at the Edinburgh/ Murray intersection

The existing pram ramp on Murray Road is compliant with the relevant Austroads standards with respect to pedestrian safety at roundabouts (refer to **Appendix F**).

However, the existing sight lines are partly obscured by electrical infrastructure, signage and fencing at the corner of Edinburgh/ Murray. This infrastructure is proposed to be removed to provide a 3m footpath as part of the Stage 1B development. These works will result in an improvement to sight lines compared to the existing case (as shown in **Appendix F**). As such, the proposed 2.4 x 2.4m splay and associated works improves the existing pedestrian sight lines whilst enabling the retention of the existing factory brickwork walls. The typical 3.0 x 3.0m splay provides the optimal safety outcome for pedestrian sight lines. Compared to a 3.0 x 3.0m splay, the proposed 2.4 x 2.4m splay provides an outcome with negligible difference in sight lines (700mm or a 4% reduction in sight distance). Refer to **Appendix F** for the pedestrian sight distance calculations and further technical commentary on the Edinburgh/ Murray intersection.

The proposed 2.4 x 2.4m splay complies with Austroads standards for vehicles and pedestrian sight lines whilst providing a sufficient footpath width for pedestrian access. It is the maximum possible splay dimension achievable whilst retaining the existing factory brickwork walls, which is an important feature of the Marrickville Metro Stage 1B design. On the basis that we believe we have satisfied the underlying principles behind Inner West council's requirement for splays with the proposed 2.4m splay, we request dispensation regarding the DCP requirement for a 3.0m splay in this instance.

> *'3. The main area of concern is pedestrian/ cycle/vehicle movements. The issue relates to maintaining pedestrian safety and amenity. A particular concern over the loading dock (presumably Smidmore St?)'*

As per Roads and Maritime Services shared zone standards, the proposed Smidmore Street public domain will regulate traffic speeds to 10km/hr. The resulting risk of pedestrian vehicle conflict is lower than typical roads.

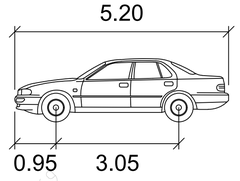
The proposed development shows clear delineation between vehicle pathway and pedestrian areas with different pavers, line marking and shared zone signage. Bollards are also proposed to separate and manage vehicle and pedestrian traffic. The resulting pedestrian vehicle conflict risk is further reduced. The most likely area of pedestrian vehicle conflict is the existing Smidmore Street loading dock. Bollards with link chains in between are proposed to further mitigate such potential conflict.

Yours sincerely,

Adrian Lu
Graduate Engineer
for Cardno
Direct Line: +61 2 9024 7046
Email: Adrian.Lu@cardno.com.au

APPENDIX A

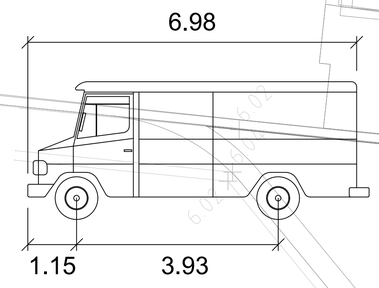
Cardno
Shaping the Future



PASSENGER-CAR

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.6

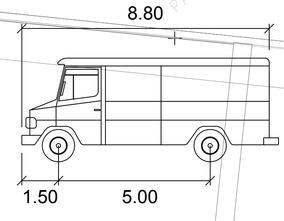
SMIDMORE ST



Toyota Coaster 6.98

		meters
Width	:	2.10
Track	:	1.69
Lock to Lock Time	:	6.0
Steering Angle	:	38.7

SMIDMORE ST

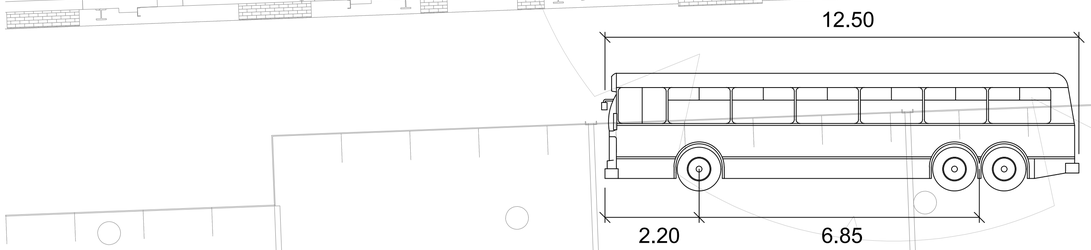


SERVICE VEHICLE

		meters
Width	:	2.50
Track	:	2.50
Lock to Lock Time	:	6.0
Steering Angle	:	38.7

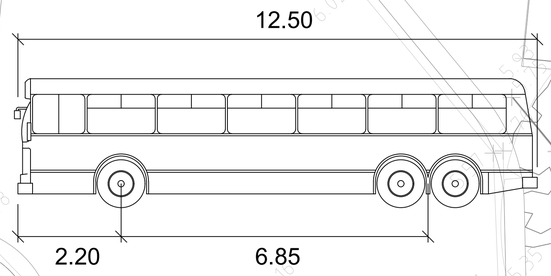
SMIDMORE ST

DELIVERY VEHICLE TO LOADING DOCK BAYS PERMITTED
ONLY WHEN REMOVABLE BOLLARDS ARE RETRACTED
AND PEDESTRIAN TRAFFIC CONTROL IS PRESENT.



