City of Greater Geelong, Statutory Planning - Date Received 1/07/2026



PROPOSED RESIDENTIAL DEVELOPMENT
10-20 BATH STREET, LARA

Transport Impact Assessment Report

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1 INTRODUCTION

1.1 Overview

A planning permit is being sought for a residential subdivision development at 10-20 Bath Street, Lara. To assist in the consideration of the development proposal, ESR Transport Planning has been engaged to assess relevant transport implications.

1.2 Scope of This Report

This report documents a transport impact assessment which investigates the following:

- Existing transport conditions in the vicinity of the site.
- Traffic movements generated by the proposed land use.
- Anticipated impacts on the surrounding road network.
- Design merit of proposed transport facilities.

1.3 Referenced Information

Documents

- Australian Standards, AS2890, *Australian Standard for Parking Facilities*.
- Austroads Traffic Management and Road Design Guides (various as noted in this report).
- City of Greater Geelong, 2025, *Road Register*.
- Geelong Planning Scheme.
- Local Government Infrastructure Design Association, 2025, *Infrastructure Design Manual*.

Drawings, Data, Information

- Department of Transport and Planning, Transport Victoria Open Data Portal (opendata.transport.vic.gov.au).
- Drawings of the development, by Loetis, 11/06/26.
- Online maps from Google, Nearmap, VicPlan, and Public Transport Victoria.
- Traffic volume data from City of Greater Geelong.
- Transport NSW, Trip Generation Data & Analysis Reports (transport.nsw.gov.au/industry/asset-management-branch/reference-material).

1.4 Terms

- IDM Infrastructure Design Manual
- vpd vehicle movements per day
- vph vehicle movements per hour

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2 CONTEXTUAL ANALYSIS

2.1 Site

The subject site is located to the east side of Bath Street. It is square in shape and has a roadway frontage of approximately 130m. Both properties #10 and #20 previously each contained a residential dwelling building, outbuildings and extensive garden areas. In recent years, buildings on #10 have been demolished.

Both properties have 2 driveway crossovers to Bath Street.

The site is within a General Residential Zone (GRZ1) and surrounding properties are predominately residential dwelling lots. Elcho Drain extends alongside the site's northern boundary.

Figure 2.1 Subject Site Locality



2.2 Road Network

Bath Street extends approximately 400m between T-intersections with Patullos Road to the north and Buckingham Street to the south. The roadway is classified as an Access Street (Category 2)

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and is subject to a default 50kph speed limit. Its cross section varies along its length within a road reserve of approximately 15.3m. To the south of the site it has urban nature strips with footpaths and a kerbed carriageway of approximately 7.3m width. Along the site and to the north, the carriageway narrows to approximately 6.0m width. The site's frontage is rural with a grassed roadside, while the opposite side has an urban nature strip with footpath.

Bath Street accommodates a daily traffic volume in the order of 1,100 movements per day[1].

Figure 2.2 Bath Street (facing north towards site frontage)



Patullos Road is classified as a Main Distributor (Category 4) and Buckingham Street is classified as an Access Street (Category 2).

2.3 Public Transport, Walking & Cycling

Bus service Lara Station - Lara West (Route 12) operates along Bath Street with stops located near Buckingham Street.

The west side of Bath Street has a footpath between Buckingham Street and Elcho Drain, the east side has a footpath south of the site. Buckingham Street has footpaths both sides.

A shared user path is provided along the north side of Patullos Road.

2.4 Accident History

A review of road accidents in the site's vicinity has been undertaken using the Department of Transport and Planning's Road Crash database[2] which includes accidents reported to police which resulted in personal injury. The review investigated Bath Street for the last available 5 year period (01/11/19-31/10/24). In that time, no accidents were recorded providing no evidence of atypical safety deficiencies within the nearby transport network.

[1] Source: City of Greater Geelong databases.

[2] Source: Transport Victoria Open Data Portal, Victoria Road Crash Data.

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3 PROPOSED DEVELOPMENT

The proposed development will subdivide the site to provide 32 residential lots.

A subdivision road network will consist of roadways with 16m reserves that connect to Bath Street at 2 new T-intersection locations. As well as a short length of 10m road reserve that will accommodate a 5.5m width shared driveway to Lots #13 and #14 in the southeast corner.

