



# Meeting attachments

## Ordinary Meeting of Council

Wednesday 8 May 2024 6pm

Part 1 of 2

[fremantle.wa.gov.au](http://fremantle.wa.gov.au)



## Table of Contents

<b>C2405-1</b>	<b>DEFERRED ITEM - PRITCHARD STREET, NOS. 6-8 (LOTS 93 AND 90), O’CONNOR - ANIMATED SIGN ADDITION AND PARTIAL CHANGE OF USE TO USE NOT LISTED (LARGE FORMAT THIRD PARTY DIGITAL ADVERTISING) (ED DA0264/23)</b>	
	Attachment 1 - Amended Development Plans .....	4
	Attachment 2 - Site Photos.....	10
	Attachment 3 - Applicant’s Supporting Report and Appendices..	13
	Attachment 4 - Main Roads Western Australia (MRWA) Advice.	104
	Attachment 5 - Applicant Response to Deferral Letter and Attachments .....	108
<b>C2405-2</b>	<b>CANTONMENT STREET NO.28 (LOT 10), FREMANTLE - AMENDMENTS TO DAP005/23 (THREE (3) STOREY MIXED USE (SHOP, OFFICE, LIQUOR STORE- SMALL AND CHILDCARE PREMISES) DEVELOPMENT) INVOLVING THE PROPOSED DELETION OF CONDITION NO. 26 (ED DAPV002/24)</b>	
	Attachment 1 - Applicant Covering Letter.....	180
	Attachment 2 - Original Decision Notice and Approved Plans ....	184
<b>C2405-3</b>	<b>MATHER ROAD, NO. 3 – 5 (LOT 251) AND PART NO. 7 (LOT 252) BEACONSFIELD – PARTIAL TEMPORARY CHANGE OF USE TO BREWERY AND ALTERATIONS AND ADDITIONS TO EXISTING BUILDINGS (ED DA0008/24)</b>	
	Attachment 1 - Amended Development Plans .....	209
	Attachment 2 - Site Photos.....	213
	Attachment 3 - Applicant Covering Letter.....	217
	Attachment 4 - Acoustic Report.....	223
	Attachment 5 - Waste Management Plan.....	254
	Attachment 6 - Harm Minimisation Policy .....	259
	Attachment 7 - Responses to Submitters .....	263
	Attachment 8 - Reciprocal parking consent from adjoining tenancy .....	267
<b>C2405-4</b>	<b>AINSLIE ROAD, NO. 2 (LOT 27), NORTH FREMANTLE - TWO STOREY SINGLE HOUSE WITH UNDERCROFT (ED DA0053/24)</b>	
	Attachment 1 - Amended Development Plans .....	269
	Attachment 2 - Site Photos.....	280
<b>C2405-5</b>	<b>MAXWELL STREET, NO. 19 (LOT 176), BEACONSFIELD - DEMOLITION OF EXISTING DWELLING AND CONSTRUCTION OF A TWO STOREY SINGLE HOUSE – (JD DA0017/24)</b>	
	Attachment 1 - Development Plans .....	286
	Attachment 2 - Heritage Impact Assessment .....	297
	Attachment 3 - Site Photos.....	305



<b>C2405-6</b>	<b>FINAL ADOPTION – SCHEME AMENDMENT NO. 87 TO LOCAL PLANNING SCHEME NO. 4 – THE FREO ALTERNATIVE REVIEW</b>	
	Attachment 1 - Schedule of Submissions .....	309
	Attachment 2 - Scheme amendment report.....	322
<b>C2405-7</b>	<b>PREPARATION OF AMENDMENT NO. 76 TO LOCAL PLANNING SCHEME NO. 4 – LOT 1488, 103 CARRINGTON STREET, LOTS 1, 2, AND 3, 396 HIGH STREET, LOT 1483, 386 HIGH STREET, LOT 51, 167 HOLLAND STREET, LOT 252, 169 HOLLAND STREET, AND LOTS 1-4 ON STRATA PLAN 65266, 171 HOLLAND STREET, FREMANTLE</b>	
	Attachment 1 - Proposed amendment document.....	434
	Attachment 2 - Modified amendment document (tracked changes).....	462
	Attachment 3 - Modified amendment document (clean copy) ...	504
<b>C2405-8</b>	<b>PLANNING INFORMATION REPORT - MAY 2024 1. SCHEDULE OF APPLICATIONS DETERMINED UNDER DELEGATED AUTHORITY</b>	
	Attachment 1 - Schedule of applications determined under delegated authority.....	533
<b>C2405-9</b>	<b>ADVERTISING OF THE PROPOSED DIFFERENTIAL RATE FOR THE 2024/25 FINANCIAL YEAR</b>	
	Attachment 1 - Objects and Reasons for Differential Rates for the 2024/25 financial year .....	537



**C2405-1 DEFERRED ITEM - PRITCHARD STREET, NOS. 6-8 (LOTS 93 AND 90), O'CONNOR - ANIMATED SIGN ADDITION AND PARTIAL CHANGE OF USE TO USE NOT LISTED (LARGE FORMAT THIRD PARTY DIGITAL ADVERTISING) (ED DA0264/23)**

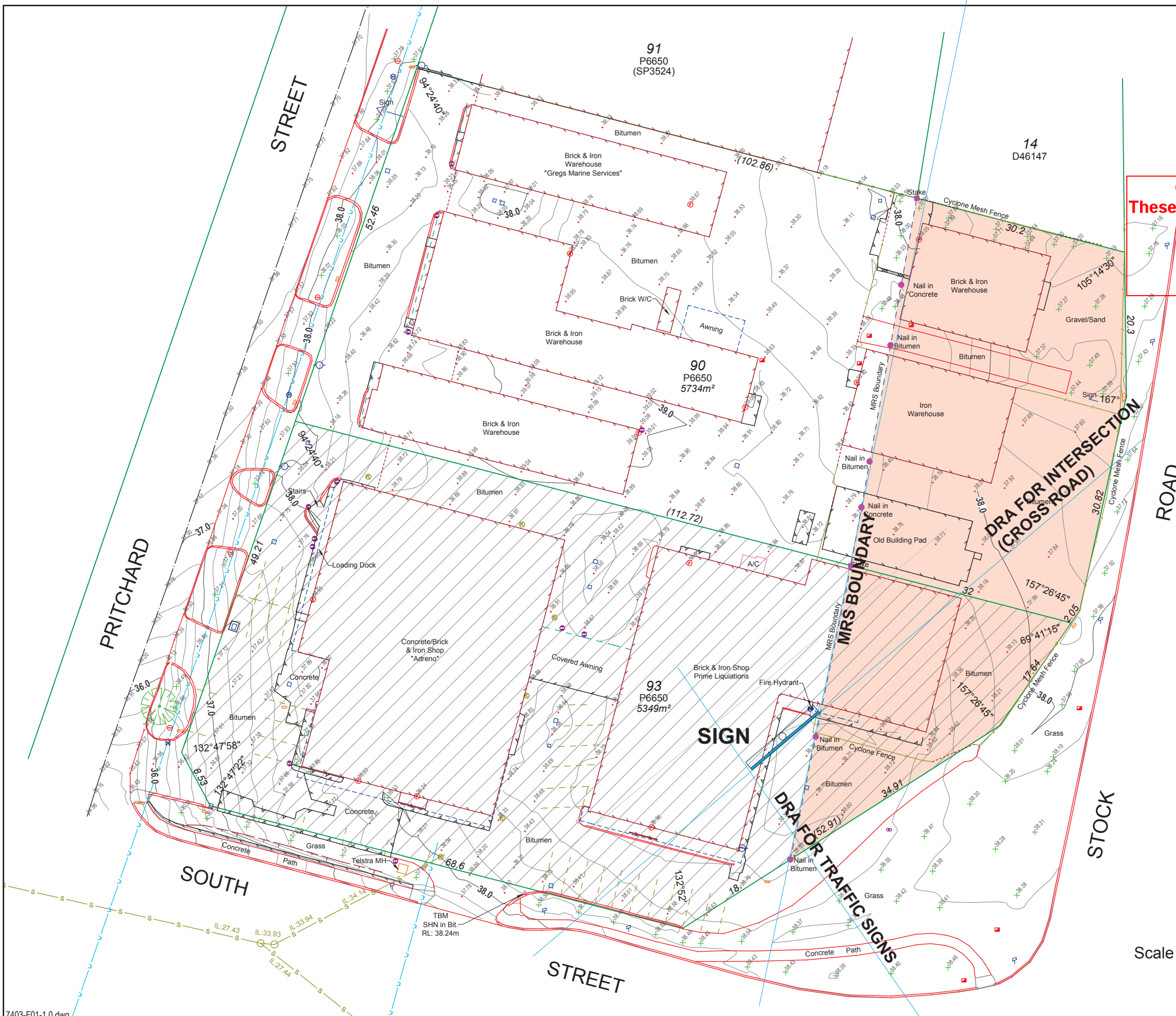
**Attachment 1 – Amended Development Plans**

**CITY OF FREMANTLE**  
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**DA0264/23**  
**13 March 2024**



LOCATION SKETCH  
NOT TO SCALE

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**13 March 2024**



**Zoning Legend**

	Clause 32
	Primary Regional Roads

**SYMBOL LEGEND**

	Power Pole
	Electrical Cable Pit
	Communication Pit
	Telstra Pit
	Sewer Manhole
	Sewer Connection
	Hydrant Ground
	Hydrant Pillar
	Stop Valve
	Water Meter
	Gully
	Bollard
	Floor Level
	Natural Surface
	Tree

**LINestyle LEGEND**

	Contour Major 1.0m Intervals
	Contour Minor 0.2m Intervals
	Cadastral Boundary
	Kerb Line
	Road Centreline
	Pedestrian Ramp
	Parking Bay
	Building
	Awning
	Roof Eve Line
	Wall
	Concrete Edge
	Fence Line
	Gate
	Overhead Power
	DBYD Sewer
	DBYD Water

**CONTROL POINT SCHEDULE**

Point	Easting	Northing	Elevation	Description
9001	47719.528	251154.611	37.41	Spike
9005	47826.727	251107.415	38.43	R/Set
TBM	47759.901	251112.402	38.24	SHN in Bitumen

Scale @A3 1:563

VER.	DATE	BY	AMENDMENTS	FILE SOURCE
1.0	11.11.2021	MDB	Issued for Information	7403F-02112021-PCG94

**Notes:**  
 1. Boundary constructed from cadastral connection.  
 2. Heights established from VRS Via GPS connection.  
 3. Sewer & water data plotted from Dial Before You Dig and survey.  
 4. Refer to Certificate of Title for limitations, Interests, Encumbrances and Notifications.

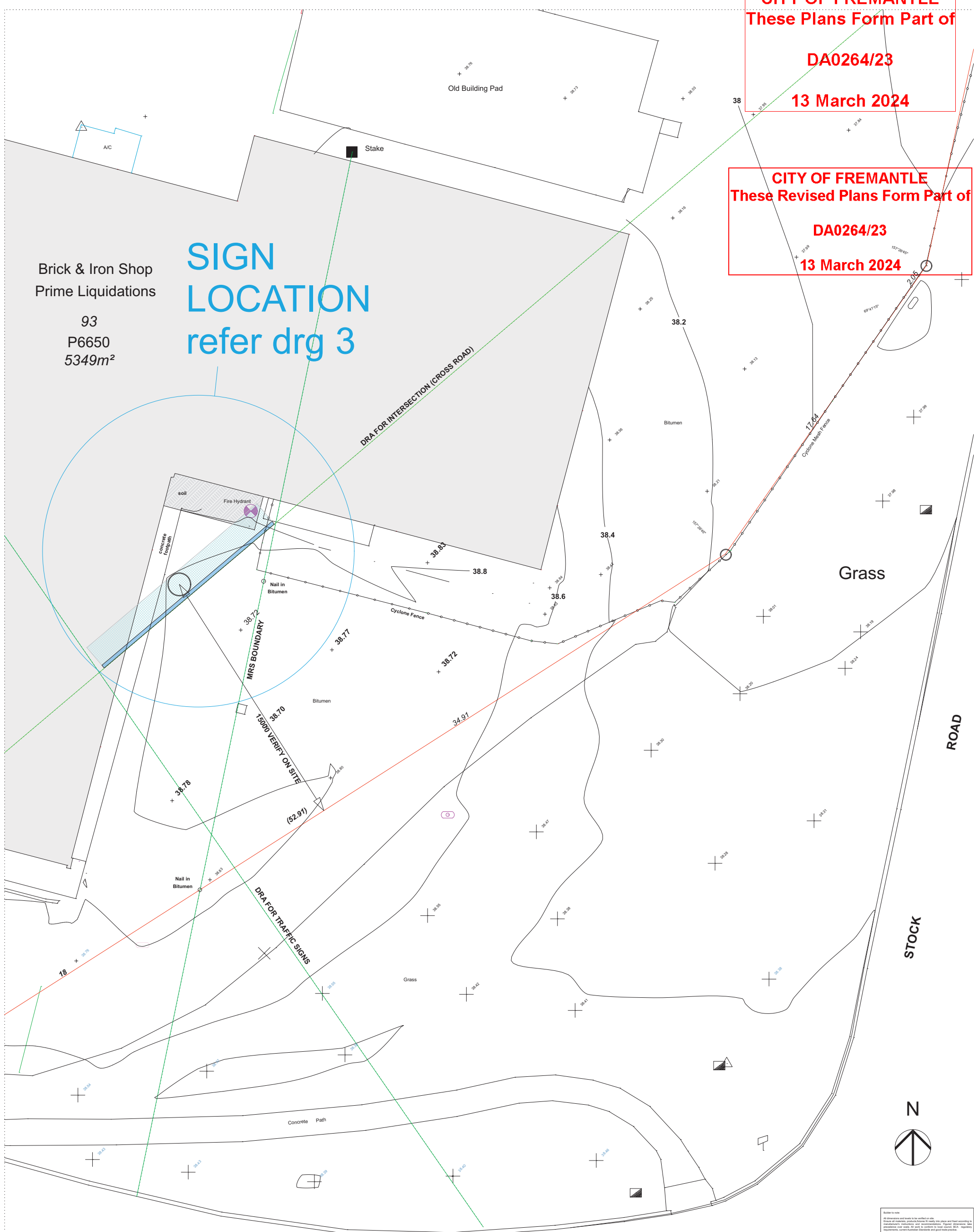


CLIENT:  
**EDGEWATER MANAGEMENT**

JOB NO: 7403	TITLE: FEATURE SURVEY	DATUM	N 
PROJECT:	LOT 90 & 93 ON P6650 Nº 6 & 8 PRITCHARD STREET O'CONNOR, WA, 6163 C/T 1221-769 & C/T 284-70A	VERT: AHD HORIZ: PCG94 SCALE: 1:400	
SURVEYOR: SW		DATE OF SURVEY: 08.11.2021	VER: 1.0
DRAWN BY: MDB		APPROVED BY: NRW	DWG NO: 7403-F01
SHEET NO: 1 OF 1			A3

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Brick & Iron Shop  
Prime Liquidations  
93  
P6650  
5349m<sup>2</sup>

**SIGN  
LOCATION  
refer drg 3**

**SOUTH STREET**

**ROAD**

**STOCK**



**PART SITE PLAN**  
1:200 @ A3

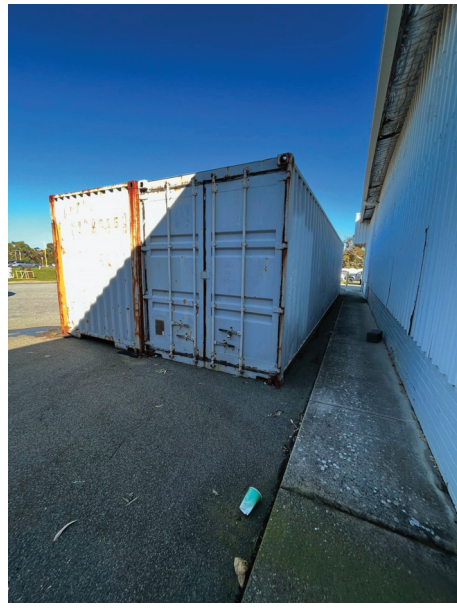
Build to note  
All dimensions and levels to be verified on site.  
Check all materials, specifications, quantities, etc. before any work commences. If any discrepancies are identified, contact the designer immediately.  
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**LARGE FORMAT DIGITAL SIGN  
8 PRITCHARD ST  
O'CONNOR**

