

## M<sup>C</sup>LAREN TRAFFIC ENGINEERING

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Transport Planning, Traffic Impact Assessments, Road Safety Audits, Expert Witness

23 December 2022

Reference: 221159.01FA

Director, City Assets, City of Canada Bay Council  
15-17 Regatta Road  
Five Dock NSW 2046  
Attention: Greig Schuettrumpf

### REVIEW OF AS-BUILT HEATH STREET (REGIONAL CYCLEWAY WORKS) AT HEATH STREET, FIVE DOCK

Dear Greig,

Reference is made to your request to provide a detailed review of the As-Built Regional Cycleway works along Heath Street, Five Dock (between Henley Marine Drive and First Avenue) for the *City of Canada Bay Council* (hereafter, Council) with the As-Constructed plans depicted in **Annexure A** for reference. This letter addresses the as-constructed works with respect to carriageway/travel path widths and on-site comments.

#### **1 Drawings/Documents Assessed**

A reduced copy of the referenced plans as assessed by *M<sup>C</sup>Laren Traffic Engineering (MTE)* is attached in **Annexure A** for reference, with the below listed documents and plans reviewed as part of this review.

Drawing Name	Drawing Number	Date	Architect
Segment 1 – Heath Street (2 pages)	-	-	-
Proposed East-West Regional Route – Concept Plan	EW-037, Rev 7	03/09/2020	PTC Consultants
Proposed East-West Regional Route – Concept Plan	EW-037A, Rev 7	03/09/2020	
Proposed East-West Regional Route – Concept Plan	EW-038, Rev 7	03/09/2020	
Proposed East-West Regional Route – Concept Plan	EW-039, Rev 7	03/09/2020	
Proposed East-West Regional Route – Concept Plan	EW-040, Rev 7	03/09/2020	
Proposed East-West Regional Route – Concept Plan	EW-041, Rev 7	03/09/2020	
Parking Facilities – Part 5: On-street parking	AS2890.5:2020	09/04/2020	Council of Standards Australia

Drawing Name	Drawing Number	Date	Architect
Unsignalised and Signalised Intersections	Guide to Road Design Part 4A	06/2017	Austrroads

## 2 Findings and Recommendations

MTE undertook a site meeting and measurements on Tuesday 19 and Wednesday 20 December 2022, respectively with **Annexure B** depicting the notes taken during these on-site inspections. The following sub-sections provide general issues as identified by MTE. For reference, the items identified within the review scope have been referred to based on the numbering as indicated in **Figure 1**.



**FIGURE 1: HEATH STREET AS-BUILT REVIEW (BETWEEN HENLEY MARINE DR AND FIRST AVE) – NSW (AERIAL) BASEMAP VIA SIX MAPS DEVELOPED BY NSW GOVERNMENT.**

### 2.1 Road Line-marking / Alignment

Within the reviewed intersection of Henley Marine Drive and Heath Street intersection (identified as number '1' within **Figure 1**) the line-marking (including chevron) for the eastern approach (westbound traffic) does not provide sufficient clearance to the kerbside parking lane, as shown in **Image 1** below. Shifting the As-Built line-marking to the centre of Henley Marine Drive (subject to a detailed design plan/survey concept) will provide a more appropriate width for the travel lane and minimum kerbside parking width as per *AS2890.5:2020 Clause 3.2 Parallel parking* and clearance to the double white (BB) line-marking.





**IMAGE 1: EASTERN APPROACH OF HENLEY MARINE DRIVE FROM THE INTERSECTION OF HENLEY MARINE DRIVE AND HEATH STREET**

Chevron and kerbside edge line-marking to advise/direct westbound traffic through the subject intersection (as shown in **Image 2**) will reduce “last-minute” corrective steering adjustments as witnessed on-site by MTE to avoid kerbside parked vehicles/vessels.



**IMAGE 2: WESTERN APPROACH OF HENLEY MARINE DRIVE FROM THE INTERSECTION OF HENLEY MARINE DRIVE AND HEATH STREET**



Further, after hearing Council and resident concerns and feedback relating to pedestrians and cyclists crossing at locations other than the recently installed pedestrian refuge (as shown below in **Image 3**), alteration works to the landscaping could be undertaken to visually demonstrate an entry to Timbrell Park, more aligned with the pedestrian refuge, as opposed to the existing landscaped garden beds and open grass space to the west.



**IMAGE 3: PEDESTRIAN REFUGE ON HENLEY MARINE DRIVE (FACING SOUTH)**



## 2.2 Adequate Clearances to Obstructions / Road Line-marking

The northbound exit lane (including the Regional Cycleway and vehicular traffic lane as shown in **Image 4**) under the As-Constructed works (inclusive of line-marking) does not provide adequate clearances to obstructions for both travelling vehicles (to parked vehicles) or cyclists. The following on-site measurements (with respect to the area identified as number '2' within **Figure 1**) taken by MTE, with site visit notes provided in **Annexure B**, have been summarised below:

- Raised kerbside parking / Regional Cycleway separation median of 0.5 metres (500mm);
- Kerbside parking line-marking of 1.1 metres;
- Regional Cycleway lane width of 1.5 metres;
- Northbound (exiting Henley Marine Drive and Heath Street intersection) width of 2.95 metres;
- Southbound (entering Henley Marine Drive and Heath Street intersection) width of 4.45 metres (inclusive of kerbside parking from centre of road/line-marking);
- Heath Street carriageway (kerb to kerb) width of 11.3 metres.