BUS

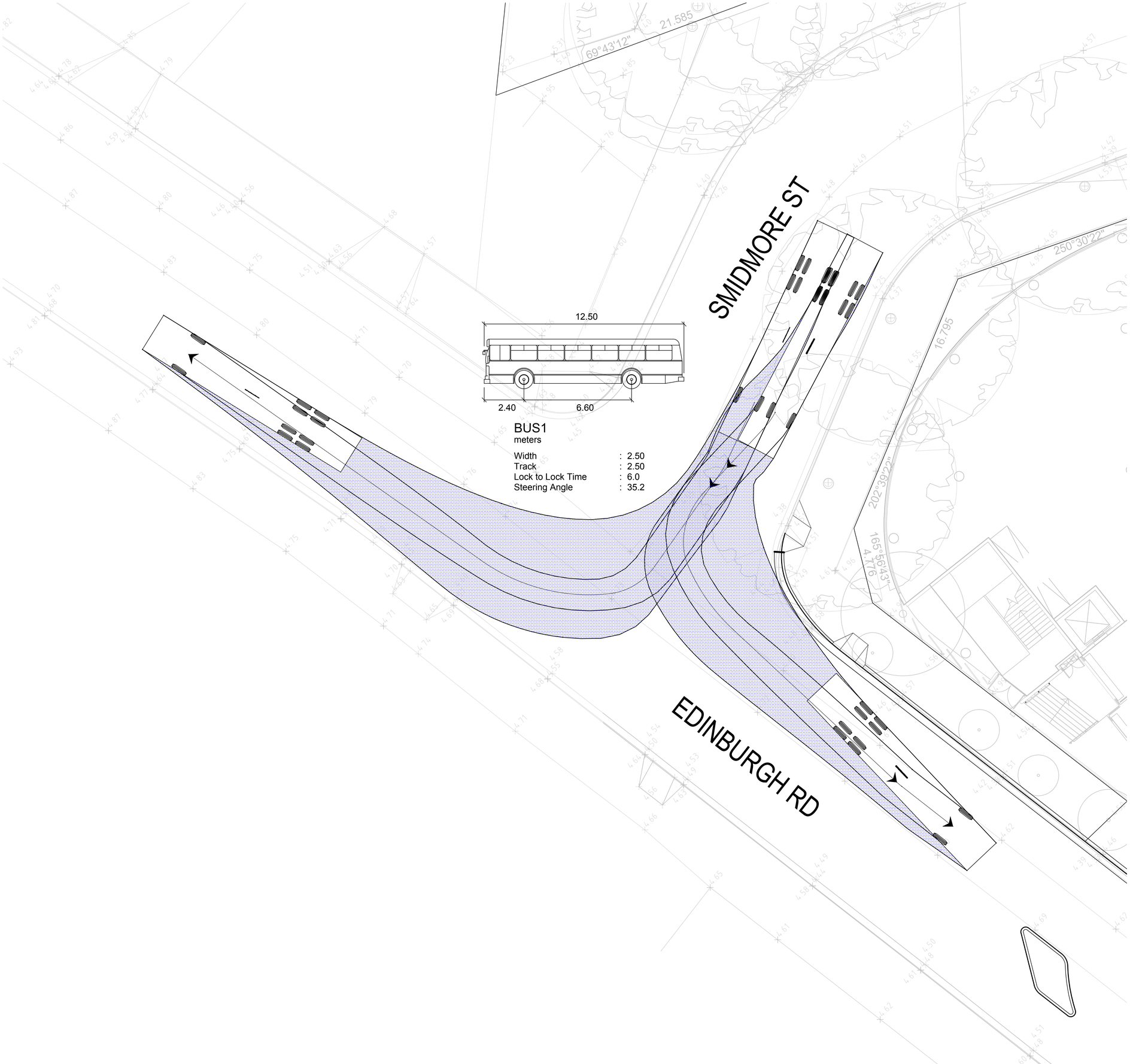
	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

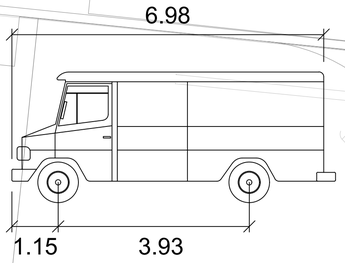


BUS meters

Width	:	2.50
Track	:	2.50
Lock to Lock Time	:	6.0
Steering Angle	:	36.6

SMIDMORE ST


SMIDMORE ST
EDINBURGH RD
12.50
2.40
6.60
BUS1
meters
Width : 2.50
Track : 2.50
Lock to Lock Time : 6.0
Steering Angle : 35.2
69°43'12"
21.585
250°30'22"
16.795
202°39'22"
165°58'43"
4.779