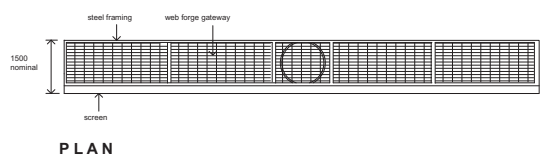
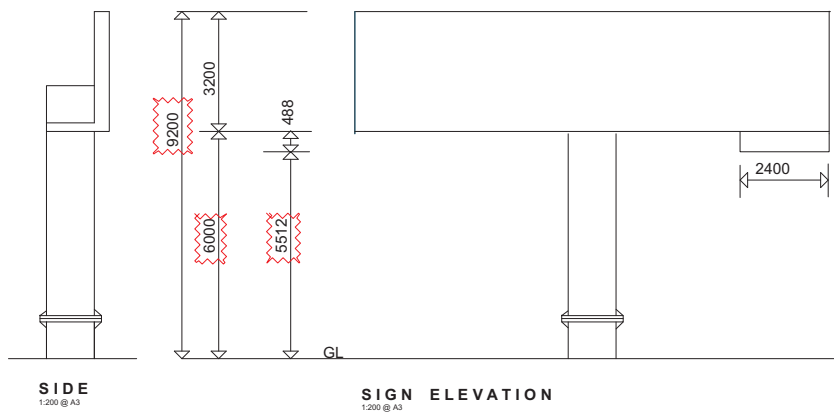
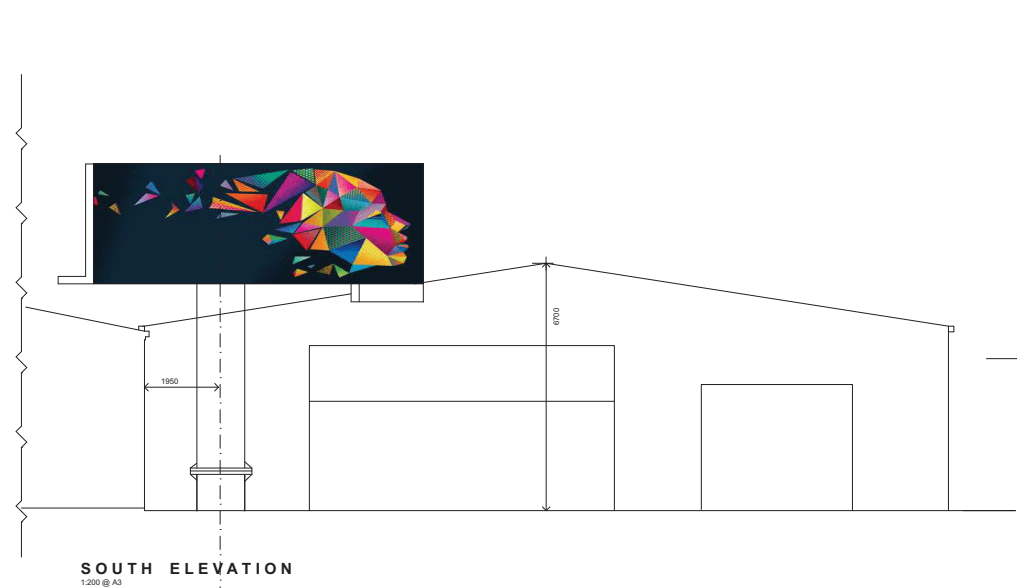
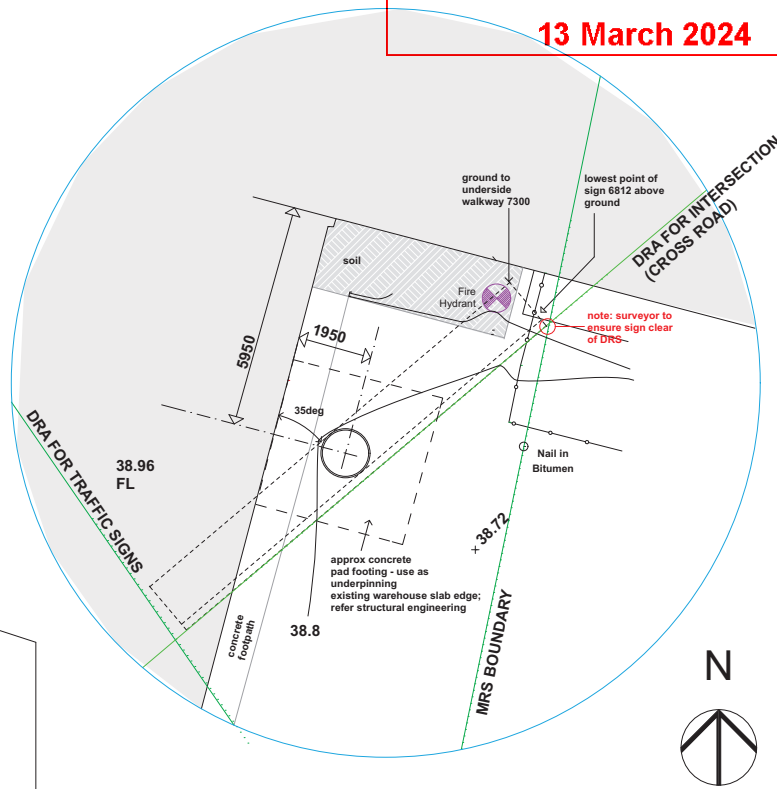
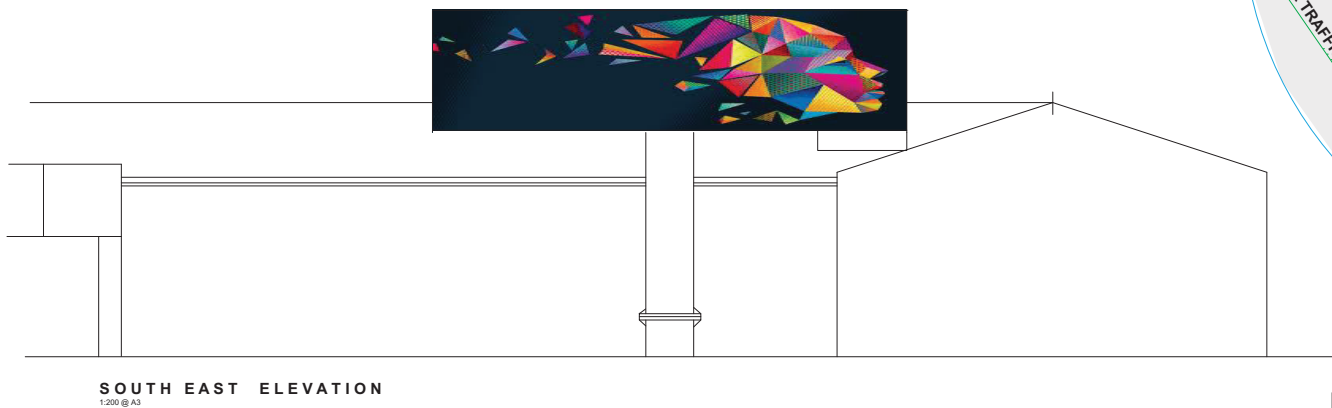
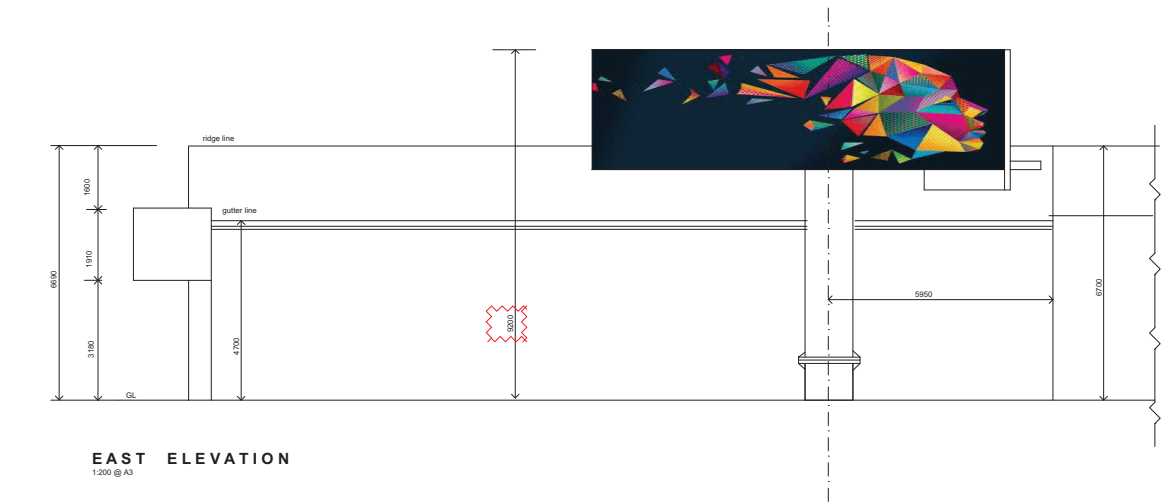
Project Name	ACWills	Date	AUGUST 2023
Project No	28668/2023	Page No	2

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**R1 FEBRUARY 2024**  
 HEIGHT OF SIGN REDUCED FROM 10.5m TO 9.2m (a reduction of 1.3m)

**Build to note**  
 All dimensions and notes to be worked on site.  
 Check all materials, specifications, standards, methods, etc. with the client and confirm to the client before construction commences.  
 Check all materials, specifications, standards, methods, etc. with the client and confirm to the client before construction commences.  
 Check all materials, specifications, standards, methods, etc. with the client and confirm to the client before construction commences.

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**LARGE FORMAT DIGITAL SIGN**  
 8 PRITCHARD ST  
 O'CONNOR

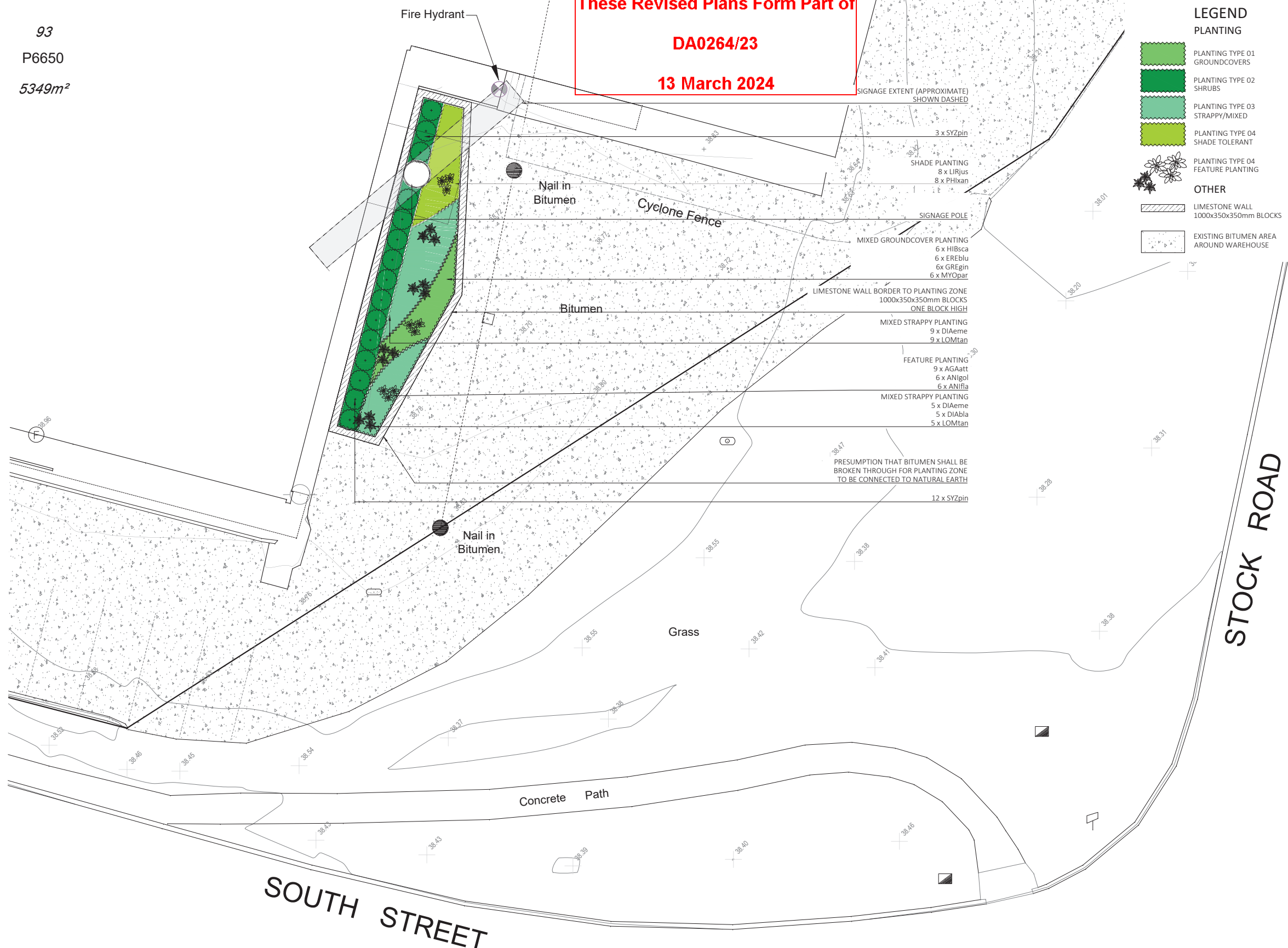
Design/Draw: ACW/lls Date: AUGUST 2023  
 Project: 2868/9/2023 Drawing: 3 R1  
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REV	DATE	DWN	APP	DESCRIPTION
C	13.07.2023	AC	KD	UPDATED LANDSCAPE LAYOUT
D	18.07.2023	AC	KD	UPDATED LANDSCAPE LAYOUT
E	15.08.2023	AC	KD	UPDATED SIGN POSITION
F	07.03.2024	AC	KD	UPDATED PLANTING
G	13 March 2024	AC	KD	UPDATED PLANTING

**CITY OF FREMANTLE**  
**These Revised Plans Form Part of**  
**DA0264/23**  
**13 March 2024**

GENERAL NOTES:  
1. THIS IS A CONCEPT PLAN ONLY.  
2. ALL STRUCTURES SUBJECT TO ENGINEERING AND COUNCIL APPROVAL.  
3. ALL MEASUREMENTS TO BE CHECKED PRIOR TO CONSTRUCTION.

93  
P6650  
5349m<sup>2</sup>



**LEGEND**

- PLANTING**
- PLANTING TYPE 01 GROUNDCOVERS
  - PLANTING TYPE 02 SHRUBS
  - PLANTING TYPE 03 STRAPPY/MIXED
  - PLANTING TYPE 04 SHADE TOLERANT
  - PLANTING TYPE 05 FEATURE PLANTING
- OTHER**
- LIMESTONE WALL 1000x350x350mm BLOCKS
  - EXISTING BITUMEN AREA AROUND WAREHOUSE

**NOTES**

- 1. LANDSCAPE WORKS**
- 1.1 ALL AREAS ARE TO BE FINE GRADED EVENLY TO CONFORM TO KERB LEVELS AND SURROUNDING FINISHES.
  - 1.2 SURFACES SHALL BE FREE FROM DEPRESSIONS, IRREGULARITIES AND NOTICEABLE CHANGES IN GRADE. GENERALLY, GRADES SHALL DEVIATE IN LEVEL NO GREATER THAN 20mm IN ONE LINEAR METRE.
- 2. SOIL PREPARATION**
- 2.1 PLANTED AREAS SHALL BE SPREAD WITH MIN. 30mm OF APPROVED STANDARD SOIL CONDITIONER THAT SHALL BE RIPPED INTO EXISTING SOIL TO A MIN. DEPTH OF 200mm.
  - 2.2 RAISED PLANTING AREAS TO HAVE APPROVED FILL SOIL AND SOIL CONDITIONER FILLED AND MIXED TO A FINISHED HEIGHT OF 150mm BELOW TOW.
- 3. PLANTING**
- 3.1 PLANTED AREAS SHALL BE MULCHED WITH AN ORGANIC WOOD CHIP MULCH UNLESS OTHERWISE STATED TO A MINIMUM DEPTH OF 75mm.
  - 3.2 REFER TO PLANTING SCHEDULE FOR SPECIES AND SIZES.
  - 3.3 PLANTS TO BE SET OUT IN EVEN SPACING TO FILL THE DESIGNATED AREAS.
  - 3.4 IN AREAS OF MIXED PLANTING, SPECIES TO BE SPREAD OUT AT RANDOM, IN GROUPINGS OF 2 OR 3.
  - 3.5 PLANTS SHALL BE SUPPLIED FROM AN INDUSTRY ACCREDITED WHOLESALE NURSERY. PLANTS SHALL BE IN APPROPRIATE SIZE FOR THE LISTED POT SIZE AND IN GOOD HEALTH.
  - 3.6 IF SPECIES ARE UNAVAILABLE (OR IN SIZES SPECIFIED), SUBSTITUTES MUST BE APPROVED BY SUPERINTENDENT BEFORE DELIVERY AND INSTALLATION.
  - 3.7 SUPERINTENDENT TO REVIEW SAMPLES OF ALL TREE SPECIES AND PLANTS AT SOURCE OR BY PHOTOGRAPH PRIOR TO DELIVERY AND INSTALLATION.
- 4. IRRIGATION**
- 4.1 ALL PLANTING TO BE IRRIGATED VIA A FULLY AUTOMATIC SYSTEM FROM MAINS.
  - 4.2 IRRIGATION TO GARDEN BEDS TO BE NETAFIM TECHLINE, SUB SURFACE IRRIGATION, INSTALLED TO MANUFACTURERS SPECIFICATION.
  - 4.3 SHADE PLANTING AREA SHALL BE ON A SEPARATE STATION TO ALLOW FOR MORE FREQUENT WATERING THROUGH SUMMER.
  - 4.4 WATER PRESSURE TO HAVE A MINIMUM FLOW RATE OF 30L/pm AT 300KPA FROM THE WATER CONNECTION POINT.
  - 4.5 CONTROLLER TO BE LOCATED IN SERVICE ROOM UNLESS OTHERWISE DIRECTED.
  - 4.6 SLEEVES BENEATH PAVED SURFACES TO BE PROVIDED BY OTHERS.
  - 4.7 MAIN LINES TO BE RETRO FITTED BETWEEN PLANTING AREAS TO ENSURE ALL AREAS WILL BE IRRIGATED.
- 5. GENERAL**
- 5.1 PLEASE NOTE THAT KDLA'S QUOTATION & SCHEDULE OF QUANTITIES IS TO TAKE PRECEDENCE OVER DRAWING NOTES.
  - 5.2 THIS DRAWING SHALL NOT BE USED FOR CONSTRUCTION UNLESS REVISED 'O' ISSUED FOR CONSTRUCTION AND SIGNED AND APPROVED BY PROJECT MANAGER/SUPERINTENDENT.

**PLANTING SCHEDULE**

Symbol	Species	Common Name	Quantities	Size
<b>Groundcovers:</b>				
MYOpar	Myoporum parvifolium 'Yareena'	Yareena	6	140mm
HIBsca	Hibbertia scandens	Snake Vine	6	140mm
EREblu	Eremophila 'Blu Horizon'	Blue Horizon	6	140mm
GREgin	Grevillea 'Gin Gin Gem'	Gin Gin Gem	6	140mm
<b>Strappy/Mixed:</b>				
DIaeme	Dianella lasmanica 'Emerald Arch'	Emerald Arch	14	140mm
DIAbia	Dianella lasmanica 'Blaze'	Blaze	5	140mm
LOMTan	Lomandra 'Tankika'	Tanika	14	200mm
<b>Shade Tolerant:</b>				
LIRjus	Liriope 'Just Right'	Just Right	8	140mm
PHixan	Philodendron Xanadu	Xanadu	8	200mm
<b>Shrubs:</b>				
SYZpin	Syzygium australae 'Pinnacle'	Lilly Pilly	15	200mm
<b>Feature Plants:</b>				
AGAatt	Agave attenuata	Century Plant	9	12L
ANIfila	Anigozanthos flavidus	Kangaroo Paw	6	12L
ANIGol	Anigozanthos 'Gold Velvet'	Kangaroo Paw	6	12L

**PLANTING IMAGES**



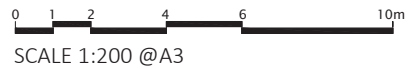
DEVELOPMENT APPROVAL

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email: kelsie@kdla.com.au

JOB No. 0183

PAGE 101

REV G



**STAGE 1**  
**O'CONNOR SIGNAGE LANDSCAPE**  
**LANDSCAPE CONCEPT PLAN**

**25 NOMINEES PTY LTD**  
**8 PRITCHARD STREET, O'CONNOR**



REV	DATE	DWN	APP	DESCRIPTION
A	07.03.2024	AC	KD	LANDSCAPE PLANTING PLAN
B	08.03.2024	AC	KD	LANDSCAPE PLANTING PLAN

**DA0264/23**

**13 March 2024**

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**13 March 2024**

**LEGEND**  
**TREES**

- EXISTING TREES TO BE RETAINED
- SELECTED MEDIUM TREES  
EG. FUCHSIA GUM  
CANOPY: 5m

**PLANTING**

- PLANTING TYPE 01  
GROUNDCOVERS
- PLANTING TYPE 02  
SHRUBS
- PLANTING TYPE 03  
STRAPPY / MIXED
- PLANTING TYPE 04  
SHADE TOLERANT
- SELECTED LAWN SPECIES

**MISC**

- ORGANIC MULCH
- UPLIGHTING TO TREES  
FIXINGS TBC

**PLANTING SCHEDULE - OVERALL SITE**

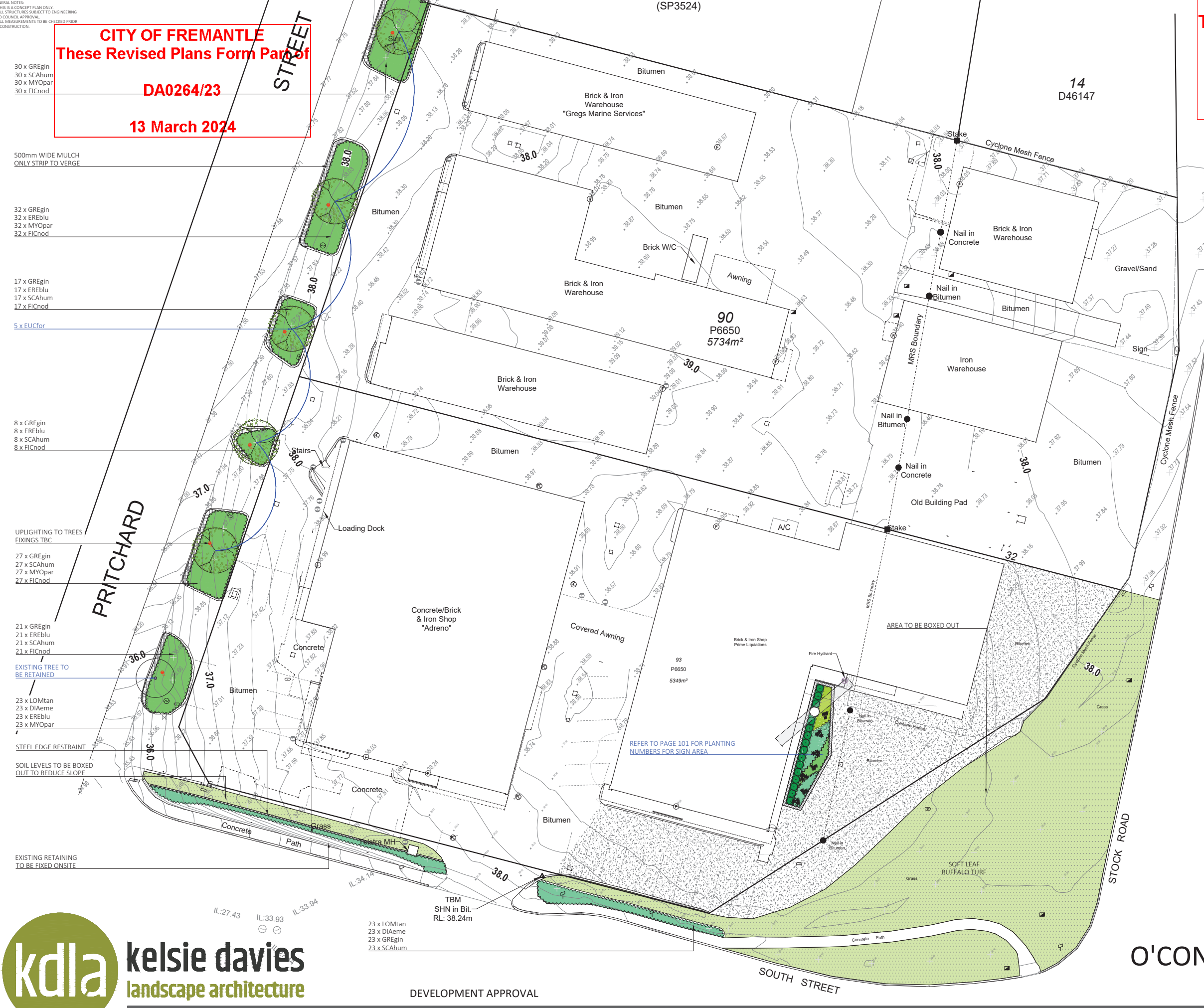
Symbol	Species	Common Name	Quantity	Size
<b>Trees:</b>				
EUCor	Eucalyptus forrestiana	Fuchsia Gum	5	100L
<b>Mixed and Strappy:</b>				
DIaEm	Dianella tasmanica 'Emerald Arch'	Emerald Arch	46	140mm
LOMtAn	Lomandra 'Tankika'	Tanika	46	200mm
FICnod	Ficinia nodosa	Knobby Club Rush	135	140mm
<b>Groundcovers:</b>				
GREgin	Grevillea 'Gin Gin Gem'	Gin Gin Gem	158	140mm
MYOpar	Myoporum parvifolium 'Yareena'	Yareena	112	140mm
SCAHum	Scaevola humilis	Purple Fan Flower	126	140mm
EREBlu	Eremophila 'Blu Horizon'	Blue Horizon	101	140mm