**IMAGE 4: HEATH STREET (NORTH FACING) FROM THE INTERSECTION OF HENLEY MARINE DRIVE AND HEATH STREET**

Under a conservative approach, removal of the western kerbside parking lane would greatly improve the two-way traffic flow and exiting traffic travel lanes; however, traffic volume data could reduce the impact on kerbside parking given a lower-order requirement for passing opportunities; such that the removal of all subject on-street parking spaces would not be required.

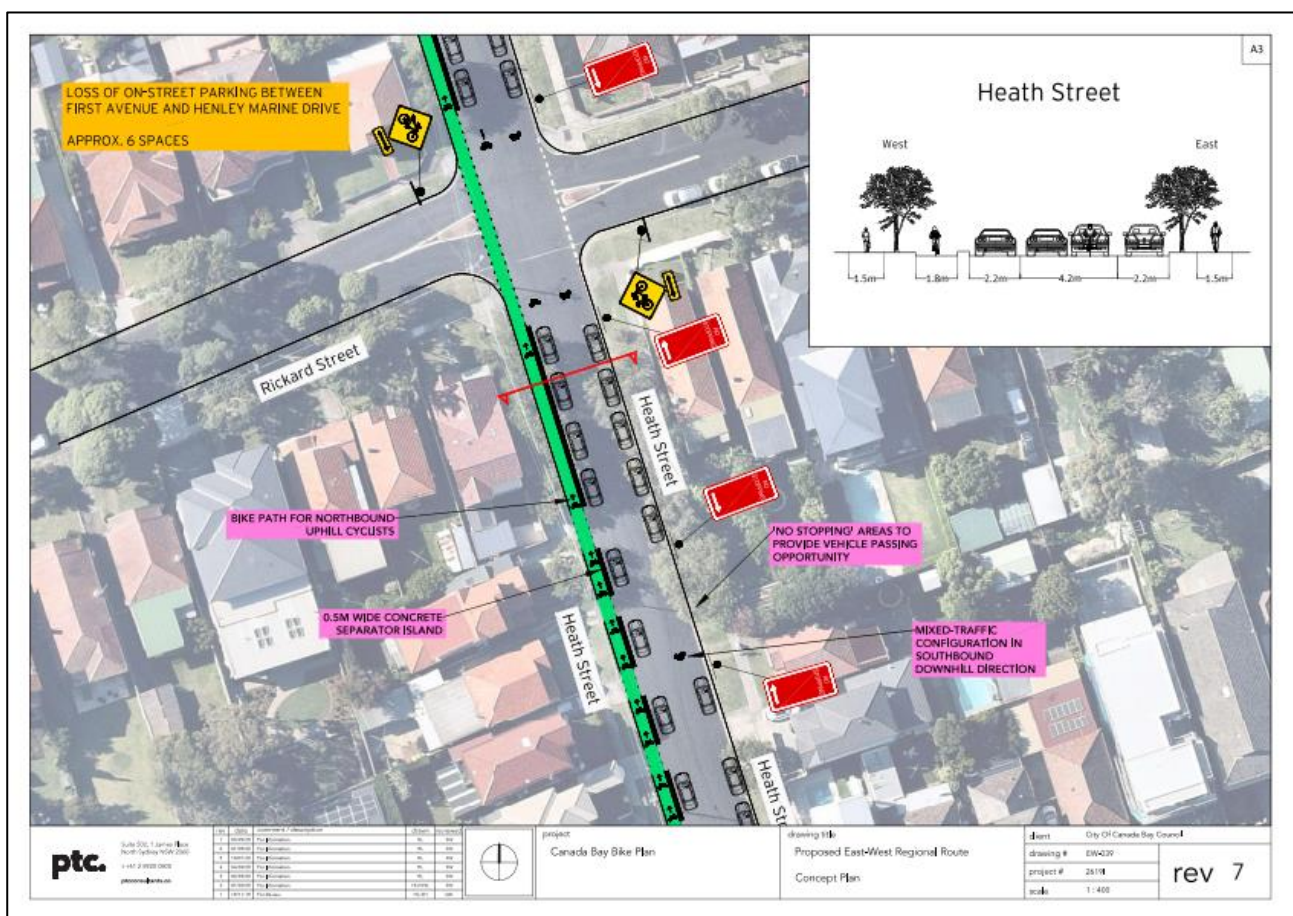


### 2.3 Two-Way Passing / Carriageway Width (Heath Street)

With respect to the location identified as number '3' within **Figure 1** along Heath Street the following on-site measurements taken by MTE (provided in **Annexure B**) are worthy to note:

- Raised kerbside parking / Regional Cycleway separation median of 0.5 metres (500mm);
- Kerbside parking line-marking of 1.1 metres;
- Regional Cycleway lane width of 1.35 metres;
- Heath Street carriageway width of 9.15 metres between the concrete separation median (approximately 60 metres from the Henley Marine Drive and Heath Street intersection).

Reference is made to **Figure 2** and the depicted 4.2-metre-wide two-way carriageway is fundamentally insufficient for two-way passing/traffic given the context of Heath Street, Five Dock, the kerbside parking environment, Regional Cycleway and residential driveways.



**FIGURE 2: PROPOSED EAST-WEST REGIONAL ROUTE – CONCEPT PLAN, DRAWING NUMBER: EW-039, REVISION 7 BY PTC CONSULTANTS**

Under a conservative approach, removal of the western kerbside parking lane would greatly improve two-way traffic flow, more aligned with the previous environment (but at the loss of on-street parking for residents, visitors and users of Timbrell Park); however, reinstating the previous kerbside parking with a shared two-way carriageway (for both vehicles and bicycles), pending future traffic volume data would be an improved and safer outcome.