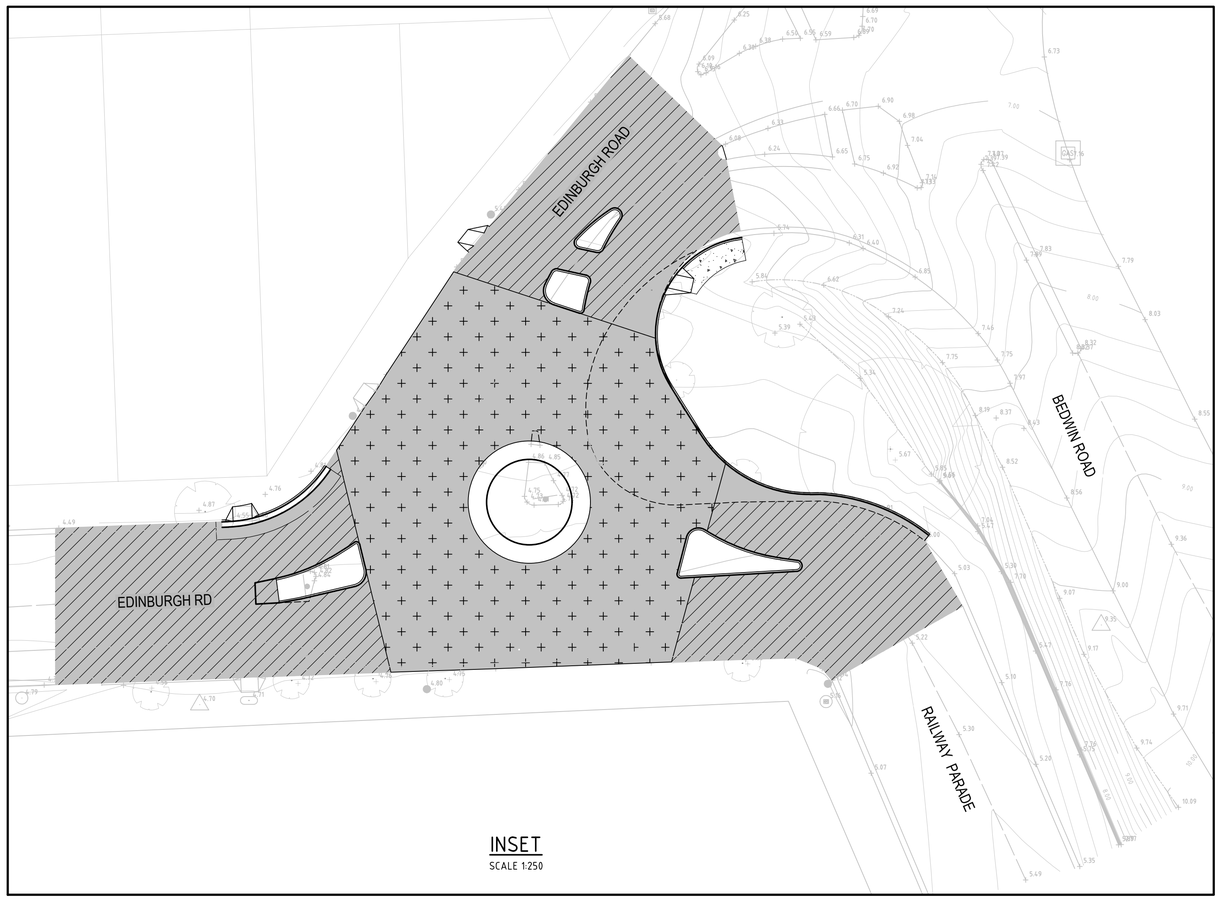
Toyota Coaster 6.98

	meters
Width	: 2.10
Track	: 1.69
Lock to Lock Time	: 6.0
Steering Angle	: 38.7

SMIDMORE ST

APPENDIX B

Cardno
Shaping the Future



INSET
SCALE 1:250

LEGEND

- PAVEMENT TYPE 1 – NEW ASPHALT PAVEMENT. MAKE SMOOTH CONNECTION WITH EXISTING PAVEMENT.
- PAVEMENT TYPE 2 – POLYMER MODIFIED ASPHALT PAVEMENT. MAKE SMOOTH CONNECTION WITH EXISTING PAVEMENT.
- PAVEMENT TYPE 3 – CONCRETE PAVEMENT. REFER TO INNER WEST COUNCIL FOR STANDARD FOOTPATH VC PAVEMENT AND JOINTING.
- PAVEMENT TYPE 4 – ASPHALT PAVEMENT TO BE MILLED AND RE-SHEETED. MAKE SMOOTH CONNECTION WITH EXISTING PAVEMENT
- PAVEMENT TYPE 5 – FOOTPATH TO BE REINSTATED TO MATCH EXISTING. REFER TO INNER WEST COUNCIL FOR STANDARD JOINTING.
- PAVEMENT TYPE 6 – PROPOSED TRAFFICABLE PAVED SHARED ZONE. REFER TO LANDSCAPE ARCHITECT DRAWINGS FOR PAVER LAYOUT.
- PAVEMENT TYPE 7 – PROPOSED PAVED VERGE. REFER TO LANDSCAPE ARCHITECT DRAWINGS FOR PAVER LAYOUT.
- PAVEMENT TYPE 8 – BUS TERMINAL CONCRETE PAVEMENT TO STATE TRANSIT AUTHORITY STANDARDS.