REFER TO PAGE 101 FOR PLANTING NOTES

**PLANTING IMAGES**



**NOTE:**  
ALL AREAS TO BE BOXED OUT, LEVELED AND IRRIGATED BEFORE PLANTING BEGINS



**kds** kelsie davies  
landscape architecture

DEVELOPMENT APPROVAL

KARRINYUP WA 6018  
mob: 0450 965 569  
email: kelsie@kds.com.au

JOB No. 0183

PAGE 102

REV B



SCALE 1:500@A3



**STAGE 2**  
**O'CONNOR SIGNAGE LANDSCAPE**  
**LANDSCAPE CONCEPT PLAN**

25 NOMINEES PTY LTD  
8 PRITCHARD STREET, O'CONNOR



**C2405-1 DEFERRED ITEM - PRITCHARD STREET, NOS. 6-8 (LOTS 93 AND 90), O'CONNOR - ANIMATED SIGN ADDITION AND PARTIAL CHANGE OF USE TO USE NOT LISTED (LARGE FORMAT THIRD PARTY DIGITAL ADVERTISING) (ED DA0264/23)**

**Attachment 2 – Site Photos**

## Attachment 2 – Site Photos



**Photo 1:** Subject site as viewed from the Junction of South Street and Stock Road (western side of Stock Road)



**Photo 2:** Subject site as viewed from the Junction of South Street and Stock Road (eastern side of Stock Road)



**Photo 3:** Subject site as viewed from Stock Road (north of South Street Junction)



**Photo 3:** Subject site as viewed from Stock Road (south of South Street Junction)



**C2405-1 DEFERRED ITEM - PRITCHARD STREET, NOS. 6-8 (LOTS 93 AND 90), O'CONNOR - ANIMATED SIGN ADDITION AND PARTIAL CHANGE OF USE TO USE NOT LISTED (LARGE FORMAT THIRD PARTY DIGITAL ADVERTISING) (ED DA0264/23)**

**Attachment 3 – Applicant's Supporting Report and Appendices**

PS ref: 7517

30 August 2023

City of Fremantle  
PO Box 807  
Fremantle WA 6959

Attention: Planning Services

To whom it may concern,

**LOT 93 (8) PRITCHARD STREET, O'CONNOR  
APPLICATION FOR DEVELOPMENT APPROVAL  
PROPOSED DIGITAL ADVERTISING SIGN AND LANDSCAPING**

Planning Solutions acts on behalf of 25 Nominees Pty Ltd, the proprietor and proponent of the proposed development on Lot 93 (8) Pritchard Street, O'Connor (**subject site**). This application seeks development approval for a proposed digital advertising sign and associated landscaping on the eastern portion of the subject site.

In support of this application, please find enclosed:

1. MRS Form 1 Application for Planning Approval, signed by applicant/landowner.
2. City of Fremantle's Development Application Form and Checklist, signed by applicant/landowner.
3. City's Additional Information for Advertisements/Signage Form, signed by advertiser/landowner.
4. A copy of the Certificate of Title and Plan applicable to the subject site (**Appendix 1**).
5. A copy of the Road Safety Assessment in support of the proposal (**Appendix 2**).
6. A copy of the development plans depicting the proposed development (**Appendix 3**).
7. A copy of the Landscape Concept depicting the proposed landscaping (**Appendix 4**).
8. A copy of the Light Impact Assessment (**Appendix 5**).
9. A copy of Outdoor Media Association's Australian Road Safety Research media release (**Appendix 6**).

We request that the invoice for payment of the associated application fee be returned to addressed 25 Nominees Pty Ltd c/- Planning Solutions.

The following submission discusses various matters pertaining to the proposal, including:

- Site details and background.
- Proposal.
- Town planning considerations.

The proposed sign integrates into its industrial setting, and will improve the outlook and amenity of the intersection. The contemporary structure with associated landscaping has been designed in a manner to ensure no impact to the limited number nearby residential properties. In regard to the above, we respectfully request the City consider the proposal on its merits and approve the application.

**SITE DETAILS**

**Legal Description**

The subject site comprises a single freehold lot under private ownership of 25 Nominees Pty Ltd and is identified as Lot 93 (8) Pritchard Street, O'Connor.

Refer **Table 1** below for a description of the subject site.

**Table 1** – Lot Details

Lot	Deposited Plan	Volume	Folio	Area (m <sup>2</sup> )
93	6650	1221	769	5,349

There are no encumbrances listed on the title relevant to the proposed development.

Refer **Attachment 1** for a copy of the Certificate of Title and Deposited Plan, applicable to the subject site.

**Context and Site Analysis**

The subject site is located in the suburb of O'Connor and within the municipality of the City of Fremantle (**City**). The site is situated approximately 20 kilometres south-west of the Perth city centre and approximately 4.6 kilometres east of the Fremantle city centre.

The subject site is bounded by Pritchard Street to the west, Stock Road to the east, and South Street to the south. Stock Road and South Street are major transport routes which connect the subject site to the wider metropolitan region, and provide a direct link to Leach Highway to the north and Kwinana Freeway to the east.

The subject site forms part of an existing industrial/commercial/showroom hub within the suburb of O'Connor. The immediate surrounds are generally characterised by a mix of low scale industrial, commercial, and residential uses and development. The following land use activities are in the immediate vicinity of the site:

- 'Homeworld' showroom centre is located opposite the site to the east (cnr South Street and Stock Road).
- A Service Station to the west (cnr South Street and Pritchard Street).
- Office/warehouse/industrial buildings adjoin the site to the north (Pritchard Street).
- Residential land uses are located opposite the site to the south, fronting Chadwick Street and Bromley Road (away from the subject site and adjoining road reserve). Landscaping within the road reserve provides a significant buffer to the adjoining residential properties from the subject site and main road intersection.

The subject site is currently developed with showroom buildings containing two separate tenancies, being 'Adreno' and 'Prime Liquidations' bulky goods showrooms.

Refer **Figure 1**, Aerial photograph.



Figure 1 - Aerial photograph

## BACKGROUND

### Pre-Lodgement Engagement

#### City of Fremantle

On 3 July 2023, Planning Solutions attended a meeting with senior officers of the City, where the following matters were discussed with respect to the proposal:

- The proposed digital sign is capable of approval on the subject site, being a discretionary 'use not listed' that requires public advertising under the City's Local Planning Scheme No. 4.
- The application will need to be supported by traffic reporting that addresses the relevant MRWA requirements and demonstrates the proposal is acceptable from a road safety perspective.
- The application will need to be supported by a planning submission that addresses the relevant planning framework and demonstrate the proposal will have no adverse impact on the amenity of the area. This includes to residential properties in close proximity and a reduction in visual clutter.
- The assessment will need to consider variations to the City's Local Planning Policy 2.17 – Advertising Signs. Due to these departures, it is likely the application will be determined by the Council and not under delegated authority.

This application has been prepared in accordance with the pre-lodgement advice received from the City.

#### Main Roads WA

On 3 August 2023, representatives from the project's transport consultancy, Transcore, and Planning Solutions attended pre-lodgement meeting with Main Roads WA. In summary, MRWA confirmed the proposed sign is classified as a Large Format Digital Sign and the applicant will need to submit a Road Safety Assessment report addressing the applicable criteria within MRWA's "Policy and Application Guidelines for Advertising Signs within and beyond state road reserves" (**Policy and Application Guidelines**) document, specifically:

- a) Site selection;
- b) Physical characteristics; and
- c) Crash history.

A Road Safety Assessment report addressing the above-mentioned criteria has been prepared by Transcore in support of this application, demonstrating the proposed digital advertising sign is acceptable from a road safety perspective. Refer **Appendix 2** for a copy of the Road Safety Assessment report.



## PROPOSAL

The proposal seeks approval for a digital advertising sign and landscaping to be installed on the south eastern portion of the subject site. The sign is appropriately located on a key transport route and will be oriented predominantly towards the South Street urban corridor to the east of the subject site, and will be visible to traffic travelling westbound on South Street and northbound on Stock Road.

Specifically, the proposal comprises the following:

- One single-sided digital advertising sign, comprising a LED digital screen with dimensions of approximately 12.48m wide x 3.2m high, and content display area of 39.9m<sup>2</sup>. The digital screen is to be mounted on a steel column, having a clearance of approximately 7.3m from ground level, and overall maximum height of approximately 10.5m from ground level.
- The sign is proposed to digitally display variable content including third party advertising content.
- The advertisements will be static images and the digital advertising device will not display any animations, moving graphics, flashing lights or offensive content.
- The sign is proposed to operate 24 hours a day, 7 days per week.
- The colour scheme of the digital advertising sign has been considered so that it is visually attractive and integrates with the subject site. The steel pylon column of the sign will be painted a similar white colour to the adjacent showroom building and the rectangle signage frame atop of the steel column will be painted a dark charcoal.
- Landscaping is to be planted around the base of the pylon sign, comprising an attractive mix of native species.

The proposed landscaping will enhance the amenity of the subject site and adjoining streetscape, and work to soften the visual impact of the new advertising sign, providing for an overall improved development outcome.

Importantly, the proposed sign will have no impact on residential amenity in the locality given the positioning and location of the proposed sign at a main road intersection, where the adjoining residential properties are facing away from the intersection, and protected from any potential impacts on their amenity by a landscaping buffer within the adjoining road reserve. Further, the single-sided sign is orientated to predominately face down the South Street corridor to the east of the subject site, away from the closest residential properties.

The proposed sign comprises high quality design features including the latest technology in digital advertising display, which will comply with all the relevant regulatory requirements for digital advertising and contribute positively to the visual interest, amenity, and activation of the subject site and adjoining streetscape.

Refer **Appendix 3** for a copy of the proposed Development Plans, and **Appendix 4**, Landscape Concept Plan, depicting the proposed signage and landscaping on the subject site.

A Lighting Impact Statement in support of the proposed sign is provided in **Appendix 5**.

Refer **Figure 2**, photomontage of the proposed signage below (extract from the proposed development plans).



Figure 2 - Photomontage of proposed signage and landscaping on the subject site.

## TOWN PLANNING CONSIDERATIONS

### Metropolitan Region Scheme

The subject site is predominately zoned 'Industrial' under the provisions of the Metropolitan Region Scheme (MRS). The eastern portion of the subject site is reserved Primary Regional Roads (PRR) under the MRS.

Refer Figure 3, MRS map below.

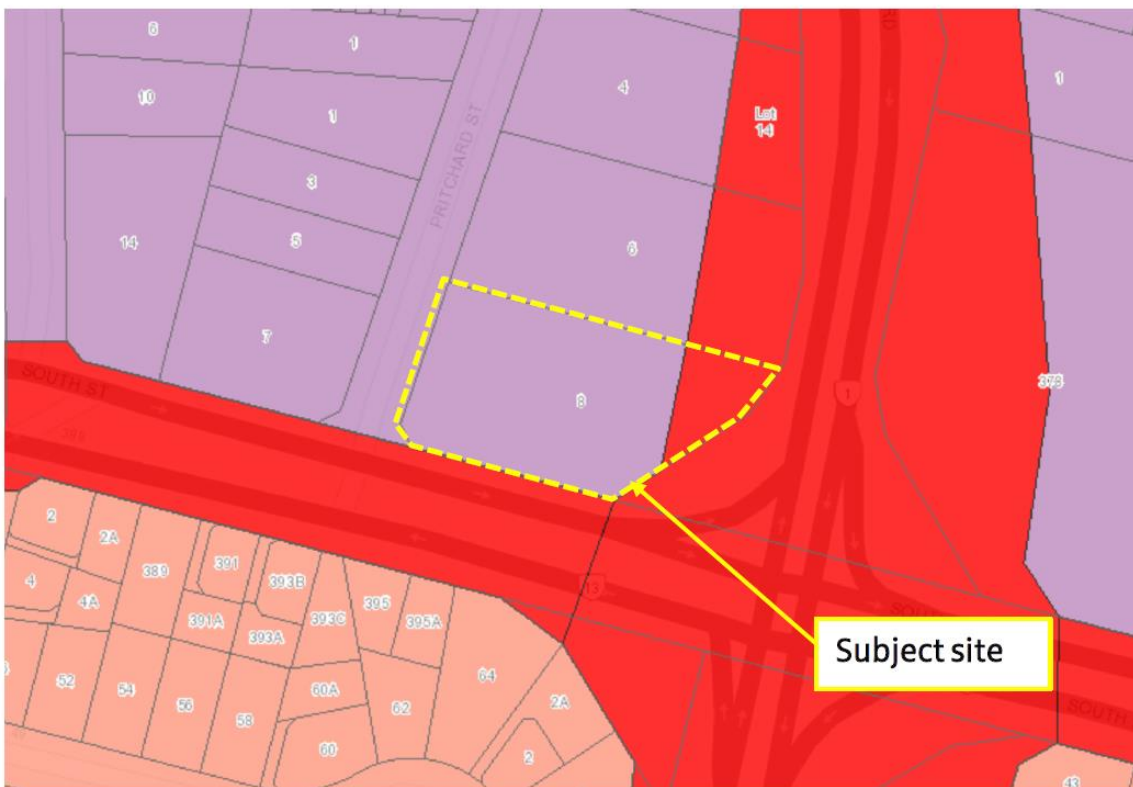


Figure 3 - MRS map

The proposed development is located within the portion of the site zoned 'Industrial'. The relevant provisions of the MRS are addressed below.

#### Industrial zone

The proposed digital advertising sign is not a sensitive land use and can be considered a temporary form of development. The proposed development will add visual interest and vibrancy to the subject site which comprises existing 'bulky goods showroom' land uses and development, and is not considered to have a high level of amenity currently. The proposed new digital sign will be designed, manufactured and constructed to a high standard, and will contribute positively to the amenity and activation of the adjoining streetscapes through its high quality design features and variable content displays. The proposed landscaping around the base of the sign will also improve the visual amenity of the subject site and adjoining South Street / Stock Road intersection.

Importantly, the proposed development is oriented away from nearby residential properties and will comply with all the applicable regulatory requirements and Australian standards for digital signage, including luminance levels, ensuring no adverse impacts on the amenity of nearby residents. The application is also supported by a Road Safety Assessment report which demonstrates the proposal is acceptable from a traffic and road safety perspective (refer **Appendix 2**) and Lighting Impact Assessment (refer **Appendix 5**).

The proposed digital advertising sign will also provide opportunity for advertising of the products, goods and services associated with the existing commercial tenancies on-site, as well as the industrial/commercial activities in the area, and potential to consider local government community advertising. In this way, it is considered the proposed development could contribute positively to local economic growth and support the local community.

Based on the above, the proposed signage is considered to be appropriately located and warrants approval accordingly.

#### Primary Regional Roads reserve

It is understood the purpose of the PRR reserve is to allow for the future road widening of Stock Road. However, this project is not listed on Main Roads WA's website for future projects and there was no information found online at the time this application was prepared, or provided by MRWA in their pre-lodgement advice, with respect to any future road widening plans that may affect the subject site in the near future.

Given the lack of certainty around any potential future road widening plans, and temporary nature of the proposed signage development, it is not considered the proposal will have any adverse impact on the PRR reserve. Further, we understand temporary development within State road reserves have been previously approved subject to a condition that requires the landowner to enter into a legal agreement with MRWA / Local Authority that confirms the use and development of the reserved land is temporary until such time as the land is required for upgrading of Stock Road.

Notwithstanding the above, the development is not situated on the PRR reservation within the subject site.

#### Clause 30(1)

Clause 30(1) of the MRS states:

*The Commission or a local authority exercising the powers of the Commission so delegated to it under the Planning and Development Act 2005 may consult with any authority that in the circumstances it thinks appropriate; and having regard to the purpose for which the land is zoned or reserved under the Scheme, the orderly and proper planning of the locality and the preservation of the amenities of the locality may, in respect of any application for approval to commence development, refuse its approval or may grant its approval subject to such conditions if any as it may deem fit.*

As stated above, the subject site is zoned Industrial under the MRS, and the eastern portion of the site falls within a PRR reserve. The proposed development is considered entirely appropriate and acceptable use and

development for the subject site, and consistent with the principles of orderly and proper planning for the reasons set out below:

- As demonstrated above, the proposal is consistent with the site's Industrial zoning and reserve status under the MRS. Importantly, the proposed sign will not prejudice the future development of the site or road reserve, being commercial in nature, a temporary form of development, and also not being situated on the PRR reservation of the subject site.
- The proposal is consistent with the relevant provisions of WAPC's Development Control Policy 1.2 and 5.4, as applicable (refer below for an assessment of the proposal against these policies).
- The proposal has been assessed against MRWA's Policy and Application Guidelines and found to meet the relevant criteria, and demonstrated to be acceptable from a road and traffic safety perspective (refer **Appendix 2**, Road Safety Assessment).
- The proposal is generally consistent with the local planning framework, including the relevant objectives of the zone set out under the City's Local Planning Scheme No.4 (**LPS4**), and City's Local Planning Policy for Advertising Signs, except for the size of the sign and third party advertising content being non-compliant with the City's policy requirements (refer below for an assessment of the relevant local planning framework). Notwithstanding, the proposed signage, and variation to the City's policy requirements, is considered acceptable for the following reasons:
  - The sign is not within a State road reserve, and appropriately separated from, oriented away from and/or buffered from nearby residential properties by mature trees within the road reserve, ensuring the proposed sign will have no adverse impact on residential amenity.
  - The proposed digital advertising sign is entirely consistent with, and compatible with, the existing uses and development on-site, and character of the area, being commercial in nature and located in the commercial-industrial locality of O'Connor, on a major traffic route. It is also noted the surrounding context is not considered to have a high level of existing amenity, being a main road intersection characterised by mid-late 20<sup>th</sup> century development and a vegetated road reservation.
  - The proposed digital advertising sign has been located adjacent to the existing showroom built form on the subject site and is of an appropriate height and scale relative to these buildings.
  - The proposal will comply with the relevant regulatory requirements for digital signs (including luminance and dwell times), ensuring the sign will have no detrimental impact on the amenity of the locality or health and safety of the community.
  - The proposed signage will be constructed using high quality materials and state-of-the-art digital technology, and will be maintained to a high standard. The digital display component will add visual interest, vibrancy and activation to the streetscape, and in this way, enhance the amenity of the area.
  - The proposed digital display of variable third party content provides opportunity for the promotion of local businesses and local community events to passing traffic, which may contribute to increased social and economic activity in the locality, including tenants operating their businesses from the subject site.
  - In accordance with clause 3.1.2 of the *Development Assessment Panel Practice Notes: Making Good Planning Decisions (2017)*, local planning policies are not meant to be applied inflexibly in decision making, and should not replace the discretion of the decision-maker, where a proposal is demonstrated to have merit.
- The proposed digital advertising sign is entirely consistent with similar existing and approved digital advertising signs in similar locations across the Perth metropolitan area, including the existing digital sign in a similar context, located on Leach Highway / Marshall Road, Myaree.

Based on the above, the proposed development is considered entirely consistent with the purpose for which the subject site is zoned or reserved under the MRS, and principles of orderly and proper planning, and warrants approval accordingly.

### Development Control Policy 1.2 – Development Control – General Principles

The WAPC’s Development Control Policy 1.2 – Development Control – General Principles (DC 1.2) deals with the general principles and policies used by the WAPC in its determination of applications for approval to commence development. **Table 2** below provides an assessment of the proposal against the relevant provisions of DC 1.2, demonstrating the proposal is generally consistent with the relevant policy objectives and considerations in decision making.

