Maribyrnong
CITY COUNCIL

Planning Enquiries
Phone: (03) 9688 0200
Web: www.maribyrnong.vic.gov.au

CITY OF MARIBYRNONG
ADVERTISED PLAN

Office Use Only

Application No.: Date Lodged: 20 / 03 / 2025

Application for a **Planning Permit**

If you need help to complete this form, read MORE INFORMATION at the end of this form.

⚠ Any material submitted with this application, including plans and personal information, will be made available for public viewing, including electronically, and copies may be made for interested parties for the purpose of enabling consideration and review as part of a planning process under the Planning and Environment Act 1987. If you have any questions, please contact Council planning department.

⚠ **Questions marked with an asterisk (*) must be completed.**

⚠ **If the space provided on the form is insufficient, attach a separate sheet**

i Click for further information.

The Land i

Address of the land. Complete the Street Address and one of the Formal Land Descriptions.

Street Address *

Unit No:	St. No.: 86-88	St. Name: Hopkins Street
Suburb/Locality: FOOTSCRAY		Post Code: 3011

Formal Land Description *

Complete either A or B.

⚠ This information can be found on the certificate of title

If this application relates to more than one address, attach a separate sheet setting out any additional property details.

A

Vol.: 9175	Folio.: 989	Suburb.: Footscray

OR

Lot No.:	Type.: Consolidation Plan pre 98

B

Crown Allotment No.:	Section No.:
Parish/Township Name:	

The Proposal

⚠ You must give full details of your proposal and attach the information required to assess the application. Insufficient or unclear information will delay your application

i **For what use, development or other matter do you require a permit? ***

DISPLAY OF A SINGLE-SIDED INTERNALLY ILLUMINATED DIGITAL ADVERTISING

Provide additional information about the proposal, including: plans and elevations; any information required by the planning scheme, requested by Council or outlined in a Council planning permit checklist; and if required, a description of the likely effect of the proposal.

i **Estimated cost of any development for which the permit is required ***

300000.00 ⚠ You may be required to verify this estimate. Insert '0' if no development is proposed.

If the application is for land within **metropolitan Melbourne** (as defined in section 3 of the Planning and Environment Act 1987) and the estimated cost of the development exceeds $1.093 million (adjusted annually by CPI) the Metropolitan Planning Levy must be paid to the State Revenue Office and a current levy certific e **must** be submitted with the application.
Visit www.sro.vic.gov.au for information.

Existing Conditions

Describe how the land is used and developed now *

For example, vacant, three dwellings, medical centre with two practitioners, licensed restaurant with 80 seats, grazing.

EXTERNALLY ILLUMINATED ADVERTISING SIGN

Provide a plan of the existing conditions. Photos are also helpful.

Title Information

Encumbrances on title *

Does the proposal breach, in any way, an encumbrance on title such as a restrictrive covenant, section 173 agreement or other obligation such as an easement or building envelope?

- ○ Yes (If 'yes' contact Council for advice on how to proceed before continuing with this application.)
- ○ No
- ○ Not applicable (no such encumbrance applies).
- ○ Not Sure

Provide a full, current copy of the title for each individual parcel of land forming the subject site.The title includes: the covering 'sregister search statement', the title diagram and the associatedtitle documents, known as 'instruments', for example, restrictive covenants.

Applicant and Owner Details

Provide details of the applicant and the owner of the land.

Applicant *

The person who wants the permit.

Name:

Title: MR | First Name: Nigel | Surname: Van

Organization (if applicable):

Unit No: UNIT 6 | St. No: 6 | St. Name: Croydon Street

Suburb: CRONULLA | State: NSW | Postcode: 2230

Business phone: 0393342060 | Email: nigel@obsidianooh.com.au

Mobile phone: | Home:

Where the preferred contact person for the application is different from the applicant, provide the details of that person.

Contact person's details*

Name: Same as applicant ☐

Title: CO | First Name: Matthew | Surname: CO

Organization (if applicable):

Unit No: | St. No: | St.Name:

Suburb: | State: | Postcode:

Business phone: | Email: mb@townplanners.com.au

Mobile phone: | Home:

Owner *

The person or organisation who owns the land

Where the owner is different from the applicant, provide the details of that person or organization.

Name: Same as applicant ☐

Title: CO | First Name: | Surname:

Organization (if applicable): AMERICAN BILLIARDS PTY LTD

Postal Address: | If it is a P.O. Box, enter the details here:

Unit No: | St. No: 47 | St. Name: McIntyre Road

Suburb: SUNSHINE NORTH | State: VIC | Postcode: 3020

Business Phone: 0393342060 | Email:

Mobile phone: | Home:

Declaration

This form must be signed by the applicant *

⚠ Remember it is against the law to provide false or misleading information, which could result in a heavy fine and cancellation of the permit.

I declare that I am the applicant; and that all the information in this application is true and correct; and the owner (if not myself) has been notified of the permit application.

Signature: Nigel Van Cuylenburg

Date 20 / 03 / 2025
day / month / year

Need help with the Application?

General information about the planning process is available at planning.vic.gov.au

Contact Council's planning department to discuss the specific requirements for his application and obtain a planning permit checklist. Insufficient or unclear information may delay your application

Has there been a pre-application meeting with a council planning officer

◉ No ○ Yes Officer Name:

Date: day / month / year

Checklist

Have you:

☑ Filled in the form completely?

☑ Paid or included the application fee? ⚠ Most applications require a fee to be paid. Contact Council to determine the appropriate fee.

Provided all necessary supporting information and documents?

☑ A full, current copy of title information for each individual parcel of land forming the subject site

☑ A plan of existing conditions.

☑ Plans showing the layout and details of the proposal.

☑ Any information required by the planning scheme, requested by council or outlined in a council planning permit checklist.

☐ If required, a description of the likely effect of the proposal (for example, traffic, noise, environmental impacts)

☐ If applicable, a current Metropolitan Planning Levy certificate (a levy certificate expires 90 days after the day on which it i issued by the State Revenue Office and then cannot be used). Failure to comply means the application is void

☑ Completed the relevant council planning permit checklist?

☑ Signed the declaration?

Lodgement

Lodge the completed and signed form, the fee and all documents with:

Maribyrnong City Council
PO Box 58
Footscray VIC 3011
Cnr Napier and Hyde Streets
Footscray VIC 3011

Contact information:

Phone: (03) 9688 0200
Email: email@maribyrnong.vic.gov.au
DX: 81112

Deliver application in person, by post or by electronic lodgement.

MORE INFORMATION

The Land

Planning permits relate to the use and development of the land. It is important that accurate, clear and concise details of the land are provided with the application.

How is land identified

Land is commonly identified by a street address, but sometimes this alone does not provide an accurate identification of the relevant parcel of land relating to an application. Make sure you also provide the formal land description - the lot and plan number or the crown, section and parish/township details (as applicable) for the subject site. This information is shown on the title.

See **Example 1.**

The Proposal

Why is it important to describe the proposal correctly?

The application requires a description of what you want to do with the land. You must describe how the land will be used or developed as a result of the proposal. It is important that you understand the reasons why you need a permit in order to suitably describe the proposal. By providing an accurate description of the proposal, you will avoid unnecessary delays associated with amending the description at a later date.

⚠ Planning schemes use specific definitions for different types of use and development. Contact the Council planning office at an early stage in preparing your application to ensure that you use the appropriate terminology and provide the required details.

How do planning schemes affect proposals?

A planning scheme sets out policies and requirements for the use, development and protection of land. There is a planning scheme for every municipality in Victoria. Development of land includes the construction of a building, carrying out works, subdividing land or buildings and displaying signs.

Proposals must comply with the planning scheme provisions in accordance with Clause 61.05 of the planning scheme. Provisions may relate to the State Planning Policy Framework, the Local Planning Policy Framework, zones, overlays, particular and general provisions. You can access the planning scheme by either contacting Council's planning department or by visiting Planning Schemes Online at planning-schemes.delwp.vic.gov.au

⚠ You can obtain a planning certificate to establish planning scheme details about your property. A planning certificate identifies the zones anoverlays that apply to the land, but it does not identify all of the provisions of the planning scheme that may be relevant to your application. Planning certificates for land in metropolitan areas and most rural areas can be obtained by visiting www.landata.vic.gov.au Contact your local Council to obtain a planning certificate in Central Gol fields, Corangamite, MacedonRanges and Greater Geelong. You can also use the free Planning Property Report to obtain the same information.

See **Example 2.**

Estimated cost of development

In most instances an application fee will be required. This fee must be paid when you lodge the application. The fee is set down by government regulations.

To help Council calculate the application fee, you must provide an accurate cost estimate of the proposed development. This cost does not include the costs of development that you could undertake without a permit or that are separate from the permit process. Development costs should be calculated at a normal industry rate for the type of construction you propose.

Council may ask you to justify your cost estimates. Costs are required solely to allow Council to calculate the permit application fee. Fees are exempt from GST.

⚠ Costs for different types of development can be obtained from specialist publications such as Cordell Housing: Building Cost Guide or Rawlinsons: Australian Construction Handbook

⚠ Contact the Council to determine the appropriate fee. Go to planning.vic.gov.au to view a summary of fees in the Planning and Environment (Fees) Regulations.

Metropolitan Planning Levy refer Division 5A of Part 4 of the Planning and Environment Act 1987 (the Act). A planning permit application under section 47 or 96A of the Act for a development of land in metropolitan Melbourne as defined in section 3 of the Act may be a leviable application. If the cost of the development exceeds the threshold of $1 million (adjusted annually by consumer price index) a levy certificatemust be obtained from the State Revenue Office after payment of thelevy. A valid levy certificate must be submitted to the responsible planningauthority (usually council) with a leviable planning permit application. Refer to the State Revenue Office website at www.sro.vic.gov.au for more information. A leviable application submitted without a levy certificate is void

Existing Conditions

How should land be described?

You need to describe, in general terms, the way the land is used now, including the activities, buildings, structures and works that exist (e.g. single dwelling, 24 dwellings in a three-storey building, medical centre with three practitioners and 8 car parking spaces, vacant building, vacant land, grazing land, bush block)

Please attach to your application a plan of the existing conditions of the land. Check with the local Council for the quantity, scale and level of detail required. It is also helpful to include photographs of the existing conditions.

See **Example 3.**

Title Information

What is an encumbrance?

An encumbrance is a formal obligation on the land, with the most common type being a mortgage. Other common examples of encumbrances include:

- **Restrictive Covenants:** A restrictive covenant is a written agreementbetween owners of land restricting the use or development of the landfor the benefit of others, (eg. a limit of one dwelling or limits on types obuilding materials to be used).
- **Section 173 Agreements:** A section 173 agreement is a contractbetween an owner of the land and the Council which sets outlimitations on the use or development of the land.
- **Easements:** An easement gives rights to other parties to use the landor provide for services or access on, under or above the surface of theland.
- **Building Envelopes:** A building envelope defines the developmenboundaries for the land.
- signed the declaration on the last page of the application form

Aside from mortgages, the above encumbrances can potentially limit or even prevent certain types of proposals.

What documents should I check to find encumbrances

Encumbrances are identified on the title (register search statement) under the header encumbrances, caveats and notices. The actual details of an encumbrance are usually provided in a separate document (instrument) associated with the title. Sometimes encumbrances are also marked on the title diagram or plan, such as easements or building envelopes.

What about caveats and notices?

A caveat is a record of a claim from a party to an interest in the land. Caveats are not normally relevant to planning applications as they typically relate to a purchaser, mortgagee or chargee claim, but can sometimes include claims to a covenant or easement on the land. These types of caveats may affect your proposal.

Other less common types of obligations may also be specified on title inthe form of notices. These may have an effect on your proposal, such as a notice that the building on the land is listed on the Heritage Register.

What happens if the proposal contravenes an encumbrance on title?

Encumbrances may affect or limit your proposal or prevent it from proceeding. Section 61(4) of the *Planning and Environment Act 1987* for example, prevents a Council from granting a permit if it would result in a breach of a registered restrictive covenant. If the proposal contravenes any encumbrance, contact the Council for advice on how to proceed.

Maribyrnong City Council Urban Planning Department
Cnr Hyde and Napier Streets, Footscray
Postal Address: PO Box 58, Footscray VIC 3011
T: 9688 0200 F: 9687 7793 e: planningapplications@maribyrnong.vic.gov.au

Maribyrnong CITY COUNCIL

AMENDMENT TO AN APPLICATION FOR PLANNING PERMIT
Request Form

Privacy Information

Any material submitted with this application, including plans and personal information, will be available for public viewing, including electronically, and copies may be made to interested parties for the purpose of enabling consideration and review as part of a planning process under the Planning and Environment Act 1987.

DETAILS OF APPLICATION TO BE AMENDED

Application Number:	**Address of Land :**
TP80/2025(1)	84 Hopkins Street Footscray 86-88 Hopkins Street Footscray

Under what section of the Planning and Environment Act 1987, is the amendment being sought:

☒ Section 50 – Amendment to the application prior to notice

☐ Section 57A – Amendment to the application after notice *(Note – A fee of 40% of the original application fee is required with this request)*

THE APPLICANT

Name: Nigel Van Cuylenburg	**Organisation:** Obsidian OOH PTY LTD
Address: Suite 6, Level 2, 64 Croydon Street Cronulla NSW 2230	
Contact Phone Number: (03) 9334 2060	
Email: mb@townplanners.com.au	

Are you the applicant of the original planning permit application? ☒ **Yes** ☐ **No**
(*Note: Only the applicant of the original planning permit application may ask Council to amend the application)*

DETAILS OF THE PROPOSED CHANGES

Is there a change to the description of the land?	☐ **Yes** ☒ **No**
Is there a change to the plans and/or other documents submitted with the application?	☐ **Yes** ☒ **No**
Is there a change to the use and/or development of the land?	☒ **Yes** ☐ **No**

List in detail the proposed changes (This can be listed on a separate page)

Amendment to the application form to change the application for planning permit to:
Display of a single sided Internally illuminated major promotional electronic sign

DECLARATION TO BE COMPLETED FOR APPLICATIONS

I declare that all information I have given is true	**Applicant Signature:** Mb …… **Date:** 04/06/2025 ……

HOW TO REQUEST FOR AMENDMENT TO AN APPLICATION FOR PLANNING PERMIT

ALL OF THE INFORMATION OUTLINED BELOW MUST ACCOMPANY THIS APPLICATION.

ALL REQUESTS SUBMIT:

1. Application form
2. A written statement detailing all alterations/amendment proposed
3. Application fee if required

If you are amending the description of the land, please submit:

1. Provide the street number, street name, town, postcode, the lot number and lodged plan number or other title particulars
2. If you attach a plan, include:
    - The boundaries of the land and their measures;
    - The street it faces, the nearest intersecting street, the distance from this street and the name of all streets on the plan;
    - Reasons for the amendment

If you are amending the use and/or development of the land, please submit:

1. Details of the changes to the use and development of the land;
2. Reasons for wishing to amend the use and/or development;

If you are amending the plans, please submit:

1. An electronic copy of the plans (coloured to highlight the proposed amendments):
    - Site plan of the existing site and all amendments that are proposed;
    - Floor plans showing existing conditions, and all proposed amendments;
    - Elevation plans of the existing proposal, and all proposed amendments.

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 08222 FOLIO 131

Security no : 124123636364C
Produced 11/04/2025 01:24 PM

LAND DESCRIPTION

Lot 1 on Plan of Subdivision 037304.
PARENT TITLE Volume 06257 Folio 213
Created by instrument A647170 24/11/1958

REGISTERED PROPRIETOR

Estate Fee Simple
Joint Proprietors
CHA TRI CHU
GIA HIEP CHU both of 84 HOPKINS ST FOOTSCRAY 3011
V719045X 29/10/1998

ENCUMBRANCES, CAVEATS AND NOTICES

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE LP037304 FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

Street Address: 84 HOPKINS STREET FOOTSCRAY VIC 3011

DOCUMENT END

Imaged Document Cover Sheet

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Document Type	**Plan**
Document Identification	**LP037304**
Number of Pages (excluding this cover sheet)	**2**
Document Assembled	**11/04/2025 13:24**

LP 37304

LP 37304
EDITION 1

37304

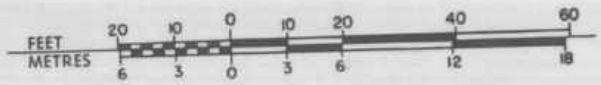
LITTLE & BROSNAN
LICENSED SURVEYORS & ENGINEERS
430 LITTLE COLLINS STREET
TELEPHONE M U 5111

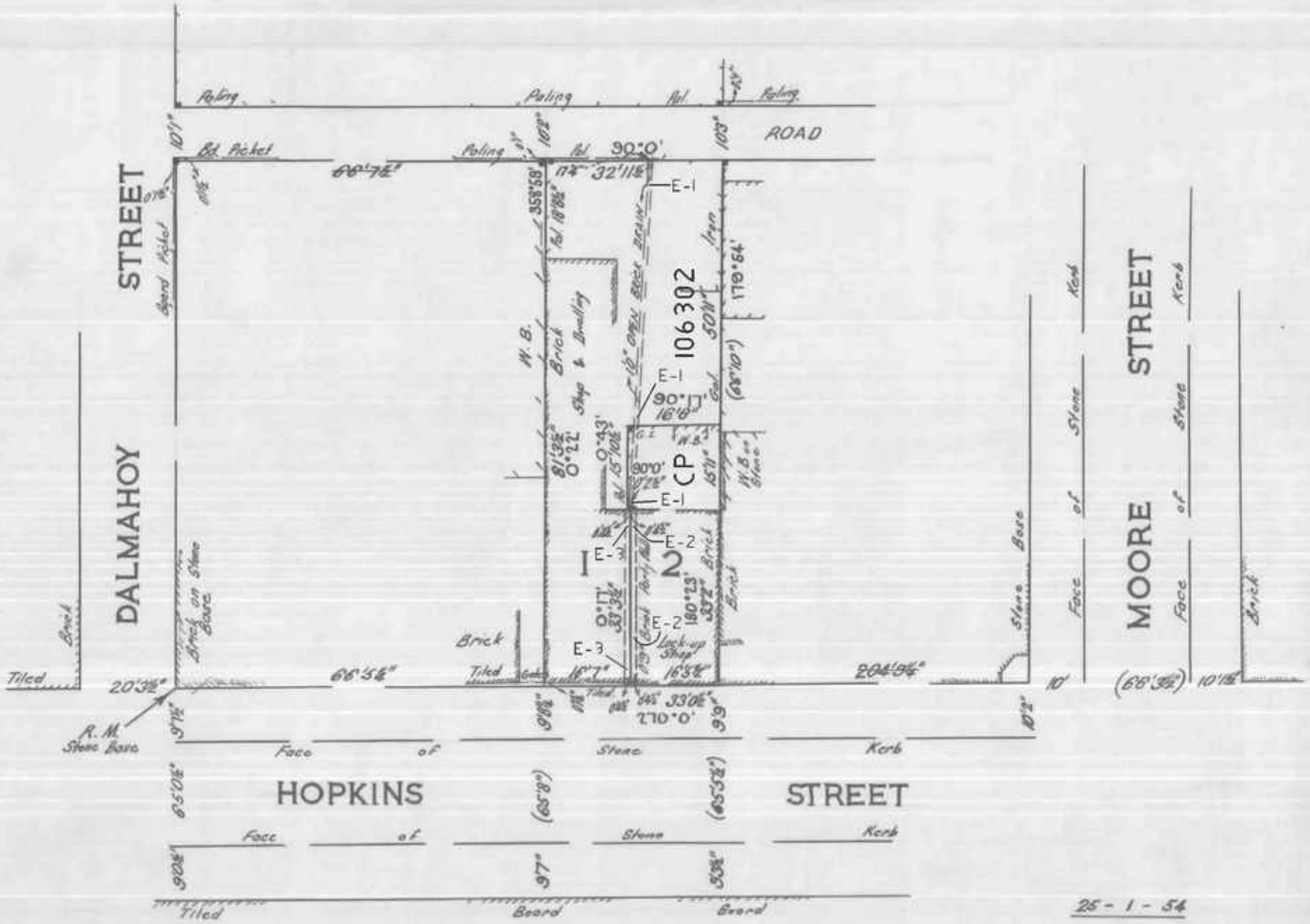
Ref. 54/39

PLAN OF SUBDIVISION

PART OF CROWN ALLOTMENT 9 SECTION 15
PARISH OF CUT PAW PAW
COUNTY OF BOURKE

SCALE 20 FEET TO AN INCH





25 - 1 - 54

COLOUR CODE
E-1= BLUE
E-2= GREEN
E-3= YELLOW

61
486

LP 37304

LP 37304

FOR APPROPRIATIONS ETC.
SEE BACK HEREOF

37304

CERTIFICATE OF TITLE V 6257 F 213
V F
V F

LODGED BY JAMES HALL & SONS
DEALING No 5527716 DATE 5-3-54
DECLARED BY B·F·ROSS ON 25-1-54
COUNCIL
DATE OF CONSENT CONSENT WITH E.D.'S REPORT. APPN 14303/103.
PLAN MAY BE LODGED 31-5-57
PLAN APPROVED DATE

FOR TITLE REFERENCES SEE PARCELS INDEX

THE LAND COLOURED YELLOW & GREEN
APPROPRIATED OR SET APART
FOR EASEMENTS OF PARTY WALL

THE LAND COLOURED BLUE
APPROPRIATED OR SET APART
FOR EASEMENTS OF DRAINAGE.

37304

THIS IS THE BACK OF LP 37304

POSTED: R·G
COLOURED: B·E
CHECKED: RG.

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 09175 FOLIO 989

Security no : 124123636707D
Produced 11/04/2025 01:32 PM

LAND DESCRIPTION

Land in Plan of Consolidation 104732.
PARENT TITLES :
Volume 00941 Folio 026 Volume 08573 Folio 764
Created by instrument CP104732 08/12/1976

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
AMERICAN BILLIARDS PTY LTD of 47 MCINTYRE RD SUNSHINE NORTH 3025
U293989A 04/07/1996

ENCUMBRANCES, CAVEATS AND NOTICES

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE CP104732 FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

DOCUMENT END

Imaged Document Cover Sheet

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Document Type	**Plan**
Document Identification	**CP104732**
Number of Pages (excluding this cover sheet)	**2**
Document Assembled	**11/04/2025 13:32**

PLAN OF CONSOLIDATION PART OF CROWN ALLOTMENT 9 SECTION 15 PARISH OF CUT PAW PAW COUNTY OF BOURKE 5 2·5 0 5 10 15 Lengths are in metres	**CP 104732** EDITION 2

ACCEPT
$15
2Cs/T
20/2/76.