A reserve accommodating drainage infrastructure will be provided in the northeast corner.

4 TRAFFIC ASSESSMENT

4.1 Traffic Generation

Extensive guidance on the traffic generating characteristics of residential land use is provided by data and research reports published by Transport NSW. Based on this information, suitable traffic generation rates per dwelling have been identified for estimating trips to/from low density residential estates in regional areas, along with in/out distributions. The resultant traffic generation assessment for the proposed development is set out in Table 4.1.

Table 4.1 Traffic Generation Assessment

Time Period	Generation Rates (veh. / dwelling)	Traffic Generation	In/Out Distribution %	In/Out Traffic
AM peak hour	0.80	26 vph	35/65	9 / 7 vph
PM peak hour	0.80	26 vph	60/40	16 / 10 vph
Daily	8.0	256 vpd	50/50	128 / 128 vpd

Table 4.1 indicates the proposed development could be expected to generate 26 vehicle movements in the commuter peak hours and 256 vehicle movements over a 24 hour period.

It is noted that previously the site accommodated 2 dwellings, so a small proportion of the trip generation above would not be new trips or additional to local roadways.

4.2 Traffic Distribution

The direction in which vehicles travel to and from a site is influenced by a variety of factors including the site's location, configuration of access intersections, characteristics of the surrounding road network and trip purpose.

After reviewing these factors, it is anticipated that site traffic is likely to utilise either end of Bath Street for access in a relatively even proportion, such that development generated traffic activity along any one section of Bath Street is likely to be in the order of 130 vehicle movements daily.

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4.3 Ability of Nearby Road Network to Absorb Development Traffic

Guidelines for roadway capacity specify that a 2-lane urban roadway can accommodate daily traffic volumes in the order of 15,000-20,000 vpd without experiencing high delays during commuter peak periods[3]. However, without flaring at intersections to provide additional lanes, it is typically intersections which form a lower capacity constraint in urban road networks.

In residential areas, it is desirable for roadways to accommodate traffic activity below an 'indicative maximum volume' that is specified by type of roadway. Indicative maximum volumes are well below throughput capacity, and take into account the implications of traffic activity on residential amenity and efficient intersection operation. They could be considered a performance target to provide local residents good amenity.

The Planning Scheme defines indicative maximum volumes of up to 3,000 vpd for Access Streets and 7,000 vpd for Collector Streets.

Bath Street has an existing volume in the order of 1,1000 vpd, expected to increase to approximately 1,230 vpd with the additional site generated traffic. Such post development volumes are well within indicative maximum targets for desirable levels of residential amenity.

Clearly, there is ample spare capacity within the surrounding road network such that development generated traffic, or much greater volumes, can be absorbed without significant impact to efficient operating conditions.

5 TRANSPORT NETWORK DESIGN REVIEW

Preamble

The proposed subdivision layout has been reviewed to assess its ability to accommodate safe and efficient movement for all road users[4]. The Geelong Planning Scheme, Infrastructure Design Manual (IDM) and various other transport planning texts such as Austroads publications have been referred to for design guidance. It is noted that ESR Transport Planning has reviewed and provided design input for previous versions of development drawings. Key outcomes of our assessment are set out below.

Road Hierarchy and Cross Sections

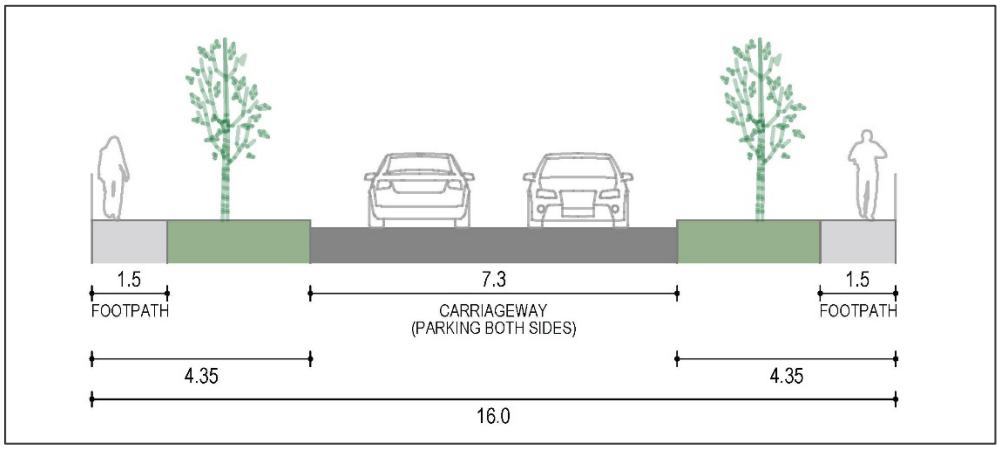
Subdivision roadways will function as Access Streets. The proposed 16m road reserves will accommodate the commonly adopted IDM standard Access Street cross section.