**Table 2 - DC 1.2 Assessment**

Policy objective / provision	Applicant comment
<b>2. Policy objectives</b>	
<ul style="list-style-type: none"> <li><i>To control the development of land within the framework of the relevant legislation.</i></li> </ul>	It is demonstrated within this submission the proposed development is generally consistent with the relevant planning framework and entirely appropriate for the site, and will comply with the relevant legislation for digital signage within road reserves, as required.
<ul style="list-style-type: none"> <li><i>To protect the integrity and purpose of reservations made under the MRS and PRS.</i></li> </ul>	It has been demonstrated above the proposed development will not adversely impact the purpose of the PRR reservation as it is not on land reserved for future road widening. The proponent would not object to an appropriately worded condition of approval that would allow for the proposed development to operate on the subject site until such time as the PRR reserve is required for future road widening, should it be impacted. This will ensure the integrity and purpose of the reservation is protected.
<ul style="list-style-type: none"> <li><i>To preserve planning options in areas subject to planning study or review.</i></li> </ul>	The proposal comprises an advertising sign and landscaping which are considered temporary forms of development. As such, the proposed development will not adversely affect future planning for the area.
<ul style="list-style-type: none"> <li><i>To ensure development is in accordance with sound planning principles.</i></li> </ul>	It is demonstrated within this submission the proposal is consistent with the principles of orderly and proper planning, being consistent with the surrounding context, relevant objectives of the zones under the MRS and LPS4, and City’s local planning policy for advertising signs, and similar existing and approved advertising signs in similar locations across the Perth metropolitan area.
<ul style="list-style-type: none"> <li><i>To promote development that is sustainable and achieves appropriate community standards of health, safety and amenity.</i></li> </ul>	<p>The proposed digital advertising sign will display variable third party content, providing opportunity for the promotion of local businesses and community events, which could contribute to increased social and economic activity in the area. In this way, the proposed development could contribute positively to the social and economic sustainability of the local area including for the tenants operating their businesses from the subject site.</p> <p>In addition, the proposed digital signage will comply with all the relevant regulatory requirements for digital signs, including luminance levels, dwell times and display of advertising content, ensuring the sign meets community standards and will have no adverse impact on the health, safety and amenity of the community or area.</p>
<ul style="list-style-type: none"> <li><i>To ensure development is site-responsive, enhances local identity and character and is well-connected to the adjacent neighbourhood.</i></li> </ul>	<p>The proposed development comprises site-responsive design, being commercial in nature and located on land zoned for industrial-commercial purposes, which comprises existing commercial development.</p> <p>The sign has been positioned and its structure proposed with a colour scheme to appear an integrated part of the existing built form on site, when viewed from the public realm to the south-east of the subject site.</p> <p>The proposed high quality digital display of variable content will also contribute positively to the visual interest and vibrancy of the subject site and adjoining streetscape.</p>

**31 Aug 2023**

	<p>In addition, the proposed landscaping at the base of the sign will enhance the visual amenity of the subject site and adjoining streetscape and soften the impact of the new signage development.</p> <p>The size of the proposed sign is considered appropriate for its location adjoining a major transport route and state road reserve, and is consistent with similar types of signs in similar locations across the Perth metro area.</p> <p>The proposal is considered compatible with the existing and desired future character of the area, being located at a main road intersection within an existing industrial-commercial hub in the locality of O'Connor.</p> <p>Importantly, the proposed digital advertising sign will comply with all the relevant regulatory requirements and is appropriately designed and positioned on the subject site to ensure there will be no adverse impacts on residential amenity. In addition, the digital advertising device provides opportunity to consider the promotion of local business and community events, which could contribute to enhancing the identity of the local area.</p>
<ul style="list-style-type: none"> <li>• <i>To facilitate land uses that support daily needs, local employment and provide choice and variety.</i></li> </ul>	<p>The proposed digital display of variable third party advertising content provides opportunity to promote the existing businesses on the subject site, and local businesses in the area, including the goods and services associated with these businesses. In this way, the proposed sign could support the daily needs of the local community, create local employment opportunities, and offers choice and variety in its content display.</p>
<ul style="list-style-type: none"> <li>• <i>To ensure that conditions, where applicable, improve the quality and consistency of development approvals.</i></li> </ul>	<p>Noted.</p>
<ul style="list-style-type: none"> <li>• <i>To promote efficiency in the planning and development assessment process.</i></li> </ul>	<p>The actions undertaken by the applicant prior to lodgement of the application, including pre-lodgement consultation with the relevant authorities and preparation of the application in accordance with their advice, is intended to support a more efficient planning and development assessment process.</p>
<p><b>3. Relevant considerations (in WAPC decision making)</b></p>	
<ul style="list-style-type: none"> <li>• <i>compatibility with relevant planning policies, strategies and development control criteria;</i></li> </ul>	<p>It is demonstrated within this submission the proposed development is compatible with the relevant state planning policies and development control criteria.</p>
<ul style="list-style-type: none"> <li>• <i>integration of development into the site and its surroundings;</i></li> </ul>	<p>The proposal comprises a site-responsive design and will integrate well with the existing commercial development on the subject site, and surrounding mixed commercial / main road context, being commercial in nature and appropriately designed, including colour scheme of its structure, positioned and oriented on the subject site to ensure no adverse impacts on residential amenity. The proposed high quality display of digital advertising and landscaping at the base of the sign will also contribute positively to the visual interest and amenity of the subject site and surrounding area.</p>
<ul style="list-style-type: none"> <li>• <i>transport and traffic impacts;</i></li> </ul>	<p>Refer <b>Appendix 2</b>, Road Safety Assessment report prepared in support of the application which demonstrates the proposal is acceptable from a road safety and traffic impact perspective.</p>
<ul style="list-style-type: none"> <li>• <i>vehicular and non vehicular access, circulation and car parking;</i></li> </ul>	<p>The proposed development has been sited to minimise any impacts on vehicular and non-vehicular access and circulation through the site, being positioned in the south-eastern portion of the subject site, away from the public access and car parking areas, and to ensure the operational access requirements of the existing tenancy on the subject site are not impacted.</p>
<ul style="list-style-type: none"> <li>• <i>relevant environmental, economic and social factors;</i></li> </ul>	<p>The proposed development will comply with all the relevant regulatory requirements for large format digital signs located within and beyond state road reserves, and will have no adverse impact on residential amenity. The sign is therefore considered acceptable from an environmental perspective. The economic and social factors have been addressed in this submission above.</p>

<ul style="list-style-type: none"> <li>• <i>relevant factors of amenity<sup>2</sup> and sustainability<sup>3</sup>.</i></li> </ul> <p><sup>2</sup> <i>amenity as defined in the Model Scheme Text meaning 'all those factors which combine to form the character of an area and include the present and likely future amenity.'</i></p> <p><sup>3</sup> <i>sustainability as defined in the State Sustainability Strategy meaning 'meeting the needs of current and future generations through an integration of environmental protection, social advancement and economic prosperity'.</i></p>	<p>Refer to above sections of this submission which address the relevant factors of amenity and sustainability, and demonstrate the proposal can be considered acceptable in this regard.</p> <p>The proposed development is also likely to be partly powered by a solar PV energy system subject to further investigations once operational energy consumption data is known.</p>
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**Development Control Policy 5.4 – Advertising on Reserved Land**

The WAPC’s Development Control Policy 5.4 – Advertising on Reserved Land (DC 5.4) sets out the principles to be applied when considering proposals for advertising signs located on land reserved under the MRS. The objectives of DC 5.4 are to:

- Preserve and enhance the amenity of the reserved land and surrounding zoned land.
- Ensure the safe and efficient use of roads from which the advertisement is visible.
- Protect the future use of the reserved land by recognising the temporary nature of an advertisement.

Whilst the development is not situated within the portion of land reserved PRR, the objectives of DC5.4 have been considered.

The proposal is considered consistent with the objectives of DC 5.4 for the following reasons:

- As demonstrated within this submission above, the proposed development will have no detrimental impact on the amenity of the area, and will contribute positively to the visual interest, vibrancy and amenity of the subject site and adjoining streetscape.
- The Road Safety Assessment report provided in support of the application confirms proposed development can be considered acceptable from a road safety perspective (refer **Appendix 2**).
- Further, a Light Impact Assessment was undertaken to demonstrate the suitability of the sign, including the perceived impacts to residential properties in proximity to the site (refer **Appendix 5**).
- The proposed advertising sign is a temporary form of development and will therefore have no impact on the future use of the reserved land.

An assessment against the relevant policy measures set out in DC 5.4 is provided in **Table 3** below, demonstrating the proposal is consistent with the relevant requirements of DC 5.4.

**Table 3 - DC 5.4 Assessment**

Policy provision / requirement		Applicant comment
<b>5.2 Effect on amenity</b>		
5.2.1	<i>The number, size, location, and appearance of advertisements must be carefully controlled in order to protect the amenity of the locality. Approval will only be granted if the WAPC is satisfied that the proposal will not detract from the amenity of the reservation and the locality generally.</i>	<p>The proposed sign is of simple design and size, aimed to fit into the surrounding industrial-commercial area. The sign works to significantly enhance the visual quality of the subject site and surrounding area, adding visual interest, vibrancy and activation to the streetscape.</p> <p>Refer to previous sections of this submission which address the relevant amenity considerations, and demonstrates the proposal can be considered acceptable in this regard.</p>
5.2.2	<i>The purpose for which the land is reserved is a primary consideration which the WAPC</i>	It is understood the Primary Regional Road reserve affecting the site is reserved for future road widening purposes. However, as stated above, the future road widening plans for Stock Road between

**31 Aug 2023**

	<p><i>will take into account in determining an application for advertisement.</i></p>	<p>South Street and Leach Highway are not imminent or certain. Given the temporary nature of advertising signage development (which can easily be removed and relocated to another position on the subject site if the subject land is required for road widening), it is not considered the proposal will have any impact on the future road widening plans for Stock Road.</p> <p>Further, the location of the proposed development is not situated within the portion of the subject site that is reserved PRR.</p>
<p>5.2.4</p>	<p><i>In appropriate circumstances the erection of an advertisement on some classes of reserved land may enhance the amenity by adding to the vitality of particular locations. Also there are some circumstances where an advertisement may provide a necessary service to the public by giving information, advice, and direction in relation to available services and events. In such circumstances, an advertisement may be considered appropriate.</i></p>	<p>Digital advertising represents an innovative form of signage that will contribute positively to the visual amenity, interest, vibrancy and activation of the subject site and surrounding area.</p> <p>The proposed landscaping works to further enhance the visual amenity of the site and area, and works to improve the user experience at a pedestrian level.</p>
<p>5.2.5</p>	<p><i>Although an individual advertisement might be acceptable, the accumulation of a number of advertisements in a given location may detract from the amenity of the locality. The WAPC will have regard for both existing and approved signs in the general area of an application, whether within the reserved land or on other nearby zoned land, when making its decision upon an application before it.</i></p>	<p>The proposal comprises one single-sided digital advertising sign to be installed on the subject site, which can be considered acceptable for the following reasons:</p> <ul style="list-style-type: none"> <li>• The surrounding area is not considered to have a high level of amenity, being a main road intersection with mid-late 20<sup>th</sup> century buildings adjoining the road reserve. The proposal comprises a high quality digital sign that will enhance the amenity of the area, by adding visual interest and vibrancy to the streetscape.</li> <li>• The subject site contains two existing commercial tenancies with associated advertising signage, including one small pylon sign on the south-western South Street boundary. Considering the site has two main road frontages and contains two separate commercial tenancies, it is considered acceptable to have two pylon signs on the subject site, with the proposed sign being positioned far away from the existing sign towards the eastern Stock Road boundary.</li> <li>• The only other advertising signs in the immediate locality are those located on the 'Homeworld' showroom centre opposite the subject site to the east. The 'Homeworld' site contains numerous commercial tenancies with associated advertising signage, including two large freestanding signs displaying multi-tenancy advertising (one per street frontage), and additional freestanding signage along the Stock Road frontage displaying 'Aqua Technics' tenancy advertising.</li> </ul> <p>Given the site's context, the number of existing advertising signs on-site and in the area, and separation distance between the proposed signage on the subject site and existing signs in the area, it is not considered the proposed digital advertising sign will detract from the amenity of the area.</p>
<p><b>5.3 Safety and efficiency of roads</b></p>		
<p>5.3.1</p>	<p><i>Advertisements often compete for the attention of the passing public and therefore proposals for advertisements in prominent locations near busy intersection will be examined in the context of road safety and efficiency. Such advertisements are not acceptable if they interfere with sight-lines, distract drivers, or have the potential to hinder the interpretation of or</i></p>	<p>This application is supported by a Road Safety Assessment which confirms the proposed signage will not obstruct or interfere with any traffic control devices or with the driver's view of hazards, and satisfies the general, physical characteristics and display safety conditions set out in MRWA's Policy and Application Guidelines for Advertising Signs within and Beyond Road Reserves. Accordingly, the proposed digital advertising sign can be considered acceptable from a road safety perspective.</p>



**31 Aug 2023**

	<i>become confused with traffic signals or road signs.</i>	Refer <b>Appendix 2</b> , Road Safety Assessment report. Recent research undertaken by an independent road safety institute in Australia shows roadside advertising on digital billboards can improve driver behaviour. The research was commissioned by Outdoor Media Association ( <b>OMA</b> ) and measured driver behaviour before and after a digital sign was installed at a complex road intersection in Brisbane, Australia, using two key indicators of driver distraction that are known to increase the risk of an accident. Refer <b>Appendix 6</b> for a copy of OMA's Australian road safety research media release.
(a)	<i>The scale and design of the signage is subservient to the building to which it relates, are sized in proportion with parapets, panels and windows and wall areas within close proximity to the proposed sign so as to not dominate the view of the building from the street.</i>	The digital sign is proposed to be mounted on a steel column with the LED screen proposed to be approximately 3.2m high and 12.48m in width. The sign will be mounted approximately 7.3m above ground level. The proposed scale and design of the proposed sign is entirely consistent with existing and approved large format digital signs in similar locations across the Perth metropolitan area, including the following examples: <ul style="list-style-type: none"> <li>• Corner of Oxford Close / Railway Parade, Leederville (approx. 12.44 wide x 3.29m high digital sign).</li> <li>• Corner of Broadway / Promenade, Ellenbrook (approx. 10.24m wide x 3.46m high digital sign).</li> </ul> The scale of the proposed sign is generally consistent with the existing commercial-industrial buildings on the subject site, and has been positioned and designed, including the proposed colour scheme of its structure, to appear integrated with the existing buildings on the subject site when viewed from the public realm. The proposed digital advertising device also works to enhance the visual interest and amenity of the area.  In addition, the proposed landscaping works to soften the visual impact of the proposed sign and enhance the overall visual amenity of the site and surrounding area.
<b>5.4 Protection of reservation</b>		
5.4.1	<i>An advertisement does not constitute the long term use intended for any class of land reserved by a region scheme. Accordingly, an advertisement will always be considered by the WAPC to be temporary use on that land. Therefore, in the event that approval is granted, this may be conditional upon the removal of the sign after a certain period of time, and the reinstatement of the land to its original condition.</i>	Noted.

**City of Fremantle Local Planning Scheme No. 4.**

The subject site is predominately zoned 'Commercial' under the provisions of the City's Local Planning Scheme No.4 (**LPS4**). The eastern portion of the site is reserved Primary Regional Road in accordance with the MRS reservation.

Clause 3.2.1 of LPS4 sets out the objectives of the Commercial zone as follows:

*Development within the commercial zone shall:*

- i) provide for the development of offices and associated commercial and larger scale uses, including showrooms, and warehouses and uses requiring outdoor displays,*
- ii) ensure that development is not detrimental to the amenity of adjoining owners or residential properties in the locality, and*

iii) to conserve places of heritage significance the subject of or affected by the development.

Being commercial in nature, the proposed digital advertising sign is considered appropriately located in a Commercial zone, and entirely consistent with the surrounding commercial-industrial context and existing commercial uses and development on the subject site. The proposed sign is designed and positioned to appear integrated with the existing buildings on the subject site, and will improve the appearance of the site when viewed from the public realm. The proposed digital sign will comply with all the relevant regulatory requirements for digital signage within and beyond road reserves, including luminance levels, dwell times and display content, ensuring the sign will have no detrimental impact on the amenity of the area. Importantly, the proposed sign will have no adverse impact on residential amenity in the locality, given the positioning, orientation and location of the proposed sign at a main road intersection, where the adjoining residential properties are facing away from the intersection and protected from any potential impacts on their amenity by a landscaping buffer within the adjoining road reserve.

Based on the above, the proposed development is considered consistent with the relevant objectives of the Commercial zone and warrants approval accordingly.

Refer **Figure 4**, LPS4 zoning map below.



**Figure 4 - LPS4 zoning map**

### **Local Planning Policies**

#### City of Fremantle Local Planning Policy No. 2.14 – Advertising Policy

The City's Local Planning Policy No. 2.14 – Advertisements Policy (**LPP 2.14**) is a guidance document that outlines the development requirements applicable to signage within the City.

The proposed digital advertising sign is best classified as a 'Pole, pylon or freestanding sign', 'Illuminated Sign', and 'Animated sign' defined under LPP 2.14 as follows:

***Pole, Pylon or freestanding sign** means advertisement which is erected on a permanently attached freestanding pole, pylon or other structure and used to advertiser one or multiple tenancies on private land.*

**Illuminated sign** means an advertisement illuminated by internal and/or external lights or composed of light devices that do not flash, change intensity or patter. Advertisement that is considered illuminated will generally be considered under another definition of a sign and includes advertisements that are projected onto a building or vertical surface.

**Animated Sign** includes but not limited to any sign or its contents that moves and includes flashing or 'chasing' lights as well as video signs, plasma and LED screens and signs which are 'trivision', 'variable message', 'changing message' and 'fibre optic' signs.

An assessment of the proposal against the relevant policy provisions is provided in **Table 4** below.

**Table 4 – LPP 2.14 Assessment**

Policy provision / requirement		Applicant comment
<b>1.1. General requirements applicable to all signs</b>		
(a)	Advertisement will not be approved on properties primarily used for residential purposes [...]	N/A
(b)	Advertisements are to be located and designed so as not to cause a hazardous distraction to motorist, pedestrians, or other road users.	<u>Compliant:</u> The sign is appropriately located and design to ensure it will not cause a hazardous distraction to any road users. Refer <b>Appendix 2</b> , Road Safety Assessment report, which demonstrates the proposal is acceptable from a road safety perspective and <b>Appendix 2</b> , Lighting Assessment.
(c)	Advertisements will be compatible with the style, scale and character of the surrounding streetscape, and the predominate uses within the locality. Consideration will be given to the number and type of existing signs in the locality so as to avoid the visual clutter.	<u>Compliant:</u> The sign has been designed to be compatible with and appear integrated with the existing buildings on the subject site, and is compatible with the scale, style and character of the surrounding commercial-industrial-main roads context. Refer to <b>Table 2</b> of this submission above, which addresses the number of signs in the area, and confirms the proposed sign will not contribute to visual clutter of signage.
(d)	Advertisements shall not impede pedestrian or vehicle movements.	<u>Compliant:</u> The sign has been sited and designed to ensure that it does not impede pedestrian or vehicle movements. Refer <b>Appendix 2</b> , Road Safety Assessment report, which addresses the relevant traffic and road safety considerations.
(e)	Illuminated signs are to be maintained to operate as an illuminated sign; and	<u>Compliant:</u> The sign will be consistently maintained with any maintenance issues being resolved by the owner.
(f)	Advertisements are not to emit a flashing or moving light or radio; animation or movement in its design of structure; reflective, retro-reflective or fluorescent materials in its design structure.	<u>Compliant:</u> The sign will display static advertising only, and will comply with all the relevant regulatory requirements for digital advertising and content display.
(g)	Advertisements in the form of an Animated sign will not, be supported by Council.	<u>Proposed variation:</u> The proposed sign can be defined as an Animated sign under LPP 2.14, as comprising a LED screen and display of variable content. Refer section 3 of this Table below for an assessment against the LPP 2.14 variations clause.
(h)	Advertisements will not be approved on private land which include, i. The name, logo, or symbol of a company or other organisation that does not own or substantially occupy the site of building on which the advertisement is located, or	<u>Proposed variation:</u> The application is seeking approval for the display of third party advertising content. Refer section 3 of this Table below for an assessment against the LPP 2.14 variations clause.