NOTE:
REFER TO DRG 06-21 FOR PAVEMENT AND JOINTING DETAILS

NORTH

EXISTING PRAM RAMP AND PEDESTRIAN CROSSING TO BE RETAINED.

MEDIAN ISLAND FILLING COMPLETED BY COUNCIL SUBSEQUENT TO DATE OF SURVEY (07.07.2010)

MURRAY STREET

REFER TO INNER WEST COUNCIL FOR STANDARD JOINTING

REFER TO LANDSCAPE ARCHITECT DRAWINGS FOR PLANTING WITHIN VERGE AREA.

SMIDMORE STREET

REFER TO LANDSCAPE ARCHITECT FOR SUSPENDED FOOTPATH DETAILS.

REFER TO LANDSCAPE ARCHITECT DRAWINGS FOR PLANTING.

DEJ
TCJ
LTJ-F

0 5 10 15 20 25m
SCALE 1:250 @A1

REFER DRG 02-052 FOR CONTINUATION

Rev.	Date	Description	Des.	Verif.	Appd.
2	1/05/2018	UPDATED EXISTING MURRAY STREET PEDESTRIAN CROSSING	AL		GN
1	29/03/2018	ISSUED FOR 85% TENDER	AL	CV	GN

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		Date
Drawn	AR	29/03/2018
Checked	AL	29/03/2018
Designed	AL	29/03/2018
Verified	CV	29/03/2018
Approved	GN	29/03/2018

Client: AMP CAPITAL INVESTORS
Project: MARRICKVILLE METRO SHOPPING CENTRE
STAGE 1B
13 - 55 EDINBURGH ROAD, MARRICKVILLE
Title: PAVEMENT PLAN
SHEET 1 OF 2

Status: FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	PROJECT NO.	Scale	Size
AHD	80216045	1:250	A1

Drawing Number: CV-1BPD-02-051
Revision: 2

APPENDIX C

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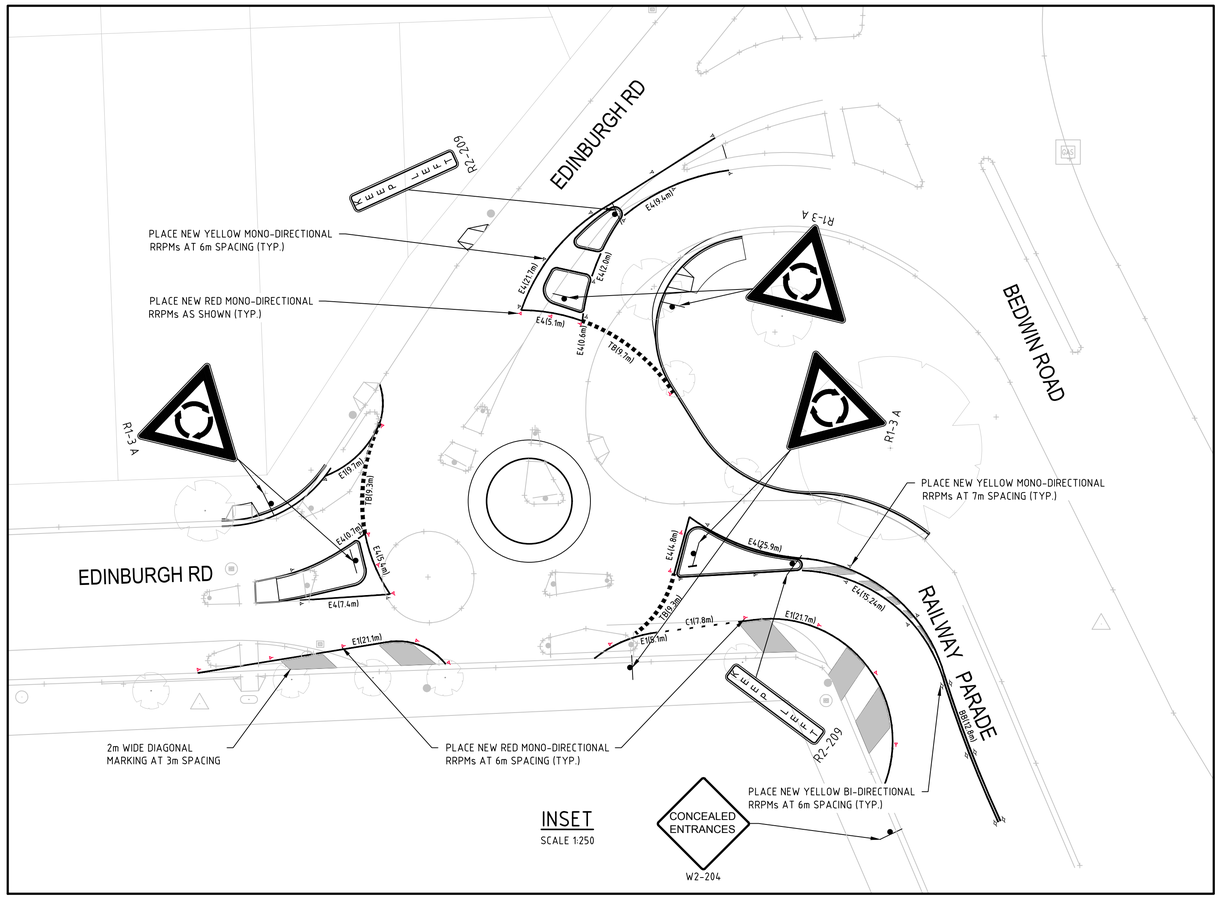