ACCEPT FOR
RELODGEMENT
FEE $7.50.
C/T IN
G 177506
7/9/76
APPROVED
3.12.76 8.55

SEE SHEET 2 FOR DIAGRAM

VOL. 9175 FOL. 989

CONSENT OF COUNCIL	SURVEYORS CERTIFICATION
This plan is hereby sealed pursuant to Section 569 AB of the Local Government Act, 1958. Mayor Councillor Town Clerk Date 28 NOV 1975	I certify that this plan has been made by me or under my immediate supervision and accords with title. Licensed Surveyor Date 15-8-1975

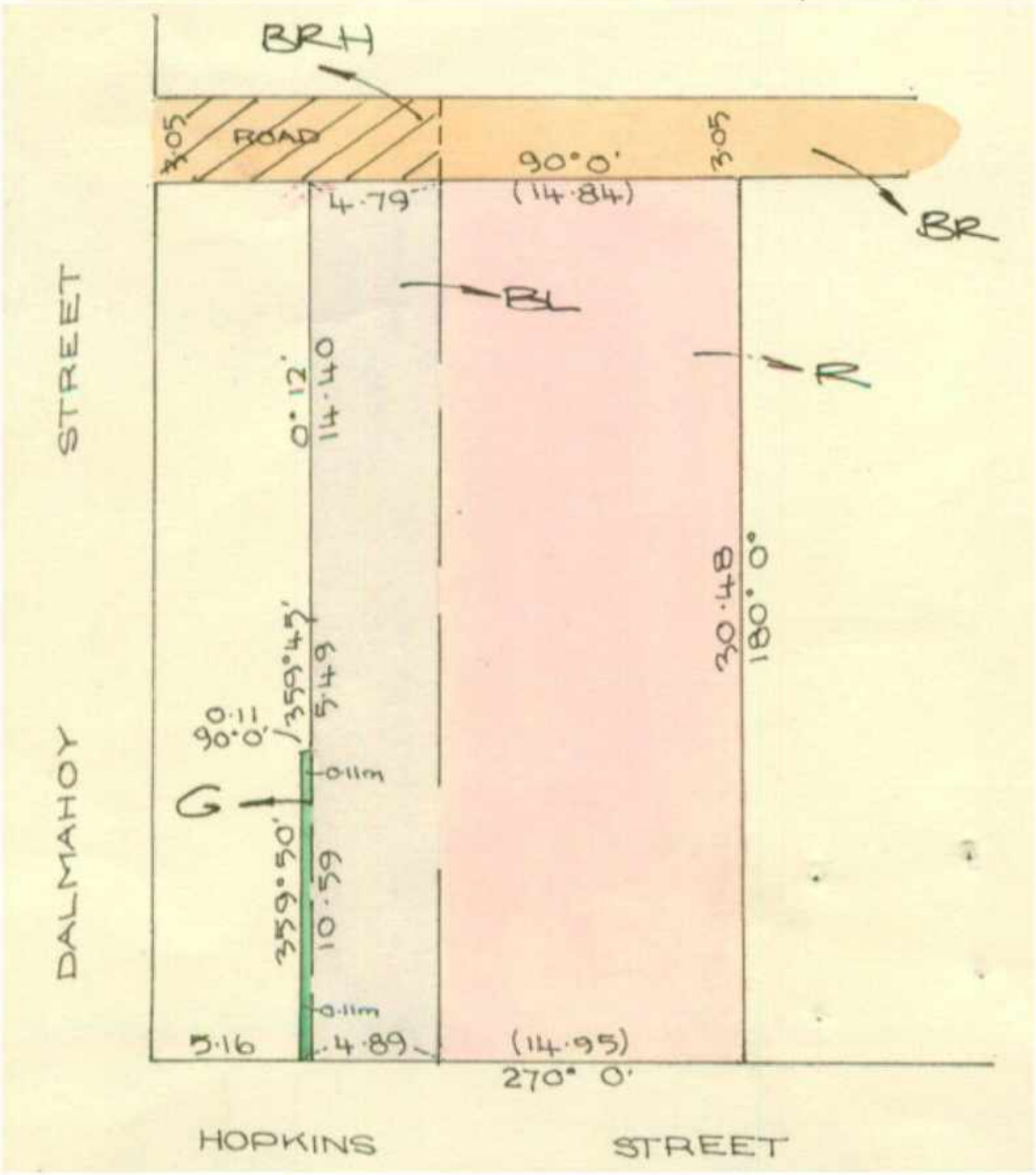
REF. 10833

Richard Rogalsky Pty. Ltd.
107 Buckley St., Essendon 3040
37-2257

Council Ref 575/55

LIST OF MODIFICATIONS				
LAND	MODIFICATION	DEALING No.	A.R.T	EDN. No.
	APPURTENANT RIGHTS ENHANCED	———————		2

As to the land coloured red Together-with a right of carriage way over the roads coloured brown and brown-hatched on the map As to the land coloured blue and green Together with a right of carriage way over the road coloured brown-hatched on the map - - - - - -



COLOUR CODE
BL = BLUE BR = BROWN BRH = BROWN
HATCHED R = RED G = GREEN

As to the land coloured green - - - -
THE PARTY WALL EASEMENTS (if any) - - existing over the same by virtue of - Section 98 of the Transfer of Land -- Act see Plan of Subdivision No.32018-

LENGTHS ARE IN METRES	Metres = 0.3048 x Feet Metres = 0.201168 x Links		Sheet 2 of 2 Sheets

TOWN PLANNERS

CLEMENT–STONE SINCE 1989

APPLICATION FOR PLANNING PERMIT: DISPLAY OF A SINGLE-SIDED INTERNALLY ILLUMINATED DIGITAL ADVERTISING SIGN

AT: 86-88 HOPKINS STREET FOOTSCRAY VIC 3011

PREPARED ON BEHALF OF: NIGEL VAN CUYLENBURG

BY: MATTHEW BUTLER
SENIOR URBAN AND REGIONAL PLANNER

MARCH 2025

www.townplanners.com.au

info@townplanners.com.au
2 Hercules Street, Tullamarine VIC 3043
03 9334-2060
ABN 42007329633
www.townplanners.com.au

Contents:

Document Control:

Version 1 – Submission for lodgement, March 2025.

Project Team:

Town Planning – Clement-Stone Town Planners

Lighting Impact Assessment – Electrolight Australia

Traffic Engineering Assessment – Traffix Group

INTRODUCTION

Clement-Stone Town Planners act on behalf of Nigel Van Cuylenburg (of Obsidian OOH Pty Ltd) regarding the proposed development at 86-88 Hopkins Street Footscray.

We have been engaged to assess the proposed planning permit application for a single-sided digital display advertising sign and provide an assessment of the proposal against the relevant State and Local Planning policy requirements.

This report will provide recommendations following our assessment regarding the performance of the development against the relevant Planning Scheme requirements.

TITLE RESTRICTIONS

There are no covenants, caveats, section 173 agreements or other restrictions on the land title.

SUBJECT SITE AND LOCALITY

The subject site is located on the northern side of Hopkins Street, near the intersection of Hopkins Street and Dalmahoy Street.

The lot is rectangular in shape and interfaces with Hopkins Street. It is currently operating as a commercial building.

The site is regular in shape with a length of 30.54 metres (east and west), a northern width of 14.84 metres, and a southern width of 15.01 metres. the total area of the lot is approximately 456 square metres.

The site is zoned Activity Centre Zone (ACZ1) under the Maribyrnong Planning Scheme. The subject site is also within the Development Contributions Plan Overlay (DCPO2) and Parking Overlay (PO1) of the Maribyrnong Planning Scheme.

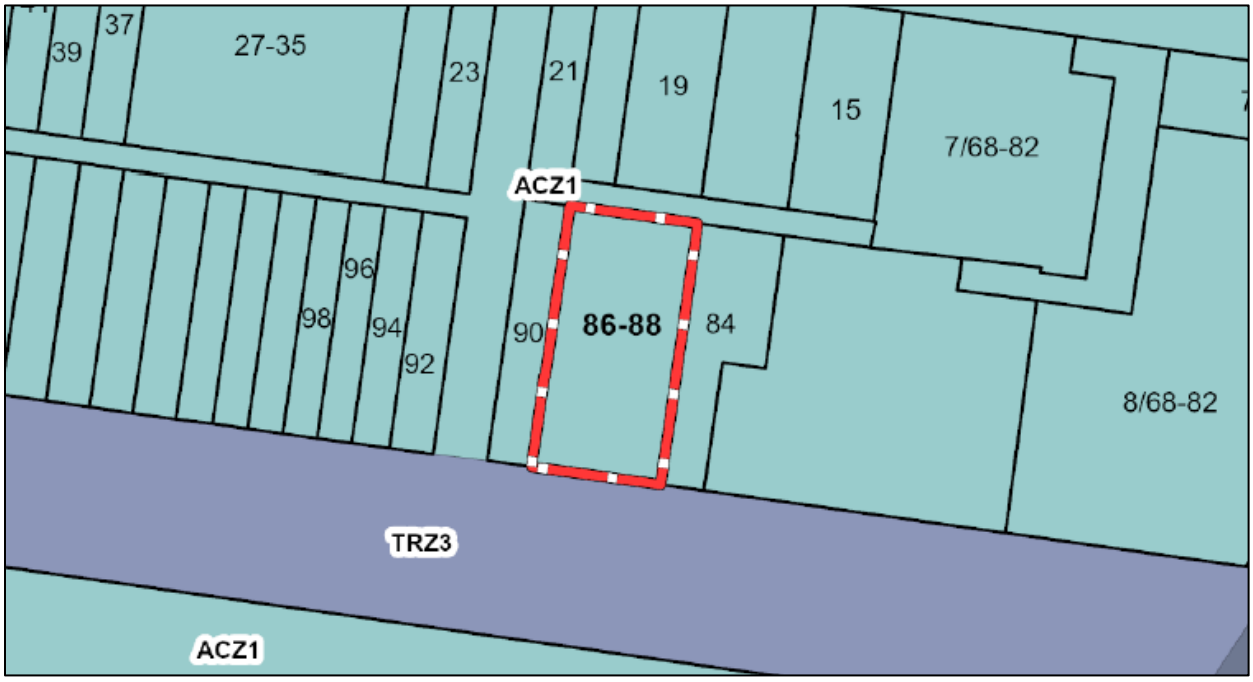


Figure 1 - Subject site and ACZ1 Zone Map (VicPlan)

The land is currently occupied by a three-storey building, with Thanh Phat Supermarket located on the ground floor. It is currently accessed by pedestrians via the footpath located along Hopkins Street, with no vehicle crossover.

There will be no changes made to the building with this proposal, but rather an application for a Digital (LED) Billboard sign to replace the existing billboard.

The topography of the land is relatively flat.

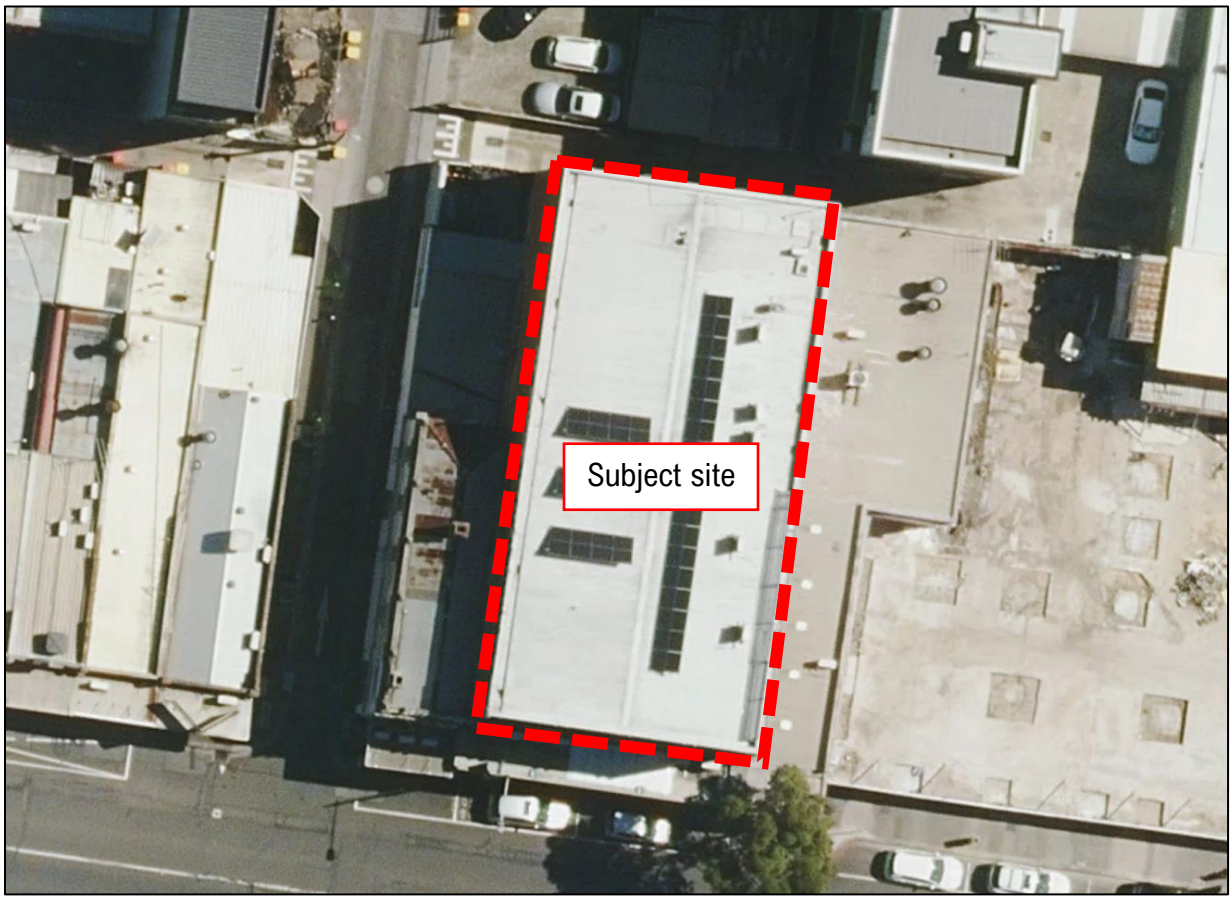


Figure 2 - Aerial view of the subject site (Landchecker, December 2024)

Figure 3 - Street view of the subject site

Directly north of the subject site is a laneway connecting to the commercial strip along Byron Street consisting of D&K Grocery, Lilac and the Cat Florist, Transferring Smiles Dentist, and a residential apartment complex.

To the south of the subject site is Footscray Market, and other commercial buildings. There is a rooftop carpark located on the top floor of Footscray Market.

To the east of the subject site are restaurants including Okami, and a Tobacco & Shisha Market. Located on the intersection of Hopkins Street and Moore Street is a car park for these commercial sites.

To the west of the subject site are more commercial buildings mainly consisting of restaurants.

THE PROPOSED DEVELOPMENT

The proposed development will involve the development of a single sided digital display advertising sign on the eastern wall of the building.

The proposal will demolish the existing signage measuring 12.66 metres in length, and replace it with a digital sign measuring 1.03 m (depth) x 12.8 m (length) x 4.1 m (height) in the same location. The primary elevation is shown below.

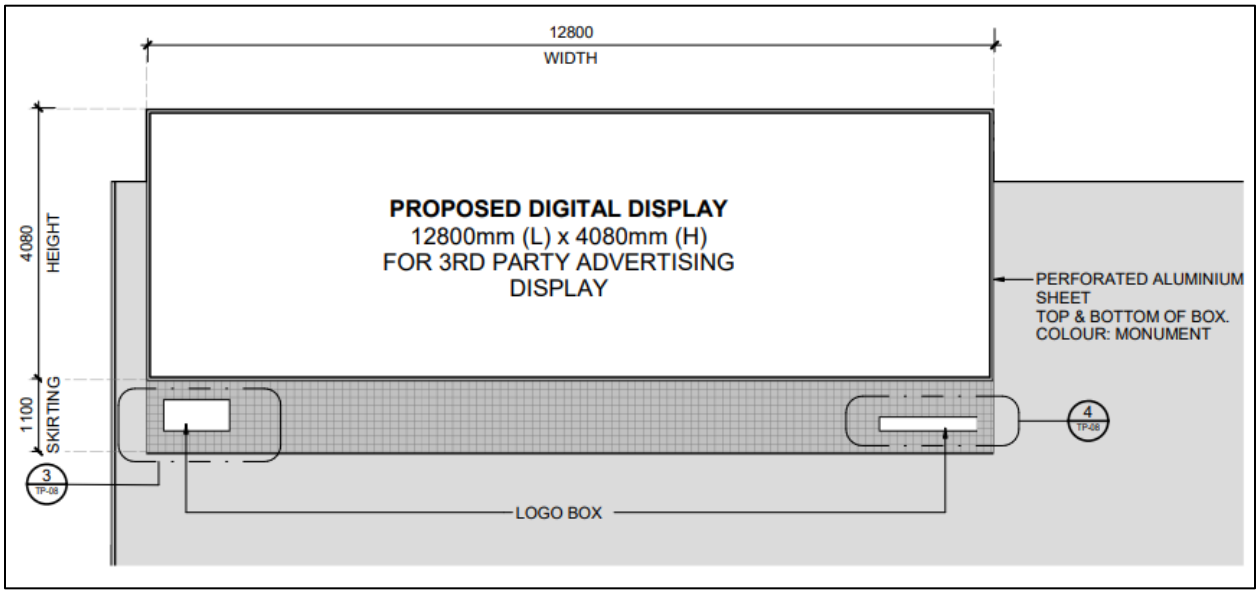


Figure 4 – Extract of plans - Primary elevation (sheet TP-08)

The proposed sign will be 9.33 metres above the ground floor, implementing a slight reduction from the existing signage which is located 9.35 metres above the ground floor.

The materials of the proposed sign, and renders of the sign are depicted by the figures below:

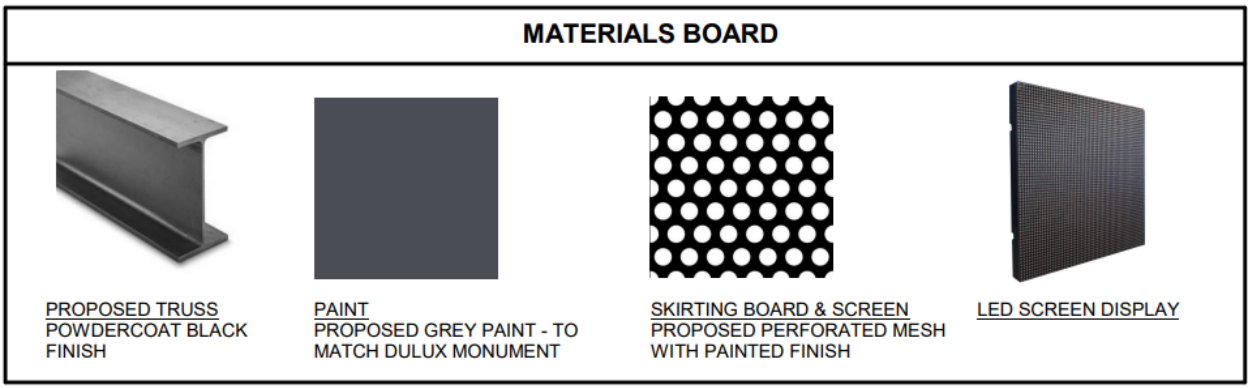


Figure 5 - Materials Board of the proposed signage

Figure 6 - Street view of the subject site, with proposed signage shown

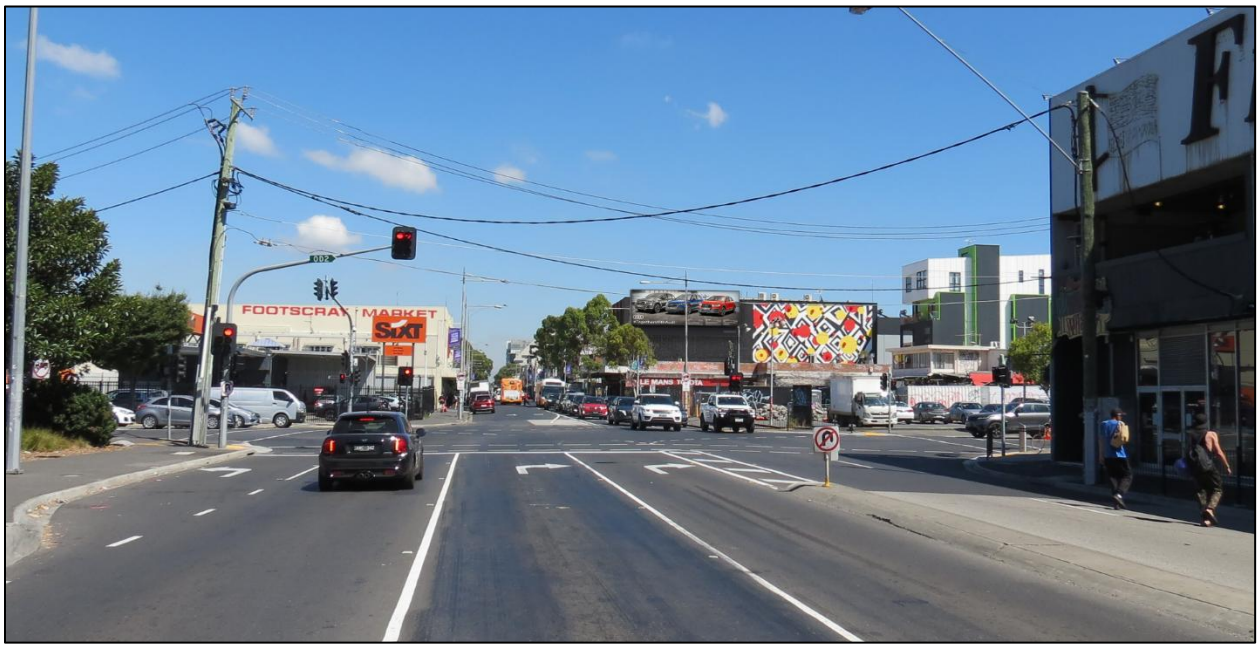


Figure 7 – View of the site and proposed signage as approaching from the east

PLANNING PERMIT REQUIREMENT

Pursuant to **Clause 37.08-5** of the **Activity Centre Zone**, a permit is required to construct a building or construct or carry out works. Under **Subclause 9.0 Clause 37.08 Activity Centre Zone Schedule 1**, the site is recognised as a Category 1 – Minimum limitation.

Signage requirements are detailed at Clause 52.05 – Signs. A permit is required under **Clause 52.05-11 Category 1 – Commercial Areas** for signs for an internally illuminated sign that has a display area of more than 1.5 square metres.

Pursuant to **Clause 45.09-3**, no permit is required under the **Parking Overlay** for the construction of a sign.

Pursuant to **Subclause 4.0** within Schedule 2 to **Clause 45.06 Development Contributions Overlay**, no permit is required under the Development Contributions Overlay, and the application is exempt from contribution requirements as no additional floor area is being added to the existing retail space.

As assessed against the relevant provisions, a planning permit is required for:

'DISPLAY OF A SINGLE-SIDED INTERNALLY ILLUMINATED DIGITAL ADVERTISING SIGN'

In deciding an application, the Responsible Authority must consider the following planning policy frameworks and incorporated documentation as they are relevant within the Maribyrnong Planning Scheme:

Zone

- **Clause 37.08** — **Activity Centre Zone**
  - 37.08 — Schedule 1 to the Activity Centre Zone

Particular Provisions

- **Clause 52.05** — **Signs**

General Provisions

- **Clause 65** — **Decision Guidelines**

ASSESSMENT

ZONE

Clause 37.08 Activity Centre Zone (ACZ1)

As indicated in **Clause 37.08-1**, this site is located within the Footscray Framework Plan, outlined in detail in Schedule 1 to the Zone.

Pursuant to **Clause 37.08-10**, signs within this Zone are classified as Category 1 – Minimum limitation.

The proposal complies with the Decision Guidelines of **Clause 37.08-9** as follows:

- The proposal is in line with the Footscray Framework Plan.
- The appearance of the proposal is in line with the existing character of the area.
- The proposed use is compatible with adjoining and nearby land uses.

SCHEDULE 1 TO CLAUSE 37.08 ACTIVITY CENTRE ZONE

Schedule 1 to the Clause 37.08 identifies this site to be within Precinct 1C – Central of the Footscray Framework Plan.

Section 5.1 outlines the objectives of Precinct 1C. The proposal supports these objectives as per below:

- The proposed sign contributes to a high-quality public realm with good-quality urban design.
- The proposal will upgrade the pedestrian experience when viewed along key pedestrian routes.

The proposed development supports **Schedule 1 Section 9.0** as follows:

- The proposal does not dominate the streetscape of increase visual clutter.
- The proposal respects the scale, architecture, and character of the building.

PARTICULAR PROVISIONS

Clause 52.05 Signs

The purpose of Clause 52.05 is to:

- *To ensure signs are compatible with the amenity and visual appearance of an area, including the existing or desired future character.*
- *To ensure signs do not contribute to excessive visual clutter or visual disorder.*
- *To ensure that signs do not cause loss of amenity or adversely affect the natural or built environment or the safety, appearance or efficiency of a road.*

A permit is required **under Clause 52.05-11 Category 1 – Commercial Areas** for signs for an internally illuminated sign that has a display area of more than 1.5 square metres.

The proposal consists of one digital display to be located on the top left of the upper floor of the eastern wall of the building, with a total illuminated area of approximately 52 square metres.

Based on the scale of this proposed sign, it should be considered to be a major promotion sign within **Clause 52.05.**

A permit granted for a major promotion sign must include conditions to ensure the sign is consistent with the purpose of **Clause 52.05**, and specify an appropriate expiry date.

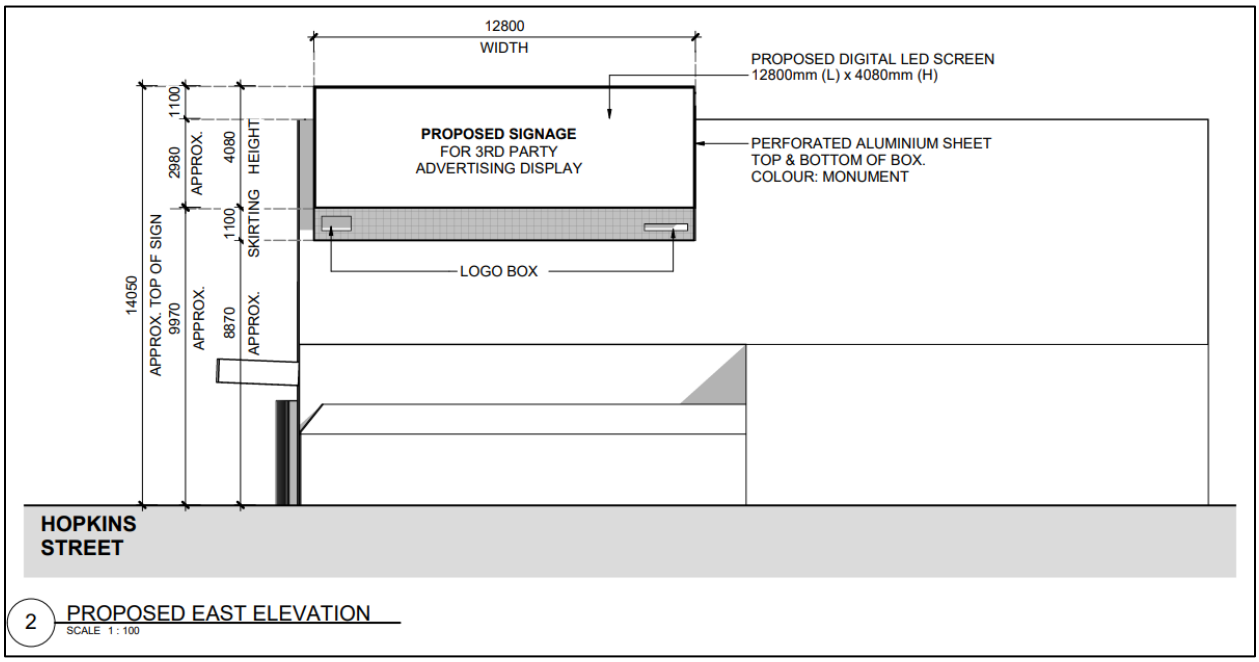


Figure 8 - Proposed east elevation

The proposal complies with the Decision Guidelines of **Clause 52.05-8** as follows:

- There will be no unreasonable impact on the character of the area, views, or relationship to the landscape.
- The illuminated sign will adequately integrate with the building without any negative impacts.