	<p>ii. A product or service not provided on the site on which the advertisement is located</p> <p>iii. A product or service that does not form part of the signage displaying the name, logo, or symbol of a company or other organisation that owns or substantially occupy the site or building on which the advertisement is located; or</p> <p>iv. Signs for an activity or event not occurring on the site on which the advertisement is located.</p>	
--	--	--

**2.5.1 Free Standing Sign or Pole or Pylon Signs are deemed acceptable where:**

(a)	<p>The advertisement is no more than the height of the immediately adjoining subject building or no more than 6.0m in height whichever is the lesser; and</p>	<p><u>Proposed variation:</u> The proposed pylon sign is 10.5 metres in lieu of the maximum 6.0m requirement.</p> <p>Refer section 3 of this Table below for an assessment against the LPP 2.14 variations clause.</p>
(b)	<p>The advertisement does not significantly obstruct the view between the building and the street, thereby preventing casual surveillance of the street from the property and vice versa; and</p>	<p><u>Compliant:</u> The proposed sign is designed and sited to ensure it does not obstruct the view between the building and the adjoining streets. The existing building on-site does not have any major openings along the façade where the sign is to be located, therefore any opportunities for casual surveillance of the street from the property will not be affected.</p>
(c)	<p>It can be demonstrated that the advertisement is consistent with a particular design convention associated with a specific land use (is pylon signs for petrol stations); and</p>	<p><u>Compliant:</u> The proposed digital advertising sign is commercial in nature and considered entirely consistent with the existing commercial land uses on the subject site, being bulky goods showrooms.</p>
(d)	<p>The advertisement is restricted to one sign per site, may include the advertising of multiple tenancies and can be illuminated and / or double sided.</p>	<p><u>Proposed variation:</u> The subject site contains an existing 'pole, pylon or freestanding sign' on the south western portion of the subject site, fronting South Street. Refer section 3 of this Table below for an assessment against the LPP 2.14 variations clause.</p>

**3 Variations to Standards**

3.1	<p>Council may vary the requirements outlined within Clause 1 and 2 where it can be demonstrated that the following can be met to the satisfaction of the Council:</p>	<p>While the proposal comprises variations to the LPP 2.14 requirements in relation to height, number of signs on-site, and being a digital sign comprising third party advertising content, the proposed sign is considered acceptable for the following reasons:</p>
(a)	<p>The cumulative effect of the signage does not negatively impact on the surrounding locality by way of visual clutter; and</p>	<ul style="list-style-type: none"> <li>• The proposed new sign on the subject site will not contribute to the appearance of visual clutter in the locality, considering the site context and number of existing signs in the vicinity of the proposed sign, and separation distance between the existing signs and proposed sign (with three freestanding signs located on the opposite side of Stock Road, and no existing signs on the western side of Stock Road where the sign is to be located; and only one small existing pylon sign located on the subject site to the west of the proposed sign (on the South Street boundary).</li> <li>• The subject site is of a substantial site area at 5,349m<sup>2</sup>. The proposed sign is located at a substantial distance from the existing small pylon sign.</li> <li>• In terms of size, the sign is generally consistent with, and compatible with, the scale of the existing buildings on-site and has been positioned and designed, including the proposed</li> </ul>
(b)	<p>The scale and design of the signage is subservient to the building to which it relates, are sized in proportion with parapets, panels and windows and wall areas within close proximity to the proposed sign so as to not dominate the view of the building from the street.</p>	

colour scheme of its structure and new landscaping, to appear as an integrated part of the development when viewed from the public realm.

- The nature, size and scale of the signage proposed is consistent with what would be expected within or beyond a state road reserve, and is consistent with existing and approved digital signs in similar locations across the Perth metropolitan area including:
  - Corner of Oxford Close / Railway Parade, Leederville (approx. 12.44 wide x 3.29m high digital sign).
  - Corner of Broadway / Promenade, Ellenbrook (approx. 10.24m wide x 3.46m high digital sign).
- The site is zoned Commercial and within an existing commercial/industrial/showroom precinct. The proposed sign is consistent with the zone objectives and its commercial context, and will have no adverse impact on the amenity of the area.
- The proposal will contribute positively to the visual interest, activation and amenity of the streetscape, including the proposed landscaping, which will soften the visual impact of the proposed sign and enhance the overall visual amenity of the site and surrounding area.
- The application is supported by Road Safety Assessment report which confirms the sign is acceptable from a road safety perspective, including the location and size of the sign meeting the relevant criteria set out under Main Roads WA's Policy and Application Guidelines (refer Appendix 2).
- The proposed additional sign on the site is considered acceptable, given the site has three street frontages and contains two commercial tenancies, and the proposed sign is to be located away from the existing small pylon sign on-site, within the south-eastern portion of the site closer to the Stock Road frontage.

Based on the above, the proposed signage is considered entirely acceptable and appropriate for the site, and the proposed variations to LPP 2.14 warrant discretionary approval accordingly.

## CONCLUSION

This application seeks development approval for a digital advertising sign and landscaping to be installed on the subject site. The proposed sign is justified and considered appropriate for the following reasons:

1. The proposal is consistent with the provisions of the MRS and will have no adverse impact on the Primary Regional Roads reserve affecting the site.
2. The proposal is generally consistent with the provisions of Development Control Policy 1.2 – Development Control – General Principles, and Development Control Policy 5.4 – Advertising on Reserved Land.
3. The proposal is generally consistent with the provisions and requirements of the City of Fremantle Local Planning Scheme No.4, and objectives of the City's Planning Policy 2.14 – Advertising Policy.
4. The application is supported by a Road Safety Assessment which demonstrates the proposal satisfies the Main Roads WA's Policy and Application Guidelines for Advertising Signs within and Beyond Road Reserves criteria, confirming the proposal is acceptable from a road safety perspective.
5. The proposed development will comply with all the relevant regulatory requirements and have no detrimental impact on the amenity of the area, or the health, welfare and safety of residents in the locality.

6. The proposed development is entirely consistent with, and compatible with its setting, adding visual interest and vibrancy to a main road intersection, and contributing to improving the amenity of the site and surrounding area, particularly given its high quality and considered design including scale, colour scheme of its structure, and landscaping.
7. The proposed digital advertising sign is consistent with previously approved and existing digital advertising signs across the Perth metropolitan area, which are similar in size, design and location.

Owing to the above, approval of the proposed digital advertising sign would be entirely consistent with orderly and proper planning. We therefore respectfully request the application for approval to commence development be considered on its merits and favourably determined by the City of Fremantle.

Should you have any queries or require further clarification in regard to the proposal, please do not hesitate to contact the writer.

Yours faithfully,

  
\_\_\_\_\_  
**NATHAN MAAS**  
**SENIOR PLANNER**

230830 7517 DA Submission .docx

**CITY OF FREMANTLE**  
**These Plans Form Part of**

**DA0264/23**

**APPENDIX 1**  
**31 AUG 2023**

**CERTIFICATE OF TITLE AND PLAN**

TITLE NUMBER

**DA0264/23**

Volume Folio

**1221 769**  
**31 Aug 2023**

WESTERN



AUSTRALIA

**RECORD OF CERTIFICATE OF TITLE**  
**UNDER THE TRANSFER OF LAND ACT 1893**

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

*BGRoberts*  
REGISTRAR OF TITLES



**LAND DESCRIPTION:**

LOT 93 ON PLAN 6650

**REGISTERED PROPRIETOR:**  
(FIRST SCHEDULE)

25 NOMINEES PTY LTD OF 154 HIGH STREET, FREMANTLE

(T D642680 ) REGISTERED 31/12/1987

**LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:**  
(SECOND SCHEDULE)

1. D685573 MORTGAGE TO NATIONAL AUSTRALIA BANK LTD REGISTERED 1/3/1988.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.  
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

**STATEMENTS:**

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: 1221-769 (93/P6650)  
PREVIOUS TITLE: 1194-439  
PROPERTY STREET ADDRESS: 8 PRITCHARD ST, O'CONNOR.  
LOCAL GOVERNMENT AUTHORITY: CITY OF FREMANTLE



DA0264/23

31 Aug 2023

PLAN 6650

P 006650 F 01



ALL ROADS WITHIN THE GREEN  
BORDER ARE NOW DEDICATED

GAZ. 14.12.56 COR 5/56

PT. OF COCKBURN SOUND LOC 551

FB. 15393

TOTAL AREA 31.219 ha

APPROVED  
7-9-56

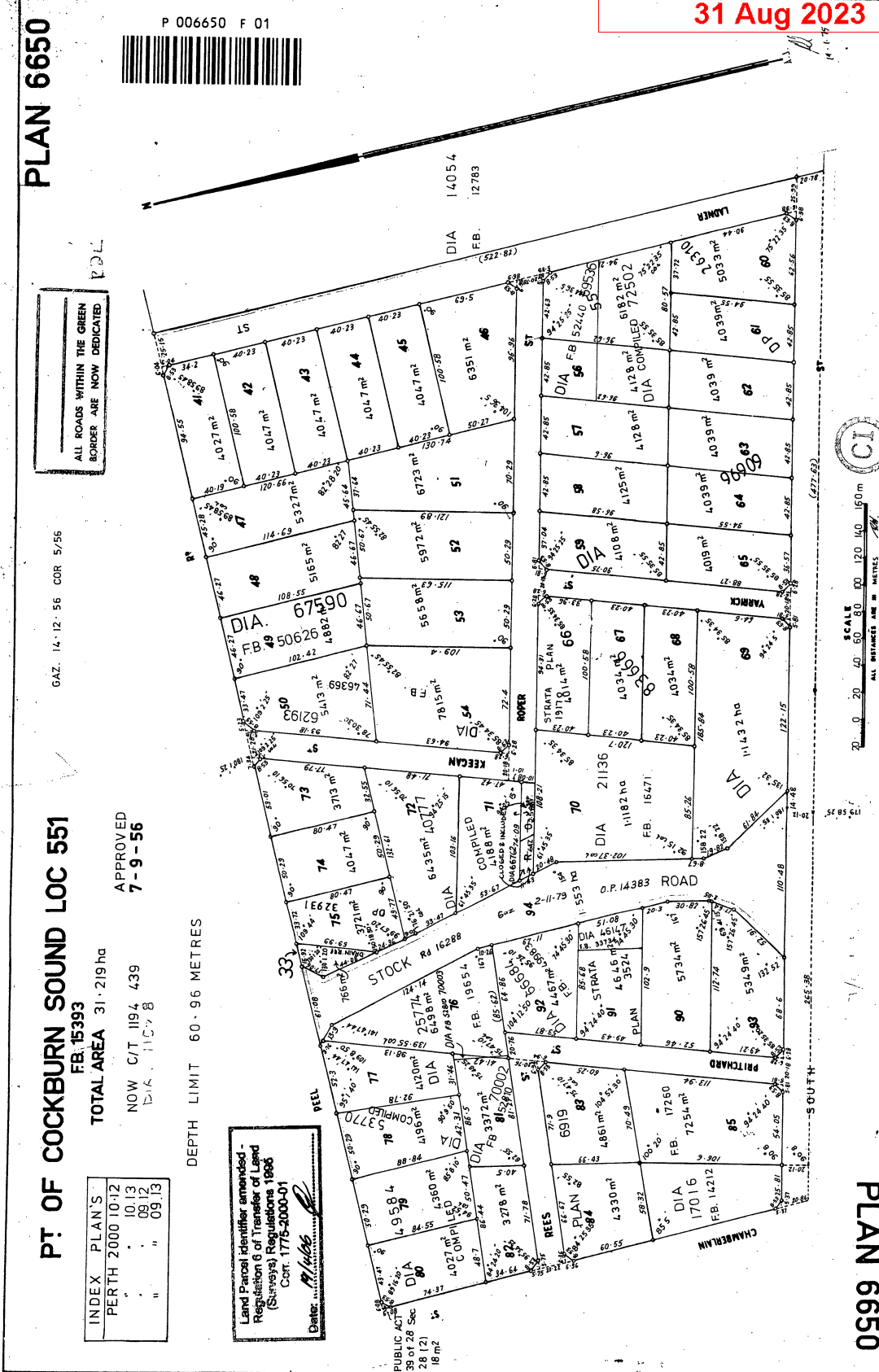
NOW C/T 1194 439

DIA. 11578

DEPTH LIMIT 60.96 METRES

INDEX	PLAN'S
PERTH 2000	10.12
"	10.13
"	09.12
"	09.13

Land Parcel Identifier amended -  
Registration 6 of Transfer of Land  
(Survey) Regulations 1986  
Cert. 1775-2000-01  
Date: 11/06



SCALE  
0 20 40 60 80 100 120 140 160m  
ALL DIMENSIONS ARE IN METRES

PLAN 6650

**DA0264/23**

**APPENDIX 2**

**ROAD SAFETY ASSESSMENT REPORT**

**31 Aug 2023**



transport planning  
traffic engineering  
modelling

**CITY OF FREMANTLE**  
**These Plans Form Part of**

**DA0264/23**

**31 Aug 2023**

# Proposed Advertising LED Sign

Lot 93 (8) Pritchard Street, O'Connor

Road Safety Assessment

**PREPARED FOR:**  
**25 Nominees Pty Ltd**

**August 2023**

## Document history and status

Author	Revision	Approved by	Date approved	Revision type
Waihin Tun	r01	B Bordbar	17/12/2021	Draft
Waihin Tun	r01a	B Bordbar	19/01/2022	Final
Roger Bajwa	r01b	B Bordbar	07/08/2023	Revised
Roger Bajwa	r01c	B Bordbar	15/08/2023	2 <sup>nd</sup> Revision

31 Aug 2023

**File name:** t21.164.rb.r01c

**Author:** Roger Bajwa

**Project manager:** Behnam Bordbar

**Client:** 25 Nominees Pty Ltd

**Project:** Lot 93 (8) Pritchard Street, O'Connor

**Document revision:** r01c

**Project number:** t21.164

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# TABLE OF CONTENTS

DA0264/23

31 Aug 2023

<b>1</b>	<b>INTRODUCTION.....</b>	<b>1</b>
<b>2</b>	<b>PROPOSED SIGN DESCRIPTION .....</b>	<b>2</b>
<b>3</b>	<b>MAIN ROADS WA ROADSIDE ADVERTISING GUIDELINES.....</b>	<b>4</b>
3.1	MRWA GUIDELINES – SECTION 3 GENERAL SAFETY AND EFFICIENCY CONSIDERATIONS.....	6
3.1.1	GENERAL SAFETY AND EFFICIENCY CRITERIA.....	6
3.1.2	SITE SELECTION CRITERIA.....	6
3.1.3	PHYSICAL CHARACTERISTICS.....	7
3.1.4	CRASH HISTORY.....	7
3.1.5	INTERSECTION RESTRICTION DISTANCE.....	7
3.2	MAIN ROADS WA GUIDELINES – SECTION 5 SAFETY CONSIDERATIONS.....	8
3.2.1	DISPLAY.....	8
3.2.2	LOCATION .....	9
3.2.3	CONTENT.....	11
3.2.4	MOVEMENT AND ROTATION.....	11
<b>4</b>	<b>ROAD SAFETY ASSESSMENT.....</b>	<b>12</b>
4.1	DOCUMENT REFERENCES AND GUIDELINES.....	12
4.2	ROAD SAFETY ASSESSMENT GENERAL FINDINGS.....	12
4.3	SITE LOCATION ASSESSMENT .....	13
4.4	CRASH HISTORY CALCULATIONS.....	15
<b>5</b>	<b>ASSESSMENT OF SIGN AGAINST LOCAL POLICY REQUIREMENTS.....</b>	<b>20</b>
<b>6</b>	<b>CONCLUSION.....</b>	<b>22</b>

## APPENDIX A: ADVERTISING SIGN PLAN

## REPORT FIGURES

DA0264/23

31 Aug 2023

Figure 1. Subject site and the proposed sign location .....	1
Figure 2: Proposed sign structure.....	2
Figure 3. Local Planning Scheme.....	5
Figure 4. Restriction areas for advertising devices visible from a state-controlled road other than a Freeway or Freeway standard road .....	10
Figure 5. DRA assessment for the relevant intersection of South Street and Stock Road (Melville Mandurah Hwy) and traffic signs.....	14

## REPORT TABLES

Table 1. Distance 'd' and '0.6v' for use with Device Restriction Area drawings.....	8
Table 2. Typical advertising device dimensions .....	9
Table 3. Electronic advertising dwell times .....	9
Table 4. Critical Crash Rate Thresholds (Main Roads WA).....	16
Table 5. Casualty Crash Rate (R) – South Street Westbound (Adjusted 1.5km rolling sections) .....	17
Table 6. Casualty Crash Rate (R) – Stock Road (Melville Mandurah Hwy) Northbound (Adjusted 1.5km rolling section) .....	18
Table 7. Casualty Crash Rate (R) – Stock Road (Melville Mandurah Hwy) Southbound (Adjusted 1.5km rolling section) .....	19

# 1 Introduction

This Road Safety Assessment has been undertaken by Transcore on behalf of 25 Nominees Pty Ltd with regard to the proposed LED sign to be located at Lot 93 (8) Pritchard Street, O'Connor in the City of Fremantle.

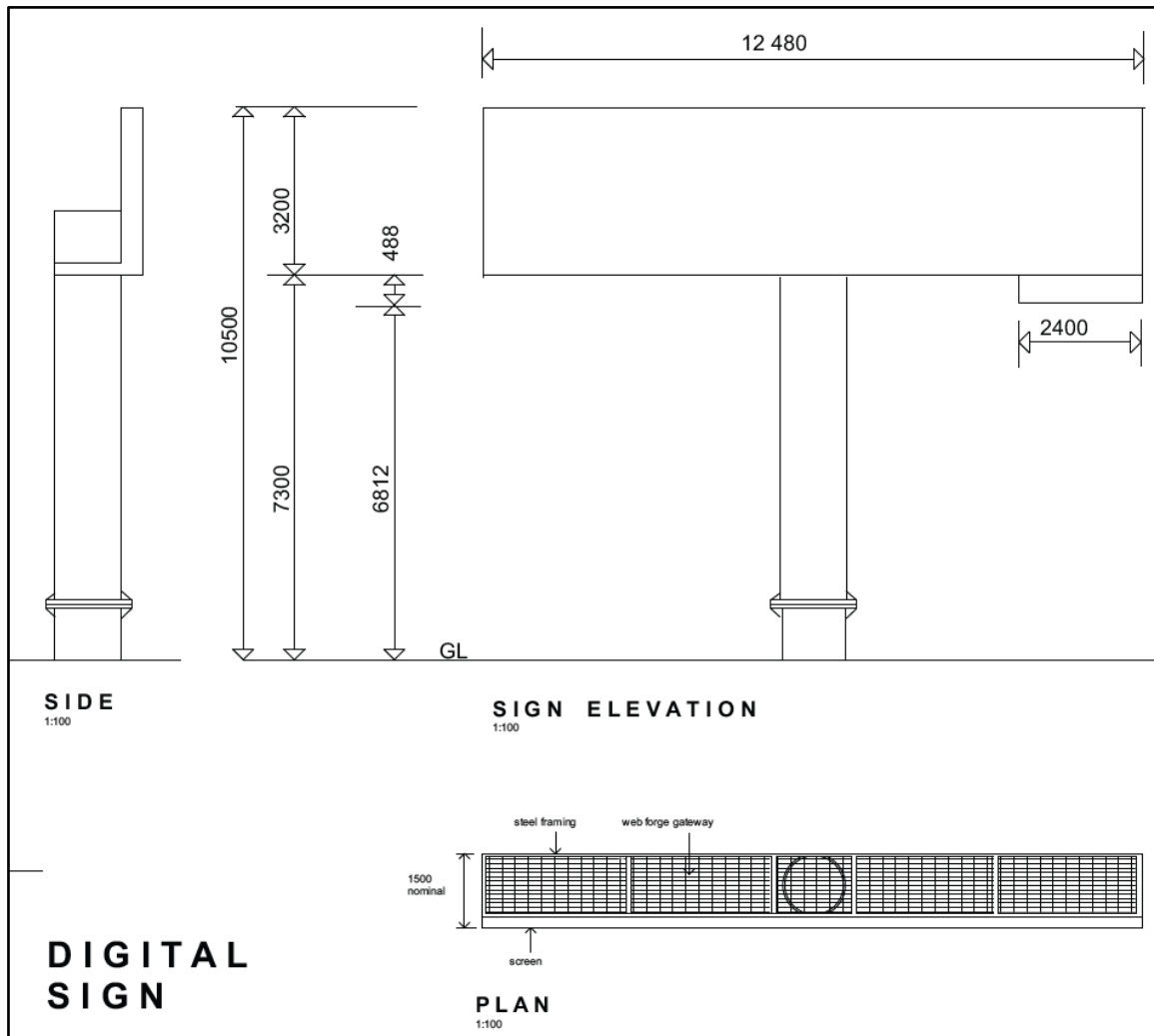
The subject site currently accommodates retail/commercial tenancies as shown in **Figure 1**. The advertising sign is proposed to be located at the northwest corner of the signalised intersection of South Street and Stock Road (Melville Mandurah Hwy). The proposed advertising LED sign will be visible to westbound direction of traffic flow on South Street and possibly both directions of traffic flows on Stock Road (Melville Mandurah Hwy).