PAVEMENT MARKING SCHEDULE

BB LINE WITH BIDIRECTIONAL RETROREFLECTIVE RAISED PAVEMENT MARKERS TO AUSTRALIAN STANDARDS 1742.2.

BB(26m TOTAL LENGTH, ARC RAD. 9m) - AS EXAMPLE

TB	HOLDING LINE
TB1	HOLDING LINE (USED ON RIGHT SIDE OF ROAD)
BB	DIVIDING (BARRIER) LINE
C1	CONTINUITY LINE
L1	LANE LINE
E1	EDGE LINE
E4	EDGE LINE
E5	EDGE LINE
E7	OFF-ROAD PATH EDGE LINE
S4	OFF-ROAD PATH CONTINUOUS SEPARATION LINE
S5	OFF-ROAD PATH BROKEN SEPARATION LINE

NOTES:
1. ALL SIGNAGE TO BE IN ACCORDANCE WITH THE CURRENT VERSION OF INNER WEST COUNCIL AND AUSTRALIAN 1742.2 STANDARDS.
2. TRANSITION LINE MARKING TO SUIT EXISTING WHERE REQUIRED.
3. PROVIDE ADEQUATE APPROACH WARNING SIGNS DURING & AFTER CONSTRUCTION.
4. PROVIDE RETRO-REFLECTORISED PAVEMENT MARKERS TO AUSTRALIAN STANDARDS 1742.2.
5. ALL LINEMARKING TO BE WHITE IN COLOUR. U.N.O.

REFER DRG 02-062 FOR CONTINUATION

Rev.	Date	Description	Des.	Verif.	Appd.
2	1/05/2018	UPDATED EXISTING MURRAY STREET PEDESTRIAN CROSSING	AL		GN
1	29/03/2018	ISSUED FOR 85% TENDER	AL	CV	GN

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		Date
Drawn	AR	29/03/2018
Checked	AL	29/03/2018
Designed	AL	29/03/2018
Verified	CV	29/03/2018
Approved	GN	29/03/2018

Client: AMP CAPITAL INVESTORS
Project: MARRICKVILLE METRO SHOPPING CENTRE
STAGE 1B
13 - 55 EDINBURGH ROAD, MARRICKVILLE
Title: SIGNAGE AND LINEMARKING PLAN
SHEET 1 OF 2

Status: FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	PROJECT NO.	Scale	Size
AHD	80216045	1:250	A1