[3] Interrupted flow capacity = 900 vph lane (Austroads Guide to Traffic Management Part 3), with 10% peak to daily ratio = 18,000 vpd.

[4] The design review considers spatial layout matters. Noting that should the proposal progress past the planning permit stage, more detailed infrastructure specifications would be defined during future design and approvals processes.

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Figure 5.1 IDM Access Street Cross Section



Note: Dimensions above are to line of kerb (a 7.6m carriageway is to back of B2 kerbs).

The 5.5m wide shared driveway to Lots #13 and #14 is a satisfactory accessway width for two-way passing. This shared driveway will function as a shared zone (10kph shared vehicular, pedestrian and cyclist use), an appropriate and desirable functionality for this type of carriageway.

Intersections

The proposed T-intersections with Bath Street will operate as typical residential street give-way T intersections.

Proposed kerb return radii and intersection property boundary splays/chamfers exceed minimum specifications within the IDM.

Access to Public Transport

Roadways within the proposed subdivision are unlikely to be desirable as bus routes. Accordingly, bus capable roadway design is unnecessary for the subdivision. Future residents of the estate will have convenient access to the existing bus route along Bath Street.

Walking and Cycling

Footpaths are proposed along both sides of proposed roadways, and along the Bath Street frontage.

Low traffic volume Access Streets, such as those within the proposed subdivision, provide high amenity cycling routes without the need for dedicated cyclist infrastructure.

Accordingly, the proposed development is expected to provide future residents high amenity walking and cycling facilities.

Driveway Crossovers

Residential lot driveway crossovers have been designed in accordance with the City of Greater Geelong Design Notes No. 4.

Satisfactory car access to lots can be expected given the adoption of standard roadway and driveway dimensions. Notwithstanding, in response to a Council request, swept path analysis for a B99 design vehicle has been undertaken for driveway access to/from lots adjoining the site's east boundary. Refer diagrams in Appendix A.

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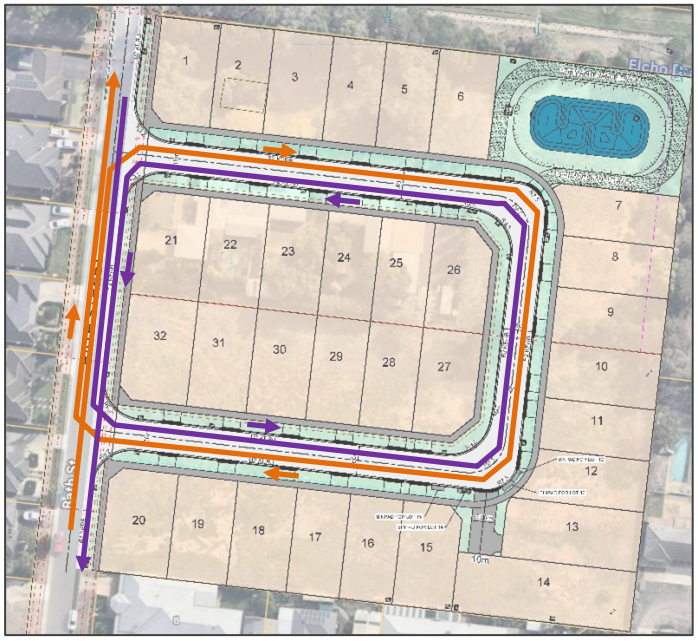
Waste, Service, and Emergency Vehicle Accessibility

The proposed roadway layout aligns with common practice and design standards. It can therefore be expected to satisfactorily accommodate movements by the occasional larger vehicle, such as waste and fire trucks.

