

355 Church Street, Fyansford

Expert Witness Report

V191350



Prepared for
Kings Lawyers

6 November 2019

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Document Information

Prepared for	Kings Lawyers
Project Name	Expert Witness Report
File Reference	V191350REP001F01.docx
Job Reference	V191350
Date	6 November 2019
Version Number	F01

Document Control

Version	Date	Author	Author Initials	Reviewer	Reviewed by
F01	06/11/2019	Todd Mexted	TM	Chris Butler	CB

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1 Witness Statement & Qualifications

a) Panel Reference	C395
b) The date of the report	6 November 2019
c) The address of that property and the date(s) of any inspection	355 Church Street, Fyansford Site visit undertaken on 3 November 2019
e) The party for whom the report has been prepared	This report has been prepared at the request of Kings Lawyers
f) The person from whom the expert received his/her instructions	David King, Kings Lawyers

My qualifications and expertise to undertake this work are summarised below:-

Name:

Christopher James Butler

Address:

Cardno

Level 4, 501 Swanston Street

Melbourne Vic 3000

Professional Qualifications:

- > Bachelor of Civil Engineering (Honours), University of Melbourne.

Professional Experience:

- > Cardno Victoria 2007 – Present
- > Grogan Richards Pty Ltd 1988 – 2007
- > Road Traffic Authority and RJ Nairn and Partners Pty Ltd 1985 - 1988

Areas of Expertise:

- > Car parking, traffic and transportation.
- > Traffic advice and assessment of land uses and development proposals in relation to shopping centre developments, both new and expansions, office developments, local government and government authorities, residential and recreational developments, hospitals, schools, retirement villages and aged care facilities.
- > Preparation and presentation of evidence before VCAT and Panel Hearings.

Expertise to Prepare this Report:

My training and experience including involvement with all forms of development over the past 34 years qualifies me to comment on the traffic and transport implications of the proposal.

Instructions which Defined the Scope of this Report:

I have been requested by Kings Lawyers to express my expert opinion as to the access implications of the development at 355 Church Street, Fyansford.

Facts, Matters and Assumptions Relied Upon:

Background documents, including:

- > The Northern and Western Geelong Growth Areas Framework Plan issued by the City of Greater Geelong in March 2019.
- > The Northern and Western Growth Areas, Movement and Access Report, prepared by GTA Consultants.
- > Greater Geelong Planning Scheme, Amendment C395 Part A Submission to the independent panel.
- > Response to planning scheme C395 prepared by CardnoTGM (Chris Marshall) on behalf of Riverlee / Asset 1, dated 29 July 2019.

Identity of Persons Undertaking the Work:

Chris Butler, assisted by Todd Mexted, Cardno Victoria.

I have made all the inquiries that I believe are desirable and appropriate, and no matters of significance, which I regard as relevant, have to my knowledge been withheld from the Panel.

Chris Butler



Senior Principal

for **Cardno**

2 Introduction

2.1 Preamble

I have been engaged by Kings Lawyers to provide a traffic engineering assessment and expert opinion regarding the access requirements of the proposed development at 355 Church Street, Fyansford (subject site).

In the course of preparing this assessment, I have inspected the subject site and its environs, examined plans and documents associated with the development area and assess the access requirements associated with the proposal.

The evidence prepared considers the ability of the subject site to be developed in the short to medium term, rather than long term.

2.2 355 Church Street, Fyansford

The description of the subject site as taken from CardnoTGM's (Leigh Prossor) report is as follows.

355 Church Street, Fyansford (the subject site) is located within the eastern area of the proposed Batesford South Precinct of the City of Greater Geelong's Western Geelong Growth Area (WGGA).