**Figure 1. Subject site and the proposed sign location**

## 2 Proposed Sign Description

As detailed in **Figure 2** and **Appendix A**, a single sided LED sign is proposed to be mounted on a steel column at the subject site. The LED screen will be approximately 3.2m high and 12.48m wide and will be mounted approximately 7.3m above ground level (relative to the adjacent Street).



**Figure 2: Proposed sign structure**

The proposed sign panel will feature the following specifications:

- ✚ The device is an electronic variable message LED sign which will display static advertising only;
- ✚ The sign will not be illuminated externally;
- ✚ The device will cycle through a series of static advertisements. The device can be programmed with a specific display time/dwell time for each advertisement; and;



- ✦ Advertisement and other device programming can be undertaken online and therefore physical access to the sign will not be required to change advertisements.

DA0064/23

31 Aug 2023

### 3 Main Roads WA Roadside Advertising Guidelines

Revision 8 of the Main Roads WA 'Policy and Application Guidelines for Advertising Signs Within and Beyond State Road Reserves' (the Guidelines), amended October 2020, provides guidance on the assessment of roadside advertising signs located within State Road reserves, or visible from State Road reserves.

Section 2.3 of the Guidelines states that *"These guidelines apply to all gazetted highways and main roads ("State roads") controlled by Main Roads Western Australia....."*

The proposed digital LED advertising sign will be installed on private property outside the Primary Regional Roads Reserve. The LED sign will be visible to the westbound direction of traffic flow on South Street and possibly both directions of traffic flows on Stock Road (Melville Mandurah Hwy).

As detailed in **Figure 3**, both South Street and Stock Road (Melville Mandurah Hwy) form part of the State Road network. The speed limit on the eastbound direction of South Street in the vicinity of the subject site is 60km/h. The speed limit in the northbound direction of Stock Road (Melville Mandurah Hwy) is 70km/h in this vicinity.

As the proposed LED sign will be visible from a State Road reserve, then Main Roads WA roadside advertising guidelines are applicable to the sign.

The relevant requirements of the Guidelines are summarised in this section of the report. The road safety assessment undertaken through application of the Guidelines is presented in **Section 4**.

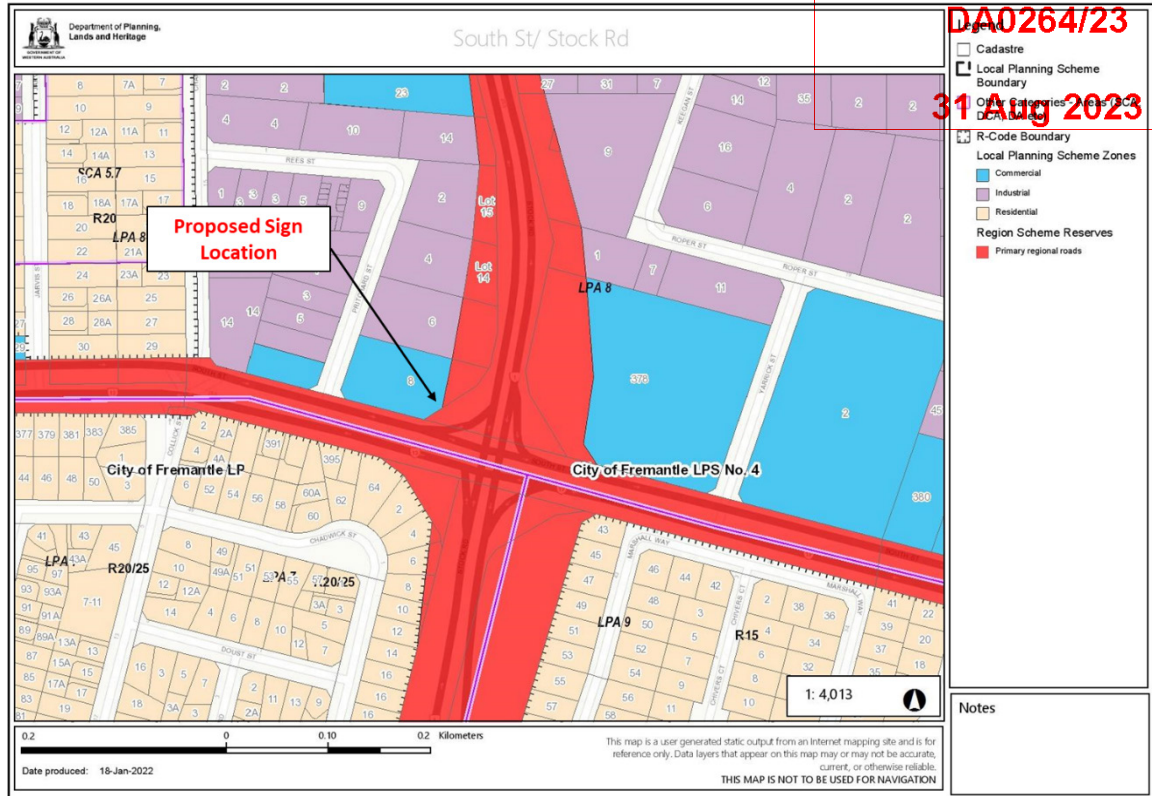


Figure 3. Local Planning Scheme

## 3.1 MRWA Guidelines – Section 3 General Safety and Efficiency Considerations

Section 3 of the Guidelines provides general conditions relating to safety, traffic efficiency, site selection and physical characteristics of advertising devices. Some items of note relevant to the sign includes:

### 3.1.1 General Safety and Efficiency Criteria

An advertising device may be considered a traffic hazard if it interferes with road safety or traffic efficiency; or if it:

- ✦ Interferes with the effectiveness of traffic control devices (e.g. traffic signals, stop or give way signs), or
- ✦ Distracts a driver at a critical time (high demand, decision making areas), or
- ✦ Obscures a driver's view of a road hazard (e.g. curves, traffic Stopping Sight Distance), or
- ✦ Gives instructions to traffic to "stop", "halt" or other (give way, merge, turn), or
- ✦ Imitates a traffic control device, or is a dangerous obstruction to road or other infrastructure, traffic, pedestrians, cyclists or other road users, or
- ✦ Is in an area where there are several devices and the cumulative effect of those devices may be potentially hazardous, distracting or demanding.

The application of these criteria is discussed in **Section 4.2** of this report.

### 3.1.2 Site Selection Criteria

#### Lateral Placement

Advertising signs should be located outside road clear zones to minimise the risk of collision of an errant vehicle with an advertising device. Consideration of lateral placement normally applies only to advertising devices that are within the boundaries of state-controlled roads. The application of the clear zone concept is intended to minimise the risk of collision of an errant vehicle with an advertising device.

The application of these criteria is discussed in **Section 4** of this report.

#### Longitudinal Placement

The application of the longitudinal placement controls is intended to:

- ✦ Minimise the level of driver distraction in areas where greater concentration is required;
- ✦ Preserve sight distance; and,
- ✦ Retain a high level of traffic efficiency.

Longitudinal placement controls for Advertising Devices within and/or visible to state-controlled roads shall be in the form of device restriction distances to be designated traffic situations and official traffic signs.

The application of these criteria is discussed in **Section 4** of this report.

### 3.1.3 Physical Characteristics

Control of the physical characteristics of Advertising Devices shall relate to the:

- ✦ Size and shape;
- ✦ Colour;
- ✦ Illumination and luminance;
- ✦ Movement and rotation;
- ✦ Advertising Device content; and,
- ✦ Supporting structure.

The application of these criteria is discussed in **Section 4.2** of this report.

### 3.1.4 Crash History

#### Killed and Serious Injury Criteria

A billboard sign is subject to amendment when the proposed site has a vehicle crash history of three (3) or more Killed and Serious Injury (KSI) crashes at any intersection within 'd' metres (see Table 3.1) of the approach to the proposed billboard sign location. If the approaching road section has 3 or more KSI crashes based on the above conditions, then the billboard restriction distance 'd' needs to be increased by a factor of 2 for all diagrams as set out in Appendix A.

The results of the KSI calculations are presented in **Section 4.4**.

#### Crash Rate Criteria

A billboard sign is not permitted where sections of the road on a carriageway have a crash rate higher than the critical crash rate.

Crash rate calculations were undertaken by Transcore as outlined in Appendix C of the Main Roads WA guidelines. The results of the calculations are presented in **Section 4.4**.

### 3.1.5 Intersection Restriction Distance

The device restriction distances, for use with the Device Restriction Area drawings in Appendix A of the Main Roads WA guidelines, are detailed in **Table 1**.

Table 1. Distance 'd' and '0.6v' for use with Device Restriction A DA0264/23

Speed Limit (km/h)	Distance 'd' (m)	0.6v (m)
50 or less	45	30
60	65	36
70	85	42
80	110	48
90	140	54
100	170	60
110	210	66

31 Aug 2023

### 3.2 Main Roads WA Guidelines – Section 5 Safety Considerations

Section 5 of the Guidelines provides specific conditions relating to road user safety for advertising devices. Conditions relating to display, location, content, movement and rotation are detailed in Section 5 of the Guidelines and are summarised as following:

#### 3.2.1 Display

- ✦ Advertising displays that have the potential to unduly distract drivers due to their design form, orientation or physical size, or iridescence, lustre or brilliance of reflected light, shall not be permitted (refer **Table 2**).
- ✦ Advertising signs likely to dazzle or distract drivers due to their brightness, high light emissions and/or frequent flashing, shall not be permitted.
- ✦ Advertising displays that could create a confusing or dominating background, which have the potential to reduce the clarity of a traffic control device or the readability of the road layout, shall not be permitted.
- ✦ For digital format billboards, the duration of transition between the full display of one message and the full display of the next message shall not exceed 0.1 seconds.
- ✦ Animated transitional effects such as fly-in, sliding and checker boarding shall not be permitted on electronic signs.
- ✦ The primary textual elements of advertisements intended to be read by passing motorists shall be legible for drivers travelling at the normal road operating speed and when viewed within a ten-degree horizontal field of vision. No more than seven words on any single sign display shall be readable by such drivers at any one time.

**Table 2. Typical advertising device dimensions DA0264/23**

Description	Dimensions (m)	Area (m <sup>2</sup> )
Small Portraits	3 x 4.5	13.5
Posters	6 x 3	18
Super 8's	8.22 x 2.66	18.6
Portraits	4 x 6	24
Supersites	12.66 x 3.35	42.4
Spectaculars	18.99 x 4.45	84.5

31 Aug 2023

Signs with variable displays must have a minimum dwell time and transition duration in compliance with the Guidelines (refer **Table 3**). Therefore, it is recommended that the duration of transition between the full display of one message and the full display of the next message shall not exceed 0.1 seconds.

**Table 3. Electronic advertising dwell times**

Speed Limit or Operating Speed (km/h)	Dwell Time (sec)
110	20
100	25
90	25
80	30
70	35
60	40
<50	45

The application of these criteria is discussed in **Section 4.2** of this report.

### 3.2.2 Location

As depicted in the Guidelines, advertising devices should not be located in Device Restriction Areas. The relevant reference diagram from Appendix A: Figure 1 of the Guidelines has been identified by Main Roads WA as:

- ✚ Cross Road – Diagram 2 in **Figure 4**.

The application of the Device Restriction Area criteria is discussed separately in **Section 4.3**.

DA0264/23

31 Aug 2023

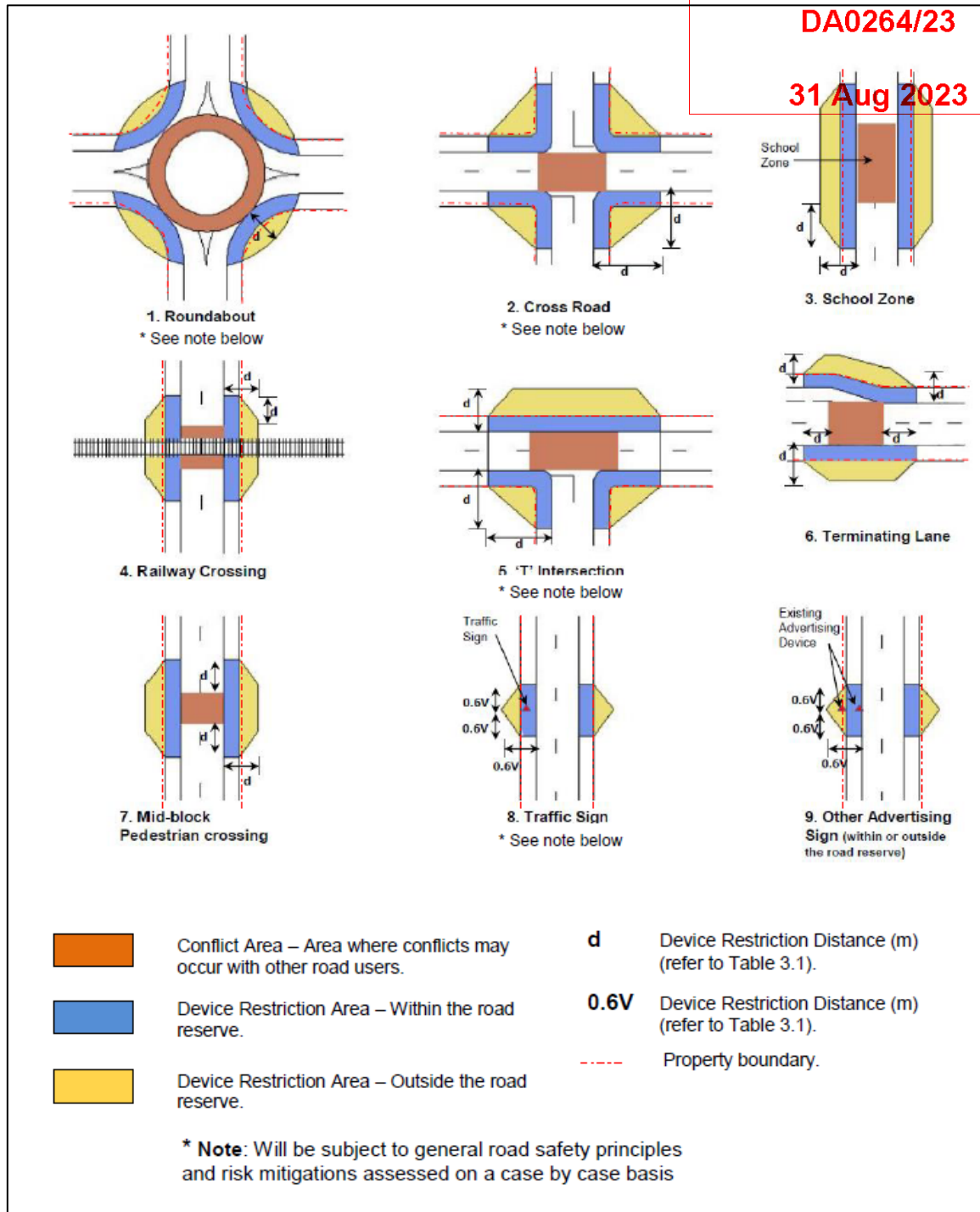


Figure 4. Restriction areas for advertising devices visible from a state-controlled road other than a Freeway or Freeway standard road



### 3.2.3 Content

The content of advertising devices shall exclude the following:

- ✚ Colours and shapes arranged that may be mistaken for a traffic signals, traffic signs or instruction signs.
- ✚ Symbols, graphics or text that entices drivers to immediately turn or change lanes, or which could be mistaken for an instruction to drivers.
- ✚ Complicated / long website, social media or email addresses, and text messaging instructions.

### 3.2.4 Movement and Rotation

- ✚ Moving advertising devices shall be restricted to speed environments of 70 km/h or less;
- ✚ Movement of an advertising device shall be restricted to rotation about a vertical axis or axes (Advertising devices in the form of a flag or banner are excluded from this condition); and,
- ✚ Variable message sign advertising shall not be displayed on a moving advertising device.

The application of the content and movement rotation criteria is discussed in **Section 4.2** of this report.

## 4 Road Safety Assessment

### 4.1 Document References and Guidelines

Transcore has undertaken a Road Safety Assessment of the proposed LED sign with reference to the following documents:

- ✚ Main Roads WA 'Policy and Application Guidelines for Advertising Signs Within and Beyond State Road Reserves' – October 2020.

### 4.2 Road Safety Assessment General Findings

The findings of the Road Safety Assessment confirm that the proposed LED sign satisfies the general, physical characteristics, and displays requirements set out in the Main Roads WA Guidelines.

The proposed sign is of acceptable shape and dimensions for the proposed mounting location, is static with no mechanical movement and rotation, and will display static advertising messages. No flashing, coloured, or pulsating lights will be installed on the proposed sign. This complies with Main Roads WA guidelines.

The display area of the proposed sign is  $12.48\text{m} \times 3.2\text{m} = 39.94\text{m}^2$  which complies with the typical supersites of a maximum  $42.4\text{m}^2$  signage area identified in Main Roads WA policy.

Main Roads WA guidelines specify a minimum dwell time of 40 seconds and 35 seconds for a vehicle travelling with a speed limit of 60km/h and 70km/h (**Table 3**). It is understood that the proposed advertising LED sign dwell time will be 40 seconds and therefore comply with or exceed the minimum requirement of Main Roads WA guidelines.

The proposed transition time is instantaneous, and no message sequencing will be permitted, in accordance with Main Roads WA.

The proposed LED advertising sign panel will have the ability to display advertising content at variable luminance levels. The luminance of the display will be programmed to operate at different levels required for different times of the day and night, as specified in the Main Roads WA guidelines. The luminance level should not exceed those of static signs in typical ambient light conditions, in accordance with Main Roads WA Guidelines.

Additionally, the proposed LED sign will not obstruct or interfere with any traffic control signs or devices, or with the driver's view of hazards as it is proposed to be located within a private property. The sign will not obstruct access to road or other infrastructure, traffic, pedestrian, cyclist or other road user movements.

Other conditions relating to advertising content will be met on a continuous basis through the ongoing adoption of appropriate advertising content. These include:

31 Aug 2023

- ✦ Advertising content should not imitate a traffic control device, or display a message which may be interpreted as a traffic related instruction;
- ✦ No more than 7 words (readable by drivers) should be displayed at any time per sign;
- ✦ Advertising devices should not contain extreme emotional material; and
- ✦ No complicated email, social messaging or text messaging instructions should be displayed on the sign.