Drawing Number: CV-1BPD-02-061
Revision: 2

APPENDIX D

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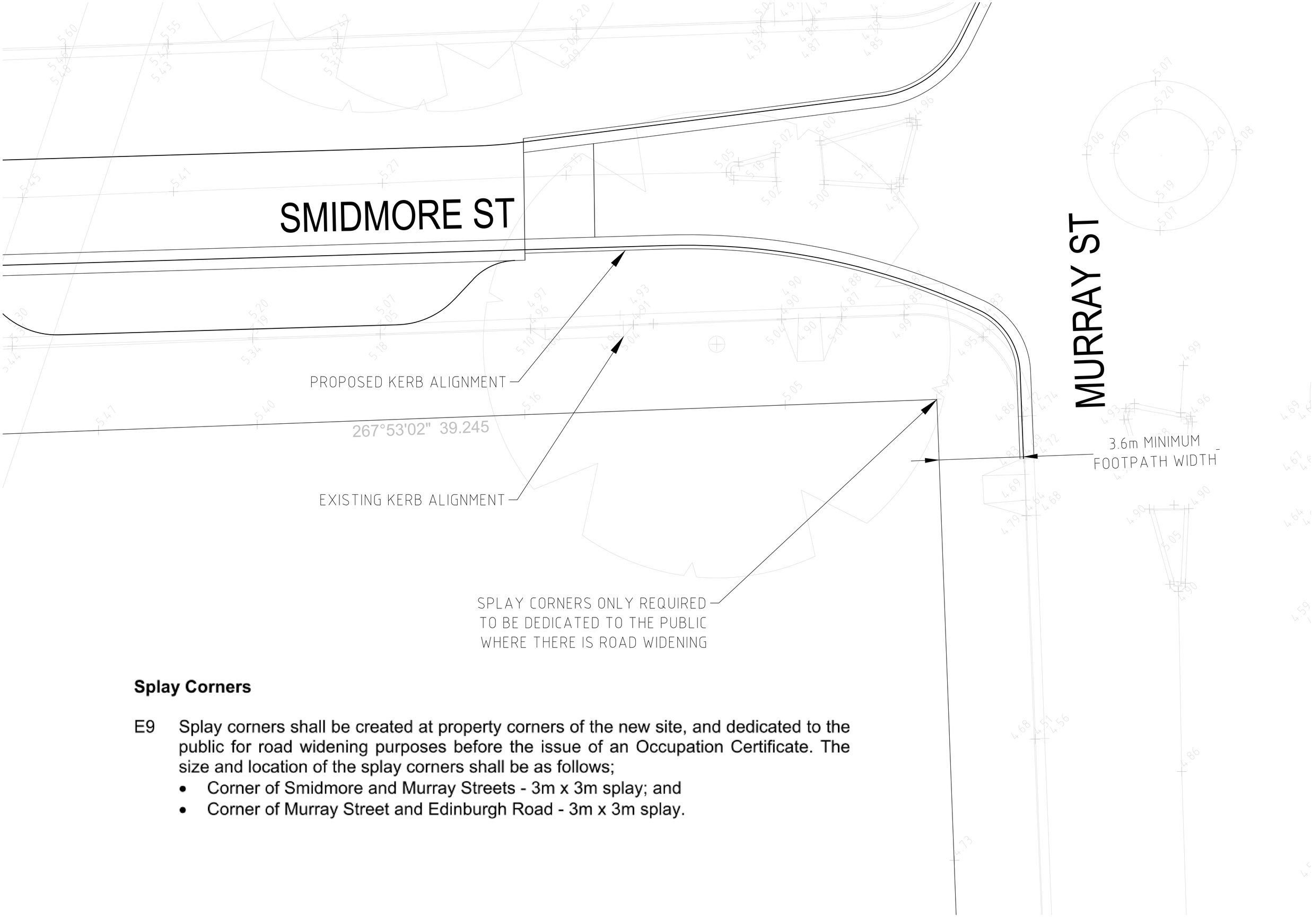

Splay Corners

E9 Splay corners shall be created at property corners of the new site, and dedicated to the public for road widening purposes before the issue of an Occupation Certificate. The size and location of the splay corners shall be as follows;

- Corner of Smidmore and Murray Streets - 3m x 3m splay; and
- Corner of Murray Street and Edinburgh Road - 3m x 3m splay.