- The sign is in an appropriate commercial location, and complements the character of the area.

GENERAL PROVISIONS

The proposal complies with the Decision Guidelines of **Clause 65** as follows:

- The State Planning Policy Framework and Local Planning Policy Framework, including MSS and local policies have been complied with.
- The Zone, Overlay, or provision objectives have been complied with and matters required to be considered have been appropriately addressed.
- There will be no unreasonable impact upon the amenity of the area.
- There will be no unreasonable impact on the current and future operation of the transport system.

CONCLUSION

In the overall analysis, the proposed development is worthy of support for the following reasons:

- The proposed development is in keeping with the suggested character of the area.
- All relevant provisions and design requirements have been considered and met, and the proposal satisfies Local and State policy outcomes.
- The proposed signage is appropriate for the proposal based on its location and intended use.
- The proposed signage is appropriate for the Activity Centre Zone and is compatible with adjoining and nearby land uses.
- The proposal will not result in unreasonable off-site amenity impacts – including traffic management, and general operational considerations.

We believe the proposal is reflective of the density, built form and siting objectives outlined within the Maribyrnong Planning Scheme and subsequently recommend the Council support and approve the planning permit application.

Yours faithfully,

Matthew Butler | BUrb&RegPln (Hons), MVPELA
Clement-Stone Town Planners | Senior Urban & Regional Planner

Traffix Group

Traffic Engineering Assessment

Proposed Electronic Sign

86-88 Hopkins Street, Footscray

Prepared for
Obsidian OOH Pty Ltd

February 2025

G36282R-01A

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Issue No.	Type	Date	Prepared By	Approved By
A	Draft	10/02/2025	R. Bandara	L. Furness

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1. Introduction

Traffix Group has been engaged by Obsidian OOH Pty Ltd to prepare a traffic engineering report for a proposed electronic sign at 86-88 Hopkins Street, Footscray.

This report provides a detailed traffic engineering assessment of the traffic safety and operation issues associated with the proposed electronic sign.

2. Proposal

The proposal is to erect a single-sided electronic advertising sign (the sign) at 86-88 Hopkins Street, Footscray. It will be replacing an existing static advertising sign of similar dimensions at the same location.

The sign will be situated on the façade of the existing three-storey building on the site. The sign is single-sided and will primarily be visible to traffic travelling westbound along Hopkins Street.

The proposed sign has dimensions of 12.80m wide by 4.08m high. The maximum height of the sign is 13.43m above ground and the underside of the sign is 9.35m above ground.

The electronic sign will operate with static advertising. Each image on the sign will have a dwell time of 30 seconds, with an instantaneous transition time. The application does not propose any animated images (i.e. moving images).

Plans of the proposed sign location included within the application plans are provided at Figure 1 and Figure 2.

An in-vehicle view of the existing conditions at the site when travelling westbound along Hopkins Street, as taken during our site inspection is presented at Figure 3.

A copy of the application plans prepared by the applicant detailing the proposed sign are attached at Appendix A.

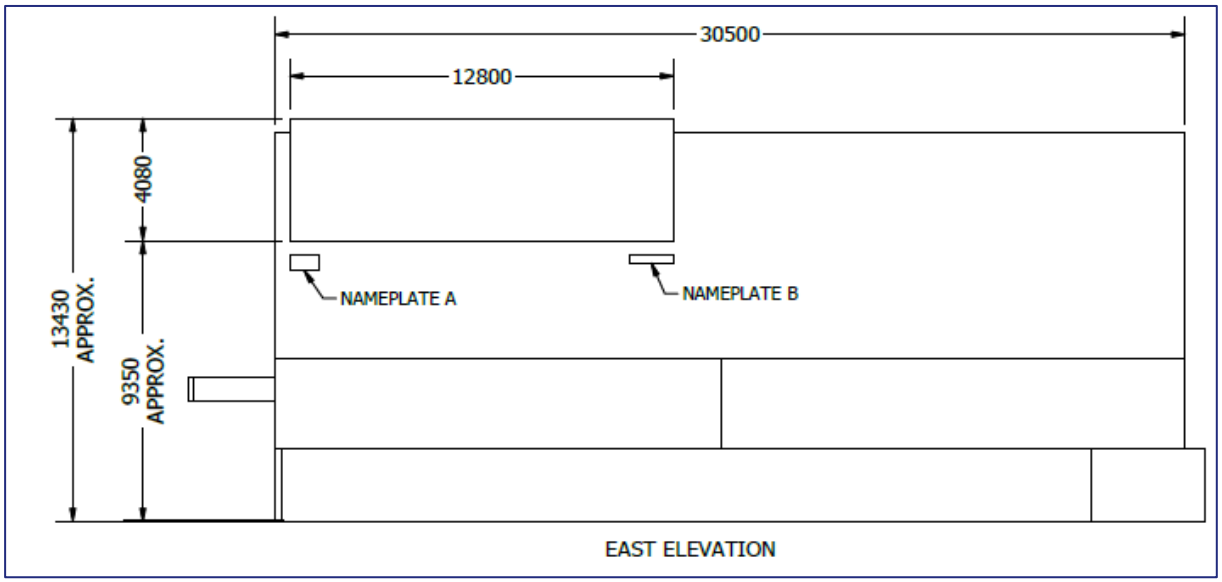


Figure 1: Proposed sign

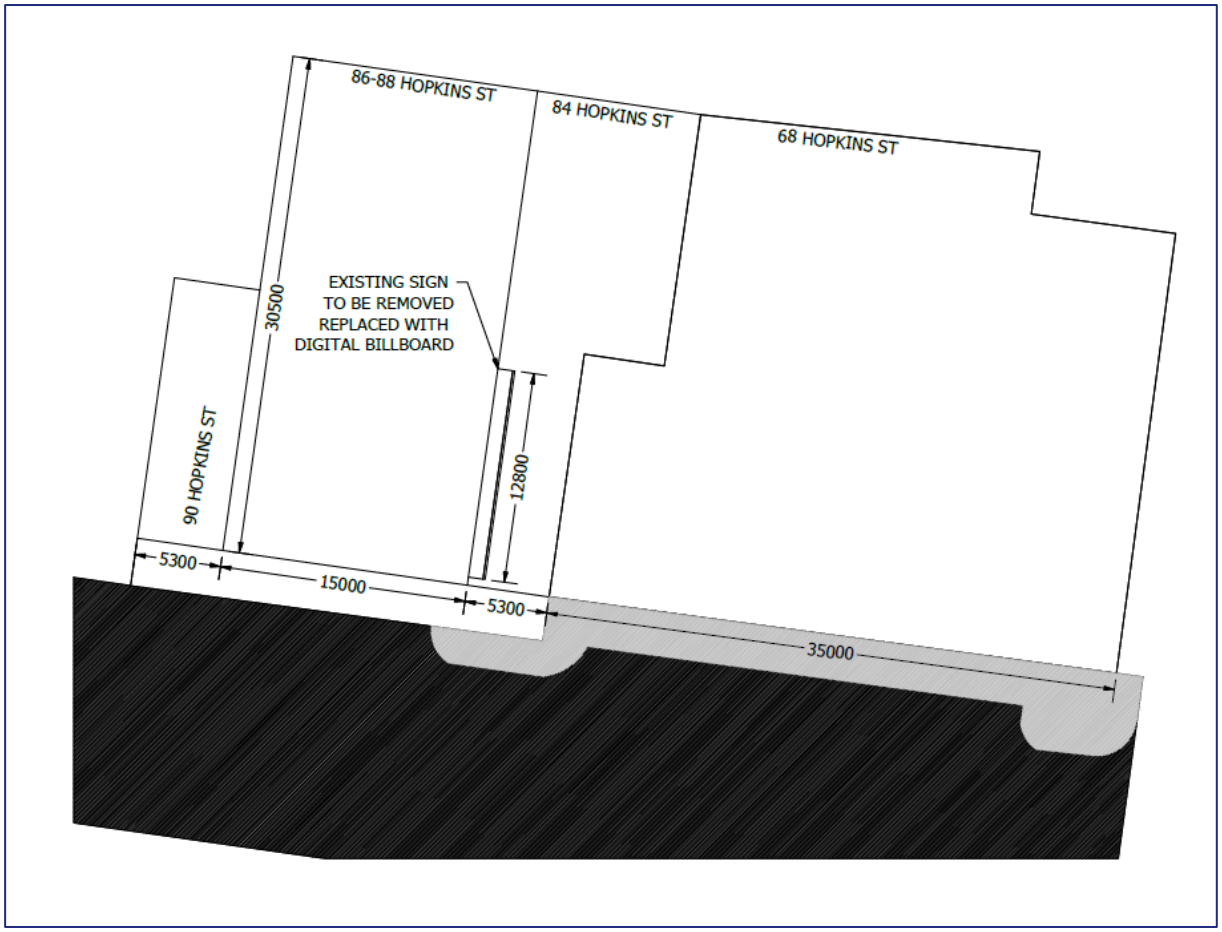


Figure 2: Site plan

Figure 3: In-vehicle view of the sign location – westbound on Hopkins Street

3. Existing Conditions

3.1. Subject Site

The sign would be located on the façade of the existing building at 86-88 Hopkins Street, Footscray, along the northern side of Hopkins Street.

The sign is single-sided and would primarily be visible to traffic travelling westbound along Hopkins Street.

A locality plan is presented at Figure 4.

Land use in the immediate vicinity of the site is a mixture of commercial, industrial and residential. A land use zoning map is provided at Figure 5.

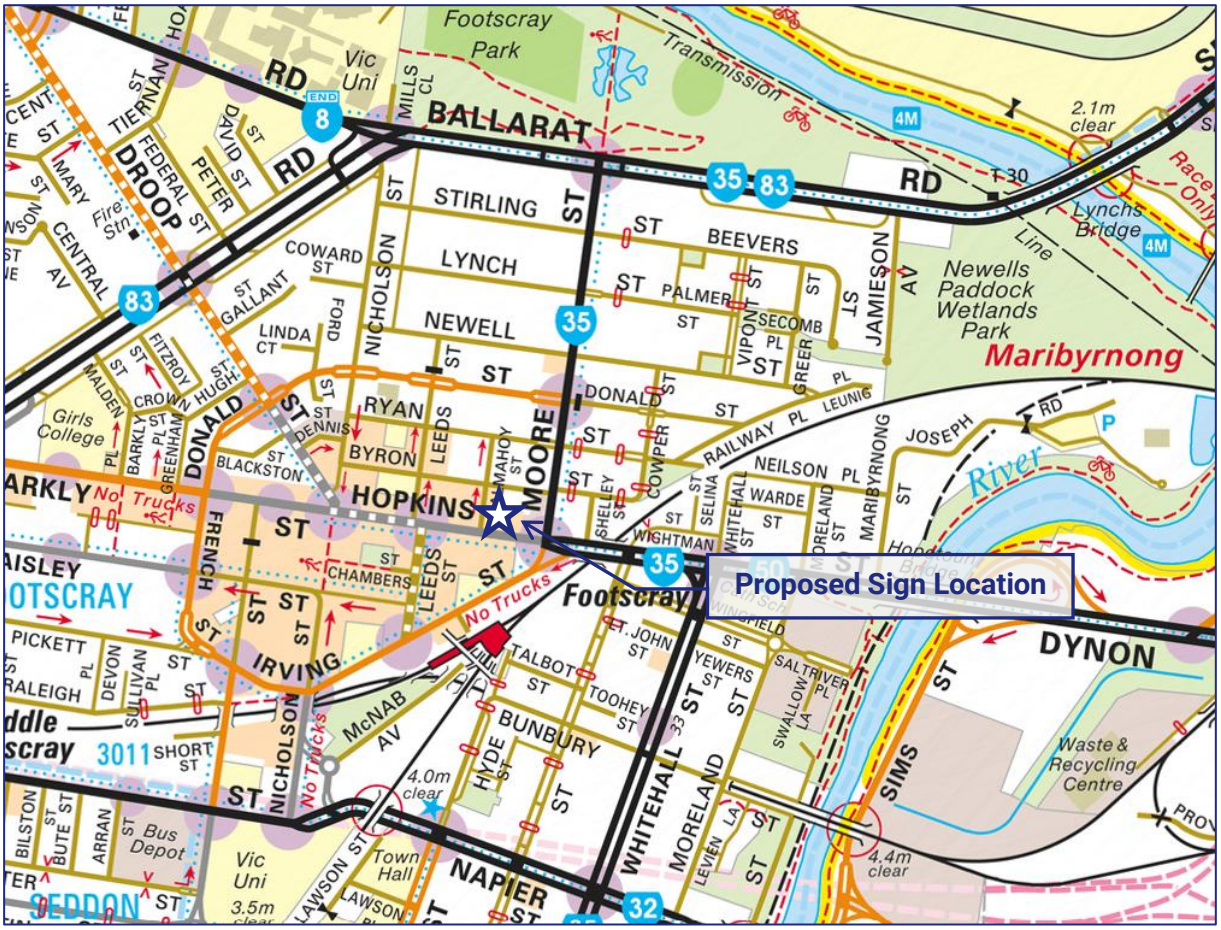


Figure 4: Locality plan (Source: Melway)

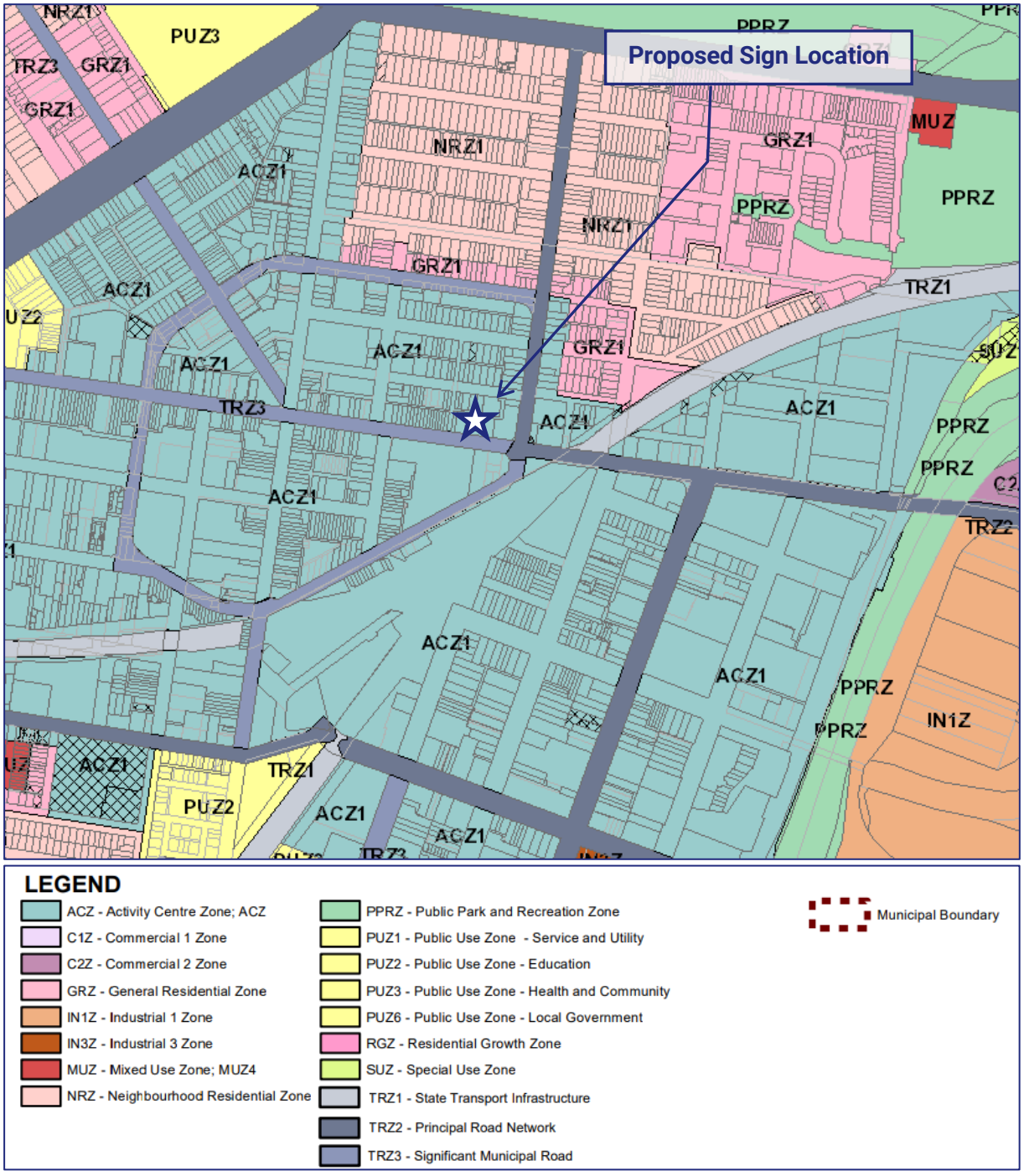


Figure 5: Land use zoning map (Source: Vicplan)

3.2. Road Network

Hopkins Street is classified as an 'Arterial Road' managed by Department of Transport and Planning (DTP), aligned in an east-west direction between Moore Street in the west and Hopetoun Bridge in the east. Hopkins Street is designated as a Transport Zone 2 under the Planning Scheme to the east of Moore Street and a local council managed 'Collector Road' to the west of Moore Street[1]. Hopkins Street continues east past Hopetoun Bridge as Dynon Road.

East of Moore Street, Hopkins Street provides two through traffic lanes in each direction with no kerbside parking provided on both sides of the carriageway.

The intersection of Hopkins Street, Moore Street and Irving Street is signalised. The Hopkins Street westbound approach provides one designated left turn lane, one designated through lane and two designated right turn lanes.

In mid-2023, this intersection was modified to remove the pedestrian island on the north-east corner of the intersection, re-align the pedestrian crossings on the east and north side and reshape the stop lines on these approaches.

West of Moore Street, Hopkins Street provides one through traffic lane in each direction with kerbside parking on both sides of the carriageway.

On-street parking in Hopkins Street is typically restricted to short-term (1P or 2P) parking.

A posted speed limit of 40km/h applies to Hopkins Street in the vicinity of the sign.

An aerial photograph illustrating the key road signage and available traffic lanes for westbound traffic approaching the sign is provided at Figure 6.

[1] As per the Maribyrnong City Council Public Road Register – Feb 2024.

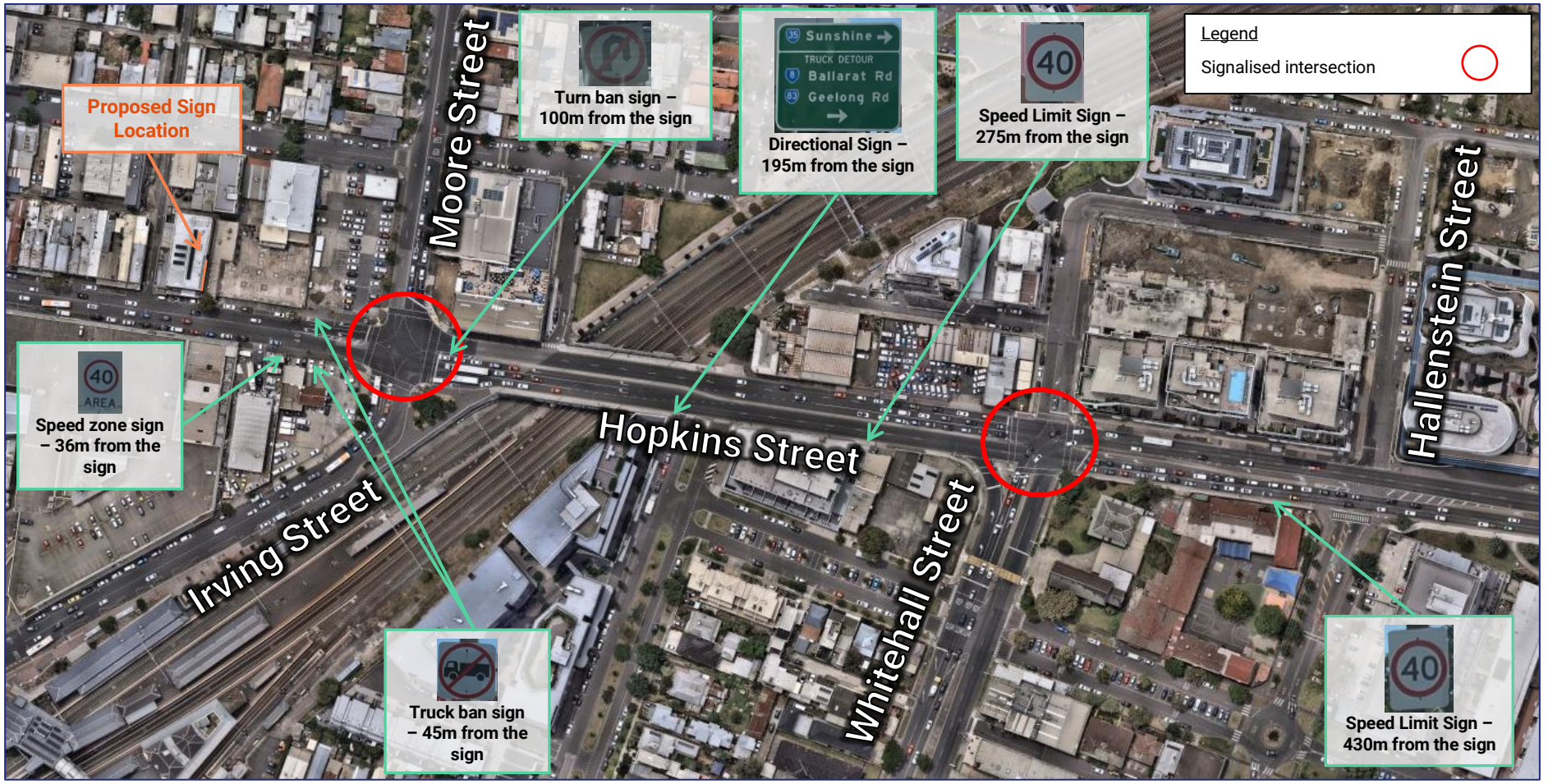


Figure 6: Aerial photograph of road network, westbound approach (Source: Nearmap)

3.3. Road Safety Review

A review of the State Road Accident Records (CrashStats) has been undertaken in the vicinity of the site for the past 5 years of available data (1st June, 2019 and 31st May, 2024) [2]. The crash investigation area is shown in the figure below.

The review does not include crashes where the sign would not be visible to drivers (such as rear end crashes between westbound vehicles to the west of the sign).

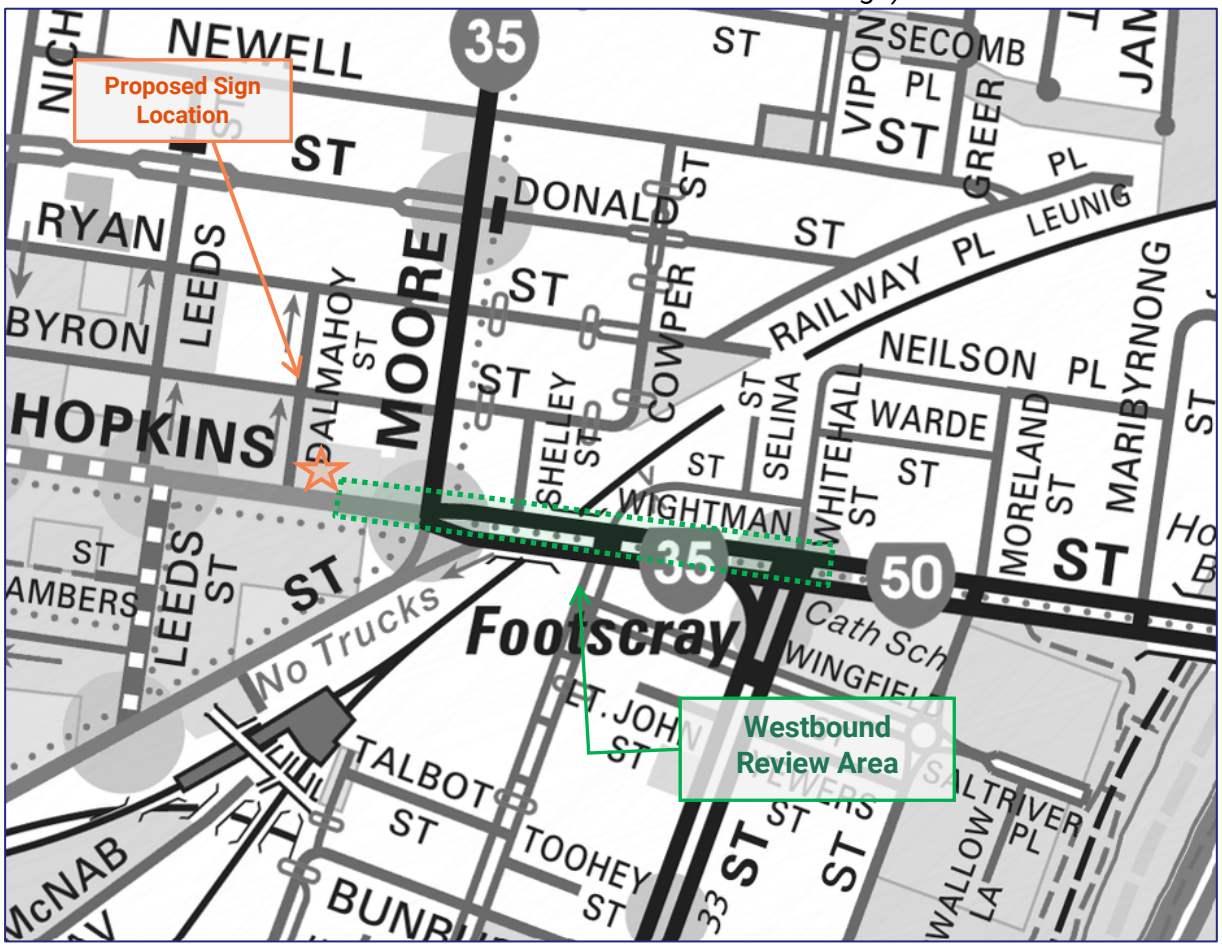


Figure 7: Road safety review area (Source: Melway)

A total of 6 crashes were recorded within the review area. The casualty crashes occurred at various points along Hopkins Street. Most of the crashes are of different DCA types and do not exhibit a discernible crash pattern at this location. Two of the crashes are rear end collisions but have occurred at different locations along Hopkins Street.