### 4.3 Site Location Assessment

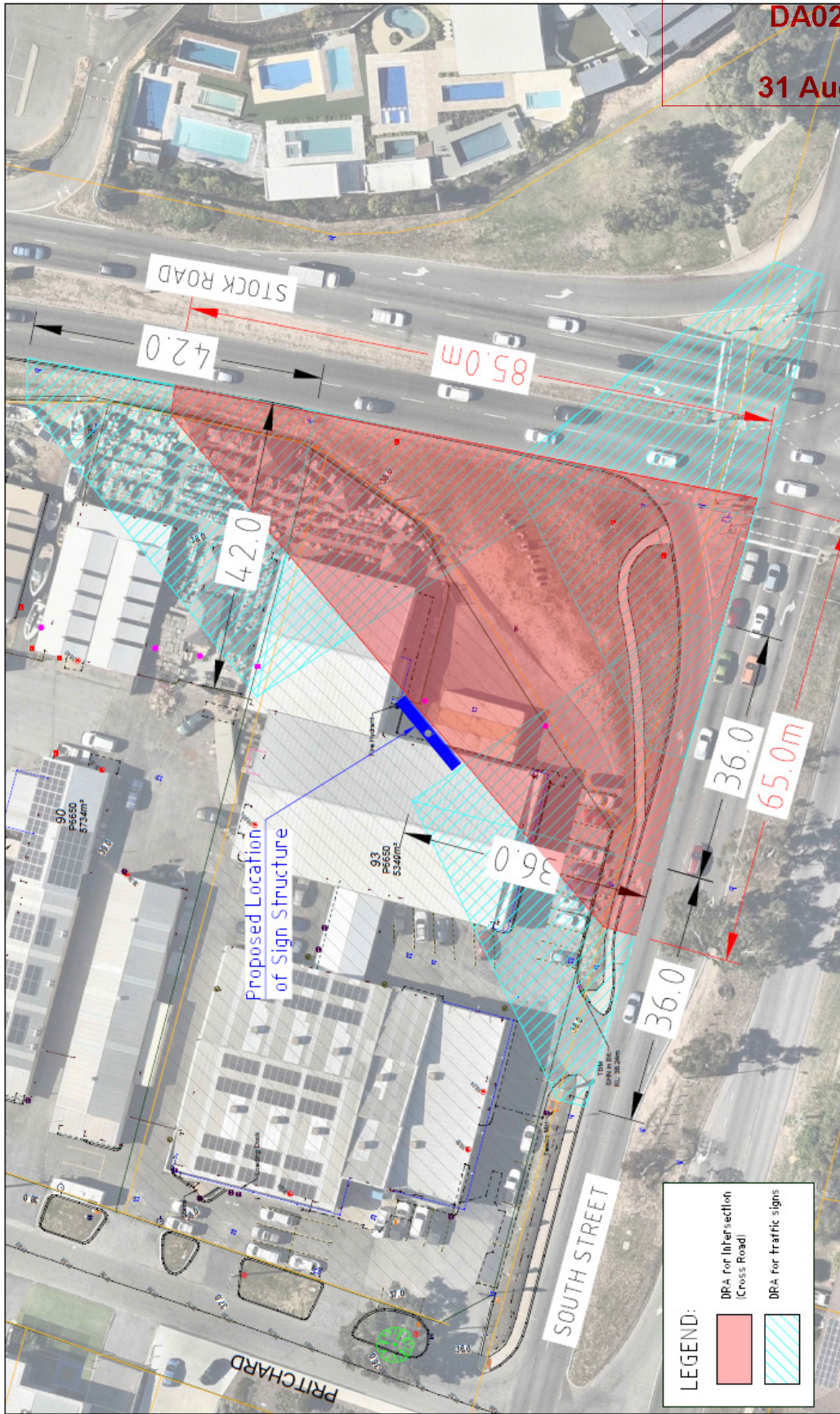
The location of the proposed sign satisfies Lateral and Longitudinal placement of the guidelines as it is located within a private property.

Based on the assessment undertaken by Transcore, the proposed digital advertising sign is **not** impacted by the Device Restriction Areas (DRAs). Please refer **Figure 5** for details.

DA0264/23  
31 Aug 2023



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10/08/2023  
Scale: 1:500 @ A3



Lot 93 (8) Pritchard Street, O'Connor  
All Device Restriction Areas (in the vicinity of the subject sign)

Figure 5. DRA assessment for the relevant intersection of South Street and Stock Road (Melville Mandurah Hwy) and traffic signs

## 4.4 Crash History Calculations

The following outlines the casualty crash rate calculations in accordance with Main Roads WA policy.

### Step 1

Detailed crash history data was extracted from the Main Roads WA Crash Analysis Reporting System (CARS) to undertake crash rate calculations in accordance with Appendix C of the Main Roads WA advertising signs guidelines.

The crash analysis was undertaken for the westbound direction of traffic flow on South Street and both directions of traffic flow on Stock Road (Melville Mandurah Hwy). The crash data was reviewed for the 1.5km sections of South Street and Stock Road (Melville Mandurah Hwy) (1km before the proposed sign and 500m after the proposed sign) in accordance with the guidelines. The data was sourced for the five-year period ending December 2022.

### Step 2

The casualty crash rate (R), expressed as 10<sup>4</sup> ERU (Equivalent Risk Unit) per 10<sup>8</sup> VKT (vehicle kilometres travelled) was calculated as per **Equation 1** adopted from the Main Roads WA guidelines.

Eq(1):

$$R = \frac{\sum_{t=1}^{20} C_t \times A_t \times 10^4}{n \times L \times V \times 365}$$

Where,

R = Casualty Crash Rate (expressed in terms of 10<sup>4</sup> ERU per 10<sup>8</sup> VKT)

t = RUM Group (1 - 20)

C<sub>t</sub> = Crash Risk Score for a crash in RUM Group "t"

A<sub>t</sub> = Number of crashes in RUM Group "t"

n = Number of years of crash data (usually 5)

L = Length (km) of road section (usually 1km)

V = Annual Average Daily Traffic (AADT) for the section

365 = Number of days in one year

### Step 3

The Critical Crash Rates (CCR) for a highway in a METRO environment are 212.7 for a 70km/h road as shown in **Table 4**.

The resulting Casualty Crash Rates for South Street and Stock Road (Melville Mandurah Hwy) are detailed in **Table 5**, **Table 6** and **Table 7**.

Table 4. Critical Crash Rate Thresholds (Main Roads WA) DA0264/23

31 Aug 2023

Table 3. Metropolitan Critical Crash Rate Thresholds							
Road Type (x)	Speed Zone (km/h)						
	<=50	60	70	80	90	100	110
Freeways	-	-	300.8	390.4	-	410.5	145.3
Highways	-	265.7	212.7	150.4	520.8	425.5	1,079.8
Main Roads	-	-	-	-	-	-	1,438.4

Table 4. Rural Critical Crash Rate Thresholds							
Road Type (x)	Speed Zone (km/h)						
	<=50	60	70	80	90	100	110
Freeways	-	-	-	-	-	-	228.5
Highways	293.0	206.3	158.0	578.0	899.0	356.2	733.5
Main Roads	692.0	436.4	207.3	659.0	1,003.7	1,755.7	905.7

The signalised intersection of South Street and Stock Road (Melville Mandurah Hwy) is reviewed for Killed and Serious Injury Criteria (KSI) for the five-year period ending December 2022. It is reported that two hospital crashes were recorded at this intersection during the last 5 years and therefore, the crash records satisfy the KSI requirement of Main Roads WA guidelines as outlined in **Section 3.1.4** of this report.

As evident from the casualty crash rate calculations along the relevant sections of South Street and Stock Road (Melville Mandurah Hwy), the casualty crash rate calculations for all relevant sections of the roads are below the critical crash threshold for all the six 1km rolling segments and therefore, the proposed sign is acceptable with respect to the crash calculation requirement of Main Roads WA policy and guidelines.

Table 5. Casualty Crash Rate (R) – South Street Westbound (Adjusted 1.5km rolling speed limit) DA0264/23

31 Aug 2023

Crash Calculation  
Site: 8 Pritchard St, O' Connor Road Name: South St (Westbound) Carriageway: Right Sign SLK: 2.77 Assessment Period: 2018 - 2022

Time Period = 5 years  
Length of Road Segment = 1 km  
Traffic Volume = 15,276 AADT  
Speed Environment = 70 km/h (Low Speed)  
Metro / Rural = Metro  
Road Type = Highways

Length of road segment (km) 1  
Sign SLK 2.77 START 3.77 FINISH 2.27

Segment	1	2	3	4	5	6
Start	3.77	3.67	3.57	3.47	3.37	3.27
Finish	2.77	2.67	2.57	2.47	2.37	2.27

RUM Group	RUM Codes	Crash Risk Score (x 10 <sup>4</sup> Risk Unit) Low Speed (< 80km/h)	Crash Risk Score (x 10 <sup>4</sup> Risk Unit) High Speed (>= 80km/h)	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6
1	10, 11, 12, 13, 14, 15, 16, 17, 18, 19	21	96	0.00	0.00	0.00	0.00	0.00	0.00
2	21, 51	98	319	0.00	0.00	0.00	0.00	0.00	0.00
3	22, 23, 24, 25, 26	19	64	0.00	0.00	0.00	0.00	0.00	0.00
4	31, 32, 33	8	21	86.09	86.09	86.09	86.09	86.09	86.09
5	35, 36, 37, 54	13	31	0.00	0.00	0.00	0.00	0.00	0.00
6	38, 39	11	67	0.00	0.00	0.00	0.00	0.00	0.00
7	27, 34	12	183	0.00	0.00	0.00	0.00	0.00	0.00
8	42, 46, 47, 48	23	23	0.00	0.00	0.00	0.00	0.00	0.00
9	53, 55, 56	9	88	0.00	0.00	0.00	0.00	0.00	0.00
10	43, 44, 61, 62, 63, 64	12	101	0.00	0.00	0.00	0.00	0.00	0.00
11	93	669	73	0.00	0.00	0.00	0.00	0.00	0.00
12	1, 2, 3, 4, 5, 6, 7, 8, 9, 98	60	235	0.00	0.00	0.00	0.00	0.00	0.00
13	65	0	0	0.00	0.00	0.00	0.00	0.00	0.00
14	69, 95	23	33	0.00	0.00	0.00	0.00	0.00	0.00
15	52, 71, 73, 76, 77	20	79	0.00	0.00	0.00	0.00	0.00	0.00
16	72, 74, 94	37	95	0.00	0.00	0.00	0.00	0.00	0.00
17	75	27	70	0.00	0.00	0.00	0.00	0.00	0.00
18	81, 83	17	101	0.00	0.00	0.00	0.00	0.00	0.00
19	82, 84	72	107	0.00	0.00	0.00	0.00	0.00	0.00
20	85	23	62	0.00	0.00	0.00	0.00	0.00	0.00
21	20, 30, 40, 45, 49, 50, 60, 66, 67, 70, 80, 90, 91, 92, 94, 96, 97	0	0	0	0	0	0	0	0
Total Crashes				3	3	3	3	3	3
Casualty Crash Rate (R)				86.1	86.1	86.1	86.1	86.1	86.1
Threshold				212.7					
Crash Category				Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
OVERALL CRASH CATEGORY				SATISFACTORY					

Segment	Start SLK	End SLK	AADT	Casualty Crashes	Crash Rate	Critical Crash Rate	Satisfactory/ Not Satisfactory
1	3.77	2.77	15,276	3	86.1	212.7	SATISFACTORY
2	3.67	2.67		3	86.1	212.7	
3	3.57	2.57		3	86.1	212.7	
4	3.47	2.47		3	86.1	212.7	
5	3.37	2.37		3	86.1	212.7	
6	3.27	2.27		3	86.1	212.7	

Crash SLK	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	RUM	RUM GROUP
3.16	1	1	1	1	1	1	31	4
3.17	1	1	1	1	1	1	31	4
3.24	1	1	1	1	1	1	31	4
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		

Table 6. Casualty Crash Rate (R) – Stock Road (Melville Mandurah Hwy) Northbound (Adjusted 1.6 AADT Section)

31 Aug 2023

Crash Calculation  
 Site: 8 Pritchard St, O' Connor      Road Name: Stock Rd (Northbound)      Carriageway: Right      Sign SLK: 1.6      Assessment Period: 2018 - 2022

Time Period = 5 years  
 Length of Road Segment = 1 km      Length of road segment (km) 1  
 Traffic Volume = 13,124 AADT      Sign SLK 1.6      START 2.1      FINISH 0.6  
 Speed Environment = 70 km/h (Low Speed)  
 Metro / Rural = Metro  
 Road Type = Highways

Segment	1	2	3	4	5	6
Start	2.1	2	1.9	1.8	1.7	1.6
Finish	1.1	1	0.9	0.8	0.7	0.6

CASUALTY CRASH RATE (R)									
RUM Group	RUM Codes	Crash Risk Score (x 10 <sup>4</sup> Risk Unit) Low Speed (< 80km/h)	Crash Risk Score (x 10 <sup>4</sup> Risk Unit) High Speed (>= 80km/h)	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6
1	10, 11, 12, 13, 14, 15, 16, 17, 18, 19	21	96	0.00	0.00	0.00	0.00	0.00	0.00
2	21, 51	98	319	0.00	0.00	0.00	0.00	0.00	0.00
3	22, 23, 24, 25, 26	19	64	0.00	0.00	0.00	0.00	0.00	0.00
4	31, 32, 33	8	21	33.40	33.40	33.40	0.00	0.00	0.00
5	35, 36, 37, 54	13	31	0.00	0.00	0.00	0.00	0.00	0.00
6	38, 39	11	67	0.00	0.00	0.00	0.00	0.00	0.00
7	27, 34	12	183	0.00	0.00	0.00	0.00	0.00	0.00
8	42, 46, 47, 48	23	23	0.00	0.00	0.00	0.00	0.00	0.00
9	53, 55, 56	9	88	0.00	0.00	0.00	0.00	0.00	0.00
10	43, 44, 61, 62, 63, 64	12	101	0.00	0.00	0.00	0.00	0.00	0.00
11	93	669	73	0.00	0.00	0.00	0.00	0.00	0.00
12	1, 2, 3, 4, 5, 6, 7, 8, 9, 98	60	235	0.00	0.00	0.00	0.00	0.00	0.00
13	65	0	0	0.00	0.00	0.00	0.00	0.00	0.00
14	69, 95	23	33	0.00	0.00	0.00	0.00	0.00	0.00
15	52, 71, 73, 76, 77	20	79	0.00	0.00	0.00	0.00	0.00	0.00
16	72, 74, 94	37	95	0.00	0.00	0.00	0.00	0.00	0.00
17	75	27	70	0.00	0.00	0.00	0.00	0.00	0.00
18	81, 83	17	101	0.00	0.00	0.00	0.00	0.00	0.00
19	82, 84	72	107	0.00	0.00	0.00	0.00	0.00	0.00
20	85	23	62	0.00	0.00	0.00	0.00	0.00	0.00
21	20, 30, 40, 45, 49, 50, 60, 66, 67, 70, 80, 90, 91, 92, 94, 96, 97	0	0	0	0	0	0	0	0
Total Crashes				1	1	1	0	0	0
Casualty Crash Rate (R)				33.4	33.4	33.4	0.0	0.0	0.0
Threshold				212.7					
Crash Category				Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
OVERALL CRASH CATEGORY				SATISFACTORY					

Segment	Start SLK	End SLK	AAADT	Casualty Crashes	Crash Rate	Critical Crash Rate	Satisfactory/ Not Satisfactory
1	2.1	1.1	13,124	1	33.4	212.7	SATISFACTORY
2	2	1		1	33.4	212.7	
3	1.9	0.9		1	33.4	212.7	
4	1.8	0.8		0	0.0	212.7	
5	1.7	0.7		0	0.0	212.7	
6	1.6	0.6		0	0.0	212.7	

Crash SLK	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	RUM	RUM GROUP
1.83	1	1	1	0	0	0	31	4
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		



Table 7. Casualty Crash Rate (R) – Stock Road (Melville Mandurah Hwy) Southbound (Adjusted 1.6 Section)

31 Aug 2023

Crash Calculation  
 Site: 8 Pritchard St, O' Connor Road Name: Stock Rd (Melville Mandurah Hwy) (Southbound) Carriageway: Left Sign SLK: 1.6 Assessment Period: 2018 - 2022

Time Period = 5 years  
 Length of Road Segment = 1 km  
 Traffic Volume = 12,136 AADT  
 Speed Environment = 70 km/h (Low Speed)  
 Metro / Rural = Metro  
 Road Type = Highways

Length of road segment (km) 1  
 Sign SLK 1.6 START 1.1 FINISH 2.6

Segment	1	2	3	4	5	6
Start	1.1	1.2	1.3	1.4	1.5	1.6
Finish	2.1	2.2	2.3	2.4	2.5	2.6

RUM Group	RUM Codes	Crash Risk Score (x 10 <sup>-4</sup> Risk Unit) Low Speed (< 80km/h)	Crash Risk Score (x 10 <sup>-4</sup> Risk Unit) High Speed (>= 80km/h)	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6
1	10, 11, 12, 13, 14, 15, 16, 17, 18, 19	21	96	0.00	0.00	0.00	0.00	0.00	0.00
2	21, 51	98	319	0.00	0.00	0.00	0.00	0.00	0.00
3	22, 23, 24, 25, 26	19	64	0.00	0.00	0.00	0.00	0.00	0.00
4	31, 32, 33	8	21	0.00	0.00	0.00	0.00	0.00	0.00
5	35, 36, 37, 54	13	31	0.00	0.00	0.00	0.00	0.00	0.00
6	38, 39	11	67	0.00	0.00	0.00	0.00	0.00	0.00
7	27, 34	12	183	0.00	0.00	0.00	0.00	0.00	0.00
8	42, 46, 47, 48	23	23	0.00	0.00	0.00	0.00	0.00	0.00
9	53, 55, 56	9	88	0.00	0.00	0.00	0.00	0.00	0.00
10	43, 44, 61, 62, 63, 64	12	101	0.00	0.00	0.00	0.00	0.00	0.00
11	93	669	73	0.00	0.00	0.00	0.00	0.00	0.00
12	1, 2, 3, 4, 5, 6, 7, 8, 9, 98	60	235	0.00	0.00	0.00	0.00	0.00	0.00
13	65	0	0	0.00	0.00	0.00	0.00	0.00	0.00
14	69, 95	23	33	0.00	0.00	0.00	0.00	0.00	0.00
15	52, 71, 73, 76, 77	20	79	0.00	0.00	0.00	0.00	0.00	0.00
16	72, 74, 94	37	95	0.00	0.00	0.00	0.00	0.00	0.00
17	75	27	70	0.00	0.00	0.00	0.00	0.00	0.00
18	81, 83	17	101	0.00	0.00	0.00	0.00	0.00	0.00
19	82, 84	72	107	0.00	0.00	0.00	0.00	0.00	0.00
20	85	23	62	0.00	0.00	0.00	0.00	0.00	0.00
21	20, 30, 40, 45, 49, 50, 60, 66, 67, 70, 80, 90, 91, 92, 94, 96, 97	0	0	0	0	0	0	0	0
Total Crashes				0	0	0	0	0	0
Casualty Crash Rate (R)				0.0	0.0	0.0	0.0	0.0	0.0
Threshold				212.7					
Crash Category				Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
OVERALL CRASH CATEGORY				SATISFACTORY					

Segment	Start SLK	End SLK	AADT	Casualty Crashes	Crash Rate	Critical Crash Rate	Satisfactory/ Not Satisfactory
1	1.1	2.1	12,136	0	0.0	212.7	SATISFACTORY
2	1.2	2.2		0	0.0	212.7	
3	1.3	2.3		0	0.0	212.7	
4	1.4	2.4		0	0.0	212.7	
5	1.5	2.5		0	0.0	212.7	
6	1.6	2.6		0	0.0	212.7	

Road Segments	1	2	3	4	5	6
Crash Rate	0.0	0.0	0.0	0.0	0.0	0.0
Critical Crash Rate	212.7	212.7	212.7	212.7	212.7	212.7

Crash SLK	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	RUM	RUM GROUP
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		

## 5 Assessment of Sign Against Local Policy Requirements

Design and location characteristics of the proposed advertising sign relevant to road safety were assessed against the requirements of the City of Fremantle Policy: Advertising Policy 2.14.

The general requirements included in the Policy includes:

- (a) *Advertisements will not be approved on properties primarily used for residential purposes where the advertisement does not pertain to a relevant home business, occupation or store on site unless otherwise provided for in another local planning policy.*
- (b) *Advertisements are to be located and designed so as not to cause a hazardous distraction to motorists, pedestrians or other road users.*
- (c) *Advertisements will be compatible with the style, scale and character of the surrounding streetscape, and the predominant uses within the locality. Consideration will be given to the number and type of existing signs in the locality so as to avoid visual clutter.*
- (d) *Advertisements shall not impede pedestrian or vehicle movements.*
- (e) *Illuminated signs are to be maintained to operate as an illuminated sign.*
- (f) *Advertisements are not to emit a flashing or moving light or radio; animation or movement in its design or structure; reflective, retro-reflective or fluorescent materials in its design structure.*
- (g) *Advertisements in the form of an Animated signs will not, be supported by Council.*
- (h) *Advertisements will not be approved on private land which include:*
  - i. *The name, logo, or symbol of a company or other organisation that does not own or substantially occupy the site or building on which the advertisement is located; or*
  - ii. *A product or service not provided on the site on which the advertisement is located;*
  - iii. *A product or service that does not form part of the signage displaying the name, logo or symbol; of a company or other organisation that owns or substantially occupy the site or building on which the advertisement is located; or*
  - iv. *Signs for an activity or event not occurring on the site on which the advertisement is located.*

The proposed digital sign is generally consistent with the Policy general requirements, except for the advertising content requirement.

The policy further states that:

*2.5.1: Free Standing Sign or Pole or Pylon Signs are deemed acceptable where:*

- (a) *The advertisement is no more than the height of the immediately adjoining subject building or no more than 6.0m in height whichever is the lesser; and,*

- (b) The advertisement does not significantly obstruct the view between the building and the street, thereby preventing causal surveillance of the street from the property and vice versa; and*
- (c) It can be demonstrated that the advertisement is consistent with a particular design convention associated with a specific land use (i.e.; pylon signs for petrol stations); and*
- (d) The advertisement is restricted to one sign per site, may include the advertising of multiple tenancies and can be illuminated and / or double sided.*

DA0264/23

31 Aug 2023

It is acknowledged that the proposed electronic sign component does not meet the height standard of the Policy; however, this requirement is not related to road or traffic safety. Moreover, the proposed sign shape, size, luminance and other design characteristics are in accordance with Main Roads WA Roadside Advertising Policy and therefore, the proposed sign does not interfere with or is hazardous to vehicular traffic and pedestrians.