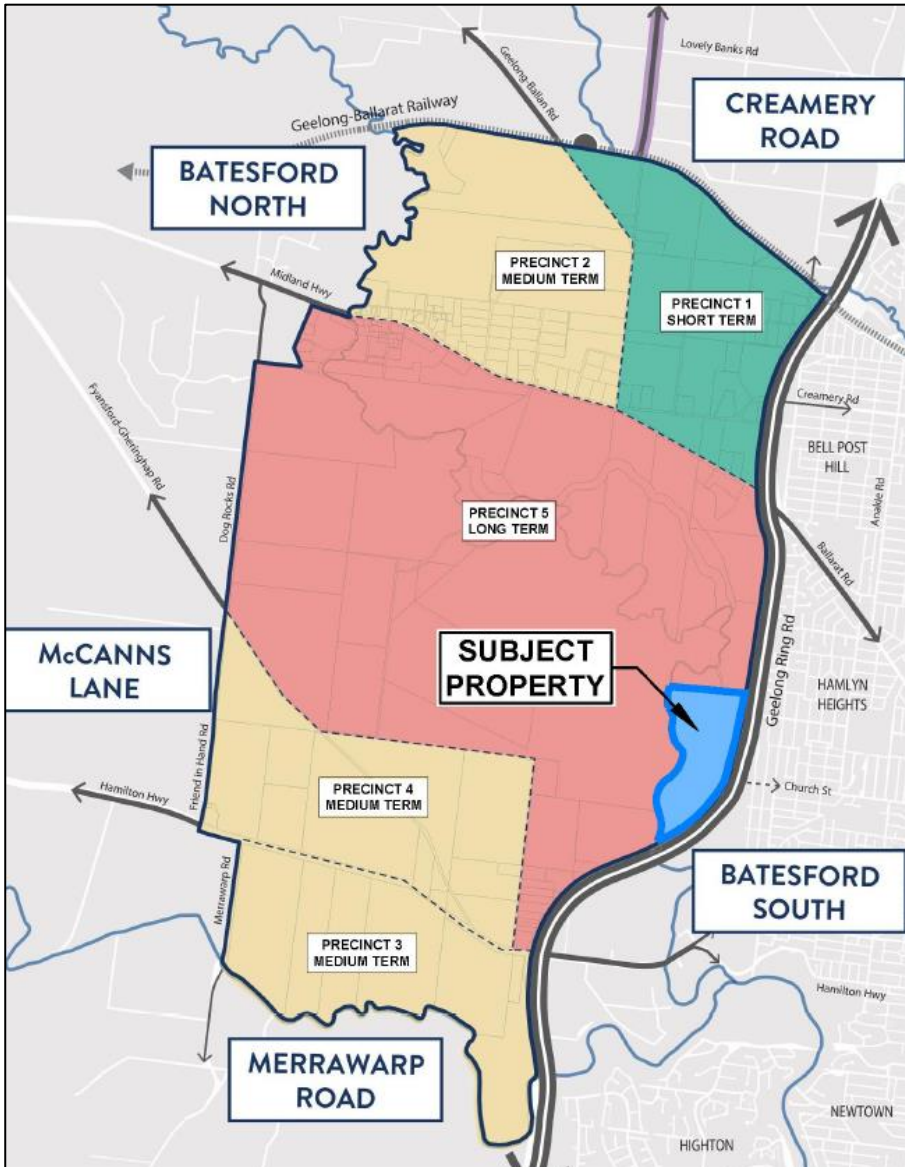
The subject site is bordered on its north side by 370 Church Street Hamlyn Heights. Both properties share very similar characteristics and will essentially be accessed and serviced in a similar and combined fashion. Accordingly, this report has generally considered both properties as combined from an access perspective, and refers to 355 Church Street Fyansford and 370 Church Street Hamlyn Heights as 'the properties'.

The subject properties are bordered by the Moorabool River along their western boundaries and the Geelong Ring Road along the eastern boundary. At their southern boundary the Moorabool River and the Geelong Ring Road confluence and the Geelong Ring Road crosses over the Moorabool River.

The northern boundary of the subject properties is bordered by a rural property that ultimately fronts to the Midland Highway. There is somewhat disconnection between these as there is limited space between the Moorabool River and the toe of the Moorabool Valley escarpment to the east.

The property locations with respect to the greater WGGA are detailed in Figure 2-1 below.