Notwithstanding, swept path analysis has been undertaken to confirm a medium size rigid truck (Geelong Council specified waste collection vehicle size) can circulate along the proposed road network satisfactorily. Refer diagrams in Appendix B.

For waste collection, a potential route map is shown below.

Figure 5.2 Potential Waste Collection Routes to Service Proposed Lots



Assessment Outcomes

Given all of the above, proposed transport infrastructure is expected to facilitate safe and efficient operational outcomes.

6 CONCLUSIONS

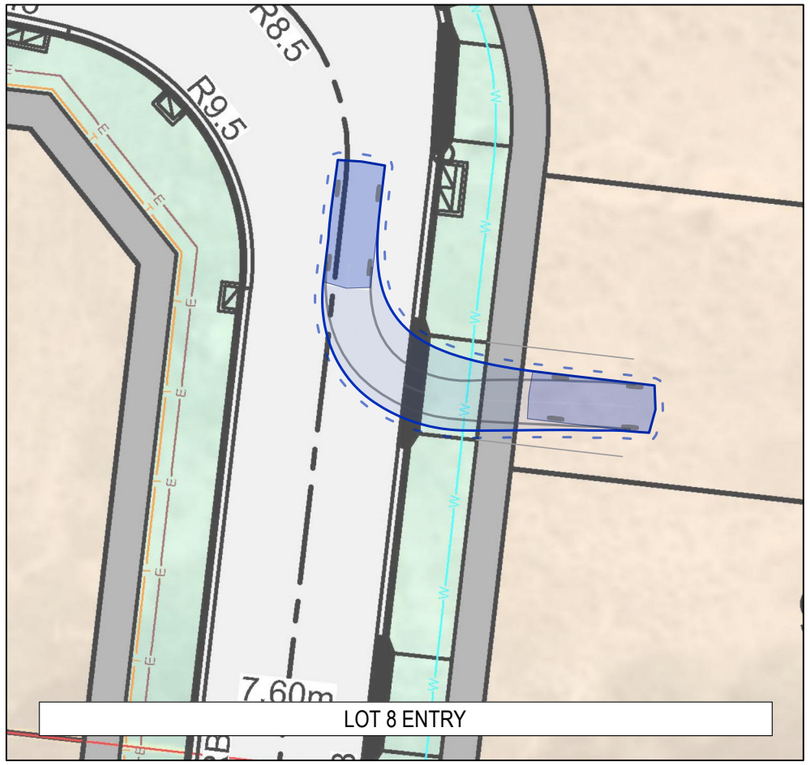
The following conclusions have been made within this report:

1. The proposed development will generate in the order of 256 vehicle movements per day.
2. There is ample spare capacity within the surrounding road network such that development generated traffic, or much greater volumes, can be absorbed without significant impact to efficient operating conditions.
3. Proposed transport infrastructure is expected to facilitate safe and efficient operational outcomes.

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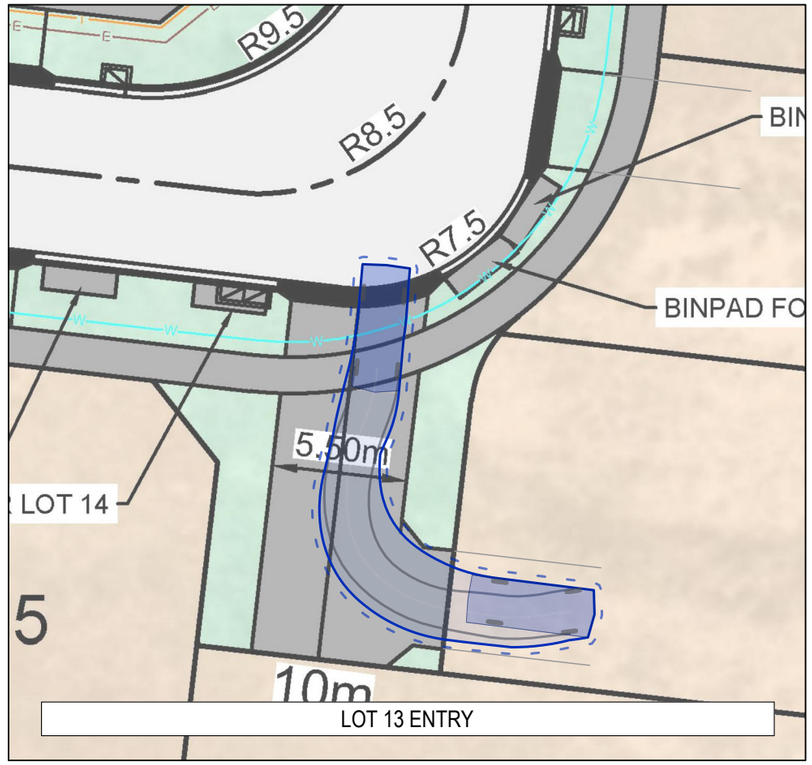
APPENDIX A SWEPT PATH DIAGRAMS - DRIVEWAYS