Overall, we are satisfied that the approach to the proposed electronic billboard is not inherently unsafe.

[2] Casualty crash data is contained in the VicRoads' CrashStats Internet Database and includes all reported casualty crashes (i.e. injury crashes), which are classified into Fatal Injury, Serious Injury and Other Injury (i.e. minor injury) crashes. Property damage only or non-injury crashes are not included in the database

4. Traffic Engineering Assessment

4.1. Road Safety Research

We have undertaken an extensive literature review to determine what road safety research is available regarding static and electronic billboards, including roadside signage and advertising, the relationship between advertising signs and accident statistics, the relationship between driver performance and billboards and billboard design recommendations.

The key conclusions from the current road safety research into static, electronic billboards are:

- Drivers have a 30 to 50% spare attention capacity, which they devote to objects not related to the driving task, including advertising or billboard signs. This means that during normal driving, most drivers have time to look at objects not related to the driving task (scenery, buildings, people, cars, etc.). Research also indicates that when a driver is overloaded with information, they shed part of the input demand to focus on what is important. For instance, if a driver is in busy traffic, they automatically pay more attention to the road environment at the expense of other tasks (looking at scenery, talking to passengers, listening to music, etc.).
- Traffic signs are not conspicuous to drivers until they are within approximately 10 degrees horizontally and 5 degrees vertically from the driver's line of sight. Research indicates that the further away from a vehicle an object is and the faster a vehicle is travelling, drivers have less ability to look at objects away from their travel path. The implication is that signs located above or to the side of vehicle travel paths can only be comfortably viewed at certain points and outside of these sight lines, drivers are unlikely to look at signs.
- Eyes-off-road durations greater than 2 seconds significantly increased individual near-crash/crash risk, whereas less than 2 seconds was comparable to normal driving. Outdoor advertising is intended to be a 'glance medium' with only short glances of only a second being required to read and interpret the message, which would not have a significant impact on road safety.
- There is no measurable difference between a driver's behaviour towards digital billboards compared to conventional billboards, comparison sites (landmarks, on-premises signs) and baseline sites (sites with no signs). This includes mean number of glances, glance direction, percentage eyes on road, lane and speed deviation.
- Multiple studies have found that no significant driver distraction effect could be ascertained for electronic billboards when compared to conventional billboards, and no effect on crashes could be determined as a result of installing electronic billboards in new sites or in sites where conventional billboards operated previously.
- New Zealand crash study data confirms advertising signs are not a statistically significant cause of road crashes. This data indicates that of the 11.8% of casualty crashes that involved 'attention diverted' as a contributing factor, only 0.3% identified 'advertising or signs' as a factor. That is, a factor in less than 0.04% of total casualty crashes.

The detailed findings from the road safety research are presented at Appendix C.

4.2. Traffix Group Review of Legibility Distances of Electronic Billboards

Traffix Group has conducted a video and GPS survey of electronic billboards around Melbourne to determine the distances that major promotion signs in the form of electronic billboards were legible from a passenger car. A total of 18 electronic billboards were observed in the survey.

The survey used a GPS device fitted to the vehicle to record the location where the advertising sign was first legible by the driver/passenger (i.e. readable and not just where it was visible) and the actual location of the advertising sign.

From a road safety perspective, the distance that an advertising sign is legible is more important than the distance that it is visible, as an illegible sign is unlikely to capture or hold the attention of passing observers. The distance at which a sign is visible, but not yet legible, is of little relevance to the assessment as it would have a similar affect to observing buildings, landmarks or other roadside features at a distance.

The distances that advertising signs were legible (i.e. could be read or understood if presented pictorially) are presented in Table 1.

It was found that the legibility of the advertising sign varied with regard to a number of factors including size, location, whether it was obscured by roadside objects and in particular, the image displayed on the advertising sign.

The clarity of the sign was the key variable in determining its legibility. For example, bright images and videos, in conjunction with a long sight distance made one large electronic billboard (with a width of approximately 27m) noticeable from a large distance (570m). A number of electronic billboards were not able to be seen until within a close proximity to the sign due to their location, however these billboards were clearly legible once they had come into the driver's cone of reading vision. Electronic billboards positioned away from the roadway or located in obscure positions were difficult to comprehend and could only be understood after close observation.

Table 1: Legibility distances of electronic billboard advertising signs

Distance Measure	Legibility Distance
Mean	217m
Median	205m
Minimum	98m
Maximum	570m
85th Percentile	282m

It is unlikely that drivers will look at any advertising sign that is greater than its legibility distance. For the purposes of this assessment, we are satisfied that drivers are unlikely to look at an advertising sign that is greater than the 85th percentile legibility distance or 280m from the driver's viewpoint.

4.3. Assessment of Sign Legibility and Driving Task

The following section reviews the driving task approaching the proposed advertising sign from several directions:

- Hopkins Street, westbound.
- Right turn at Moore Street from westbound Hopkins Street.
- Left turn at Irving Street from westbound Hopkins Street.

This analysis uses a variety of aerial photographs and 'in-car' photographs. These photographs were taken as snapshots from a video camera mounted on the windscreen of a car at the driver's eye height and represent the locations at which the driver/passenger identified that the sign was first legible. The vehicle position on the road network was determined by GPS coordinates. The vehicle was fitted with a GPS device that tracks the vehicle and enables data points to be logged by the driver/passenger (by the press of a button), time stamped and correlated to the video data.

Video clips for each of the approaches to the sign can be accessed at the link below:

https://tinyurl.com/86-88-Hopkins-St

The videos included are as follows:

- Video 1 – Hopkins Street, westbound
- Video 2 – Right turn at Moore Street from westbound Hopkins Street
- Video 3 – Left turn at Irving Street from westbound Hopkins Street

Glossary of key terms and calculations:

- **10° horizontal and 5° vertical cone of reading vision:** Traffic signs are not conspicuous to drivers until they are within approximately 10 degrees horizontally and 5 degrees vertically from the driver's line of sight. Research indicates that the further away from a vehicle an object is and the faster a vehicle is travelling, drivers have less ability to look at objects away from their travel path. The implication is that signs located above or to the side of vehicle travel paths can only be comfortably viewed at certain points and outside of these sight lines, drivers are unlikely to devote significant attention to a sign unless they have spare attention capacity.
- **20° cone of peripheral vision:** The sign is considered to fall outside of the driver's peripheral cone of vision once it moves outside of the driver's 20° cone of peripheral vision. Past this point drivers are unlikely to look at the sign as during free-flow traffic conditions the sign is rapidly moving past the vehicle.

  Calculations: Distances where signs fall outside of the driver's cones of vision were calculated based on the method detailed within the Austroads Guide to Traffic Management Part 10: Traffic Control and Communication Devices. These are provided at Appendix D.
  For side-mounted signs, the driver's cone of reading vision is considered to be 10° horizontally. The proposed sign falls outside of this cone of vision approximately 115m

from the proposed sign location for westbound drivers, based on the centre of the carriageway being approximately 20m offset from the centre of the sign.

- **Visibility distance:** The visibility distance relates to when drivers can see the sign and does not necessarily mean that drivers can read the sign (see legibility distance below). Visibility distance does not necessarily mean the entire sign is visible as signs in urban environments are often only partially visible at first due to roadside obstructions (i.e. vegetation or nearby buildings) and drivers are unlikely to devote attention to the sign if more than half of the sign is obscured.
- **Legibility distance:** The legibility distance is the location where the face is readable. The legibility of the sign face is critical, as in our view drivers will not devote attention to the sign face if it is not within a legible distance. The distance that the proposed electronic sign is likely to be legible is based on surveys conducted by our office of billboard signs (see Section 4.2) during field investigations. A legibility distance of 280m has been adopted for the proposed digital sign. It is of note that this is a conservative estimate.

4.3.1. Westbound on Hopkins Street

Westtbound drivers approach the advertising sign via Hopkins Street. The relevant videos to be viewed in conjunction with reading this section are highlighted in **Green** below:

https://tinyurl.com/86-88-Hopkins-St

The videos included are as follows:

- **Video 1 – Hopkins Street, westbound**
- Video 2 – Right turn at Moore Street from westbound Hopkins Street
- Video 3 – Left turn at Irving Street from westbound Hopkins Street

An aerial photograph of this westbound approach with the relevant signs and landmarks highlighted is provided at Figure 8.

- The sign is not visible
- The sign is partly visible but not yet legible
- Sign is mostly visible and legible
- The sign passes outside drivers' 10° horizontal cone of reading vision
- The sign passes outside drivers' 20° horizontal cone of peripheral vision

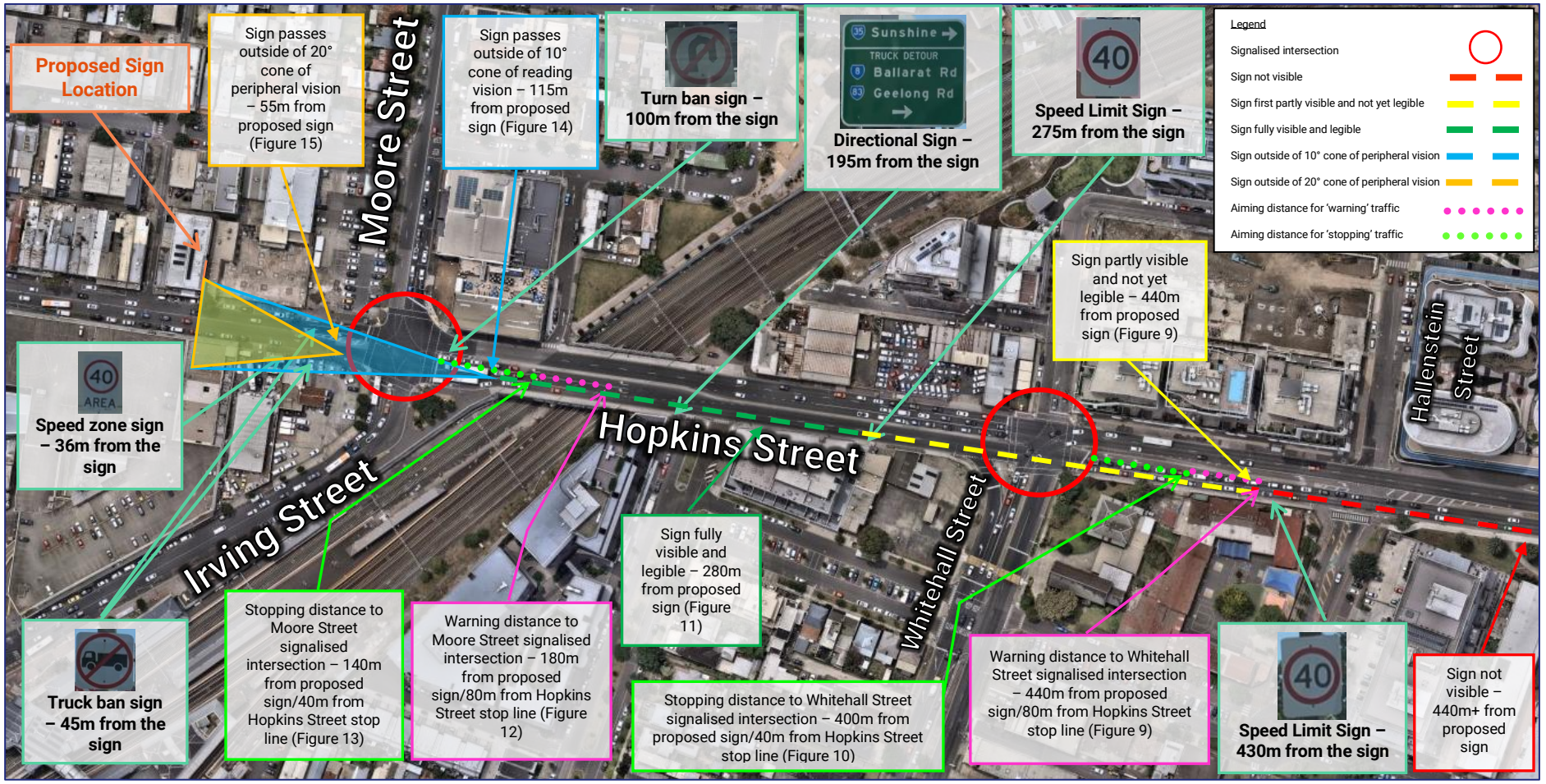


Figure 8: Aerial photograph of road network, westbound approach (Source: Nearmap)

Table 2: Review of westbound driving task on Hopkins Street

Review of Westbound Driving Task – Hopkins Street	
Sign Not Visible **Distance from Sign:** 440m+	
Visible? No. **Legible?** No.	**Sign within 10° cone of reading vision?** N/A. **Sign within 20° cone of peripheral vision?** N/A.
Discussion: The proposed sign is obstructed from drivers' view at a distance greater than 440m from its location by buildings located along the northern side of the Hopkins Street carriageway. Accordingly, we are satisfied that drivers will not view the sign before this point.	

Sign is partially visible and not within legible range
Distance from Sign: 440m-280m

Visible? Yes (partially).
Legible? No.

Sign within 10° horizontal cone of reading vision? Yes.
Sign within 20° horizontal cone of peripheral vision? Yes.

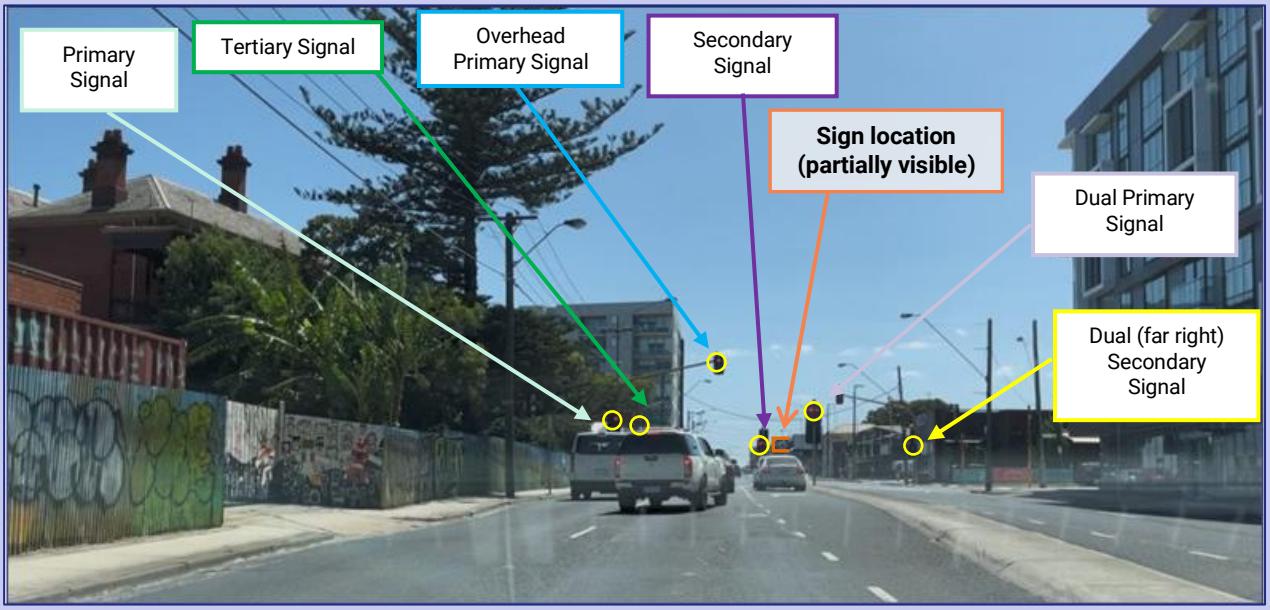


Figure 9: Westbound approach – warning distance to the Hopkins Street/Whitehall Street intersection (approximately 440m to sign)

Discussion:
The proposed sign first becomes visible to drivers at a distance of approximately 440m from its location. At this point the sign is partially visible and is mostly obstructed by buildings on the northern side of Hopkins Street. At this point of the approach drivers are unlikely to view the sign and will be focused on the driving tasks of keeping a safe distance from the vehicle in front.

The *AustRoads Guide to Traffic Management Part 10: Traffic control and Communication Devices* specifies the following aiming distances for signal lanterns in an 40km/h speed zone:

- Warning distance – 80m
- Stopping distance – 40m

The warning distance and stopping distance to the Hopkins Street and Whitehall Street intersection occurs within this section of road (at approximately 440m and 400m to the sign's location, respectively).

At the point of the beginning of the warning and stopping distance to the intersection between Hopkins Street and Whitehall Street, the sign is outside the legible range of 280m. Drivers will be unlikely to pay attention to the sign and will be focused on responding to the upcoming signalised intersection. The sign is also located such that it does not background any traffic lanterns along this section of the approach.

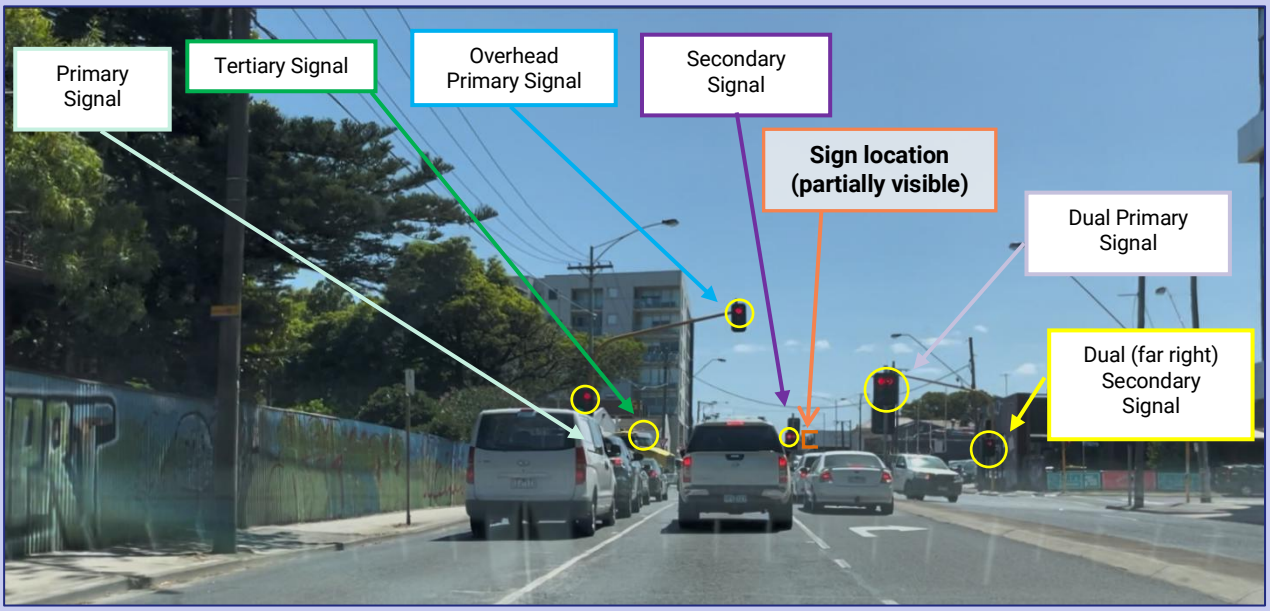


Figure 10: Westbound approach – stopping distance to the Hopkins Street/Whitehall Street intersection (approximately 400m to sign)

Sign is visible and legible
Distance from Sign: 280m-115m

Visible? Yes. **Legible?** Yes.	**Sign within 10° horizontal cone of reading vision?** Yes. **Sign within 20° horizontal cone of peripheral vision?** Yes.

Figure 11: Westbound approach – sign is mostly visible and legible (280m to sign)

Discussion:
The sign will mostly pass out from behind the buildings and other obstructions along the northern side of the Hopkins Street carriageway at a distance of 280m to the sign's location.

At this point the sign will be located within the legibility distance for drivers (based on a legibility distance of 280m).

The *AustRoads Guide to Traffic Management Part 10: Traffic control and Communication Devices* specifies the following aiming distances for signal lanterns in an 40km/h speed zone:

- Warning distance – 80m
- Stopping distance – 40m

The warning distance and stopping distance to the Hopkins Street, Moore Street and Irving Street intersection occurs within this section of road (at approximately 180m and 140m to the sign's location, respectively).

On the approach to the sign, the road is relatively straight, and is not complex along this section. The sign is located well above the intersection, and does not background any traffic signals.

We are satisfied that drivers will be focusing on responding to the upcoming signals, being the primary driving task, and will only view the sign if they have the spare attention capacity to do so.

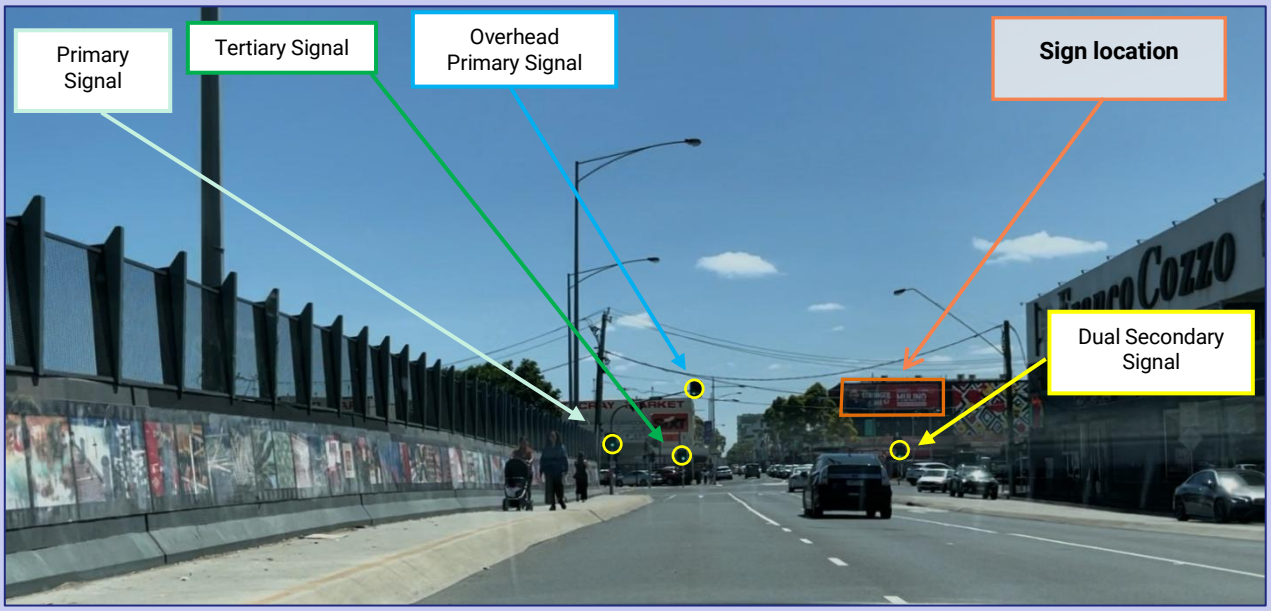


Figure 12: Westbound approach – warning distance to the Hopkins Street / Moore Street / Irving Street intersection (approximately 180m to sign)

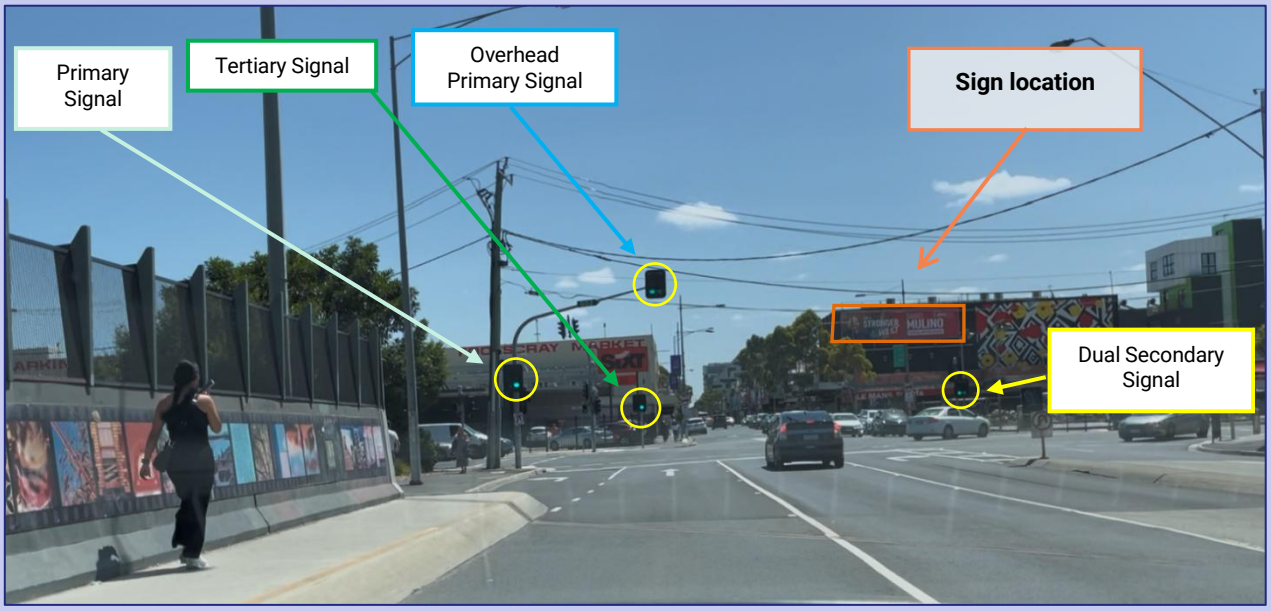


Figure 13: Westbound approach – stopping distance to the Hopkins Street / Moore Street / Irving Street intersection (approximately 140m to sign)

The sign passes outside drivers' 10° cone of reading vision
Distance from Sign: 115m-55m

Visible? Yes. **Legible?** Yes.	**Sign within 10° horizontal cone of reading vision?** No. **Sign within 20° horizontal cone of peripheral vision?** Yes.