Figure 2-1 Precinct Structure Plan

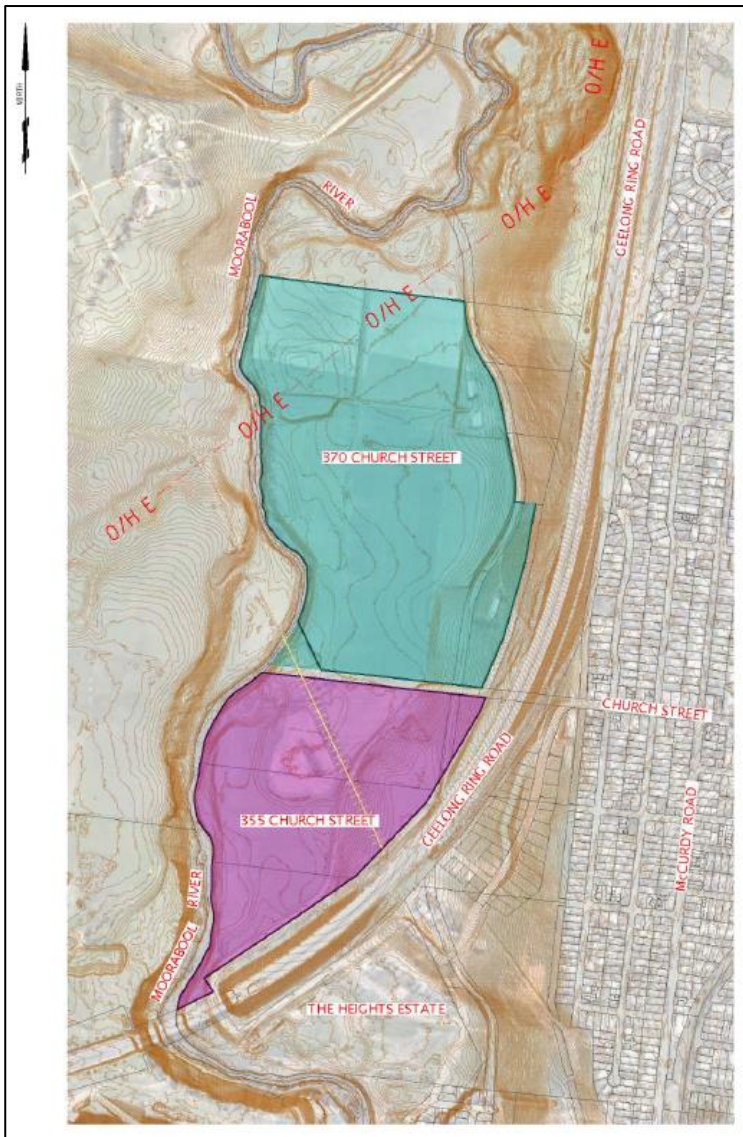


Source: CardnoTGM

The subject properties are located within Precinct 5, which is designated to be developed in the long term. Precinct 5 is characterised by a large operating quarry which therefore readily allows it to be designated as long term development. However, the land located to the east of the quarry between the Moorabool River and the Geelong Ring Road is physically separated from the quarry and from an amenity perspective can be developed in the short to medium term.

The property locations with respect to their immediate environs are detailed in Figure 2-2 below.

Figure 2-2 Subject Properties



Source: CardnoTGM

3 Access Assessment

3.1 Church Street Connection

The WGGGA framework plan proposes that a new arterial road be constructed that links from the west side of the Moorabool River to the east connecting with the Geelong Ring Road and Church Street. The WGGGA framework plan proposes that a half diamond interchange with the Geelong Ring Road and a public transport only connection to Church Street be constructed to service the WGGGA.

The proposed future Church Street bridge presents a limitation to the short term development of the subject properties. The feasibility of the bridge is questioned due to the level difference from Church Street to the east of the Geelong Ring Road (GRR) and the subject properties west of the GRR. These limitations are outlined in the July 2019 document prepared by CardnoTGM which was issued as a technical document to Tract Consultants and subsequently enclosed as appendices to the submission to the City of Greater Geelong Amendment C395.

In essence, it was recommended that the Church Street alignment between the GRR and the west side of the Moorabool River be noted as preliminary and subject to further investigation at the Precinct Structure Plan stage.

As such, the proceeding sections of this document will assess the accessibility of the subject properties, without reliance on the delivery of the Church Street Bridge in the short to medium term.

3.2 Traffic Considerations

The broader study area identified in Figure 3-1 represents an area of approximately 90 hectares of land, located to the west of the Geelong Ring Road and bound by the Moorabool River and Midland Highway. It is noted that this area calculation excludes the undevelopable areas of open space adjacent to the Moorabool River and the steep escarpment areas and a significant landslip area.

For the purpose of this assessment we have assumed a lot yield of approximately 15 lots per hectare. Accordingly, we have adopted an indicative yield of approximately 1,350 standard lots.

Ultimately the site will have access to a permeable road network comprising a mix of arterial roads and lower order streets in accordance with the Western Geelong Growth Area framework plan.