## 2.4 Approach Sight Distances (ASD)

With respect to the location identified as number '4' within **Figure 1** at the intersection of Heath and Richard Streets the following on-site measurements taken by MTE (provided in **Annexure B**) are worthy to note:

- Regional Cycleway lane width of 1.75 metres;
- Heath Street carriageway (kerb to kerb) width of 9.6 metres (south of the pram ramps).

The As-Constructed works reviewed have reduced the approach sight distances (**Image 5**), specifically for drivers of vehicles undertaking a right-turn from Richard Street onto Heath Street. MTE witnessed vehicles 'creeping' into the intersection (and heard from local residents regarding this and other matters during the site visits), with the Heath Street declining at a gradient of approximately 10% [1:10] towards Timbrell Park being exacerbated by the shifting of the kerbside parking (to accommodate the Regional Cycleway path and 500mm concrete separation median) by approximately 2.25 metres.



**IMAGE 5: HEATH STREET (NORTH FACING) TOWARDS THE INTERSECTION WITH RICHARD STREET**

Under a conservative approach, removal of the western 'offset-kerbside' parking lane (along Heath Street) would greatly improve the sight lines (approach sight distances), more aligned with the previous environment (but at the loss of on-street parking for residents, visitors and users of Timbrell Park). Further, as previously stated, reinstating the previous kerbside parking with a shared two-way carriageway (for both vehicles and bicycles), pending future traffic volume data would be an improved and safer outcome.



## 2.5 Two-Way Passing (Heath Street on Approach to Intersection with First Avenue)

The northbound exit lane (including the Regional Cycleway and vehicular traffic lane as shown in **Image 6**) under the As-Constructed works (inclusive of line-marking) does not provide adequate clearances to obstructions for both travelling vehicles (to parked vehicles) or cyclists. The following on-site measurements (with respect to the area identified as number '5' within **Figure 1**) taken by MTE, with site visit notes provided in **Annexure B**, have been summarised below:

- Raised kerbside parking / Regional Cycleway separation median of 0.5 metres (500mm);
- Kerbside parking line-marking of 1.1 metres;
- Regional Cycleway lane width of 1.35 metres;
- Northbound (exiting Heath Street onto First Avenue) width of 4.75 metres (inclusive of Regional Cycleway);
- Southbound (entering Heath Street from First Avenue) width of 4.7 metres;
- Heath Street carriageway width of 8.85 metres between the concrete separation median (approximately 40 metres from the Heath Street and First Avenue intersection).

The measured 8.85-metre-wide carriageway (inclusive of kerbside and offset-kerbside parking) within the proximity to the intersection of Heath Street and First Avenue is typically inadequate; however, a traffic volume based analysis should be undertaken given the importance of on-street parking with respect to the residentially and recreationally dense area.



**IMAGE 6: HEATH STREET (NORTH FACING) TOWARDS THE INTERSECTION WITH FIRST AVENUE**



### **3 Concluding Statement**

The As-Constructed review findings on the works associated with the Regional Cycleway along Heath Street between Henley Marine Drive and First Avenue contained within **Section 2** of this report and are summarised below:

- Alignment issues for vehicles exiting from Henley Marine Drive onto Heath Street and conflicting with the offset-kerbside (western) parking lane;
- Sight distances for drivers of vehicles exiting the residential driveways along Heath Street have been reduced, or otherwise restricted creating unsafe conditions;
- Sight distances for drivers of vehicles performing right-turns from Richard Street onto Heath Street have been reduced, or otherwise restricted creating unsafe conditions;
- The carriageway width of Heath Street has reduced resulting in fewer passing opportunities, restricting two-way traffic flow and creating the potential for hazardous “Head-on” collisions.

In view of the foregoing, the resultant works have generally reduced the safety of all users for all movements along, across and access (i.e. residential access) via Heath Street. Further, the As-Constructed works assessed have by-large introduced new risks and conflicts (i.e. trip hazards, reduced clearances and sight lines) between drivers of vehicles, pedestrians and cyclists between individual properties, public footpaths and the offset-kerbside parking.

Council is not under any obligation to accept any or all of the review findings and it is ultimately the responsibility of the road owner (Council) to determine how best to respond to the identified design and road safety issues.

Please contact Tyler M<sup>C</sup>Laren or the undersigned on 9521 7199 should you require further information or assistance.