Figure 14: Westbound approach – sign passes outside drivers 10° horizontal cone of reading vision (115m to sign)

Discussion:
The sign will pass outside drivers' 10° horizontal cone of reading vision at a distance of 115m to the sign.

It is unlikely that drivers will pay attention to the sign from this point onwards as the main driving task will be focusing or responding to the Hopkins Street, Moore Street and Irving Street intersection.

Drivers will pass through the Hopkins Street, Moore Street and Irving Street intersection in this section of the approach, however they will have already made up their mind to stop or proceed through the intersection at this point (having already passed the intersection stopping distance).

Drivers may view the sign when stopped at the Hopkins Street, Moore Street and Irving Street intersection. Looking around when stationary at traffic signals is normal driver behaviour, and given the low driver demands at this time, we consider this acceptable.

The sign passes outside drivers' 20° cone of reading vision
Distance from Sign: 55m-0m

Visible? Yes. **Legible?** Yes.	**Sign within 10° horizontal cone of reading vision?** No. **Sign within 20° horizontal cone of peripheral vision?** No.

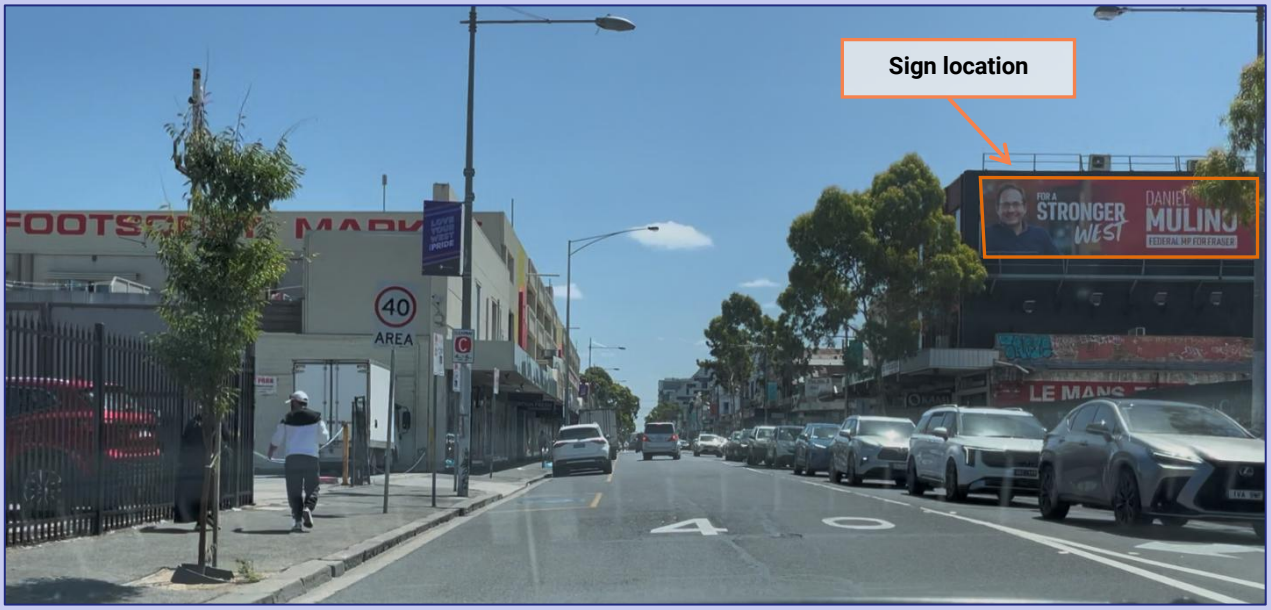


Figure 15: Westbound approach – sign passes outside drivers 20° cone of reading vision (55m to sign)

Discussion:
The sign will pass outside drivers' 20° cone of reading vision at a distance of 55m to the sign.

Drivers will be unlikely to view the sign at this point as it rapidly passes to their right hand side.

There is a signalised intersection associated with Leeds Street approximately 100m beyond the sign location, however the sign will be well out of drivers view on the approach to the intersection, including at the critical points (i.e. the warning and stopping distances). Accordingly, we are satisfied that the sign will not impact drivers in relation to this intersection.

Impact of image change of drivers along the westbound approach

The proposal replaces an existing static advertising sign of similar dimensions at the same location. The main change is therefore the ability of the sign to change image.

The images will have a dwell time of 30 seconds. On the approach to the sign, the distance that the sign will be both fully visible and legible (at a distance of 280m from the sign) and within the drivers' driver's 20° cone of peripheral vision (at a distance of 55m from the sign) is approximately 225m. The travel time for this section of Hopkins Street is approximately 20.25 seconds when travelling at 40km/h in free-flowing traffic conditions. The percentage chance that a driver will observe an instantaneous transition between images along the approach to the sign during free-flowing conditions is approximately 67%.

Based on the above analysis, during free-flowing conditions, drivers would not have the opportunity to read more than 1-2 images. Outside of free-flow times drivers may observe more images, which is acceptable given that driver demand is negligible while the vehicle is stationary. Most drivers are only expected to observe one image change, this accords with the recommendations of the Austroads Research Report 2013[3] to minimise image changes.

Passengers would be free to look at the sign at any stage as they are not engaged in the driving task.

[3] Source: Austroads Research Report AP-R420-13, 2013, 'Impact of Roadside Advertising on Road Safety'.

4.3.2. Other Movements

The proposed sign is visible and legible from several other locations as detailed below.

Right turn at Moore Street from westbound Hopkins Street

The relevant videos to be viewed in conjunction with reading this section are highlighted in **Green** below:

https://tinyurl.com/86-88-Hopkins-St

The videos included are as follows:

- Video 1 – Hopkins Street, westbound
- **Video 2 – Right turn at Moore Street from westbound Hopkins Street**
- Video 3 – Left turn at Irving Street from westbound Hopkins Street

The approach for westbound vehicles performing a right turn onto Moore Street is essentially the same as the standard westbound approach discussed in Section 4.3.1 up until the point of entering the dedicated right-turn lanes at the signalised intersection between Hopkins Street and Moore Street.

There are two dedicated right turn lanes which begin approximately 190m to the sign location (see Figure 16). The sign is approximately 100m west from the stop line of the Hopkins Street and Moore Street intersection (see Figure 17). The right turn movement is fully controlled, with a dedicated right turn phase, therefore drivers are not required to select gaps in eastbound traffic along Hopkins Street, making the driving task relatively straight forward. Additionally, the sign does not background or obstruct any traffic control devices along this approach (which includes the traffic lanterns with the right-turn signals).

Accordingly, we are satisfied that the proposed sign will not impact westbound drivers performing a right turn at the Hopkins Street, Moore Street and Irving Street intersection.

Figure 16: Driver's view at start of right turn lane (westbound along Hopkins Street)

Figure 17: Driver's view at Hopkins Street / Moore Street / Irving Street intersection (westbound along Hopkins Street)

Left turn at Irving Street from westbound Hopkins Street

The relevant videos to be viewed in conjunction with reading this section are highlighted in **Green** below:

https://tinyurl.com/86-88-Hopkins-St

The videos included are as follows:

- Video 1 – Hopkins Street, westbound
- Video 2 – Right turn at Moore Street from westbound Hopkins Street
- **Video 3 – Left turn at Irving Street from westbound Hopkins Street**

The approach for westbound vehicles performing a left turn onto Irving Street is essentially the same as the standard westbound approach discussed in Section 4.3.1 up until the point of the left-turn at the signalised intersection.

There is a dedicated left turn lane which begins approximately 125m to the sign location (see Figure 18). The sign is approximately 100m from the stop line of the Hopkins Street and Irving Street intersection (see Figure 19).

The left turn movement is partially controlled with both a dedicated left turn phase and a movement phase where vehicles are required to give way to pedestrians crossing along the southern leg of the intersection across Irving Street, this set up is common for left-turn movements in metropolitan areas and drivers will be aware of giving way to pedestrians. Drivers will be looking away from the sign at this point. The sign does not background or obstruct any traffic control devices along this approach (which includes the traffic lanterns with the left-turn signals).

Accordingly, we are satisfied that the proposed sign will not impact westbound drivers performing a left turn at the Hopkins Street, Moore Street and Irving Street intersection.

Figure 18: Driver's view at start of left turn lane (westbound along Hopkins Street)

Figure 19: Driver's view at Hopkins Street / Moore Street / Irving Street intersection (westbound along Hopkins Street)

4.4. Requirements of the Planning Scheme

Clause 52.05-9 of the Planning Scheme includes specific conditions related to road safety in any permit issued for a major promotion sign. These are as follows:

- That the sign must not:
  - Dazzle or distract drivers due to its colouring.
  - Be able to be mistaken for a traffic signal because it has, for example, red circles, octagons, crosses or triangles.
  - Be able to be mistaken as an instruction to drivers.
- An expiry date which is 15 years from the date that the permit is issued unless otherwise specified in this clause. This does not apply to a permit for major promotion sign for a special event of temporary building shrouding.

4.4.1. Assessment Against Decision Guidelines

Clause 52.05-8 includes decision guidelines to assess whether a proposed promotion sign is a safety hazard. These criteria are also adopted in DTP's Ten Point Road Safety Checklist.

As decision guidelines for considering an application, Clause 52.05-8 states that the responsible authority must consider:

- The impact on road safety. A sign is a safety hazard if the sign:
  - Obstructs a driver's line of sight at an intersection, curve or point of egress from an adjacent property.
  - Obstructs a driver's view of a traffic control device, or is likely to create a confusing or dominating background which might reduce the clarity or effectiveness of a traffic control device.
  - Could dazzle or distract drivers due to its size, design or colouring, or it being illuminated, reflective, animated or flashing.
  - Is at a location where particular concentration is required, such as a high pedestrian volume intersection.
  - Is likely to be mistaken for a traffic control device, because it contains red, green or yellow lighting, or has red circles, octagons, crosses, triangles or arrows.
  - Requires close Study from a moving or stationary vehicle in a location where the vehicle would be unprotected from passing traffic.
  - Invites drivers to turn where there is fast moving traffic or the sign is so close to the turning point that there is no time to signal and turn safely.
  - Is within 100 metres of a rural railway crossing.
  - Has insufficient clearance from vehicles on the carriageway.
  - Could mislead drivers or be mistaken as an instruction to drivers.

Table 3 below summarises the responses to the decision guidelines. This assessment should be read in conjunction with Section 4.3.

Table 3: Review of Decision Guidelines

A sign is a safety hazard if the sign		Response
1.	Obstructs a driver's line of sight at an intersection, curve or point of egress from an adjacent property.	The sign will be situated on the façade of the existing three-storey building on site, primarily facing westbound traffic. As the sign is not located along the carriageway (being well above and to the side of the road), clear sight lines are maintained along all approaches to the sign. *Therefore, the proposed sign will not obstruct a driver's line of sight at an intersection, curve or point of egress from an adjacent property.*
2.	Obstructs a driver's view of a traffic control device or is likely to create a confusing or dominating background which might reduce the clarity or effectiveness of a traffic control device.	The proposed sign is in an elevated position and will not obstruct a driver's line of sight to any traffic control devices or background traffic signals at the critical distances. Clause 52.05-9 of the Planning Scheme imposes mandatory conditions on any planning permit that minimise the chance of an advertising sign being mistaken for a traffic control device. *Therefore, the proposed sign will not create a confusing or dominating background which might reduce the clarity or effectiveness of a traffic control device.*
3.	Could dazzle or distract drivers due to its size, design or colouring, or it being illuminated, reflective, animated or flashing.	The proposal is for an electronic sign displaying static images, replacing an existing static sign. The new sign will not be reflective, animated or flashing. The sign proposes a dwell time of 30 seconds per advertisement and an instantaneous transition time. The level of illumination, design, colour and content of the electronic billboard can appropriately be controlled by permit conditions. As discussed in Section 4.3.1, during free-flowing conditions it is expected that 67% of drivers will view an image change when travelling westbound along Hopkins Street. This accords with the recommendations of the Austroads Research Report 2013 to minimise image changes. Outside of free-flow times, drivers may observe more images, which is acceptable given that driver demand is negligible while the vehicle is stationary. *We are satisfied that the design of the sign will not dazzle or distract drivers.*
4.	Is at a location where particular concentration is required, such as a	The concentration needs of drivers are discussed extensively in Section 4.3. On the westbound approach to the sign, the main driving task is responding to the signalised intersections along Hopkins Street. At

A sign is a safety hazard if the sign		Response
	high pedestrian volume intersection.	the intersection of Hopkins Street and Whitehall Street the sign is not yet legible and only partially visible, therefore drivers are unlikely to view the sign and will be focusing on the primary driving task of keeping a safe distance from vehicles in front and responding to the upcoming signals. At the intersection of Hopkins Street, Moore Street and Irving Street the sign is located outside the 10° horizontal cone of reading vision and as such drivers are unlikely to view the sign. At no point along Hopkins Street are traffic control devices obstructed or backgrounded by the sign. We are satisfied that drivers will be focusing on the primary driving tasks and are unlikely to view the sign when travelling through the signalised intersections along Hopkins Street. *The proposed sign will not affect drivers' ability to concentrate in this location.*
5.	Is likely to be mistaken for a traffic control device, because it contains red, green or yellow lighting, or has red circles, octagons, crosses, triangles or arrows.	The control of lighting types, colours and shapes can be appropriately controlled by conditions, as required by Clause 52.05-9. *There is no reason to consider that the proposed sign will be mistaken for a traffic control device.*
6.	Requires close study from a moving or stationary vehicle in a location where the vehicle would be unprotected from passing traffic.	It is understood that the sign will not require close study from a moving or stationary vehicle as it will be used for general advertising only. *Therefore, the proposed sign will not require close study from a moving or stationary vehicle in a location where the vehicle would be unprotected from passing traffic.*
7.	Invites drivers to turn where there is fast moving traffic or the sign is so close to the turning point that there is no time to signal and turn safely.	The sign is to be used for general advertising only and will not specifically be advertising its location (i.e. not used for directional purposes). The advertising messages can appropriately be controlled by conditions set out by the road authority, which restricts certain types of images being used which may be mistaken as an instruction to drivers (i.e. misleading drivers to perform a certain type of movement along the approach, through the use for example of 'sound or motion' to activate the sign or interact with any of the road users). *Based on advice to Traffix Group, drivers will not be invited to turn at this location as it will only be used for general advertising.*

A sign is a safety hazard if the sign		Response
8.	Is within 100 metres of a rural railway crossing.	The sign is not located within 100m of an at-grade rural railway crossing. *Accordingly, this consideration is not applicable to this application.*
9.	Has insufficient clearance from vehicles on the carriageway.	The sign will not overhang any road carriageways. *The proposed sign will have sufficient clearance from vehicles on the carriageway.*
10.	Could mislead drivers or be mistaken as an instruction to drivers.	It is understood that the general advertising on the proposed sign will not mislead drivers or be mistaken as an instruction to drivers. The advertising messages can appropriately be controlled by conditions as required by Clause 52.05-9. *Based on advice to Traffix Group, the proposed sign will not mislead drivers or be mistaken as an instruction to drivers.*

Overall, we are satisfied that the proposed electronic sign does not pose a safety hazard to road users.

5. Conclusion

Having perused relevant documents and plans, undertaken a field visit, arranged for a video survey, undertaken a review of literature and undertaken a traffic engineering assessment, we are of the opinion that:

a) Traffic engineering and road safety research exists to demonstrate the following with respect to static electronic signs/billboards:
   i) traffic signs are not conspicuous to drivers until they are within approximately 10 degrees of the driver's line of sight,
   ii) drivers have a 30 to 50% spare attention capacity, which they devote to objects not related to the driving task, including advertising or billboard signs,
   iii) drivers have an average reaction time to stimulus of 2.5 seconds,
   iv) street level advertisements attracted more attention than raised advertisements,
   v) eyes-off-road durations greater than 2 seconds significantly increased individual near-crash/crash risk, whereas less than 2 seconds was comparable to normal driving,
   vi) outdoor advertising is intended to be a 'glance medium' with only short glances being required to read and interpret the message, which would not have a significant impact on road safety,
   vii) there are comparable statistics between electronic billboards and conventional billboards for a number of factors such as mean number of glances, glance length, percent eyes-on-road, lane deviation and speed deviation,
   viii) no significant driver distraction effect could be ascertained for electronic billboards, and
   ix) no effect on crashes could be determined as a result of installing electronic billboards in new sites or in sites where conventional billboards operated previously.

b) The proposed electronic sign will not present a road safety hazard particularly as drivers have the ability to shed any unnecessary information when they have an information overload, to focus on what is judged to be more important.

c) The proposed electronic sign will be located on the roof of the existing two-storey building on site. The sign will be in an elevated position and will not obstruct a driver's line of sight to any traffic control device or traffic sign along any carriageway.

d) The proposed dwell time of 30 seconds per image and instantaneous transition time are consistent with current practice.

e) During free-flowing conditions, drivers are unlikely to view an image change.

f) During times of traffic congestion and slower vehicle speeds, we are satisfied that drivers viewing additional images is acceptable given slower vehicle speeds and the lack of critical driving tasks within the vicinity of the proposed sign.

g) The proposed sign satisfies the decision guidelines set out in Clause 52.05-8 (and DTP's Ten Point Safety Checklist) assuming that appropriate controls are in place to govern the promotional material which can be displayed on the electronic sign (for example using 'sound or motion' to activate the sign or interact with road users, along with advertisements which may contain of present time update information such as news or weather) to ensure that the advertisement displayed is not reflective, animated or flashing, and does not provide an instruction which could dazzle, distract or confuse motorists.

h) There are no traffic engineering reasons why a permit for an electronic sign at 86-88 Hopkins Street, Footscray should not be granted.

Appendix A

Development Plans

Appendix B

Crash Analysis

Casualty Crash History

Table B1 details the locations of casualty crashes recorded over the 5 year period (1st June, 2019 and 31st May, 2024)[4] for the westbound approach along Hopkins Street. Crashes were only included in the area in which the sign was visible, and not when it was out of view.

Figure B1 identifies the locations of the crashes with respect to the visibility and legibility of the proposed sign.

Table B1: Casualty crash history (1st June, 2019 and 31st May, 2024)

Location	Date	Time	Severity	Type (DCA code)	Type of Accident	Sign Visible & Legible?
Location 1 Hopkins Street 37m East of Whitehall Street	Wednesday 01/03/2023	08:30	OI	130 (RT)	Rear end (same lane) with both vehicles travelling west.	Sign is partly visible and not legible
Location 2 Hopkins Street at Cowper Street	Friday 16/12/2022	15:07	OI	109 (P)	Any manoeuvre involving pedestrian not included in DCA's 100-108. Further detail unknown.	Sign is visible and legible
Location 3 Hopkins Street 27m West of Shelley Street	Saturday 17/08/2019	17:20	SI	102 (P)	Far side, pedestrian hit by vehicle from left. Pedestrian stepped off median strip.	
Location 4 Hopkins Street 7m East of Moore Street	Thursday 23/06/2022	19:50	OI	130	Rear end (same lane) with both vehicles travelling west.	Sign is outside drivers' 10° cone of reading vision
Location 5 Hopkins Street at Moore Street	Monday 16/05/2022	19:33	OI	100 (P)	Pedestrian near side, pedestrian hit by vehicle from the right. Vehicle turning left from Hopkins Street westbound onto Irving Street.	
	Friday 08/12/2023	19:38	OI	110	Cross traffic (intersections only). Vehicle travelling south and vehicle travelling west involved.	

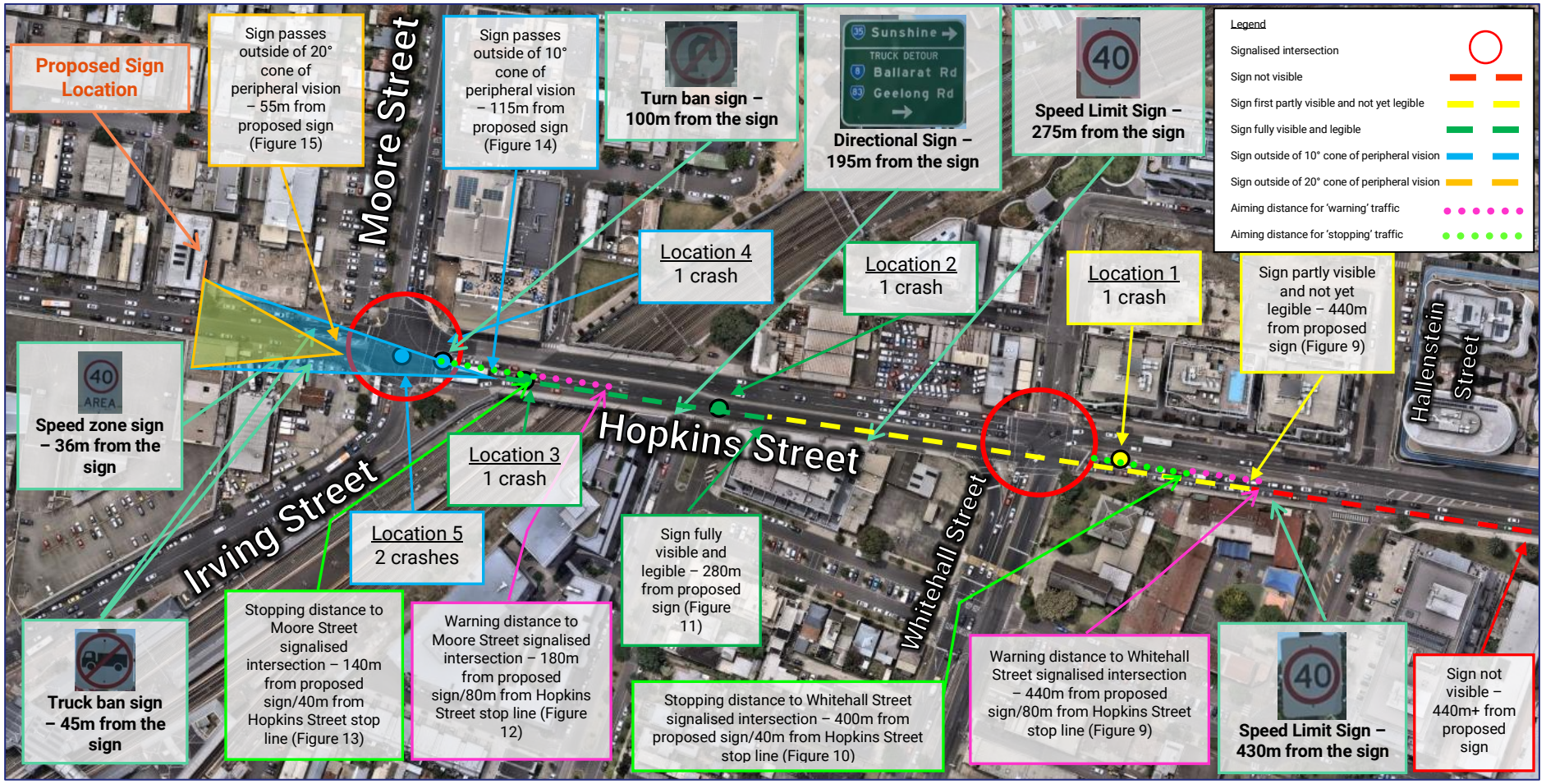
LEGEND:
OI: Other Injury (B): Bicyclist (C): Bus/Coach
SI: Serious Injury (M): Motorcyclist (RT): Rigid Truck
F: Fatality (P): Pedestrian (ST): Semi-trailer

[4] Casualty crash data is contained in the VicRoads' CrashStats Internet Database and includes all reported casualty crashes (i.e. injury crashes), which are classified into Fatal Injury, Serious Injury and Other Injury (i.e. minor injury) crashes. Property damage only or non-injury crashes are not included in the database

Summary

A total of 6 casualty crashes were recorded within the review area. The casualty crashes occurred at various points along Hopkins Street. The majority of the crashes are of different DCA crash types and do not exhibit a discernible crash pattern at this location. Two of the crashes are rear end collisions but have occurred at different locations along Hopkins Street.