In the interim however the site's primary access will be in the form of a new signalised intersection with Midland Highway via a proposed Boulevard Connector Road, located west of the Geelong Ring Road interchange and east of the proposed '*clever and creative corridor*' intersection.

It is noted that *The Northern and Western Growth Areas, Movement and Access Report*, prepared by GTA Consultants has been reviewed. This report includes modelling of the Western and Northern growth areas and does not preclude the development of the subject properties or the broader study area from occurring in the short term.

Figure 3-1 Subject Site and Study Area



Table 3-1 summarises the traffic generation assumptions adopted for the future development of the site.

Table 3-1 Site Traffic Generation

Use	Daily Rate	Peak Hour Rate	Amount / No.	Daily Trips	Peak Hour Trips
Standard Lots	8 trips per lot / dwelling	0.8 trips per dwelling	1,350 lots	10,800 vehicles per day (vpd)	1,080 vehicles per hour (vph)

Ultimately, a substantial proportion of the traffic generated by the site will be distributed within the WGGA. In the interim however, it is anticipated that the traffic generated by the developable land will be primarily distributed to Midland Highway. A lesser extent is able to use a connection below the existing GRR crossing of the Moorabool River (ie. Beacon Avenue). This is outlined in Section 3.3 of this report.

3.2.1 Layout Considerations

The north-south road connecting the subject properties would be required to be a Boulevard Connector Road to cater for expected traffic volumes outlined in Table 3-1.

The cross-section of a potential Boulevard Connector Road is shown in Figure 3-2 and detailed in Table 3-2. It is proposed that a 6.0m wide median be adopted to allow for the provision of right turn lanes at key intersections.

Figure 3-2 Boulevard Connector Road – Cross Section

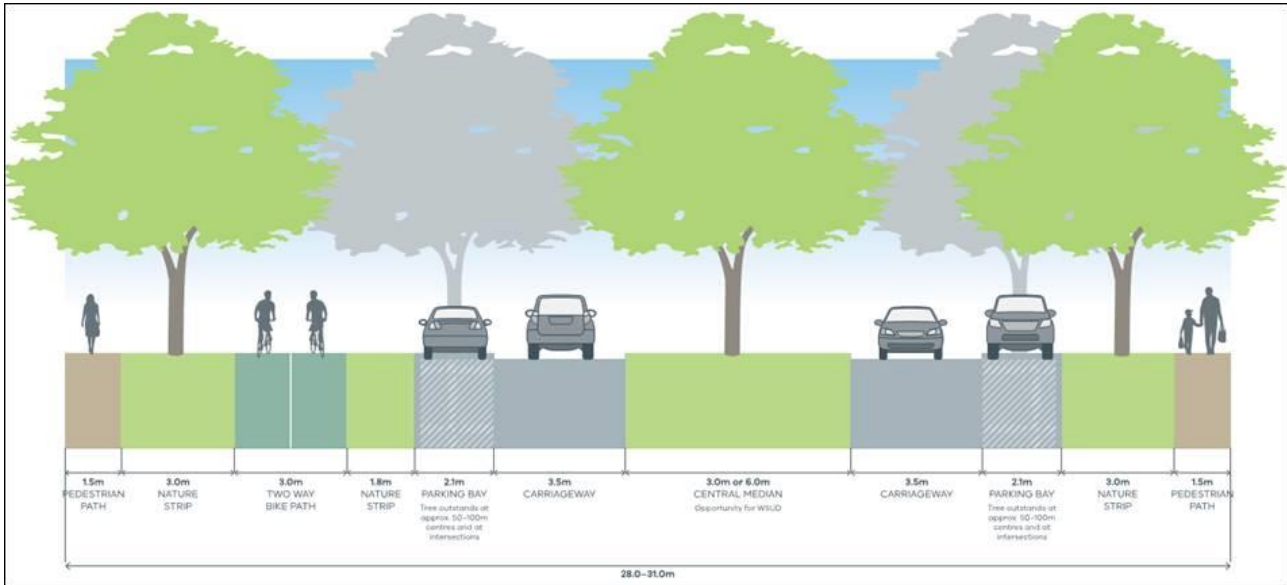


Table 3-2 Boulevard Connector Road – Cross Section

Type	Reserve Width	Carriageway Width	Target Volume	Bicycle Provision	Footpath Provision
Boulevard Connector	31.0m	3.5m lane, plus 2.1m parking lane	<12,000 vpd	3.0m off-road bicycle path on one side	1.5m footpath on both sides

A Boulevard Connector Road as illustrated in Figure 3-2 is suitable for a target volume of up to 12,000 vpd, which the traffic generation associated with the development of the broader study area is anticipated to fall within.