Yours faithfully,

**M<sup>C</sup>Laren Traffic Engineering**



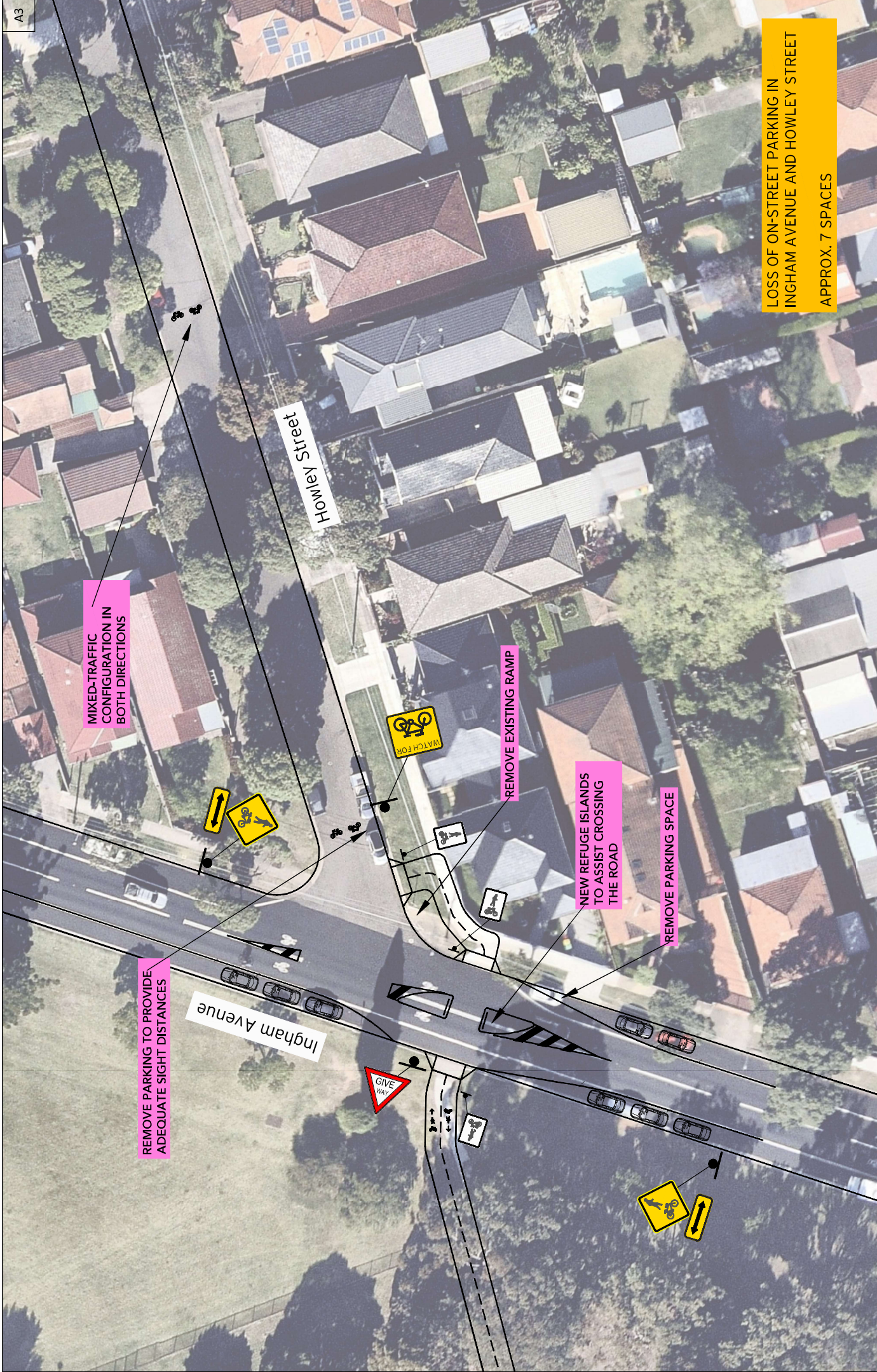
**Craig M<sup>C</sup>Laren**  
**Director**

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RPEQ 19457  
RMS Accredited Level 3 Road Safety Auditor [1998]  
RMS Accredited Traffic Management Plan Designer [2018]



**ANNEXURE A: REFERENCED PLANS  
(9 SHEETS)**





A3

LOSS OF ON-STREET PARKING IN  
INGHAM AVENUE AND HOWLEY STREET  
APPROX. 7 SPACES

	project		drawing title		client			
	Canada Bay Bike Plan		Proposed East-West Regional Route		City Of Canada Bay Council			
			Concept Plan		drawing #	EW4036		
					project #	26191		
					scale	1 : 400		
					rev 7			

rev	date	comment / description	drawn	checked
7	03/09/20	For Information	HL	SW
6	01/09/20	For Information	HL	SW
5	10/07/20	For Information	HL	SW
4	04/03/20	For Information	HL	SW
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2	07/02/20	For Information	HL/CH	SW
1	19/11/19	For Review	HL/CH	SW