Overall, we are satisfied that the approach to the proposed electronic billboard is not inherently unsafe.



FigureB1: Visibility/legibility vs. crash location – westbound approach

Appendix C

Road Safety Research

Technical References

The following statutory and technical references are relevant to this assessment:

- Clause 52.05-8 of the Planning Scheme.
- Austroads Research Report 2013, Impact of Roadside Advertising on Road Safety, Austroads, Sydney, NSW, AUS.
- Traffic Engineering and Management (2003) – Volume 2, Freeman, D. & Morgan, R., Institute of Transport Studies, Department of Civil Engineering, Monash University, Section 5.2.8 states that "once a sign falls outside of a line of vision 10 degrees either side or 5 degrees above the driver's straight ahead line of vision, it can no longer be read comfortably".
- Austroads Guide to Traffic Management Part 10: Traffic Control & Communication Devices (2009), which states "it is generally accepted that the normal range of lateral vision should be limited to 10° horizontally and 5° vertically" and "A sign location will generally be satisfactory if the sign is placed within the driver's comfortable field of vision (10° either side of centre in the horizontal plane and 5° upward in the vertical plane) and has adequate legibility distance".

The following considers the available road safety research on static electronic billboards. That is, digital billboards that display static images for a specified dwell time.

Roadside Signage and Advertising

Extensive research has been undertaken in relation to signage within the road environment, including studies which examine the characteristics of signs that attract a driver's attention and circumstances in which signs are processed as part of the overall driving task.

Key findings of studies relating to static signs that we consider to be of relevance are discussed below.

Research conducted by Hughes and Cole[5] and reported by the Australian Road Research Board in 1985 states "drivers have a 30% to 50% spare capacity which they devote to attending to objects not related to the driving task". The research continued to state that "Thus it seems likely that present traffic engineering practices within typical road environments are such that traffic control devices attract only 15% to 20% of the driver's "total" attention". The study found that if advertising signs were limited or removed from the road environment that drivers would still report (look at) other objects unrelated to the driving task.

A study by Cole[6] in 1972 found that the role of signage colour is that of identifying an object and conveying information as a colour code. By example, this means that green and white signage as typically installed on freeways, or blue and yellow signage on tollways would be recognised by motorists as conveying directional information based on its colour code.

[5] Source: Hughes, P. K. and Cole, B. L. 1985, 'What attracts attention when driving?' Ergonomics, Vol. 29, Issue. 3.
[6] Source: Cole, B. L. 1972, 'Visual aspects of road engineering', Proceedings 6th ARRB Conference, Vol. 6 (1).

This is further reinforced in the Austroads Guide to Traffic Management Part 10: Traffic Control & Communication Devices (2009), which states:

> *Except for the distinctive shape of some critical regulatory signs (e.g. octagonal stop signs) and warning signs (diamond shape), colour is the most important characteristic that enables early driver recognition of signs.*

For this reason, Clause 52.05-9 (Major promotion sign) requires that a permit issued for a 'major promotion sign' must include conditions that specify:

> *That the sign must not:*

- Dazzle or distract drivers due to its colouring.
- Be able to be mistaken for a traffic signal because it has, for example, red circles, octagons, crosses or triangles.
- Be able to be mistaken as an instruction to drivers.

A review of previous studies by Jenkins found that for traffic control signs to be noticed, the important variables which determine conspicuity of the sign are its contrast with the immediate surroundings and the complexity of the background and that the placement of the sign needs to be within 10 degrees of the driver's line of sight. Various studies have found this to be particularly relevant for reading purposes. The relevant technical guidelines for road signs report that it is generally accepted that the normal range of lateral vision and the driver's comfortable field of vision should be limited to 10 degrees horizontally and 5 degrees vertically.[7]

Objects are also able to be detected in the peripheral vision field being 60 degrees above and 70 degrees below the line of sight, and 20 degrees left and right at a speed of 100km/h.[8]

Research also indicates that as drivers become overloaded with inputs to the driving task they shed part of the input demand to focus on that which is judged to be more important.

Drivers have an average reaction time to stimulus of around 2.5 seconds.[9,10] If the driver is provided with prior warning (such as advanced direction signs), the reaction time can be reduced.

Relationship between Advertising Signs and Accident Statistics

Extensive investigation has been undertaken by David Andreassen initially in 1984[11] and further in 2000[12] to examine the relationship between billboards and traffic crashes. Andreassen's 1984 investigations were based on crash studies from the USA and Perth in Australia, while the 2000 investigations reviewed material specifically in relation to billboards and almost exclusively in the Australian context.

[7] Source: Austroads Guide to Traffic Management Part 10: Traffic Control & Communication Devices (2009).
[8] Source: Ogden, K. 2003, Traffic Engineering and Management – Volume 1, Institute of Transport Studies, Department of Civil Engineering, Monash University, Section 2.1.10.
[9] Source: Garber, N.J. and Hoel, L.A. 2000, 'Traffic and Highway Engineering', p60.
[10] Source: Austroads Guide to Traffic Management Part 10: Traffic Control & Communication Devices (2009).
[11] Source: Andreassen, D. C. 1984, 'Traffic Accidents and Advertising Signs', Australian Road Research Board, Internal Report, AIR 000-213.
[12] Source: Andreassen, D. C. 2000, 'Billboards and traffic crashes'.

Andreassen's 2000 report confirmed that:

- No significant driver distraction effect could be ascertained for billboard signs.
- No effect on crashes could be determined as a result of installing billboards.

Most of the research on the issue of driver distraction and advertising signs in more recent times (including advances in updating decision guidelines for advertising signs) has been focused on the emergence of digital technology and the use of electronic billboards that enable advertising displays to change frequently and potentially contain motion.[13]

A study conducted by the Ministry of Transport in New Zealand for 2012 identified the factors contributing to road crashes for the 2012 calendar year that resulted in someone being killed or injured.[14] The report identified that approximately two-thirds of crashes are reported to the New Zealand Transport Agency (NZTA) and a subsequent Traffic Crash Report (TCR) is completed by a police officer. The reports are then examined and coded into the Crash Analysis System (CAS).

A study conducted by the Ministry of Transport in New Zealand for 2012 identified the factors contributing to road crashes for the 2012 calendar year that resulted in someone being killed or injured. The report identified that approximately two-thirds of crashes are reported to the New Zealand Transport Agency (NZTA) and a subsequent Traffic Crash Report (TCR) is completed by a police officer. The reports are then examined and coded into the Crash Analysis System (CAS).

The relevance of the New Zealand data is that the police accident reports include a detailed list of contributing factors, which is not available in similar reporting of casualty road crashes by Australian road agencies.

The New Zealand study identified that approximately 11.8% of casualty crashes involved 'attention diverted' as a contributing factor to the crash (noting that each crash report may involve several factors coded against each road user involved in the crash).

As shown in the Table below, of the reported casualty crashes identified as involving 'attention diverted' as one of the contributing factors, the main source of driver distraction is due to internal sources of distraction (47.4%), such as fellow passengers, reaching for the glove box and cell phones.

Of those crashes that included external sources of distraction as a factor (35.8%), the primary conflict factors were other traffic, scenery/persons outside the vehicle and drivers becoming dazzled.

Importantly, only 0.3% of casualty crashes identified as involving 'attention diverted' as one of the contributing factors identified 'advertising or signs' as a contributing factor.

The remaining reported casualty crashes (16.7%) identified as involving 'attention diverted' as one of the contributing factors lacked sufficient information to categorise further.

Table C1: Factors Contributing to Crashes for 'Attention Diverted By' as a Vehicle Conflict Factor (Financial, Economic and Statistical Analysis, Ministry of Transport, 2012)

[13] Source: Austroads Research Report AP-R420-13, 2013, 'Impact of Roadside Advertising on Road Safety'.
[14] Source: Financial, Economic and Statistical Analysis, Ministry of Transport, 2012, 'Yearly Report 2013 - Motor Vehicle Crashes in New Zealand 2012. New Zealand: Ministry of Transport'.

Attention Diverted by:	Number of Casualty Crashes involving this Contributing Factor	Percentage of Attention Diverted Crashes involving this Contributing Factor (%)
Contributing Vehicle Conflict Factors		
External Sources	**405**	**35.8%**
Scenery or persons outside vehicle	120	10.6%
Other traffic	1991	14.6%
Advertising or signs	3	0.3%
Driver dazzled	117	10.4%
Internal Sources	**536**	**47.4%**
Passengers	125	11.1%
Animal or insect in vehicle	25	2.2%
Trying to find intersection/house no.	39	3.5%
Emotionally upset	92	8.1%
Cigarette, radio, glove box etc.	184	16.3%
Cell phone	59	5.2%
Navigation devices	11	1%
CB Radio/non-cell comms devices	1	0.1%
Other	**189**	**16.7%**
Total	**1130**	**100%**

The above data confirms advertising signs are not a statistically significant cause of road crashes in the New Zealand study. This data indicates that of the 11.8% of casualty crashes that involved 'attention diverted' as a contributing factor, only 0.3% identified 'advertising or signs' as a factor. That is, a factor in less than 0.04% of total casualty crashes.

Importantly, the study also identified that casualty crashes involving 'attention diverted' factors (from internal or external causes) are significantly fewer in number when compared to other major contributing factors such as speeding relative to the roadway conditions, driving under the influence of alcohol or drugs and losing control of the vehicle.

These findings confirm the conclusions from the AustRoads Research Report, which concludes:

Some of the riskiest kinds of inattentive driving that contributed to crashes and near crashes in the Klauer et al. (2006) study originated from either drowsiness or in-vehicle distractions. Importantly, looking at an external object exhibited the second highest significant odds ratio of all distractions, (reaching for a moving object produced the highest significant odds ratio) with a driver 3.7 times more likely to have a crash or near crash when looking at an external object. However this kind of distraction accounted for less than 1% of all crashes and near crashes in the study. Thus while looking at an external object appears to be quite risky behaviour when it is engaged in, it is not a frequent cause of crashes overall.

Relationship between Driver Performance and Billboards

Overseas research

A study was undertaken by Virginia Tech Transportation Institute in 2003[15,16] to determine whether there is any change in driver behaviour in the presence or absence of billboards. The study involved detailed observation of participant's driving behaviour along a selected route with billboards, comparison sites with logo signs, on-premises signs, etc. and baseline sites with no visual elements. The factors observed included driver's eye glance, vehicle speed and lane deviation.

The study report concludes as follows:

The presence of billboards does not cause a change in driver behaviour in terms of visual behaviour, speed maintenance, or lane keeping. A rigorous examination of individual billboards that could be considered to be the most visually attention-getting demonstrated no relationship between glance location and billboard location. Driving performance measures in the presence of these specific billboards generally showed less speed variation and lane deviation. Thus, neither visual behaviour nor driving behaviour changes, even in the presence of the most visually attention-getting billboards.

A study was undertaken by Virginia Tech Transportation Institute in 2007[17,18] to evaluate driving performance in the presence of conventional billboards, as well as digital billboards. The study involved conducting a naturalistic study with 36 drivers who were tasked with driving a 50-mile route which contained a number of types of billboards and comparison sites. The drivers were not informed of the true purpose of the experiment and a number of key indicators such as eye glance performance, speed maintenance and lane keeping were measured.

The following results were found:

[15] Source: Lee, S.E., Olsen, E.C.B and DeHart, M.C. 2003, 'Driving Performance in the Presence and Absence of Billboards'.
[16] It is noted that this study included 3 electronic billboards, which equated to approximately 10% of the sampled billboards. This study discusses that due to the few number of electronic billboards studied along the driving route, no conclusions regarding driver behaviour in the presence of this type of billboard can be drawn.
[17] Source: Lee, S.E., McElheny, M.J. and Gibbons, R. 2007, 'Driver Performance and Digital Billboard: Final Report Prepared for Foundation for Outdoor Advertising Research and Education'.
[18] It is noted that this study included 44 sites in total, comprising 15 conventional billboards, 12 comparison sites (including on-premises signs – some with digital elements, logo placards, landmark buildings and murals), 12 baseline sites (sites with no signs) and 5 digital billboards.

- The mean number of glances (to any location) during an event was 5.73 for conventional billboards, which was comparable to comparison sites (i.e. landmarks, on-premises signs) (5.75), baseline sites (i.e. sites with no signs) (5.48) and for digital billboards (5.46).
- The glance duration (seconds) in the direction of events was 0.73 seconds for conventional billboards, which was comparable to comparison sites (0.87 seconds), baseline sites (0.63 seconds) and digital billboards (0.92 seconds).
- Percent eyes-on-road was found to be 74.1% for conventional billboards, 76.7% for baseline, 70.1% for comparison sites and 75.5% for digital billboards. Conventional billboards were found to be similar to baseline sites and digital billboards.
- Lane deviation from the centreline was found to be similar between conventional billboards (19.17 inches) and digital billboards (20 inches), while comparison sites (17.66 inches) and baseline sites (17.28 inches) were also similar to each other.
- Speed deviation was found to be similar between conventional billboards (0.72 MPH) and digital billboards (0.71 MPH), while comparison sites (0.66 MPH) and baseline sites (0.991 MPH) were also similar to each other.

Crundall et al in 2006[19] found that street level advertisements attracted more attention than raised advertisements when drivers were instructed to look for hazards. Crundall et al suggests that this is because street level advertisements fall within the normal window within which drivers habitually scan for hazards and that advertisements within this window are inappropriately capturing attention.

Klauer et al in 2006[20] found that "Total eyes-off-road durations of greater than 2 seconds significantly increased individual near-crash/crash risk whereas eye-glance durations for less than 2 seconds did not significantly increase crash risk relative to normal, baseline driving." Klauer et al also goes on to say that "if the task is simple and requires a short glance, the risk is only elevated slightly, if at all". It is also likely that movement or changes in luminance will involuntarily capture attention and that particularly salient emotional and engaging material will recruit attention to the detriment of driver performance.

Australian Research

A study was undertaken by the Monash University Accident Research Centre (MUARC) in 2015[21,22] to examine how static advertising billboards affect drivers' situation awareness and driving in a freeway environment. The study involved 19 drivers who were tasked with driving an instrumented vehicle around a 38km urban test route in Melbourne comprising a number of static roadside billboards. Drivers provided continuous verbal protocols throughout the

[19] Source: Crundall, C., Van Loon, E. and Underwood, G., 2006, 'Attraction and distraction of attention with roadside advertisements', Accident Research Unit, School of Psychology, University of Nottingham, Nottingham, UK.
[20] Source: Klauer, S.G., Dingus, T.A., Neale, V.L., Sudweeks, J.D. and Ramsey, D.J., 2006, 'The impact of driver inattention on near-cash/crash risk: An analysis using the 100-car Naturalistic Driving Study data', report DOT HS 810 594.
[21] Source: Young, K.L., Stephens, A.N., Logan, D.B. and Lenné, M.G., Monash University Accident Research Centre (MUARC), 2015, An on-road study of the effect of roadside advertising on driving performance and situation awareness, 4th International Driver Distraction and Inattention Conference, Sydney, New South Wales, Australia.
[22] This study analyses only the freeway section of the drive. This section included two static billboards: one located on the left side of the freeway (roadside) and one mounted on an overhead bridge (overpass).

drive. The factors observed included verbal protocol analysis, longitudinal control, lateral control and driver situation awareness.

The study discusses its results as follows:

> *Overall, the results indicate that the billboards did not overly distract drivers to the extent that their driving performance or observed behaviour diminished significantly.*
>
> *Drivers did mention the billboards as part of their verbal protocols; however, there was a strong trend for drivers to mention the billboards only when driving demand was low, such as when travelling on the freeway in medium density free-flowing traffic.*

The study continues on to report the following key findings:

> *Drivers directing relatively less attention towards billboards in higher workload driving conditions (at least on the freeway) may be due to unconscious attentional narrowing as a result of increased driving demand. However, it may also point to a form of driver self-regulation, whereby drivers are capable of adapting their visual and cognitive attention in relation to billboards, paying more attention to them when driving is less demanding and paying less attention when demand increases, such as when performing a manoeuvre (in this case exiting the freeway). This explanation is in line with a number of research studies that have examined the impact of static and electronic billboards on driver behaviour and attention and found that billboard-related distraction appears to be regulated by drivers across different road environments and levels of driving demand (see review by Decker et al., 2015)*[23].

This is further reinforced by Decker et al. (2015) which stated:

> *Billboards did not appear to affect the overall percentage of time spent glancing at the forward roadway, and drivers seemed able to self-regulate their attention to billboards when they realized that the demands of the driving task had increased; for example, to attend to lead vehicles or to view navigation-related, regulatory, or warning signs. Furthermore, drivers tended to make several short, consecutive glances to billboards rather than fewer, longer glances. The mean length of these glances probably do not suggest a traffic safety concern, especially because drivers may be able to attend to the forward roadway using peripheral vision even while glancing at a billboard. However, billboards may pose a considerable risk when PRTs (perception reaction time) near 0.75 s are required or when the driving task suddenly and unexpectedly becomes more difficult after a period of relatively low complexity.*

This study confirms that outdoor advertising is intended to be a 'glance medium', with only short glances required to read and interpret messages, which would not have a significant impact on road safety.

[23] Decker, J.S., Stannard, S.J., McManus, B., Wittig, S.M.O., Sisiopiku, V.P. and Stavrinos, D., 2015, The Impact of Billboards on Driver Visual Behavior: A Systematic Literature Review, Traffic Injury Prevention 2015.

An on-road study reported by Samsa[24,25] involving 29 participants was undertaken in 2015 to compare drivers' eye fixations and driving performance when advertising signs (static billboards, digital billboards and on-premise signs) were present. Participants were fitted with tracking glasses and drove an instrumented vehicle along a 14.6km route in Brisbane.

The study discusses its findings as follows:

> *Number of fixations and dwell times towards advertising signs were measured, along with lateral deviation and vehicle headway. The study found the average fixation durations for all signage types were well below 0.75 s, considered to be the minimum perception-reaction time to an unexpected event. There were no significant differences in average vehicle headway between the three signage types.*
>
> *The findings show that digital billboards do not draw drivers' attention away from the road for dangerously long periods of time compared to the other signage types, and drivers maintained a safe average vehicle headway in the presence of these signs. Whilst average SDLP (average standard deviation of lane position) increased in the presence of billboards generally, digital billboards were not solely responsible for this result.*

As can be seen in the table below, the average and median fixations were well below the minimum perception-reaction time to an unexpected event (0.75 seconds).

Table C2: Fixation characteristics by signage type

Sign type	Average fixation (s)	Median (s)
Static billboard	0.225	0.1991
Digital billboard	0.207	0.1991
On-premise	0.199	0.1991

Relationship between Static Digital Billboards and Accident Statistics

A study was undertaken by Tantala and Tantala in 2010 on the relationship between digital billboards and traffic safety in the Greater Reading Area in Berks County, Pennsylvania, USA and reported on by the Outdoor Media Association (OMA) *2010 Discussion Paper: Digital Billboard and Road Safety: An Analysis of Current Policy and Research Findings*[26]. Tantala and Tantala's 2010 investigations examined eight years of traffic and crash data for roads near 26 digital billboards in the area, with most of the billboards containing static images (text and graphics) with a message dwell time (the length of time for which an image is displayed) of either 8 or 10 seconds, except for a six month period in 2006 when a number of the digital billboards contained message dwell times of 6 seconds. The overall conclusion of the study was that the digital billboards had no statistically significant relationship with the occurrence of accidents and the results were consistent for 8 and 10 second dwell times. Further to their

[24] Source: Samsa, C., Samsa Consulting, 2015, 'Digital billboards 'down under'. Are they distracting to drivers and can industry and regulators work together for a successful road safety outcome?', 4th International Driver Distraction and Inattention Conference, Sydney, New South Wales, Australia.
[25] It is noted that a total of 21 static billboards and a large number of on-premise signs were located within the analysed road segments for comparison with the 4 digital billboards within the review area.
[26] Source: Outdoor Media Association 2010, Discussion paper: Digital billboard and road safety: an analysis of current policy and research findings, OMA, Sydney, NSW, AUS.

findings, the total number of accidents after the conversion of the signs to digital billboards was approximately equivalent to what would have been statistically expected without the introduction of digital technology.

A second study was undertaken by Tantala and Tantala in 2010 on the relationship between digital billboards and traffic safety in Albuquerque, New Mexico, USA and was reported on by the Outdoor Media Association (OMA) *2010 Discussion Paper: Digital Billboard and Road Safety: An Analysis of Current Policy and Research Findings*[27]. The investigations examined traffic and crash data for a seven-year period for local roads near 17 existing digital billboards which had been converted from traditional PVC billboards between 2006 and 2007 and displayed a static image with a message dwell time of 8 seconds. The analysis found that the 17 digital billboards have no statistically significant relationship with crashes, with crash rates near five digital billboards decreasing by 0.3% within 0.6 miles over an average six year period. Crash rates had not increased following the conversion of the signs to digital billboards.

A study by Wachtel in 2009[28] reviewed the findings of 43 studies conducted between 1984 and 2008 on the possible road safety impacts of both traditional and digital billboards. The conclusions drawn from this study as reported within the OMA discussion paper[29] included that no definitive conclusions can be made about the presence or strength of adverse road safety impacts from digital billboards and that although some studies found a relationship between outdoor advertising signs and deterioration in driving performance, other studies found no such relationship. Wachtel also provided some guidelines for digital billboards, including that the interval between successive displays should essentially be zero and that digital signs should be prohibited near locations where drivers must make critical decisions.

Static Electronic Billboard Design Recommendations

Austroads Research Report 2013, Impact of Roadside Advertising on Road Safety, Austroads[30], was conducted with the aims to:

- Review the extant literature on the distraction risk associated with roadside advertising.
- Document and review the existing guidelines across road agencies so that inconsistencies and gaps could be identified.
- Inform guiding principles and make guidance recommendations that can be used to create guidelines and harmonise guidelines across road agencies.

The Austroads guidance recommendations for static electronic billboards developed in this report are detailed in the table below.

Table C3: Austroads Research Report: Impact of Roadside Advertising on Road Safety (2013) - Digital Billboard Recommendations

[27] Source: Outdoor Media Association 2010, Discussion paper: Digital billboard and road safety: an analysis of current policy and research findings, OMA, Sydney, NSW, AUS.
[28] Source: Wachtel, J., 2009, 'Research for AASHTO Standing Committee on Highways task 256: safety impacts of the emerging digital display technology for outdoor advertising signs, National Cooperative Highway Research Program, Washington, DC, USA.
[29] Source: Outdoor Media Association 2010, Discussion paper: Digital billboard and road safety: an analysis of current policy and research findings, OMA, Sydney, NSW, AUS.
[30] Source: Austroads Research Report 2013, Impact of Roadside Advertising on Road Safety, Austroads, Sydney, NSW, AUS.

Criteria	Recommendations
Movement	Roadside advertising should not contain movement, changes in luminance or any effects that create the illusion of movement.
Flashing lights	Roadside advertising should not contain flashing, blinking, revolving, pulsating or intermittent lights.
Dwell time	No specific measure is provided other than that the goal is to limit the number of message changes that drivers are exposed to.
Transition time	Messages should change instantaneously.
Message sequencing	Sequencing of messages should be prohibited.
Colour	Advertising devices should not be coloured like an official traffic sign or signal.
Information content/ meaning	Advertising devices should not imitate traffic control devices or give instructions to traffic. They should not contain extreme emotional material.
Luminance levels	Luminance levels should not exceed those of static signs in typical ambient light conditions.
Dimensions	Not to be shaped like an official traffic sign or device.
Longitudinal placement	Should not be located in such a way that they might interfere with the effectiveness of traffic control devices.
Lateral placement	Should not be placed so that drivers must divert their gaze from the forward roadway.
Vertical placement	Should be elevated above the height of vehicles, but not so high that they draw the gaze away from the forward roadway.
Orientation	Advertising devices should be orientated to facilitate legibility from the maximum legibility distance and across the full approach distance.
Sight distance	The sight distance must correspond to the required legibility distance so that drivers have enough time to comprehend the message on approach.

The Outdoor Media Association (OMA) 2010 Discussion Paper: Digital Billboard and Road Safety: An Analysis of Current Policy and Research Findings[31] has also provided recommendations in the following areas as detailed in the table below.

Table C4: OMA 2010 Discussion Paper digital billboard recommendations

[31] Source: Outdoor Media Association 2010, Discussion paper: Digital billboard and road safety: an analysis of current policy and research findings, OMA, Sydney, NSW, AUS.

Criteria	Recommendations
Dwell time	Each message shall remain fixed for a maximum 8 seconds, with 5-7 seconds being the recommended dwell time depending on the sign's location.
Transition time	The transition time between messages shall be no longer than 1 second.
Message sequencing	No message sequencing is to be permitted.
Colour	Advertisements should not be dominated by the colours red, yellow or green in combination if it is located near traffic signals.
Luminance levels	The light emitted shall not exceed certain thresholds and must have automatic dimming capabilities.

The OMA 2010 discussion paper also reported that in London, UK, the UK Outdoor Advertising Association developed a code that stated that digital roadside billboards should not change more frequently than every 5 seconds unless consent is granted.

The paper also indicates that the Federal Highway Administration, USA provides guidance on digital billboards to ensure national consistency is achieved. Recommendations include a dwell time between 4 and 10 seconds (with 8 seconds being recommended) and a transition time of between 1 and 2 seconds. It was also recommended that message brightness should automatically respond to changing light levels.

Appendix D

Austroads Standards

Austroads Standards

It is important to understand how the sign is viewed.