APPENDIX E

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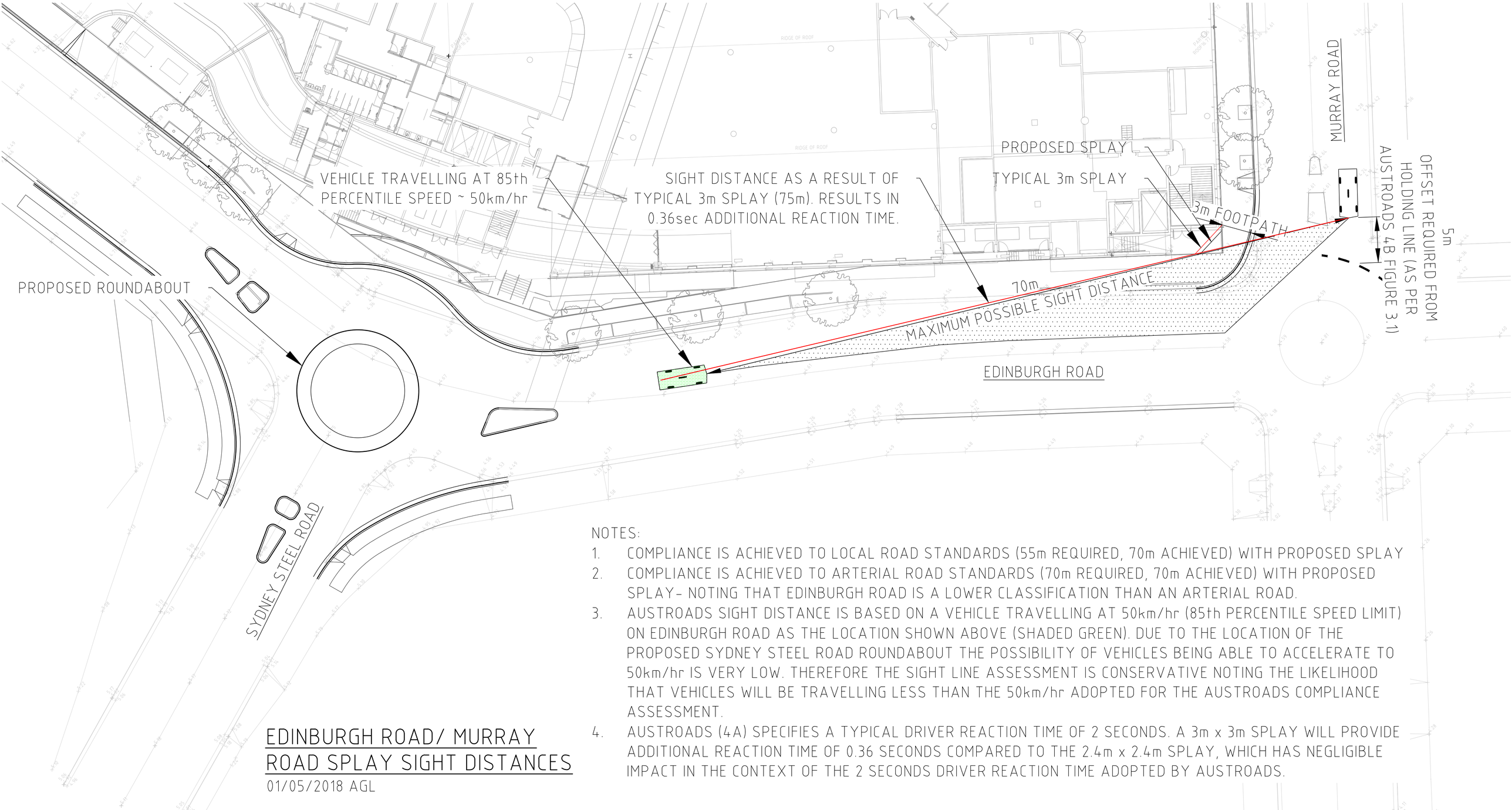

EDINBURGH ROAD/ MURRAY ROAD SPLAY SIGHT DISTANCES

01/05/2018 AGL

NOTES:

1. COMPLIANCE IS ACHIEVED TO LOCAL ROAD STANDARDS (55m REQUIRED, 70m ACHIEVED) WITH PROPOSED SPLAY
2. COMPLIANCE IS ACHIEVED TO ARTERIAL ROAD STANDARDS (70m REQUIRED, 70m ACHIEVED) WITH PROPOSED SPLAY- NOTING THAT EDINBURGH ROAD IS A LOWER CLASSIFICATION THAN AN ARTERIAL ROAD.
3. AUSTROADS SIGHT DISTANCE IS BASED ON A VEHICLE TRAVELLING AT 50km/hr (85th PERCENTILE SPEED LIMIT) ON EDINBURGH ROAD AS THE LOCATION SHOWN ABOVE (SHADED GREEN). DUE TO THE LOCATION OF THE PROPOSED SYDNEY STEEL ROAD ROUNDABOUT THE POSSIBILITY OF VEHICLES BEING ABLE TO ACCELERATE TO 50km/hr IS VERY LOW. THEREFORE THE SIGHT LINE ASSESSMENT IS CONSERVATIVE NOTING THE LIKELIHOOD THAT VEHICLES WILL BE TRAVELLING LESS THAN THE 50km/hr ADOPTED FOR THE AUSTROADS COMPLIANCE ASSESSMENT.
4. AUSTROADS (4A) SPECIFIES A TYPICAL DRIVER REACTION TIME OF 2 SECONDS. A 3m x 3m SPLAY WILL PROVIDE ADDITIONAL REACTION TIME OF 0.36 SECONDS COMPARED TO THE 2.4m x 2.4m SPLAY, WHICH HAS NEGLIGIBLE IMPACT IN THE CONTEXT OF THE 2 SECONDS DRIVER REACTION TIME ADOPTED BY AUSTROADS.