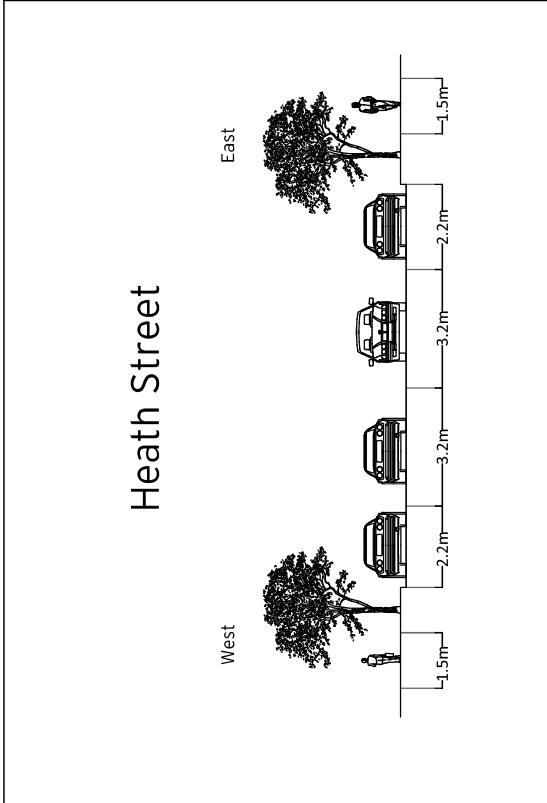
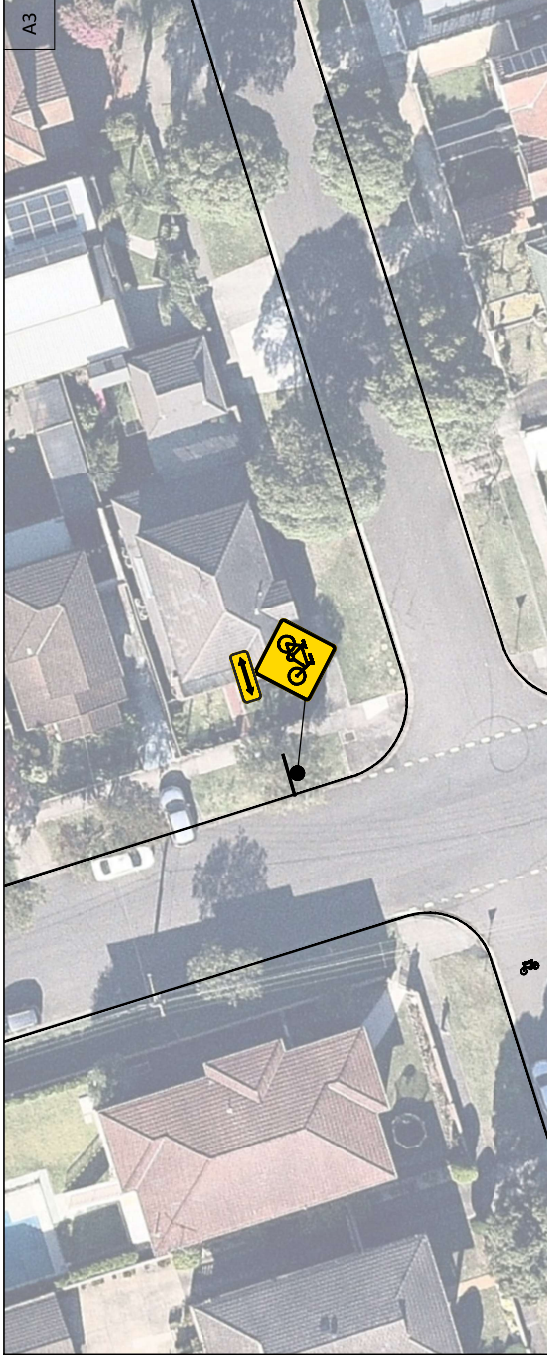
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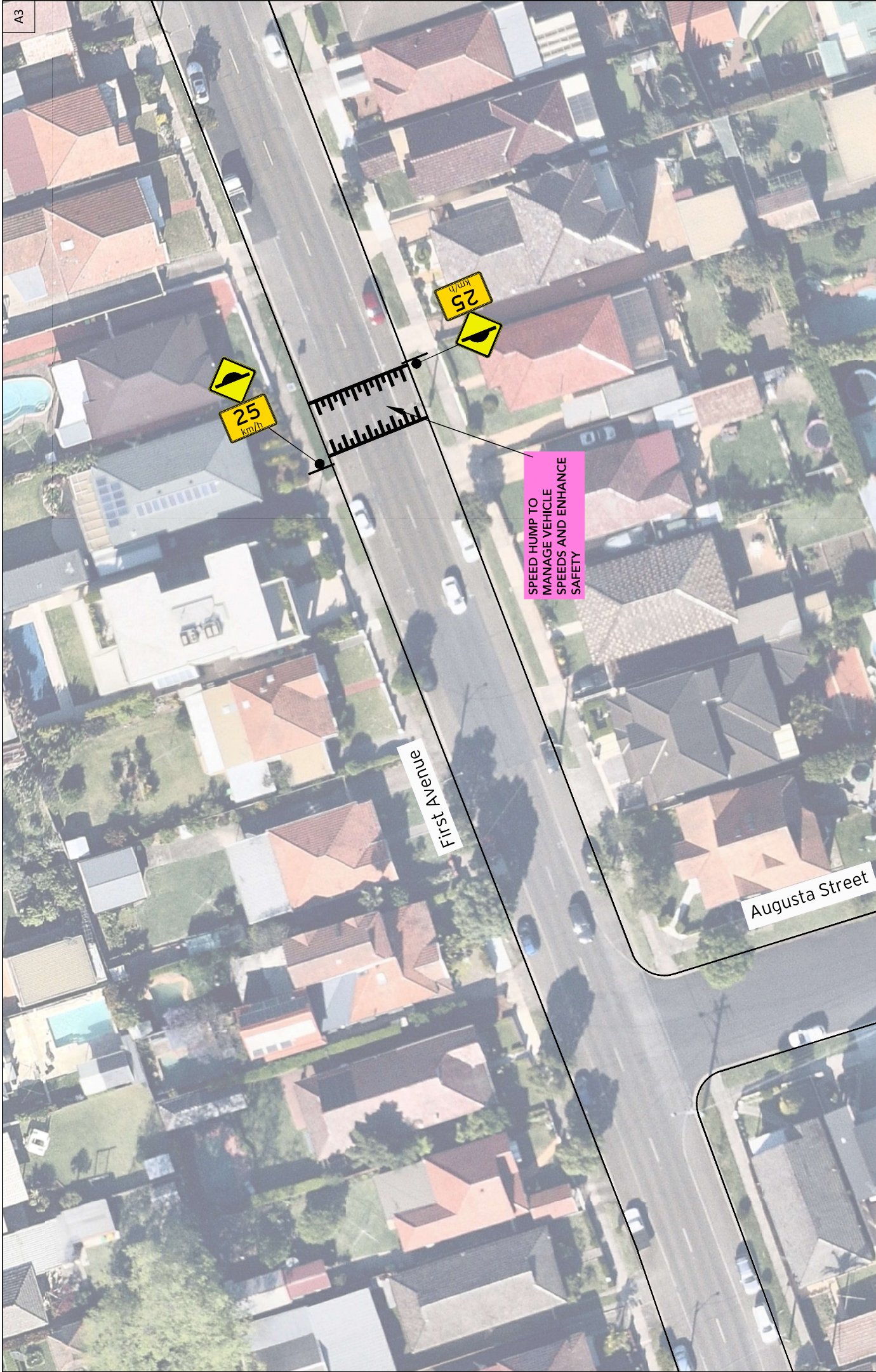