The Austroads Guide to Traffic Management Part 10: Traffic Control and Communication Devices includes a method for determining the legibility distance required of a traffic sign. This is represented diagrammatically at Figure C1 below.

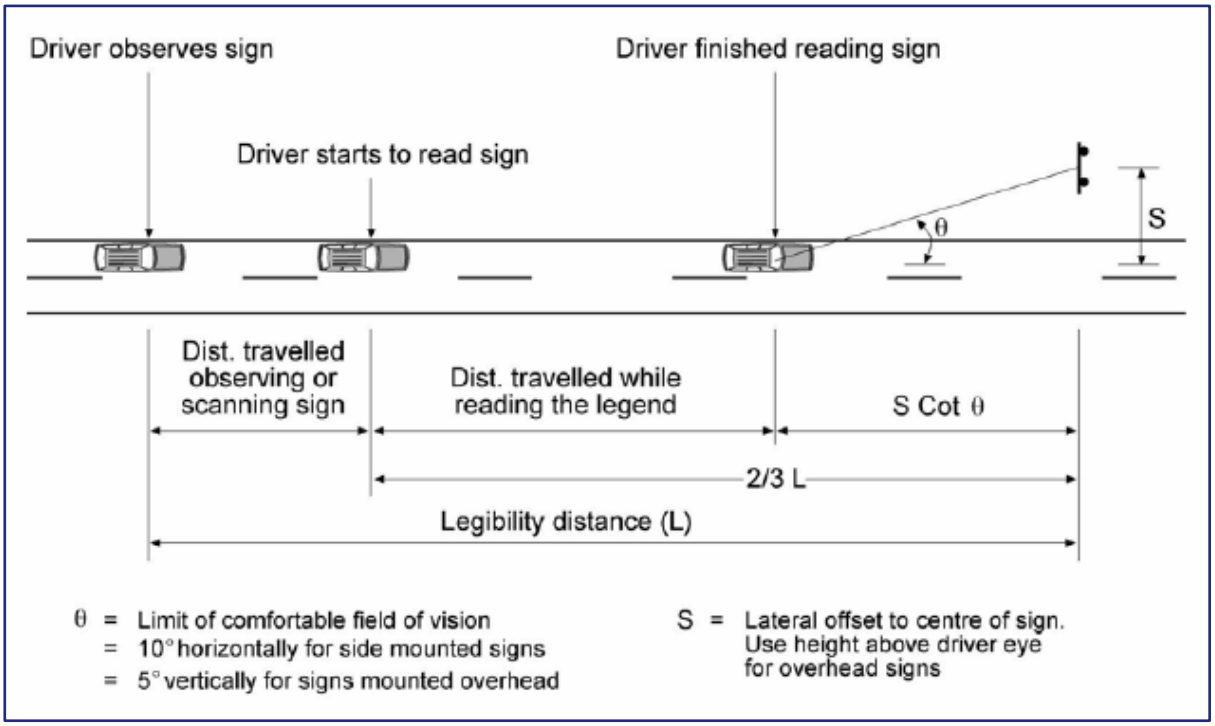


Figure D1: Austroads Guide to Traffic Management Part 10: Traffic Control and Communication Devices – Figure 4.3

This method of calculating the sign reading task breaks up the legibility distance into 3 parts, namely:

- the distance travelled while observing or scanning the sign,
- the distance travelled while reading the sign, and
- the distance in close proximity to the site where the sign is no longer in the driver's cone of vision and is no longer being read by the driver.

The Austroads Guide states that the time taken to read a sign containing up to 5 words is calculated by:

Equation 1:

T = 0.25N seconds

Where N is the number words in the sign

The legibility distance required for a side-mounted road sign can be calculated using the following equation provided in the Austroads Guide:

Equation 2:

L = 0.105NV + 8.55S

Where L is the legibility required

N is the number of words (for 2 to 5 words)

V is travel speed of vehicles approaching the sign in km/h

S is the lateral or vertical displacement of the centre of the sign from the centre of the traffic lane, or above the driver eye height, for side or overhead mounted signs respectively.

Obsidian OOH Pty Ltd
Ref: 3679.3

LIGHTING IMPACT ASSESSMENT
OUTDOOR SIGNAGE AT
86-88 HOPKINS ST, FOOTSCRAY

DATE	REV	COMMENT	PREPARED BY	CHECKED BY
13/02/25	REV A	For Information	NL	RS

Electrolight Australia
ABN: 44 600 067 392
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CONTENTS

1. INTRODUCTION

Electrolight have been appointed by Obsidian OOH Pty Ltd to undertake a Lighting Impact Assessment on the proposed digital signage to be installed at 86-88 Hopkins St, Footscray, Victoria (**proposed signage**). The objective of the assessment is to report on compliance with the Department of Transport and Planning Requirements and Guidelines for Illuminated Outdoor Advertising Signage and AS/NZS 4282:2023 Control of the Obtrusive Effects of Outdoor Lighting.

2. DEFINITIONS

2.1 Illuminance

The physical measure of illumination is illuminance. It is the luminous flux arriving at a surface divided by the area of the illuminated surface. Unit: lux (lx); 1 lx = 1 lm/m2.

(a) Horizontal illuminance (Eh) The value of illuminance on a designated horizontal plane
(b) Vertical illuminance (Ev) The value of illuminance on a designated vertical plane

Where the vertical illuminance is considered in the situation of potentially obtrusive light at a property boundary it can be referred to as environmental vertical illuminance (Eve).

2.2 Luminance

The physical quantity corresponding to the brightness of a surface (e.g. a lamp, luminaire or reflecting material such as the road surface) when viewed from a specified direction. SI Unit: candela per square metre (cd/m2) – also referred to as “nits”.

2.3 Luminous Intensity

The concentration of luminous flux (perceived light power) emitted in a specified direction. Unit: candela (cd).

2.4 Dynamic content

Where the luminous image, pattern, colour or direction of light changes over an interval of less than 60 seconds.
Note: Definition source is AS4282.

2.5 Obtrusive Light

Spill light which, because of quantitative or directional attributes, gives rise to annoyance, discomfort, distraction, or a reduction in ability to see essential information such as transport signals.
Note: Obtrusive light includes the impact on humans and environmental receivers.

2.6 Threshold Increment

The measure of disability glare expressed as the percentage increase in luminance contrast threshold required between an object and its background for it to be seen equally well with a source of glare present.
Note: The required value is a maximum for compliance of the lighting scheme.

2.7 Environmentally Sensitive Area (ESA)

Area of ecological value including, bushland, waterways and marine and coastal areas.
Note: Definition source is AS4282.

2.8 AGI32 Light Simulation Software

AGI32 (by U.S. company Lighting Analysts/Revalize) is an industry standard lighting simulation software package that can accurately model and predict the amount of light reaching a designated surface or workplane. AGi32 has been independently tested against the International Commission On Illumination (CIE) benchmark, CIE 171:2006, Test Cases to Assess the Accuracy of Lighting Computer Programs.

2.9 Upward Light Ratio Luminaire (ULR_L)

The ratio of the luminous flux of a luminaire that is emitted, at and above the horizontal, divided by the total luminaire flux when the luminaire is mounted in its designed position, and excluding reflected light from surfaces or obstructions.

Note: Definition source is AS4282.

2.10 Environmental Receiver

Any identified living species (plants, animals and other organisms) and their locations indicated, that may be impacted by the proposed lighting system.

Note: Definition source is AS4282.

3. SITE DESCRIPTION AND SCOPE

The proposed signage is located at high level of the eastern facade of the building at 86-88 Hopkins St, Footscray. The signage is oriented towards the westbound direction of traffic on Hopkins St. The total active display (illuminated) area of the proposed signage is 52.22 m2. Refer to Appendix A for proposed signage location plan, elevations and photomontages.

The proposed signage is located in a commercial area with street lighting. The night time lighting conditions are best categorised as “High District Brightness” as defined in the Department of Transport and Planning Requirements and Guidelines for Illuminated Outdoor Advertising Signage, equivalent to Environmental Zone “A4” of AS4282:2023.

The proposed signage is illuminated using LEDs installed within the front face. The brightness of the LEDs shall be controlled to provide upper and lower thresholds as required as well as automatically via a local light sensor to adjust to ambient lighting conditions. The dwell time of the content displayed on the signage is 30 seconds and it is to operate 24 hours per day. As the dwell time of the content displayed on the signage is less than 60 seconds, it is defined as being dynamic content (see Section 2.4).

For the purpose of this report, the specification of the proposed signage is as outlined in Appendix B. The signage includes baffles which mitigate upward waste light, resulting in an Upward Light Ratio (ULR_L) of not more than 0.45*. Alternative digital sign manufacturers may be used for this installation as long as they have equivalent lighting and performance characteristics and are commissioned as described in this report.

Environmental impact assessments, including the management of artificial light for the protection of specific entities protected by environmental legislation, is beyond the scope of this assessment.

*The signage supplier and/or operator is responsible for complying with the Upward Light Ratio. Electrolight take no responsibility for compliance with this requirement.

4. DESIGN GUIDELINES AND STANDARDS

The Lighting Impact Assessment will review the proposed signage against the following Criteria, Design Guidelines and Standards:

- Department of Transport and Planning Requirements and Guidelines for Illuminated Outdoor Advertising Signage 4th October 2023 (**DTP Guidelines**)
- AS/NZS 4282:2023 Control of the Obtrusive Effects of Outdoor Lighting (**AS4282**)

5. LUMINANCE ASSESSMENT

DTP Guidelines Assessment

The DTP outlines maximum permissible luminance limits for various lighting conditions as per Table 1 below:

TABLE 1 - ILLUMINATED OUTDOOR ADVERTISING SIGNAGE						
	CATEGORY A MAXIMUM VALUES OF LIGHT TECHNICAL PARAMETERS			CATEGORY B MAXIMUM VALUES OF LIGHT TECHNICAL PARAMETERS		
Lighting Condition	Max Average Luminance (cd/m2)	Threshold Increment Note 1		Max Average Luminance (cd/m2)	Threshold Increment Note 1	
		Max %	Adaptation Luminance		Max %	Adaptation Luminance
Full sun on face of signage	No limit	-	-	No limit	-	-
Daytime Luminance	6000	-	-	4000	-	-
Morning and evening twilight and overcast weather (see Note 2)	700	-	-	400	-	-
Night Time - High District Brightness (Note 3)	350	20%	5	200	15%	5
Night Time - Medium District Brightness (Note 3)	250	20%	1	150	15%	1
Night Time - Low District Brightness (Note 3)	150	20%	0.25	Not Permitted	N/A	N/A

Note 1: Threshold increment as defined and calculated in AS4282

Note 2: Twilight is a defined as the period when the sun is below the horizon but light from the sun is still indirectly visible. When the sun is 18 degrees or more below the horizon, the amount of visible light is very low and this is defined as Night time.

Note 3: Refer to page 5 for details of equivalent High, Medium and Low district brightness areas

Based on an assessment of the surrounding environment, the signage is located within a High District Brightness Area (refer Section 3). The signage is classified as “Category A” illuminated advertising signage, therefore the maximum permissible luminance under the guidelines is: unlimited (maximum brightness) when full sun strikes the face of the sign, 6000 cd/m2 during normal daytime operation, 700 cd/m2 during twilight and overcast weather and 350 cd/m2 during night time.

AS4282 Luminance Assessment

AS4282 outlines maximum luminance limits for signage during night time operation only, its scope does not include lighting impacts associated with daytime operation. The maximum permissible night time luminance of the signage is determined by the existing lighting environment of its surroundings. AS4282 outlines maximum average luminances for different Environmental Zones as shown in Table 2 below:

TABLE 2 - AS4282 MAXIMUM AVERAGE NIGHT TIME LUMINANCE FOR SIGNAGE		
	Description	Max Average Luminance (cd/m2)
A4	High district brightness e.g. Town and city centres and other commercial areas, residential areas abutting commercial areas, industrial and Port areas and Transport Interchanges	350
A3	Medium district brightness e.g. Suburban areas in towns and cities, generally roadways with streetlighting through suburban, rural or semi-rural areas	250
A2	Low district brightness e.g. Sparsely inhabited rural and semi-rural areas, generally roadways without streetlighting through suburban, rural or semi-rural areas other than intersections	150
A1	Dark e.g. Relatively uninhabited rural areas (including terrestrial, marine, aquatic and coastal areas), generally roadways without streetlighting through rural areas	50
A0	Intrinsically Dark e.g. UNESCO Starlight Reserve, IDA: Dark Sky Parks, Reserves or Sanctuaries, major optical observatories, other accreditations for dark sky places for example astrotourism, heritage value, astronomical importance, wildlife/ecosystem protection, lighting for safe access may be required	0.1

Based on an assessment of the surrounding environment, the proposed signage is located within Environmental Zone A4 under AS4282, therefore, the maximum night time luminance is 350cd/m2.

Luminance Assessment Summary

Table 3 outlines the maximum luminance levels for the signage to comply with the DTP Guidelines and AS4282 for the various lighting conditions listed below:

TABLE 3 - MAXIMUM LUMINANCE LEVELS FOR DIGITAL ADVERTISEMENTS		
Lighting Condition	Max Permissible Luminance (cd/m2)#	Compliant
Full Sun on face of Signage	No Limit	✓
Day Time Luminance (typical sunny day)	6000	✓
Morning and Evening Twilight and Overcast Weather	700	✓
Night Time	100*	✓

The signage is to be dimmed on site to ensure the maximum luminance nominated above is not exceeded.

* The maximum permissible night time luminance allowable under AS4282 and the DTP Guidelines is actually 350cd/m2. The luminance limit shown above was derived as a result of the calculation and assessment in Section 6, to ensure compliance with other criteria of AS4282 and any additional lighting requirements as described in this report.

The proposed signage has a maximum brightness (luminance) of 7500 cd/m2. The screen shall be commissioned on site to yield a maximum screen luminance of 7500 cd/m2 when full sun strikes the face of the sign (maximum brightness), 6000 cd/m2 during daytime operation, 700 cd/m2 during twilight and overcast weather, and 100 cd/m2 during night time operation.

6. AS4282 & DTP THRESHOLD INCREMENT ASSESSMENT

The proposed signage has been assessed against the lighting criteria and requirements outlined in AS4282.

AS4282 provides limits for different obtrusive factors associated with dark hours (night time) operation of outdoor lighting systems. Two sets of limiting values for spill light are given based on whether the lighting is operating before a curfew (known as "pre-curfew" operation) or operating after a curfew (known as post-curfew or curfewed operation). Pre-curfew spill lighting limits are higher than post-curfew values, on the understanding that spill light is more obtrusive late at night when residents are trying to sleep. Under AS4282, the post-curfew period is taken to be between 11pm and 6am daily. As the signage operates all night, the signage will be assessed against the more stringent post-curfew limits.

Spill light to any adjacent Environmentally Sensitive Areas (ESA) is also assessed against the more stringent post-curfew limits, as outlined in Clause 3.2.1 of AS4282.

Illuminance Assessment

The AS4282 assessment includes a review of nearby residential dwellings and ESAs and a calculation of the amount of vertical illuminance (measured in Lux) that the properties are likely to receive from the signage during night time operation.

The acceptable level of vertical illuminance will in part be determined by the night time lighting environment around the dwellings. AS4282 categorises the night time environment into different zones with maximum lighting limits as shown in Table 4 below:

TABLE 4 - AS4282 MAXIMUM VALUES OF VERTICAL ILLUMINANCE

	Max Vertical Illuminance (lx)		Description
	Pre-curfew	Post-curfew	
A4	25	5	High district brightness e.g. Town and city centres and other commercial areas, residential areas abutting commercial areas, industrial and Port areas and Transport Interchanges
A3	10	2	Medium district brightness e.g. Suburban areas in towns and cities, generally roadways with streetlighting through suburban, rural or semi-rural areas
A2	5	1	Low district brightness e.g. Sparsely inhabited rural and semi-rural areas, generally roadways without streetlighting through suburban, rural or semi-rural areas other than intersections
A1	2	0.1	Dark e.g. Relatively uninhabited rural areas (including terrestrial, marine, aquatic and coastal areas), generally roadways without streetlighting through rural areas
A0	0	0	Intrinsically Dark e.g. UNESCO Starlight Reserve, IDA: Dark Sky Parks, Reserves or Sanctuaries, major optical observatories, other accreditations for dark sky places for example astrotourism, heritage value, astronomical importance, wildlife/ ecosystem protection, lighting for safe access may be required

Where the signage displays dynamic content (a dwell time less than 60 seconds) and is located within 100m of residential dwelling/s with potential views to the signage, then the maximum allowable vertical illuminance limits to the impacted dwellings are 50% of those outlined in Table 4 above. Where the dwellings are further than 100m from the signage, the maximum vertical limits are those values shown in Table 4.

Residential Dwellings

Based on an assessment of the surrounding areas, the nearest dwellings with potential views to the signage are at the following locations:

Address	Zone	Within 100m of dynamic signage	Address	Zone	Within 100m of dynamic signage
10 Byron St	A4	No	18 Byron St	A4	Yes
12 Byron St	A4	No	34 Cowper St	A4	No
14 Byron St	A4	Yes	8 Falcon Ct	A4	No
16 Byron St	A4	Yes	73 Moore St	A4	No
17 Byron St	A4	Yes	76 Moore St	A4	Yes

As such, the dwellings above will form the focus of the illuminance assessment.

The proposed signage (and surrounding environment) was modelled in lighting calculation program AGI32 to determine the effect (if any) of the light spill from the proposed signage. Photometric data for the signage was provided by the manufacturer* with the maximum luminance corresponding to the night time limit outlined in Section 5. Appendix C shows the lighting model and the results of the calculations.

Under AS4282, the maximum allowable vertical illuminance to dwellings at a distance of 100m or greater from signage displaying dynamic content is 5 lux for Zone A4 (as outlined in Table 4). It can be seen from the lighting model that the maximum illuminance for Zone A4 properties at a distance of 100m or greater from the signage is 0.26 lux at 73 Moore St.

Where dwellings are within 100m of signage displaying dynamic content, the maximum illuminance is 50% of the limits outlined in Table 4, namely 2.5 lux for Zone A4. It can be seen from the lighting model that the maximum illuminance for Zone A4 properties within 100m of the signage is 2.33 lux at 17 Byron St.

The proposed signage therefore complies with the relevant illuminance limits for nearby residential dwellings.

Environmentally Sensitive Areas

No Environmentally Sensitive Areas were identified in the vicinity of the proposed signage. The limits in AS4282 therefore do not apply.

AS4282 & DTP - Threshold Increment Assessment

The Threshold Increment was also calculated for the traffic approaches on Hopkins St (westbound), Hopkins St left turn to Irving St (southbound), Hopkins St right turn to Moore St (northbound), Irving St (northbound), Irving St left turn to Hopkins St (eastbound), Irving St right turn to Hopkins St (westbound), Moore St right turn to Hopkins St (westbound), Moore St left turn to Hopkins St (eastbound). The Threshold Increment was also calculated for the railway approaches in both the inbound and outbound directions. The calculation grids were located at 1.5m above ground level for the general traffic approaches and 2m above ground for rail approaches, with an approach viewing distance of between 15m to 200m from the signage and a windscreen cutoff angle of 20 degrees (as outlined in AS1158). The calculation results show that the Threshold Increment does not exceed 2.79% for any traffic approach (the allowable maximum under the AS4282 and DTP Guidelines is 20%).

* Electrolight takes no responsibility for the accuracy of third party provided photometric data.

Upward Waste Light Assessment

In order to reduce light pollution and associated environmental impacts, AS4282 includes requirements that limit upward waste light into the night sky from signage. Clause 3.3.3.b) of AS4282 states that digital signage shall have an Upward Waste Light Ratio (ULR_L) of not more than 0.45. The ULR_L of the specified signage is not more than 0.354. The proposed signage therefore complies with this requirement.

Luminous Intensity

The luminous intensity limits nominated in the standard are not applicable for internally illuminated signage.

Summary

It can therefore be seen that the proposed signage complies with all relevant requirements of AS4282 and the DTP Guidelines.

7. SUMMARY

- The proposed signage to be installed at 86-88 Hopkins St, Footscray, shall be commissioned on site to yield the following maximum luminances:

COMPLYING LUMINANCE LEVELS FOR DIGITAL ADVERTISEMENTS		
Lighting Condition	Max Permissible Luminance (cd/m2)	Compliant
Full Sun on face of Signage	No Limit	✓
Day Time Luminance (typical sunny day)	6000	✓
Morning and Evening Twilight and Overcast Weather	700	✓
Night Time	100	✓

- The proposed signage to be installed at 86-88 Hopkins St, Footscray, has been assessed and complies with the requirements of the DTP Guidelines (when commissioned to the maximum luminance levels above).
- The proposed signage has been found to comply with all relevant requirements of AS4282.
- In complying with the above requirements, the proposed signage shall not result in unacceptable glare nor shall it adversely impact the safety of pedestrians, residents, vehicular traffic or rail services. Additionally, the signage shall not cause any unacceptable amenity impacts to nearby residential dwellings, accommodation or environmental receivers.

8. DESIGN CERTIFICATION

The proposed signage to be installed at 86-88 Hopkins St, Footscray, if commissioned according to this report, complies with the following criteria, guidelines and standards:

- Department of Transport and Planning Requirements and Guidelines for Illuminated Outdoor Advertising Signage 4th October 2023
- AS/NZS 4282:2023 Control of the Obtrusive Effects of Outdoor Lighting

Ryan Shamier MIES

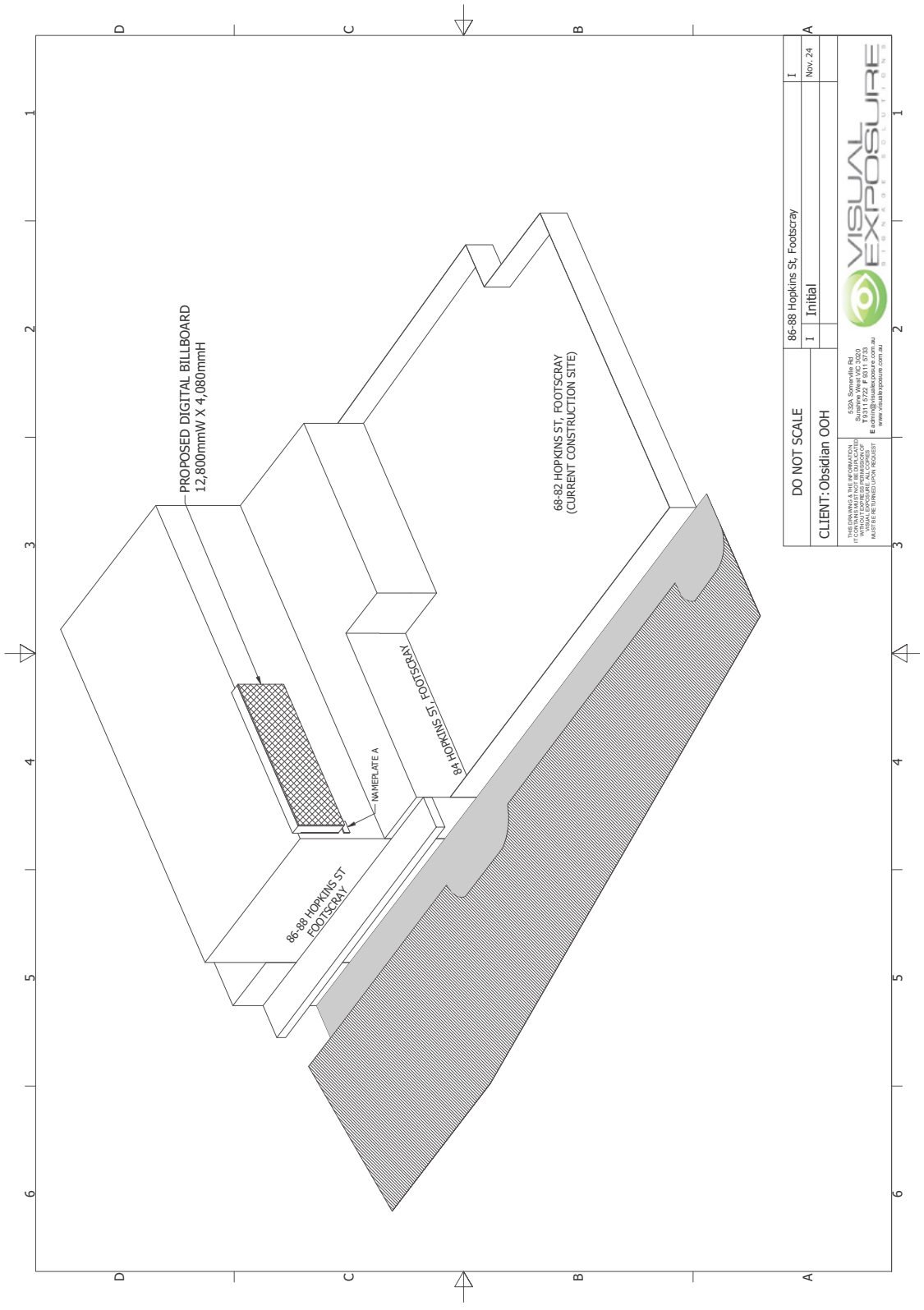
M.Des.Sc(Illumination) B.Eng (Elec)
Registered Professional Engineer - Victoria (AMR Ref PE0006091)