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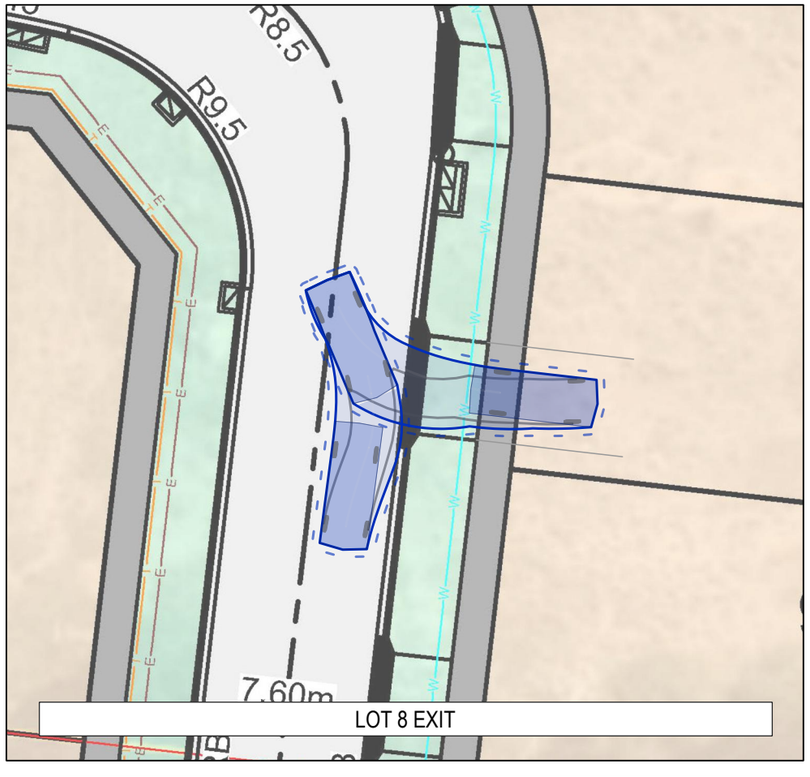


LOT 8 ENTRY

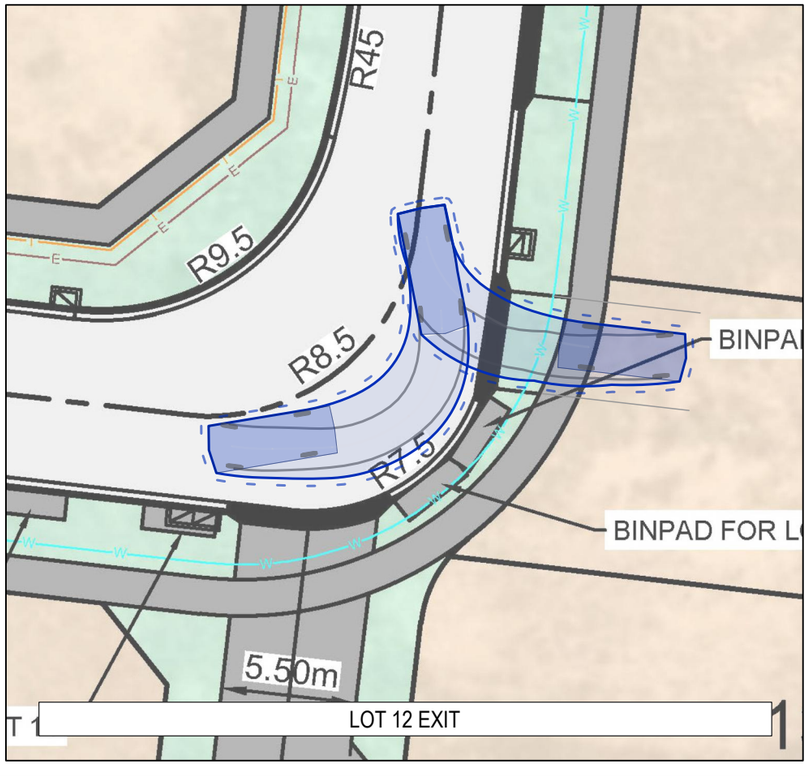
NOTE: LOT 8 SWEPT PATHS INDICATIVE OF MOST LOTS ALONGSIDE EAST BOUNDARY.