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		1	19/11/19	For Review	HL/SH	SW				

rev 7





A3

rev	date	comment / description	drawn	checked
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6	01/09/20	For Information	HL	SW
5	10/07/20	For Information	HL	SW
4	04/03/20	For Information	HL	SW
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1	19/11/19	For Review	HL/SH	SW

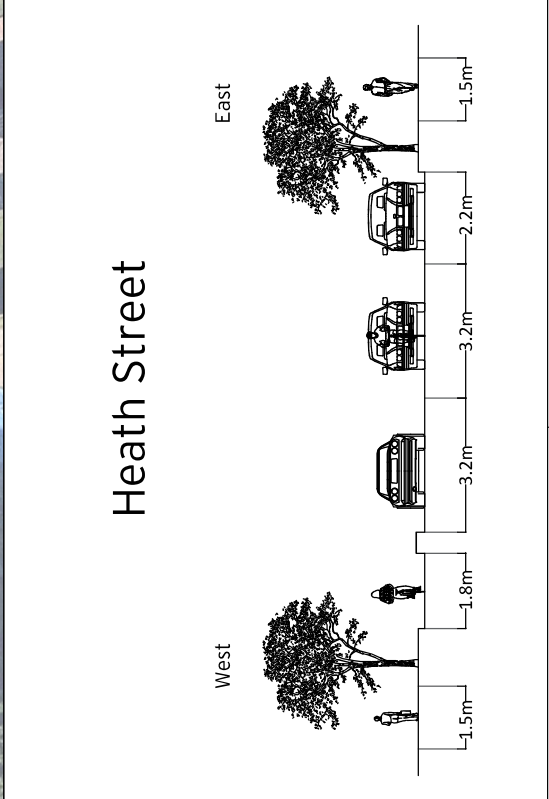
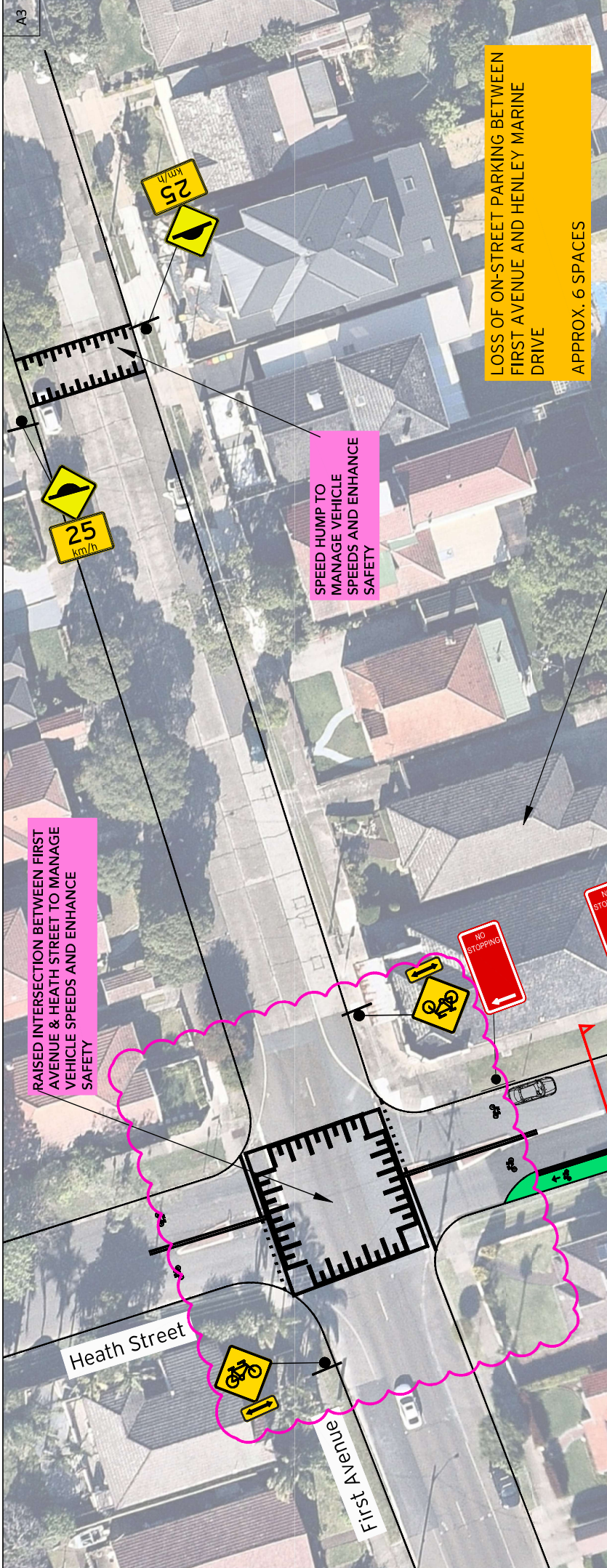
project  
Canada Bay Bike Plan

drawing title  
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Concept Plan

client	City Of Canada Bay Council
drawing #	EW-037A
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rev 7