It is further noted that the traffic volumes associated with the southern portion of the broader study area will be lower and as such a lower order road is expected to be more appropriate in this location, such as a Connector Street (level 1) which has a target volume of up to 3,000 vpd. As such, it is likely that the road cross section may vary along the proposed north-south alignment.

3.3 Alternative Vehicle Access

It is noted that whilst a Boulevard Connector Road is proposed to provide primary access to the Midland Highway, there is potential for an alternative access to the south of the subject site.

As illustrated in Figure 3-3, east of Geelong Ring Road, Monier Way is fully constructed and provides a connection between Church Street to the north and Hamilton Highway (Hyland Street) to the south. To the west of Monier Way, the local road network has generally been constructed, designed to service residential development in this area. This local network is fully sealed and constructed, becoming gravel along Beacon Avenue on approach to the Geelong Ring Road bridge.

Figure 3-3 Alternative Access Map



The sealed road network which is partly constructed along Beacon Avenue on approach to the subject site has a trafficable width of approximately 5 metres, allowing for two-way traffic movement. As depicted in Figure 3-4, Beacon Avenue which connects to the subject site provides sufficient width for the sealed road network to be continued under the Geelong Ring Road and allow access to and from the south of the subject site.

Figure 3-4 Beacon Avenue



The extent of the Beacon Avenue’s sealed surface is shown in Figure 3-5, with the remaining unsealed access to the subject site shown in Figure 3-6.

Figure 3-5 End of Sealed Road, facing southwest



Figure 3-6 Unsealed access to subject site, facing northeast



It is appreciated that this local road network is not intended to provide primary access for development within the WGGGA, however it does provide an alternative access route. Access from the subject site to the east of the GRR is available via the southern-most Local Access Street (Level 1), which connects to Monier Way. Local Access Streets are intended to support no more than 2,000 to 2,500 vpd, based on VPA and IDM standards. Including the existing development lots on the current link (approx. 30), there would theoretically be capacity for approximately an additional 250 lots (assuming generation of 8 trips per day) within the subject site.

If Beacon Avenue is widened, access could be provided to the two Local Access Streets which connect to Monier Way, potentially increasing the theoretical capacity of these roads to accommodate approximately 325 lots within the subject site.

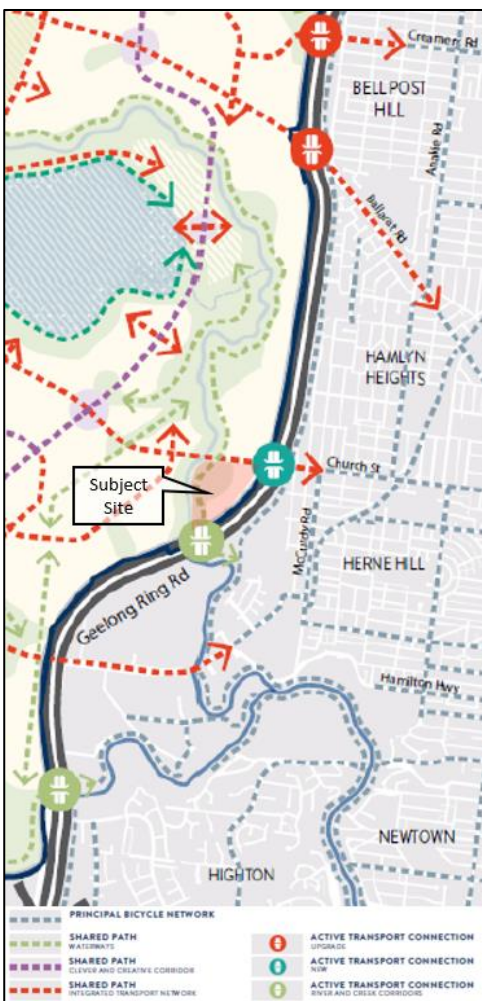
This is suggested to be a short term measure only, to allow for initial development access in the south of the broader study area, with this connection to be discouraged via local area traffic management as the proposed north-south Boulevard Connector Road is developed, followed by additional links as part of the wider WGGa development.