APPENDIX F

Cardno
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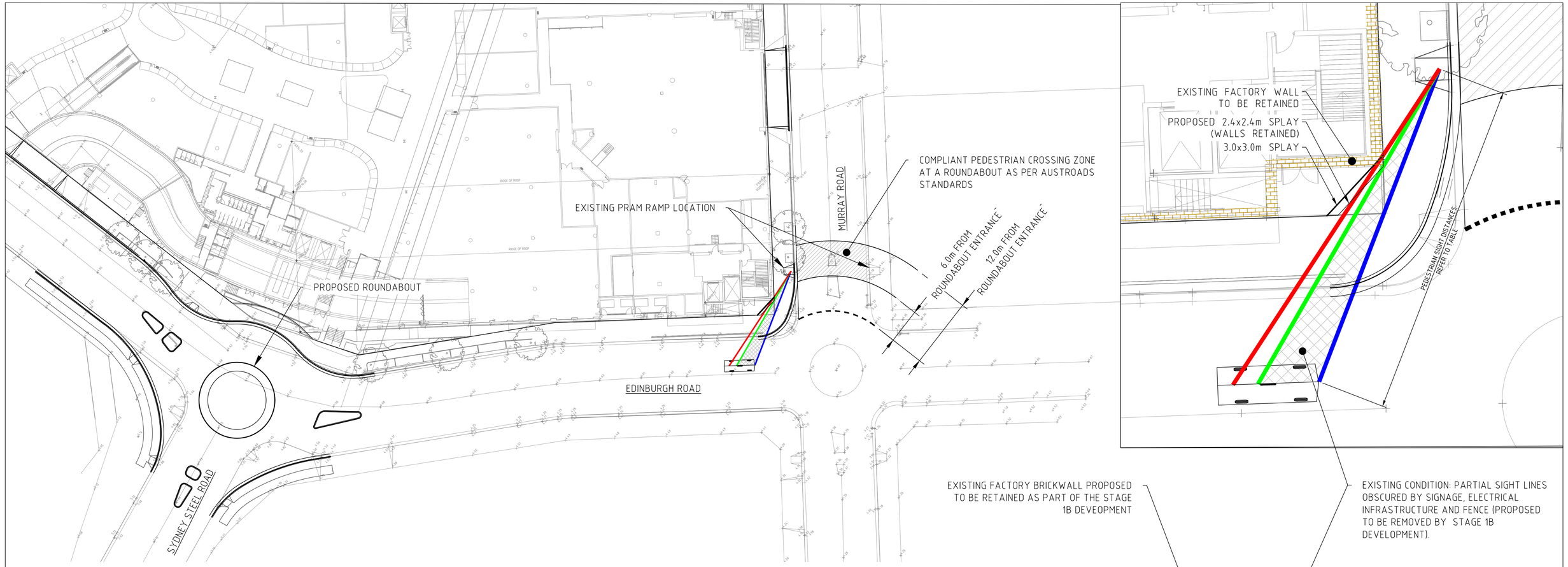

CONTEXT	PEDESTRIAN SIGHT DISTANCE (m)	COMPARISON	COMPLIANCE. AUSTROADS REQUIREMENT: 6-12m OFFSET FROM ROUNDABOUT ENTRANCE (GUIDE TO TRAFFIC MANAGEMENT - PART 6 AND GUIDE TO ROAD DESIGN - PART 4B AND 4B)
EXISTING CONDITION WITH SIGHT DISTANCES PARTLY OBSCURED BY SIGNAGE, ELECTRICAL INFRASTRUCTURE AND FENCING (SHOWN BLUE)	17.2 TO 18.7m (PARTLY OBSCURED)	EXISTING SITUATION	COMPLIANT. EXISTING PRAM RAMP AND PEDESTRIAN CROSSING ALIGNMENT IS SUFFICIENTLY OFFSET FROM THE ROUNDABOUT AS PER AUSTROADS STANDARDS
PROPOSED 2.4x2.4m SPLAY (SHOWN IN GREEN)	18.7m (NOT OBSCURED)	SIGHT LINE IMPROVEMENT COMPARED TO THE EXISTING CASE (NOTING THE PROPOSED REMOVAL ELECTRICAL INFRASTRUCTURE).	COMPLIANT - NO PROPOSED CHANGE TO THE EXISTING COMPLIANT PRAM RAMP AND PEDESTRIAN CROSSING ALIGNMENT
3.0 x 3.0m SPLAY (SHOWN IN RED)	19.4m (NOT OBSCURED)	700mm OR 4% INCREASE IN SIGHT LINE COMPARED TO PROPOSED 2.4x2.4m SPLAY SCENARIO. VERY SMALL SIGHT LINE IMPROVEMENT ACHIEVED BY A 3X3m SPLAY	COMPLIANT - NO PROPOSED CHANGE TO THE EXISTING COMPLIANT PRAM RAMP AND PEDESTRIAN CROSSING ALIGNMENT

AUSTROADS GUIDE TO TRAFFIC MANAGEMENT - PART 6 EXTRACT

4.4.3 Pedestrians

Pedestrian delays at roundabouts can be expected to be similar to other forms of non-signalised intersection control and are generally less than at signalised alternatives.

It is usually preferable to provide a straight crossing of the road as it is more direct and convenient for pedestrians in general, and facilitates a well-directed and designed crossing for visually impaired pedestrians in particular. Direct unsignalised crossings should generally be located one or two car lengths (6 or 12 m) back from the holding line at the entrances of roundabouts. It is desirable that splitter islands are large enough to ensure that all types of pedestrians (e.g. people pushing prams) can use them as a refuge.

Where a pedestrian crossing is signalised or it is desirable to provide a staged crossing, the

APPENDIX F: EDINBURGH ROAD/ MURRAY ROAD PEDESTRIAN SIGHT DISTANCES

01/05/2018 AGL