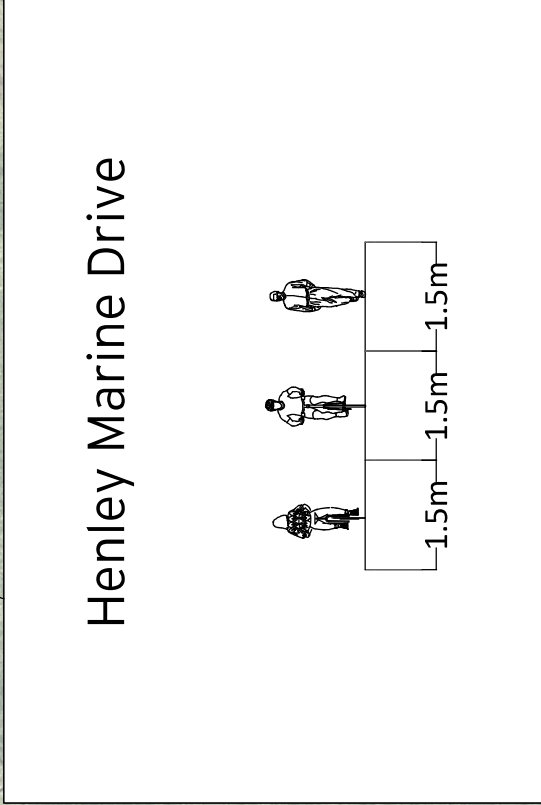
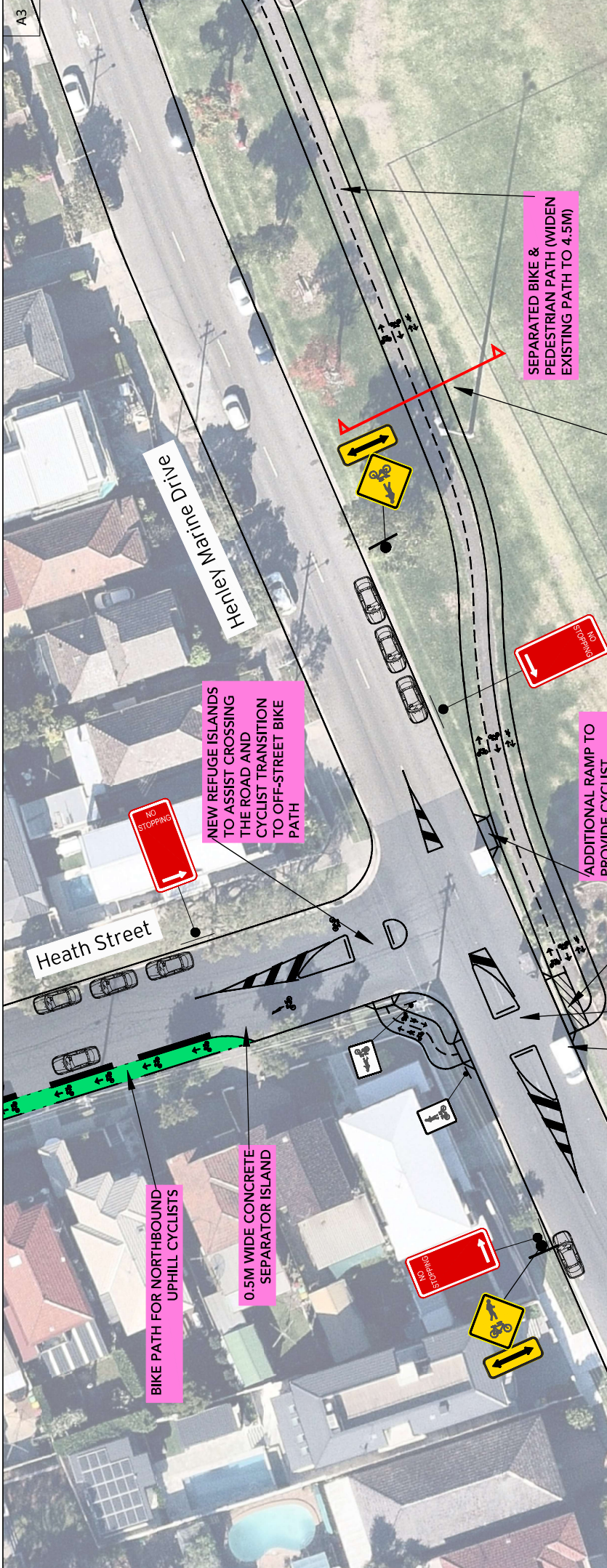


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3		02/03/20		HL	SW
2		07/02/20		HL/CNL	SW
1		19/11/19		HL/SH	SW
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ptc.					
rev 7					