It is also worth noting that the establishment of an alternative access to the south is important from an emergency access perspective, as for example if the proposed northern link to the Midland Highway becomes temporarily inaccessible, emergency access and egress could occur to the south. In the future, additional emergency access routes will be available due to the wider development of the WGGa road network.

3.4 Active Transport Infrastructure

The Western Growth Area Framework Plan identifies the active transport network in Plan 35, an extract of which is presented in Figure 3-7. This plan illustrates the proposed network within the Western Growth Area, in addition to the existing network east of the Geelong Ring Road.

Figure 3-7 Plan 35, Active Transport (Extract)



A key aspect of this network is the shared path proposed to run along the east of the Moorabool River, which runs adjacent to the subject site. Development of the subject site will enable the early establishment of this strategic linkage, providing connectivity to a key point on the existing active transport network east of the Geelong Ring Road. This shared path has been approved by the City of Greater Geelong as an endorsed plan under planning permit number 1107/2012A, Condition 4 (refer to Appendix A).

Figure 3-8 illustrates Geelong’s Principal Bicycle Network (PBN) which includes the following key trails, all of which are conveniently accessible via the establishment of the proposed shared path:

- > Ted Wilson Trail, which runs parallel to the east of the Geelong Ring Road;

- > Tom McLean Linear Trail, which runs to the northeast generally from the Hamilton Highway, which can be accessed from the Moorabool River Trail;
- > Barwon River Trail, which is accessible to the south of the subject site via the Moorabool River Trail; and
- > Various east-west on-road bicycle lanes forming part of the PBN are accessible via the above off-road shared trails, providing connectivity to central Geelong and surrounding areas.

The proposed shared trail and existing PBN will be further supplemented by the future extension of Church Street through the subject site, which will provide additional active transport connectivity between Geelong and the Western Growth area.

In addition to the proposed shared path along the Moorabool River, it is also noted that the road cross section proposed to provide access to the Midland Highway includes allowance for separate walking and cycling paths. This will provide additional active transport links on the east side of the Moorabool River, connecting to the shared path along the Midland Highway to the north. The proposed active transport infrastructure is in keeping with intent of the Western Growth Area Framework plan to significantly increase the mode share of sustainable transport trips in the Geelong region.

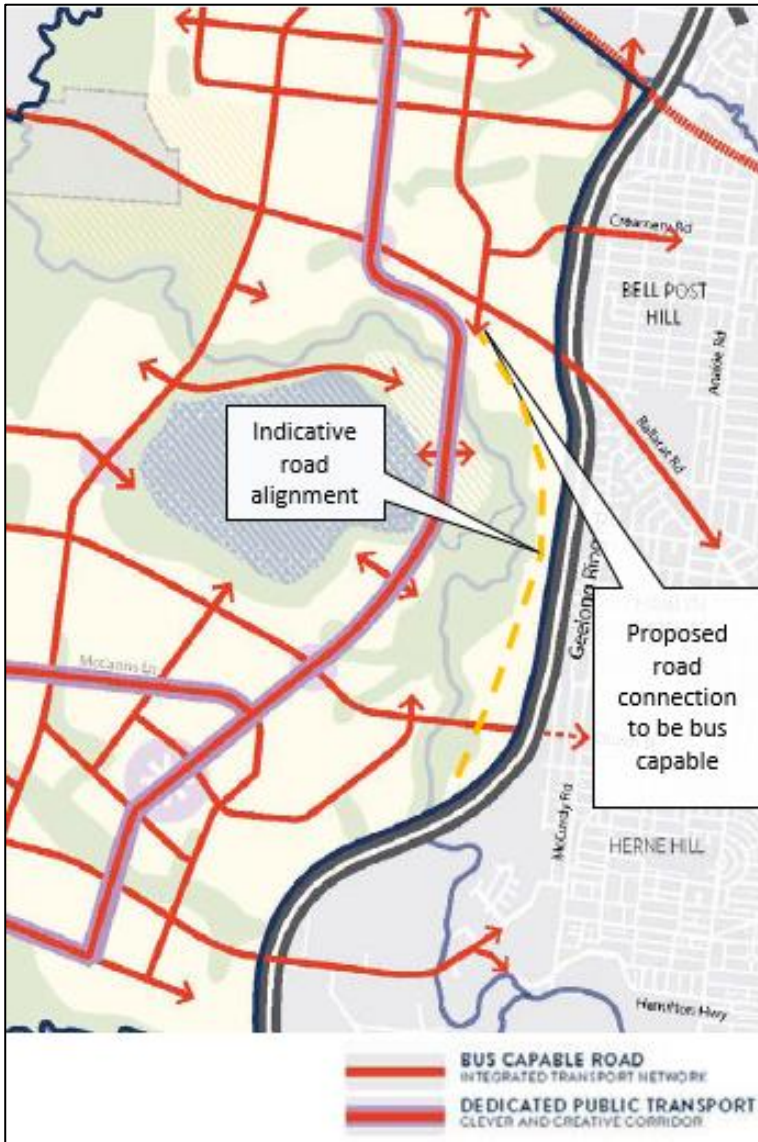
Figure 3-8 Principal Bicycle Network, Geelong