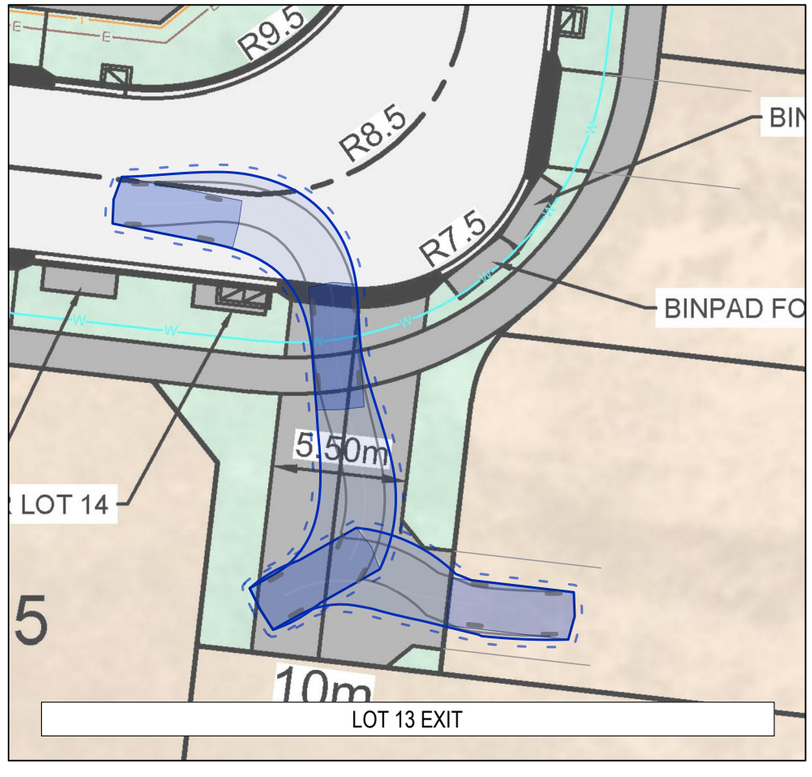
LOT 13 ENTRY



LOT 8 EXIT



LOT 12 EXIT



LOT 13 EXIT

PROJECT: 10 & 20 BATH STREET, LARA

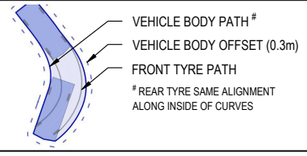
TITLE: SWEPT PATH DIAGRAMS
1 - DRIVEWAY CROSSOVERS

DATE: 15 JUNE 2026

BASE PLAN: INDICATIVE ROAD, KERB AND FOOTPATH ALIGNMENT, BY LOETIS, 11/06/26.



B99 VEHICLE
AUST. STD. (AS2890.1)