Senior Lighting Designer
Electrolight Sydney
13/02/25

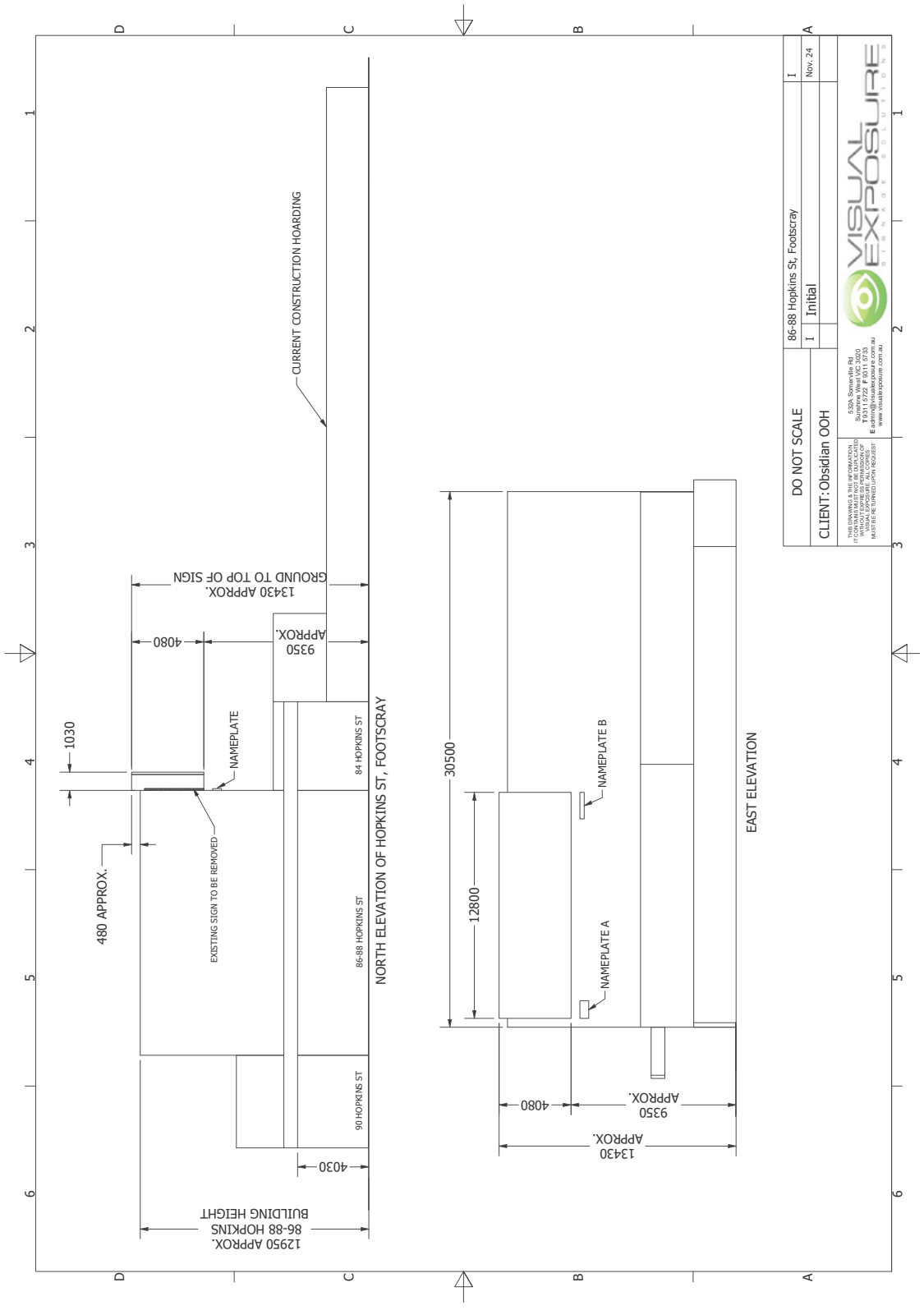
APPENDIX A

PROPOSED SIGNAGE LOCATION, ELEVATIONS & PHOTOMONTAGES

APPENDIX A
PROPOSED SIGNAGE LOCATION, ELEVATIONS & PHOTOMONTAGES



APPENDIX A
PROPOSED SIGNAGE LOCATION, ELEVATIONS & PHOTOMONTAGES



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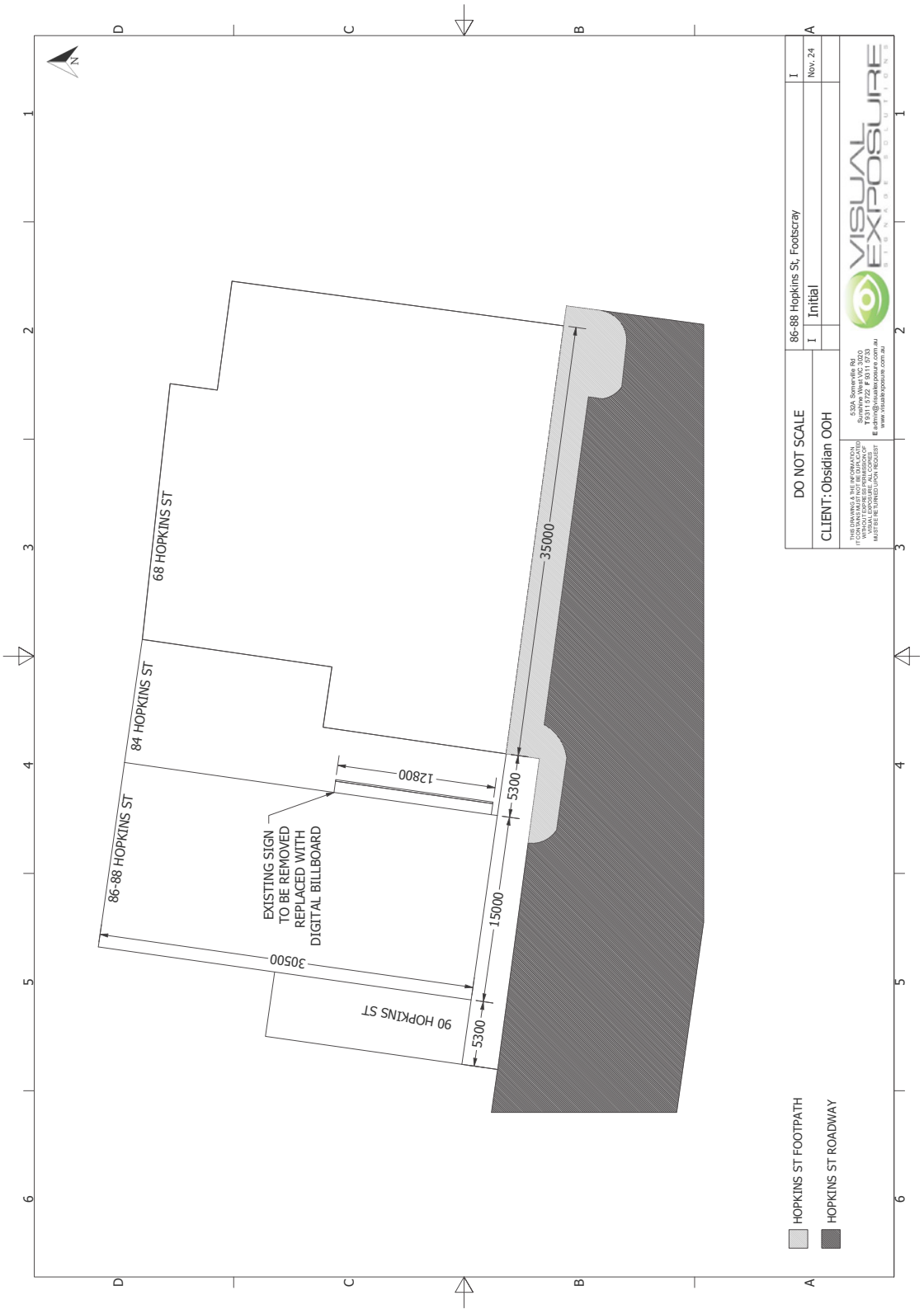
PROPOSED SIGNAGE LOCATION, ELEVATIONS & PHOTOMONTAGES



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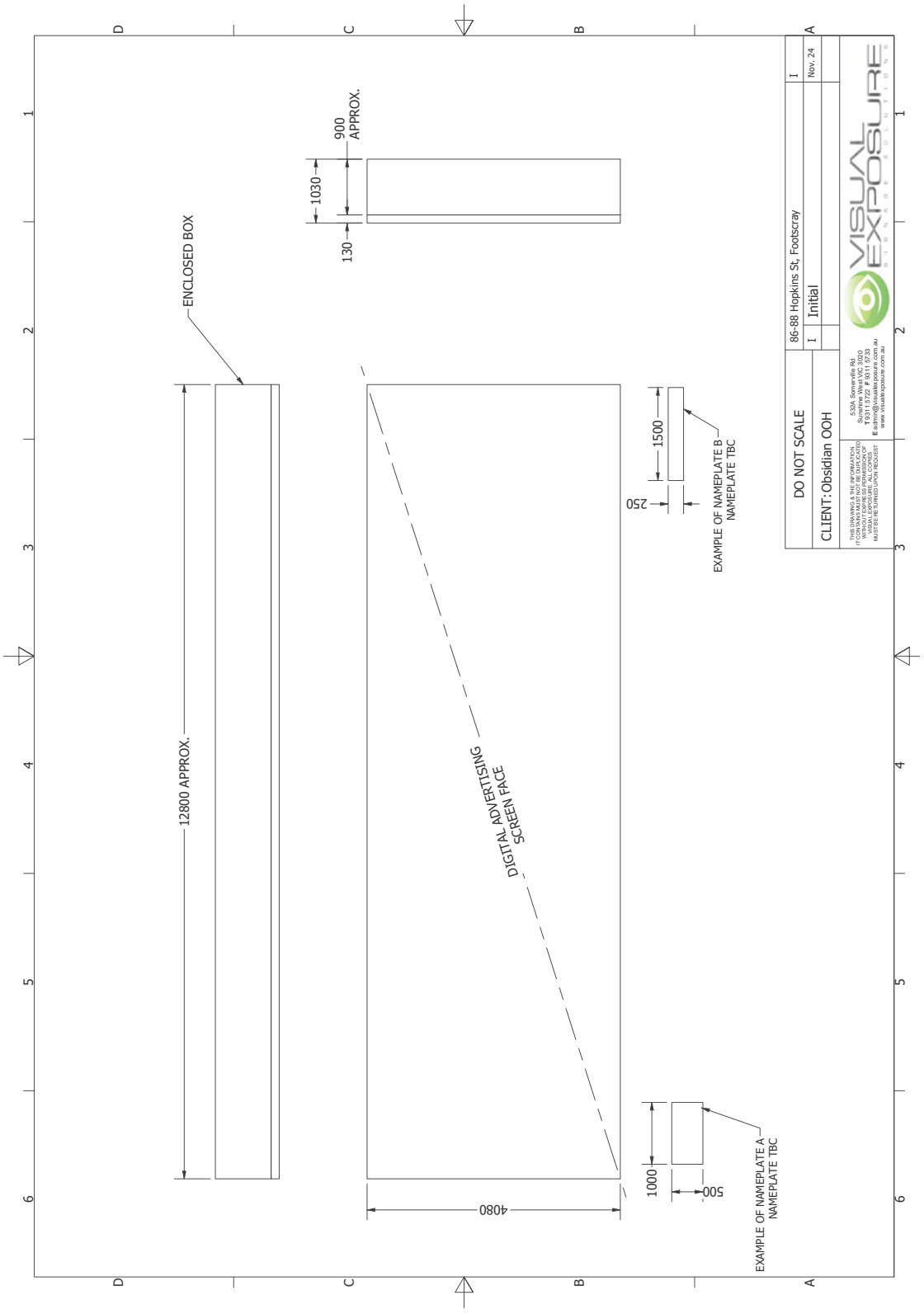
PROPOSED SIGNAGE LOCATION, ELEVATIONS & PHOTOMONTAGES



APPENDIX B

DIGITAL SIGNAGE SPECIFICATION

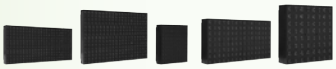
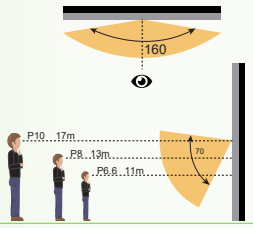
DIGITAL LED BILLBOARD

VT-XS SERIES

OUTDOOR FIXED INSTALL DISPLAY

- DESIGNED FOR DEMANDING AUSTRALIAN CONDITIONS
- HIGH RELIABLITY AND BRIGHTNESS
- SIZE: 12,800MMW X 4,080MMH

TECHNICAL SPECIFICATIONS ↓

PHYSICAL PARAMETERS SIMPLE MAINTENANCE PIXEL LEVEL CALIBRATION	LED Pixel Pitch (mm)	10
	LED Type	Surface Mount Diode (SMD2727 Gold Wire)
	Pixel Configuration	RGB (1R1G1B)
	Module Resolution (WxH) Pixels	32 x 24
	Module Dimensions (WxH) mm	320 x 240
CABINET STRUCTURE 	Screen Dimensions (mmW x mmH) / Pixels	12,800 x 4,080 / 1280 x 408
	Physical Pixel Density / m^2	10,000
	Cabinet Dimensions (WxH) mm [1]	1280x1200 / 1280x960 / 960x1200 / 960x960
	Screen Weight (kg) approx.	2,350
	Cabinet Material	Aluminum Cabinet w/ Doors
	Ingress Protection Level (Front/Rear)	IP65 / IP54
	Flatness of cabinet (mm)	≤ 0.5
	Service Access	Front & Rear
DISPLAY SPECIFICATIONS 	Brightness cd/m^2 (NITS)	7,500 Calibrated
	Minimum / Optimum Viewing Distance (m)	10 / 17
	Color Temperature (CCT)	3200 - 9500 kelvin adjustable
	Horizontal Viewing Angle ° (left / right)	160
	Vertical Viewing Angle ° (up / down)	70
	Brightness Adjustment	Automatic with Dual Photocell / Manual / Schedule
	Light Centre Distance Deviation %	≤4
	Brightness Uniformity %	≥95
	Contrast Ratio	3000:1
ELECTRICAL SPECIFICATIONS [2]	Power Consumption Max / AVG (W/m^2) @ 240VAC	630 / 210
	Power Consumption Max / AVG (A/m^2) @ 240VAC	2.7 / 0.88
	Power Supply (VAC)	85~265 (50-60Hz)
PROCESSING FEATURES HIGH REFRESH RATE HIGH CONTRAST RATIO FACTORY CALIBRATED BRIGHTNESS	Signal Processing (bits)	16
	Grayscale Level (bits)	10~14
	Colors	280 trillion
	Driving Mode	Constant Current Drive
	Frame Rate (Hz)	60
	Refresh Rate (Hz)	≥3,840
	Constant Operating Time (Hrs)	24 / 7
OPERATION SPECIFICATIONS ACTIVE + PASSIVE COOLING	Lifetime (L^{50})	100,000 Hrs
	Operating Temperature (°C) [3]	-20 to +60
	Operating Humidity (%) RH	5 to 95 (no condensation)
TRANSMIT MODE	Control Distance	CAT 5E/6 Cable <100m / Fibre Optic >100m
	Control Mode	Synchronous, DVI Interface
COMPATIBILITY	Software Environment	Windows 7 / 10 / 11 - Linux by Request

1. Typical cabinet dimensions, size may vary to suit actual screen size
2. Power consumption may vary pending cabinet ventilation conditions and LED die size
3. Automatic dimming occurs at operating temperatures outside the specified range to protect internal components
4. Above parameters are typical only. These vaules may be adjusted according to actual project requirements

VISUAL TECHNOLOGIES
DIGITAL SIGNS & LED SUPPLIES

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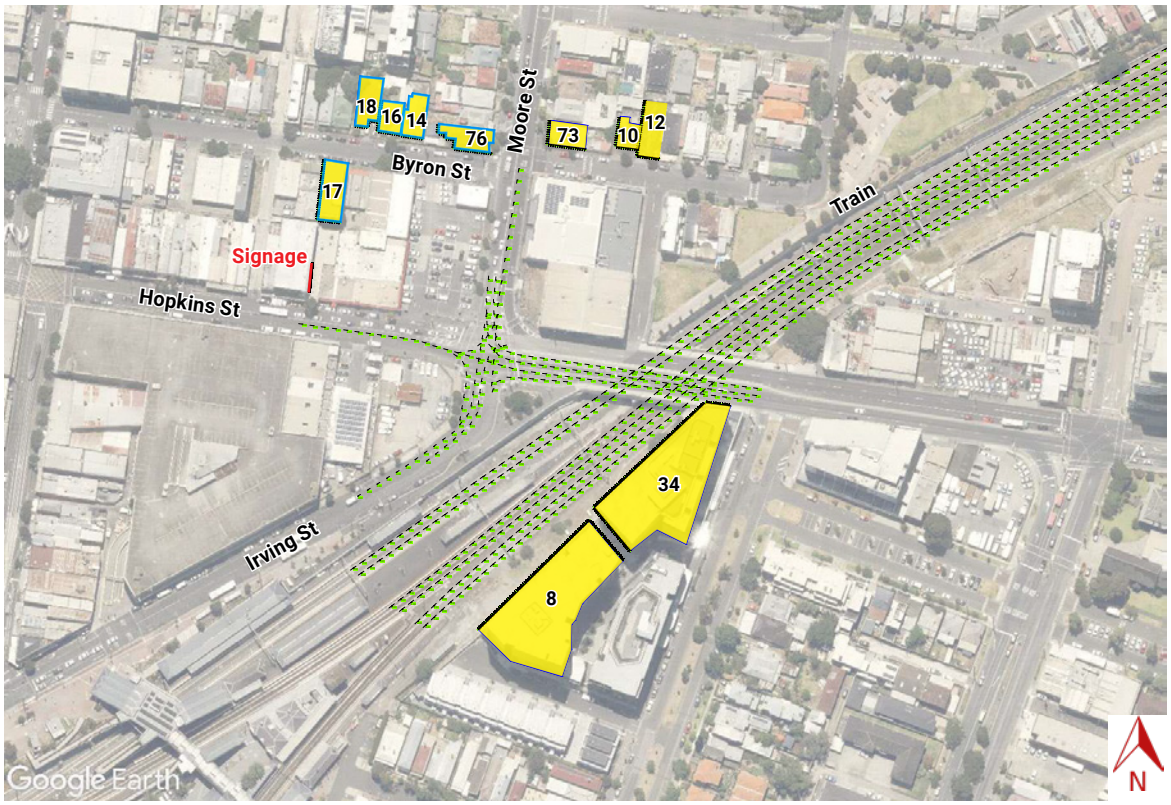
APPENDIX C
OBTRUSIVE LIGHTING CALCULATIONS

Environmental Zone Legend:

- A0
- A1
- A2
- A3
- A4
- Property within 100m of signage



APPENDIX C
OBTRUSIVE LIGHTING CALCULATIONS

Calculation Summary			
Project: Obtrusive - A4 within 100m			
Label	CalcType	Units	Max
14 Byron St_III_Seg1	Obtrusive - III	Lux	0.40
16 Byron St_III_Seg1	Obtrusive - III	Lux	0.00
16 Byron St_III_Seg2	Obtrusive - III	Lux	0.34
17 Byron St_III_Seg1	Obtrusive - III	Lux	0.00
17 Byron St_III_Seg2	Obtrusive - III	Lux	2.33
18 Byron St_III_Seg1	Obtrusive - III	Lux	0.00
18 Byron St_III_Seg2	Obtrusive - III	Lux	0.00
18 Byron St_III_Seg3	Obtrusive - III	Lux	0.00
76 Moore St_III_Seg1	Obtrusive - III	Lux	0.26
76 Moore St_III_Seg2	Obtrusive - III	Lux	0.33
76 Moore St_III_Seg3	Obtrusive - III	Lux	0.29
76 Moore St_III_Seg4	Obtrusive - III	Lux	0.36
76 Moore St_III_Seg5	Obtrusive - III	Lux	0.32
76 Moore St_III_Seg6	Obtrusive - III	Lux	0.38

Calculation Summary			
Project: Obtrusive - A4 outside 100m			
Label	CalcType	Units	Max
10 Byron St_III_Seg1	Obtrusive - III	Lux	0.20
10 Byron St_III_Seg2	Obtrusive - III	Lux	0.07
12 Byron St_III_Seg1	Obtrusive - III	Lux	0.20
12 Byron St_III_Seg2	Obtrusive - III	Lux	0.14
34 Cowper St_III_Seg1	Obtrusive - III	Lux	0.04
34 Cowper St_III_Seg2	Obtrusive - III	Lux	0.20
34 Cowper St_III_Seg3	Obtrusive - III	Lux	0.02
73 Moore St_III_Seg1	Obtrusive - III	Lux	0.26
73 Moore St_III_Seg2	Obtrusive - III	Lux	0.20
8 Falcon Ct_III_Seg1	Obtrusive - III	Lux	0.00
8 Falcon Ct_III_Seg2	Obtrusive - III	Lux	0.17

APPENDIX C
THRESHOLD INCREMENT CALCULATIONS

Calculation Summary			
Project: Ti			
Label	CalcType	Units	Max
Hopkins St (W)	Obtrusive - TI	%	1.34
Hopkins St to Irving St (S)	Obtrusive - TI	%	0.20
Hopkins St to Moore St (N)	Obtrusive - TI	%	2.79
Irving St (N)	Obtrusive - TI	%	0.01
Irving St to Hopkins St (E)	Obtrusive - TI	%	0.00
Irving St to Hopkins St (W)	Obtrusive - TI	%	1.77
Moore St to Hopkins St (W)	Obtrusive - TI	%	0.11
Moore St to Irving St (S)	Obtrusive - TI	%	0.02
Train (inbound)	Obtrusive - TI	%	0.00
Train (inbound)_1	Obtrusive - TI	%	0.00
Train (inbound)_2	Obtrusive - TI	%	0.00
Train (inbound)_3	Obtrusive - TI	%	0.00
Train (inbound)_4	Obtrusive - TI	%	0.00
Train (inbound)_5	Obtrusive - TI	%	0.00
Train (outbound)	Obtrusive - TI	%	0.64
Train (outbound)_1	Obtrusive - TI	%	0.67
Train (outbound)_2	Obtrusive - TI	%	0.60
Train (outbound)_3	Obtrusive - TI	%	0.56
Train (outbound)_4	Obtrusive - TI	%	0.53
Train (outbound)_5	Obtrusive - TI	%	0.49

APPENDIX C
OBTRUSIVE LIGHTING AND THRESHOLD INCREMENT CALCULATIONS

Obtrusive Light - Compliance Report

AS/NZS 4282:2023, A4 - High District Brightness, Curfew
Filename: 3679.3 86-88 Hopkins St, Footscray rev A
13/02/2025 11:02:45 AM

Illuminance

Maximum Allowable Value: 5 Lux*

Calculations Tested (25):

Calculation Label	Test Results	Max. Illum.
17 Byron St_Ill_Seg1	PASS	0.00
17 Byron St_Ill_Seg2	PASS	2.33
18 Byron St_Ill_Seg1	PASS	0.00
18 Byron St_Ill_Seg2	PASS	0.00
18 Byron St_Ill_Seg3	PASS	0.00
16 Byron St_Ill_Seg1	PASS	0.00
16 Byron St_Ill_Seg2	PASS	0.34
14 Byron St_Ill_Seg1	PASS	0.40
76 Moore St_Ill_Seg1	PASS	0.26
76 Moore St_Ill_Seg2	PASS	0.33
76 Moore St_Ill_Seg3	PASS	0.29
76 Moore St_Ill_Seg4	PASS	0.36
76 Moore St_Ill_Seg5	PASS	0.32
76 Moore St_Ill_Seg6	PASS	0.38
73 Moore St_Ill_Seg1	PASS	0.26
73 Moore St_Ill_Seg2	PASS	0.20
12 Byron St_Ill_Seg1	PASS	0.20
12 Byron St_Ill_Seg2	PASS	0.14
34 Cowper St_Ill_Seg1	PASS	0.04
34 Cowper St_Ill_Seg2	PASS	0.20
34 Cowper St_Ill_Seg3	PASS	0.02
8 Falcon Ct_Ill_Seg1	PASS	0.00
8 Falcon Ct_Ill_Seg2	PASS	0.17
10 Byron St_Ill_Seg1	PASS	0.20
10 Byron St_Ill_Seg2	PASS	0.07

Threshold Increment (TI)

Maximum Allowable Value: 20 %

Calculations Tested (20):

Calculation Label		Adaptation Luminance	Test Results
Hopkins St (W)		5	PASS
Hopkins St to Moore St (N)		5	PASS
Irving St (N)		5	PASS
Irving St to Hopkins St (W)		5	PASS
Irving St to Hopkins St (E)	5	PASS	
Hopkins St to Irving St (S)	5	PASS	
Moore St to Irving St (S)		5	PASS
Moore St to Hopkins St (W)		5	PASS
Train (outbound)		0.25	PASS
Train (outbound)_1		0.25	PASS
Train (outbound)_2		0.25	PASS
Train (outbound)_3		0.25	PASS
Train (outbound)_4		0.25	PASS
Train (outbound)_5		0.25	PASS
Train (inbound)		0.25	PASS
Train (inbound)_1		0.25	PASS
Train (inbound)_2		0.25	PASS
Train (inbound)_3		0.25	PASS
Train (inbound)_4		0.25	PASS
Train (inbound)_5		0.25	PASS

*Where property is within 100m 50% of this maximum allowable value shall be used