3.5 Public Transport

The proposed north-south boulevard connector road will be bus capable and therefore provides opportunity for additional sustainable transport trips associated with the subject site. This is consistent with Plan 36 (Public Transport) of the Western Growth Area Framework Plan, which indicates a bus capable road is to be provided at the intersection with the Midland Highway, as envisioned by the alignment and road cross section as identified within this assessment (refer to Figure 3-9). Providing a bus capable road will further contribute towards the vision of increasing the mode share of sustainable transport trips in the Geelong region.

Figure 3-9 Plan 36, Public Transport (Extract)



3.6 Summary

- > Based on an assessment of anticipated traffic generation within the broader study area and accessibility, the development of residential lots within the identified broader study area can be brought forward from its long term identification to medium or short term;
- > Traffic generated by the ultimate development of the broader study area is expected to result in approximately 10,800 vpd, proposed to be adequately supported by a 31m wide Boulevard Connector Road reserve, with a potentially reduced cross section in the southern portion of the broader study area;
- > An alternative vehicle access opportunity is available to the south for a limited amount of local traffic during early stages of the development, which can be maintained for long term emergency access purposes;
- > Development of the subject site will assist in the delivery of active transport infrastructure in a key location which provides connectivity to Geelong and surrounding suburbs, in addition to the future WGGGA active transport network; and
- > The proposed Boulevard Connector Road will be bus capable, consistent with the public transport intent for this location. The active and public transport links to be provided will assist with the overall future vision of increasing the mode share of sustainable transport trips.