N

SCALE: 1:250

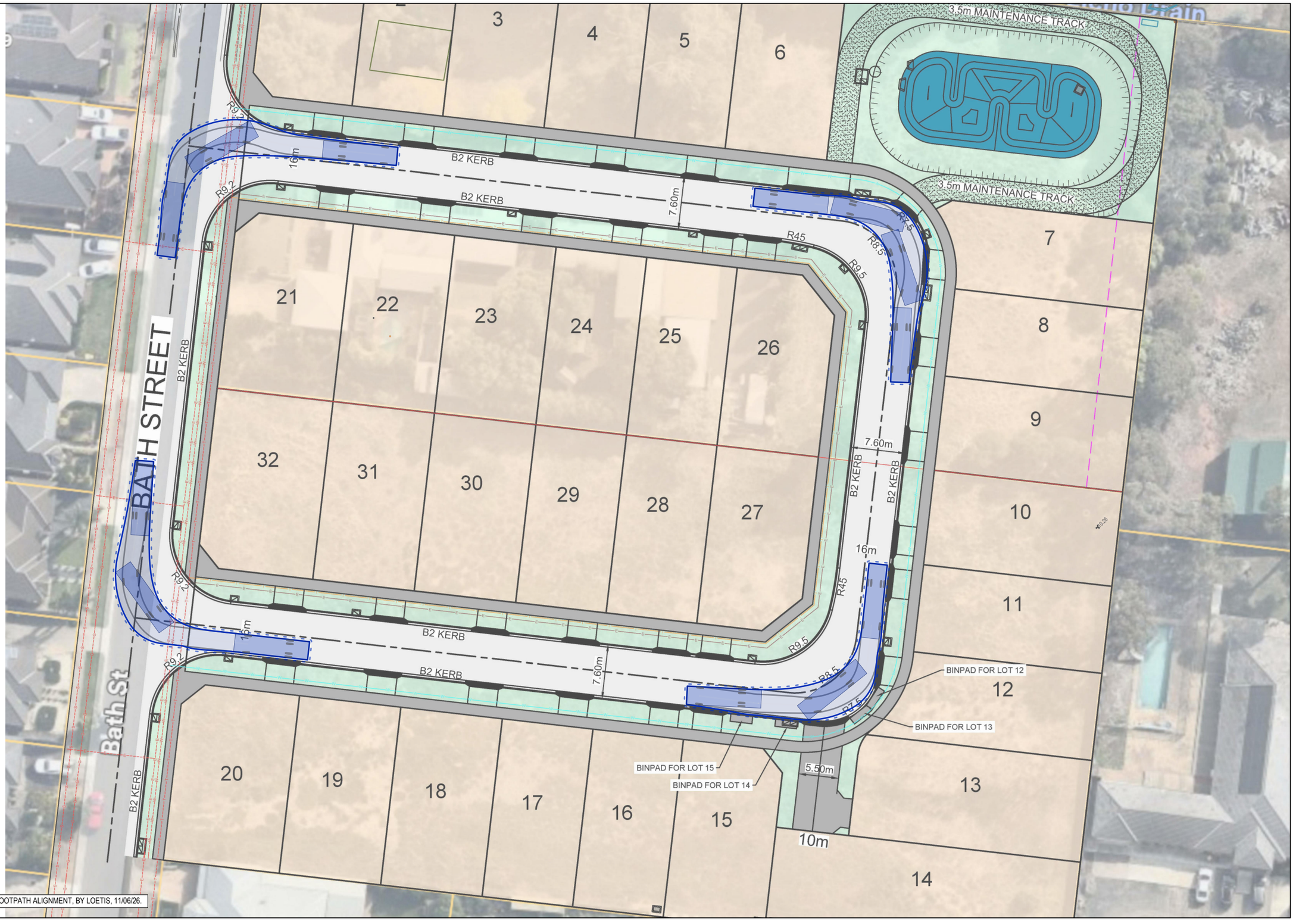
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SHEET: A3

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APPENDIX B SWEPT PATH DIAGRAMS- WASTE

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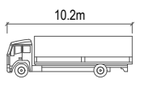


BASE PLAN: INDICATIVE ROAD, KERB AND FOOTPATH ALIGNMENT, BY LOETIS, 11/06/26.

PROJECT: 10 & 20 BATH STREET, LARA

TITLE: SWEPT PATH DIAGRAMS
2 - WASTE VEHICLE - CLOCKWISE

DATE: 15 JUNE 2026



WASTE TRUCK 10.2m
CUSTOM (ADAPTED FROM AS2890.2 MRV)