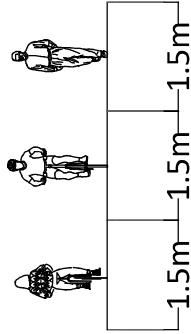








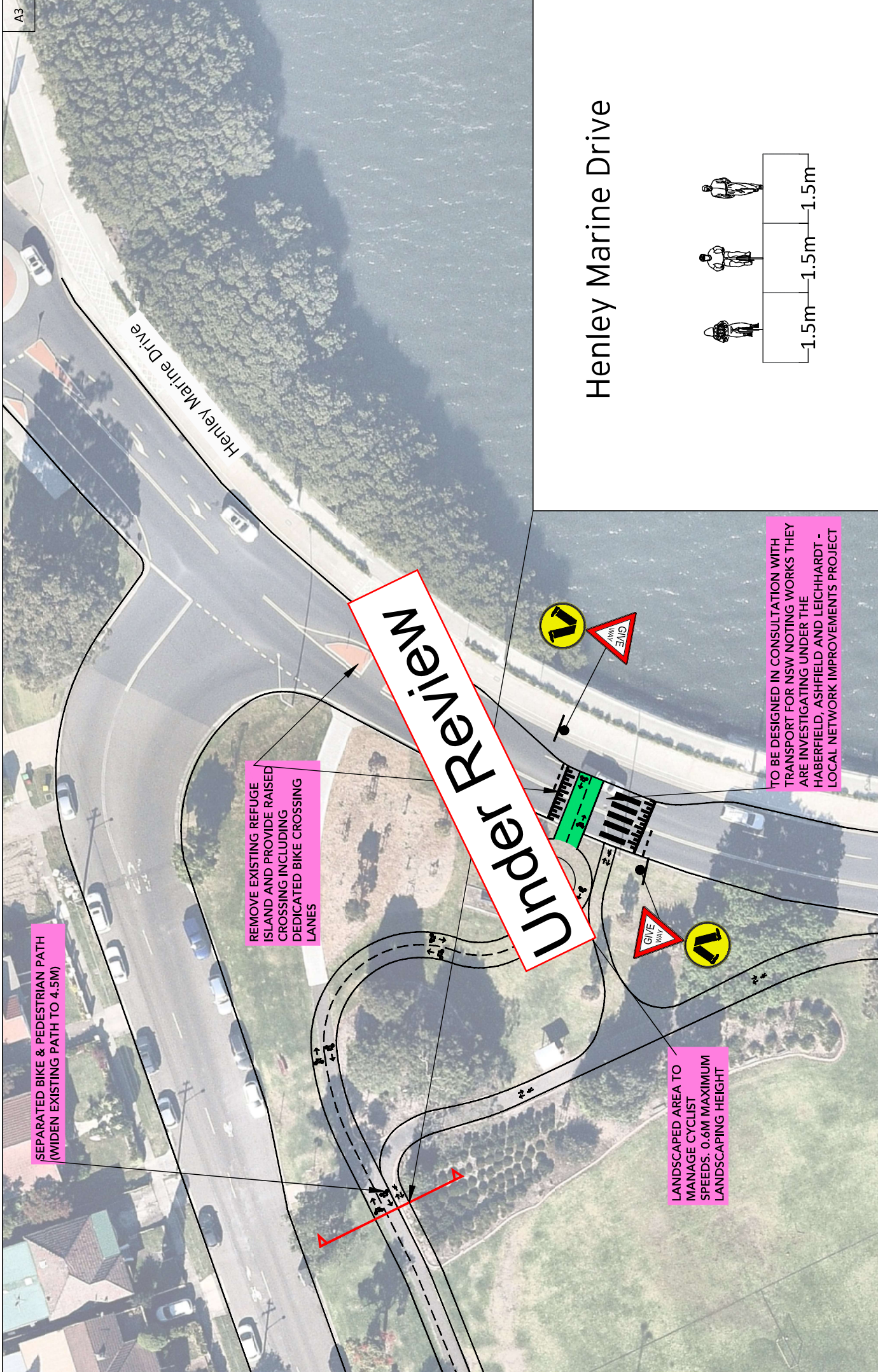
# Henley Marine Drive



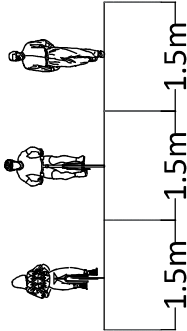
LOSS OF ON-STREET PARKING ALONG  
HENLEY MARINE DRIVE  
APPROX. 11 SPACES

 <p>Suite 502, 1 James Place North Sydney NSW 2060 t +61 2 8920 0800 pticonsultants.co</p>	drawing title		client	
	Proposed East-West Regional Route		City Of Canada Bay Council	
	Concept Plan		drawing #	
			project #	
			scale	
			rev 7	





Henley Marine Drive



rev	date	comment / description	drawn	checked	project		drawing title	client		
								City Of Canada Bay Council	drawing #	scale
7	03/09/20	For Information	HL	SW	Canada Bay Bike Plan		Proposed East-West Regional Route Concept Plan		EW-041	1 : 400
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5	10/07/20	For Information	HL	SW						
4	04/03/20	For Information	HL	SW						
3	02/03/20	For Information	HL	SW	Canada Bay Bike Plan				26191	
2	02/02/20	For Information	HL	SW						
1	19/11/19	For Review	HL	SW						



**ANNEXURE B: MTE SITE MEASURE NOTES  
(2 SHEETS)**



RICHARD STREET

PARKING BAY LINE MARKING EXTENDING 1.0m FROM THE EDGE OF CONCRETE MEDIAN ISLAND.

GREEN PAINT PAVEMENT MARKING FOR ON-ROAD BICYCLE PATH

ALL SIGNS TO BE INSTALLED AT LOCATIONS AS MARKED ON SITE.

HENLEY MARINE DRIVE

0 10 20

21/12/22.