APPENDIX

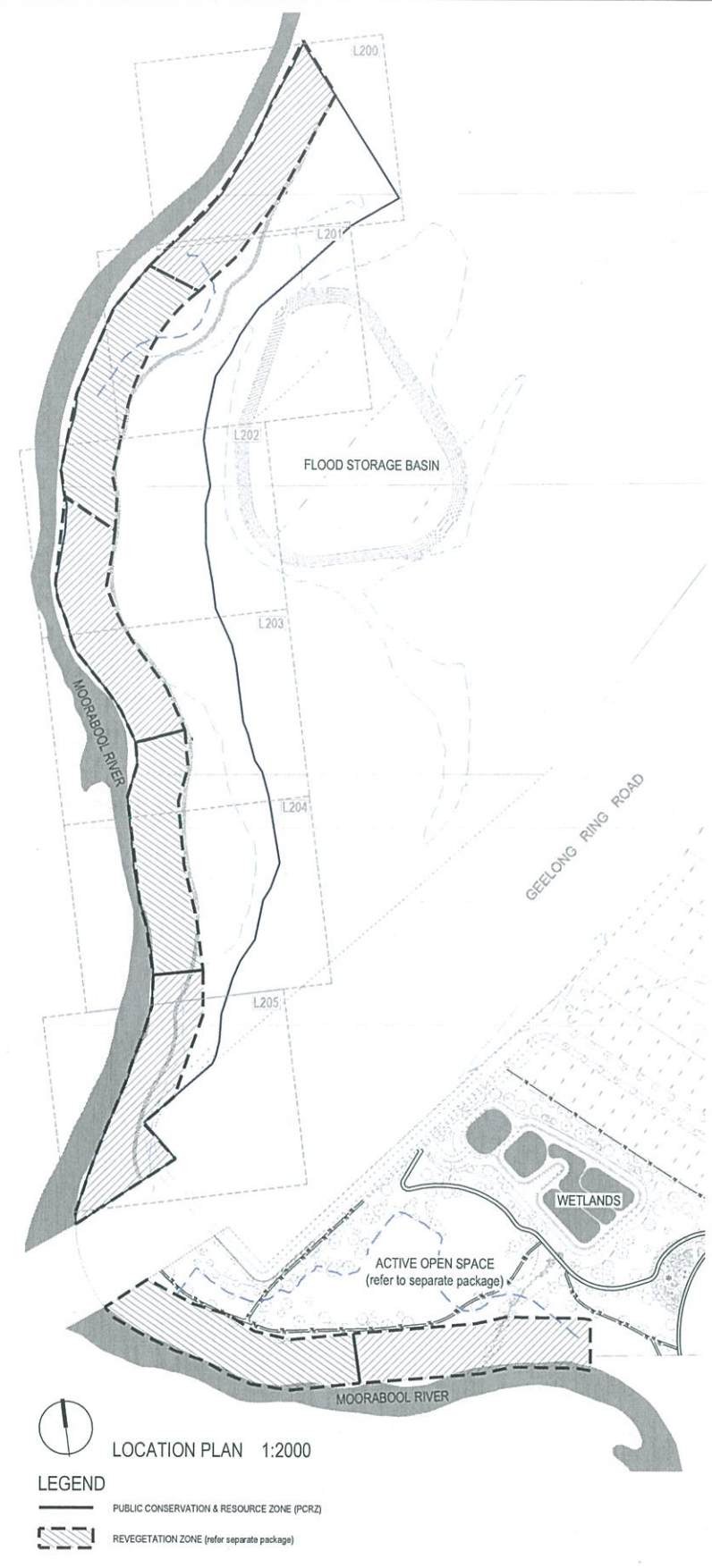
A

ENDORSED SHARED PATH PLANS

HAMLYN HEIGHTS - GEELONG

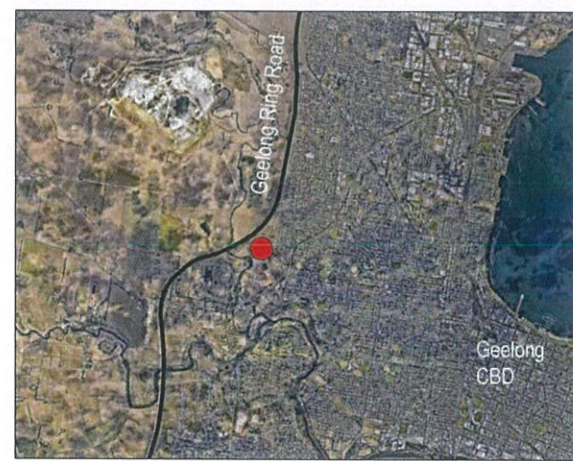
Reserve 3

City of Greater Geelong



DRAWING SCHEDULE

dwg #	dwg name
L000	Cover Sheet, Drawing Schedule & Locale Plan
L100	Reserve 3 Plan
L200	Set out, Surface Finishes & Planting Plan
L201	Set out, Surface Finishes & Planting Plan
L202	Set out, Surface Finishes & Planting Plan
L203	Set out, Surface Finishes & Planting Plan
L204	Set out, Surface Finishes & Planting Plan
L205	Set out, Surface Finishes & Planting Plan
L300	Landscape Details



CONTEXT PLAN NTS

GREATER GEELONG CITY COUNCIL
 PLANNING & ENVIRONMENT ACT 1987
 GREATER GEELONG PLANNING SCHEME
 Endorsed Plan referred to in Permit No 1107/2012A
Condition 4: Reserve 3
 Signed *Paul Lee* Date *18/4/19* *pg 1 of 9*
 FOR AND ON BEHALF OF THE GREATER GEELONG
 CITY COUNCIL AS RESPONSIBLE AUTHORITY
NOTE: THIS IS NOT A BUILDING APPROVAL



Revision	Description	Date	Drawn	Checked
B	ISSUE TO COUNCIL FOR APPROVAL	18/04/2019	N.L.	J.D.
A	Preliminary Issue - For Comment	15/04/19	E.S.R./N.L.	J.D.



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Asset1 Pty Ltd
 Hamlyn Heights - Geelong
 Reserve 3
 Cover Sheet, Drawing Schedule
 & Location Plan

Design: N.L.	Drawn: E.S.R.
Checked: N.L.	Approved: J.D.
Status: Preliminary	
Date: Apr-17	Scale: 1:2000 @ A1
Job No: 30040682L	Revision: B