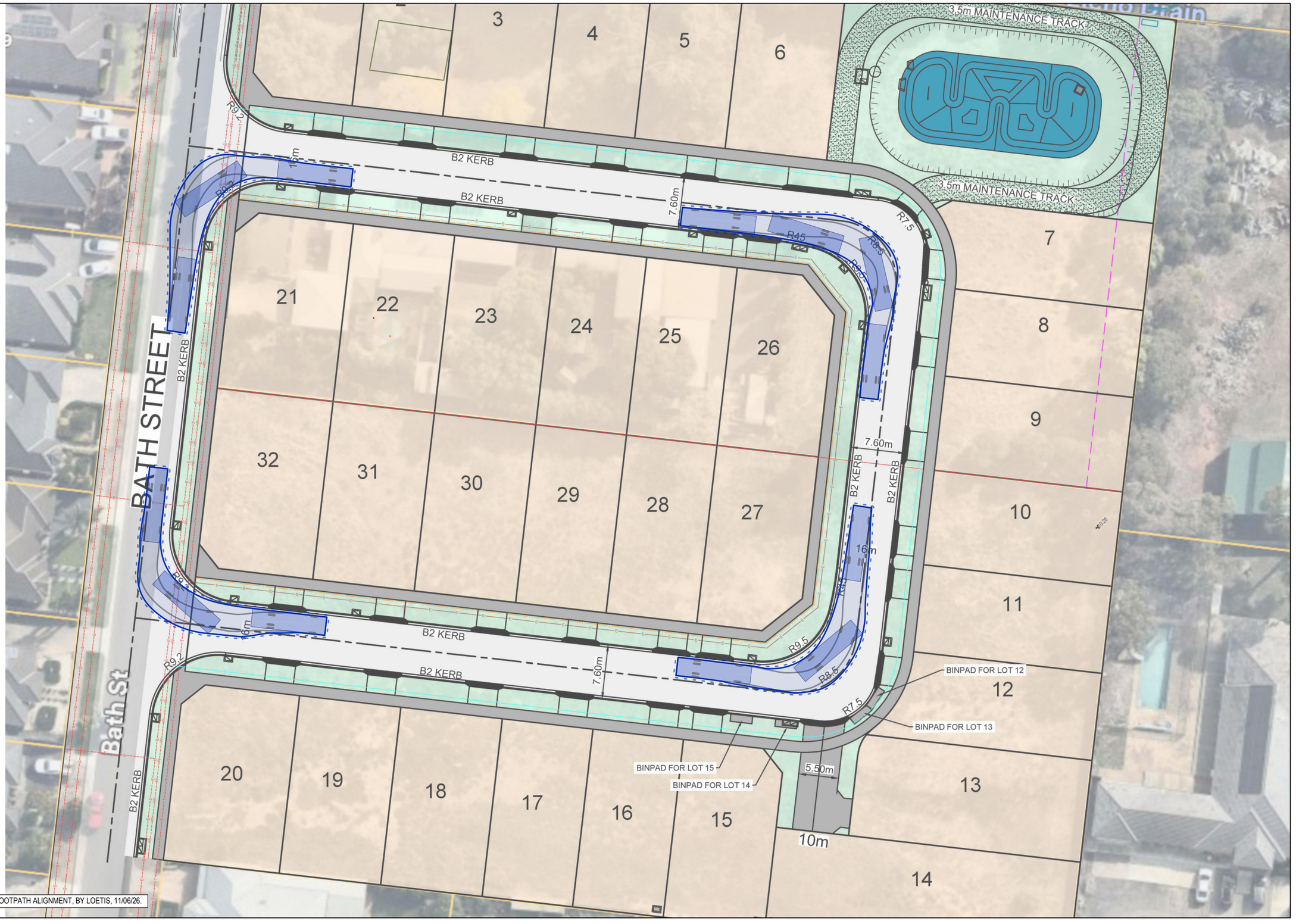


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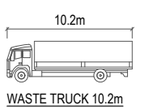


BASE PLAN: INDICATIVE ROAD, KERB AND FOOTPATH ALIGNMENT, BY LOETIS, 11/06/26.

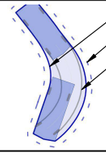
PROJECT: 10 & 20 BATH STREET, LARA

TITLE: SWEPT PATH DIAGRAMS
3 - WASTE VEHICLE - ANTICLOCKWISE

DATE: 15 JUNE 2026



WASTE TRUCK 10.2m
CUSTOM (ADAPTED FROM AS2890.2 MRV)



VEHICLE BODY PATH #
VEHICLE BODY OFFSET (0.3m)
FRONT TYRE PATH
REAR TYRE SAME ALIGNMENT ALONG INSIDE OF CURVES

SCALE: 1:500

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