Therefore, the proposed electronic sign satisfies all the relevant road and traffic-related safety requirements of Main Roads WA Roadside Advertising Policy and City of Fremantle's Advertisement Policy.

## 6 Conclusion

This Road Safety Assessment has been undertaken by Transcore on behalf of 25 Nominees Pty Ltd regarding the proposed LED sign, to be located at Lot 93 (8) Pritchard Street, O'Connor in the City of Fremantle.

The proposed LED advertising sign consists of one single-sided LED sign panel proposed to be mounted on one steel column at the subject site. The proposed sign will be visible to motorists travelling in the westbound direction of South Street and possibly both directions of Stock Road (Melville Mandurah Hwy).

The proposed sign is of acceptable dimensions, with no movement or rotation and will display variable advertising messages. The advertisements will be static with no flashing or animations.

Additionally, the proposed LED sign will not obstruct or interfere with any traffic control signs or devices, or with the driver's view of hazards as they will be vertically installed within a private property. Moreover, the proposed LED sign will not obstruct access to any road or other infrastructure, or impact on the movement of general traffic, pedestrians, cyclists or other road users.

Transcore has undertaken a Road Safety Assessment of the advertising sign, with reference to the Guidelines set out in the Main Roads WA 'Policy and Application Guidelines for Advertising Signs Within and Beyond State Road Reserves'. The Road Safety Assessment established that the advertising sign satisfies the general, physical characteristics, display, luminance and dwell time safety conditions set out in the Main Roads WA guidelines.

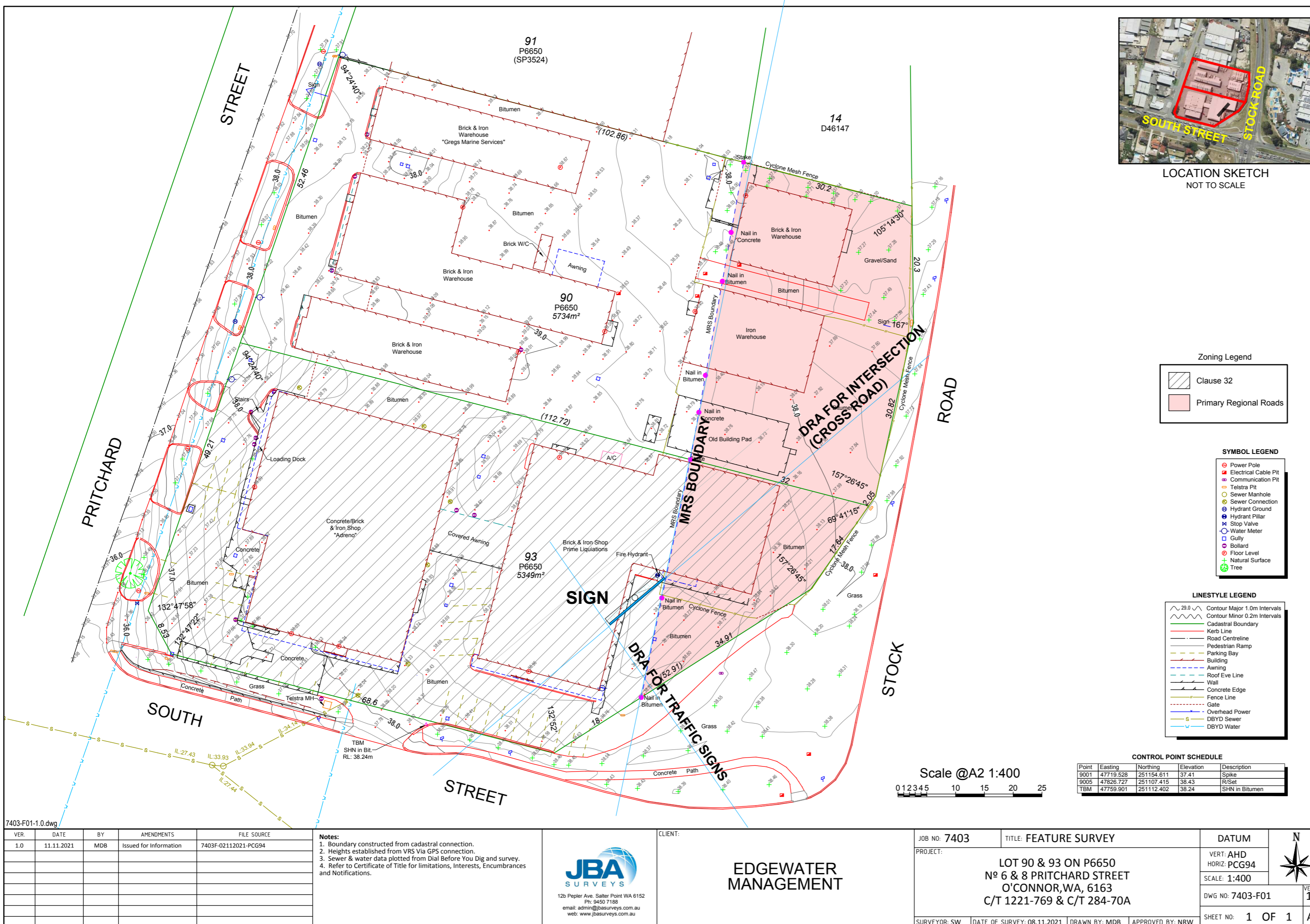
Based on the assessment undertaken by Transcore, the proposed digital advertising sign is **not** impacted by the Device Restriction Areas (DRAs).

The analysis undertaken demonstrates that the crash rate calculations for all relevant sections of South Street and Stock Road (Melville Mandurah Hwy) are below the critical crash threshold and therefore, the proposed sign does not present an unacceptable risk to traffic safety.

In conclusion, it is considered that the findings of the Road Safety Assessment are supportive of the proposed LED advertising sign.

# Appendix A

## ADVERTISING LED SIGN PLAN



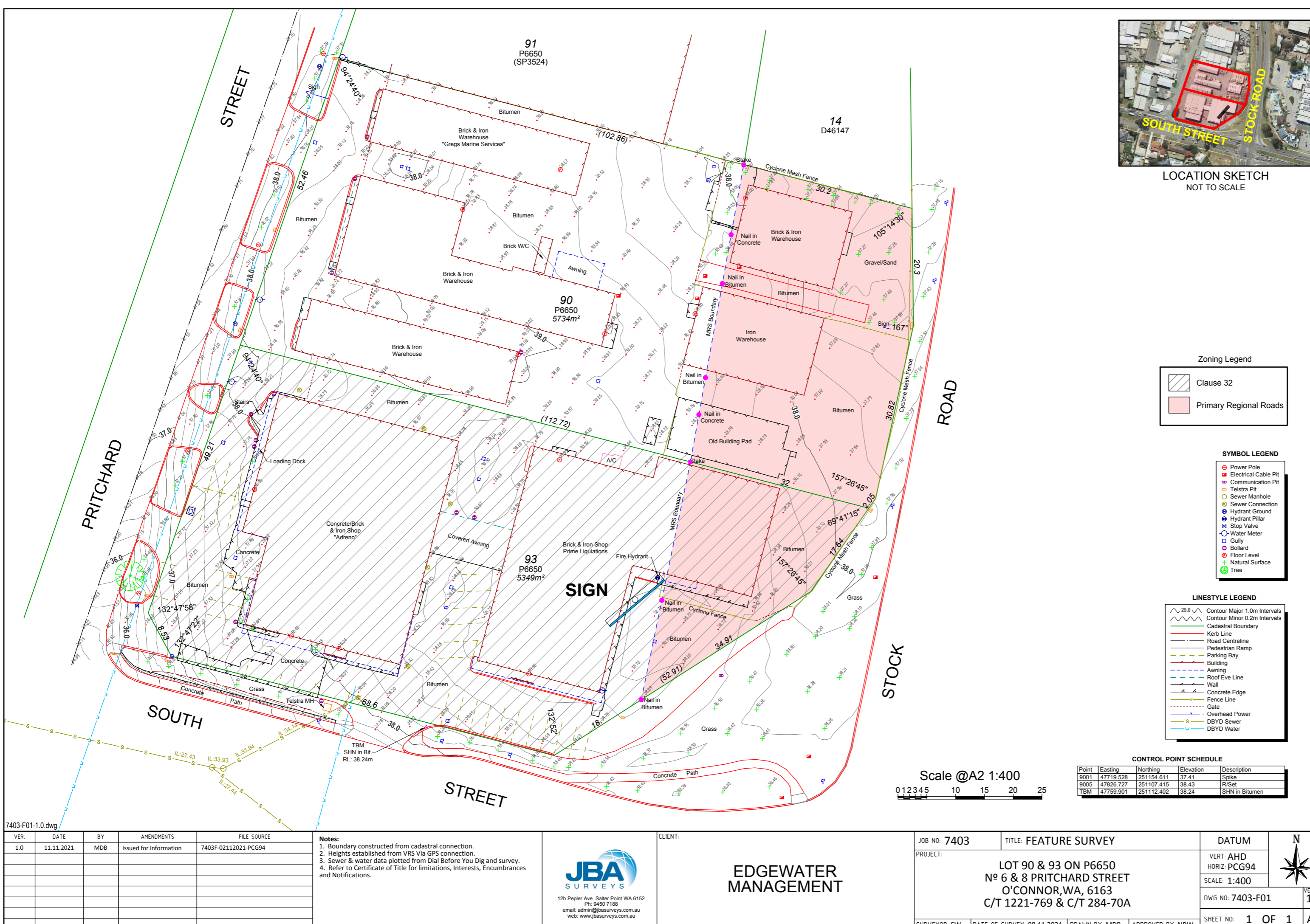
VER	DATE	BY	AMENDMENTS	FILE SOURCE
1.0	11.11.2021	MDB	Issued for Information	7403F-02112021-PCG94

7403-F01-1.0.dwg

**JBA SURVEYS**  
133 Poplar Ave, Suite 101A, Perth WA 6150  
Ph: 9452 7188  
email: info@jbasureys.com.au  
www: www.jbasureys.com.au

**EDGEMANAGEMENT**

JOB NO: 7403	TITLE: FEATURE SURVEY	DATUM: VERT: AHD HORZ: PCG94	N
PROJECT: LOT 90 & 93 ON P6650 N° 6 & 8 PRITCHARD STREET O'CONNOR, WA, 6163 C/T 1221-769 & C/T 284-70A	SCALE: 1:400	VER: 1.0	
SURVEYOR: SW	DATE OF SURVEY: 08.11.2021	DRAWN BY: MDB	APPROVED BY: NRW
SHEET NO: 1 OF 1		A2	



VER	DATE	BY	AMENDMENTS	FILE SOURCE
1.0	11.11.2021	MDB	Issued for Information	7403F-02112021-PCG94

7403-F01-1.0.dwg

**JBA SURVEYS**  
133 Poplar Ave, Suite 101A, Perth WA 6150  
Ph: 9452 7188  
email: info@jbasureys.com.au  
www: www.jbasureys.com.au

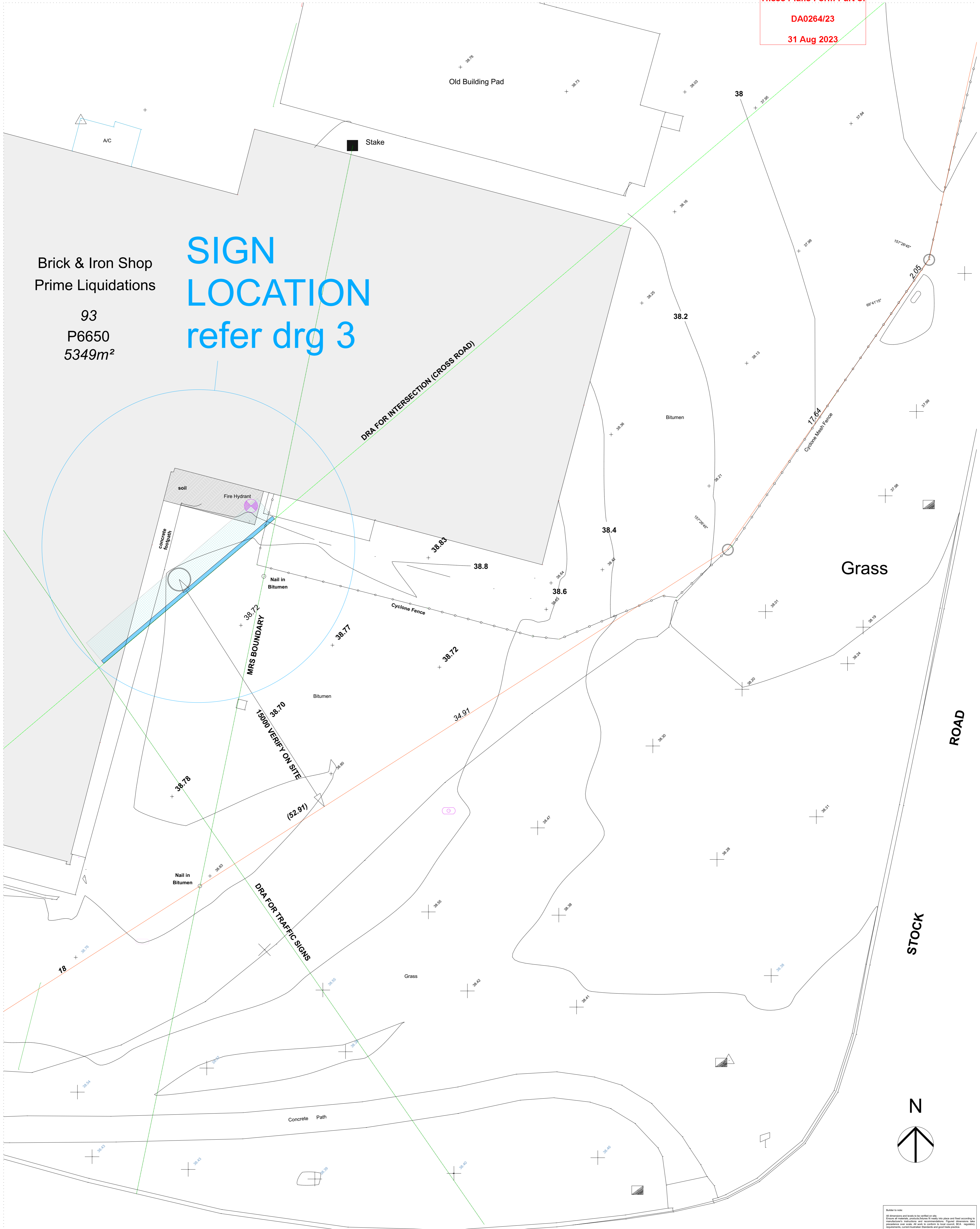
**EDGEMANAGEMENT**

JOB NO: 7403	TITLE: FEATURE SURVEY	DATUM: VERT: AHD HORZ: PCG94	N
PROJECT: LOT 90 & 93 ON P6650 N° 6 & 8 PRITCHARD STREET O'CONNOR, WA, 6163 C/T 1221-769 & C/T 284-70A	SCALE: 1:400	VER: 1.0	
SURVEYOR: SW	DATE OF SURVEY: 08.11.2021	DRAWN BY: MDB	APPROVED BY: NRW
SHEET NO: 1 OF 1		A2	

Build to rule  
All dimensions and levels to be verified on site.  
Presence of services, structures, fences, etc. may vary from those shown on this plan. The surveyor is not responsible for any errors or omissions in this plan. The surveyor is not responsible for any errors or omissions in this plan. The surveyor is not responsible for any errors or omissions in this plan.

**LARGE FORMAT DIGITAL SIGN**  
8 PRITCHARD ST  
O'CONNOR

Drawn: ACWills Date: AUGUST 2023  
Project: 2866/9/2023 Sheet: 1  
**WILLIS DESIGN GROUP P/L**  
Perth, Western Australia  
Project Design Manager  
111 Bevan Road, Midland, Western Australia 6150  
Tel: 9458 9770  
Email: info@willisdesign.com.au  
Website: www.willisdesign.com.au



Brick & Iron Shop  
 Prime Liquidations  
 93  
 P6650  
 5349m<sup>2</sup>

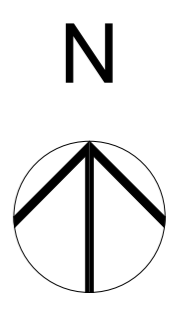
**SIGN  
 LOCATION  
 refer drg 3**

Grass

ROAD

STOCK

SOUTH STREET



**PART SITE PLAN**

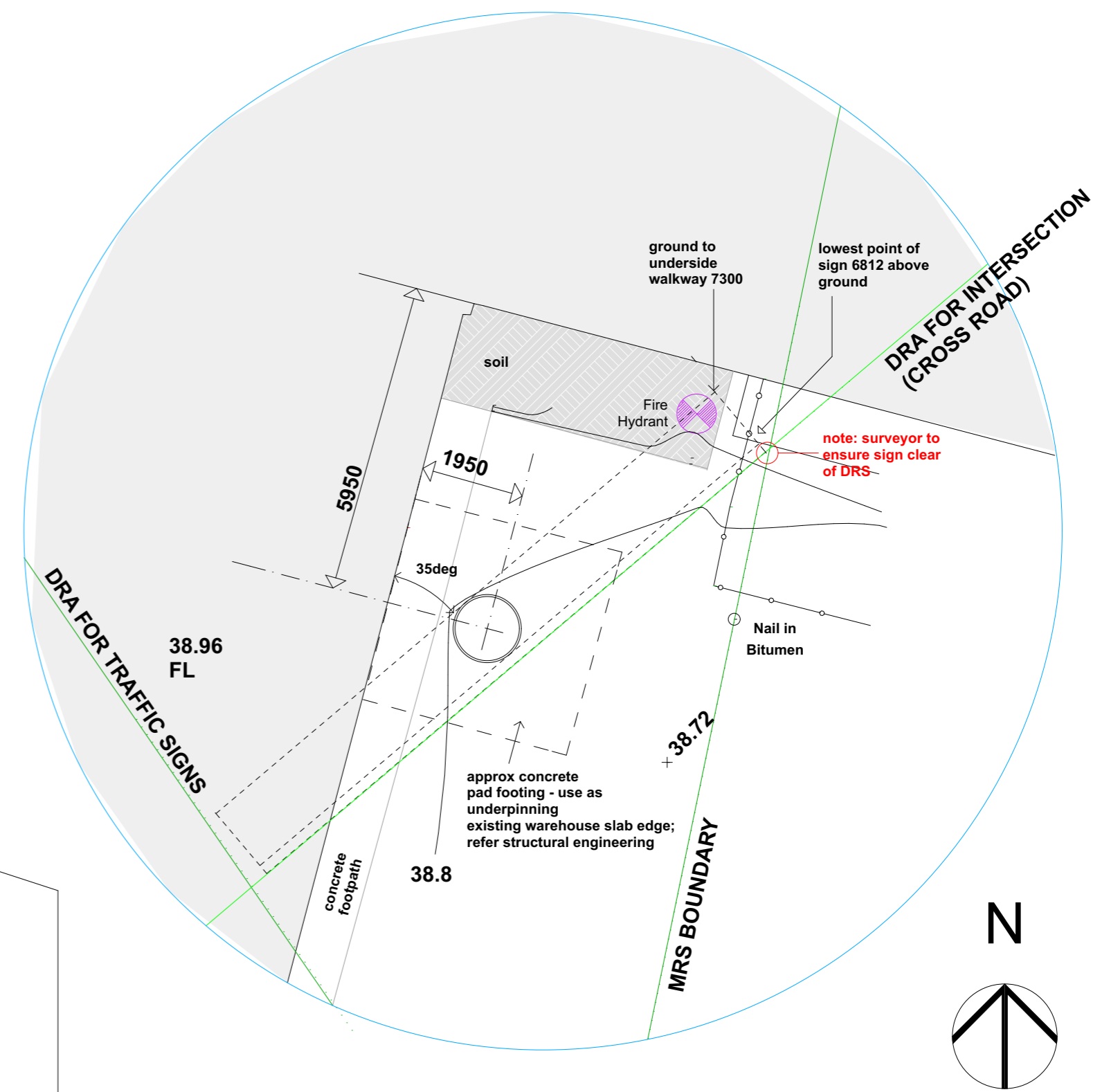
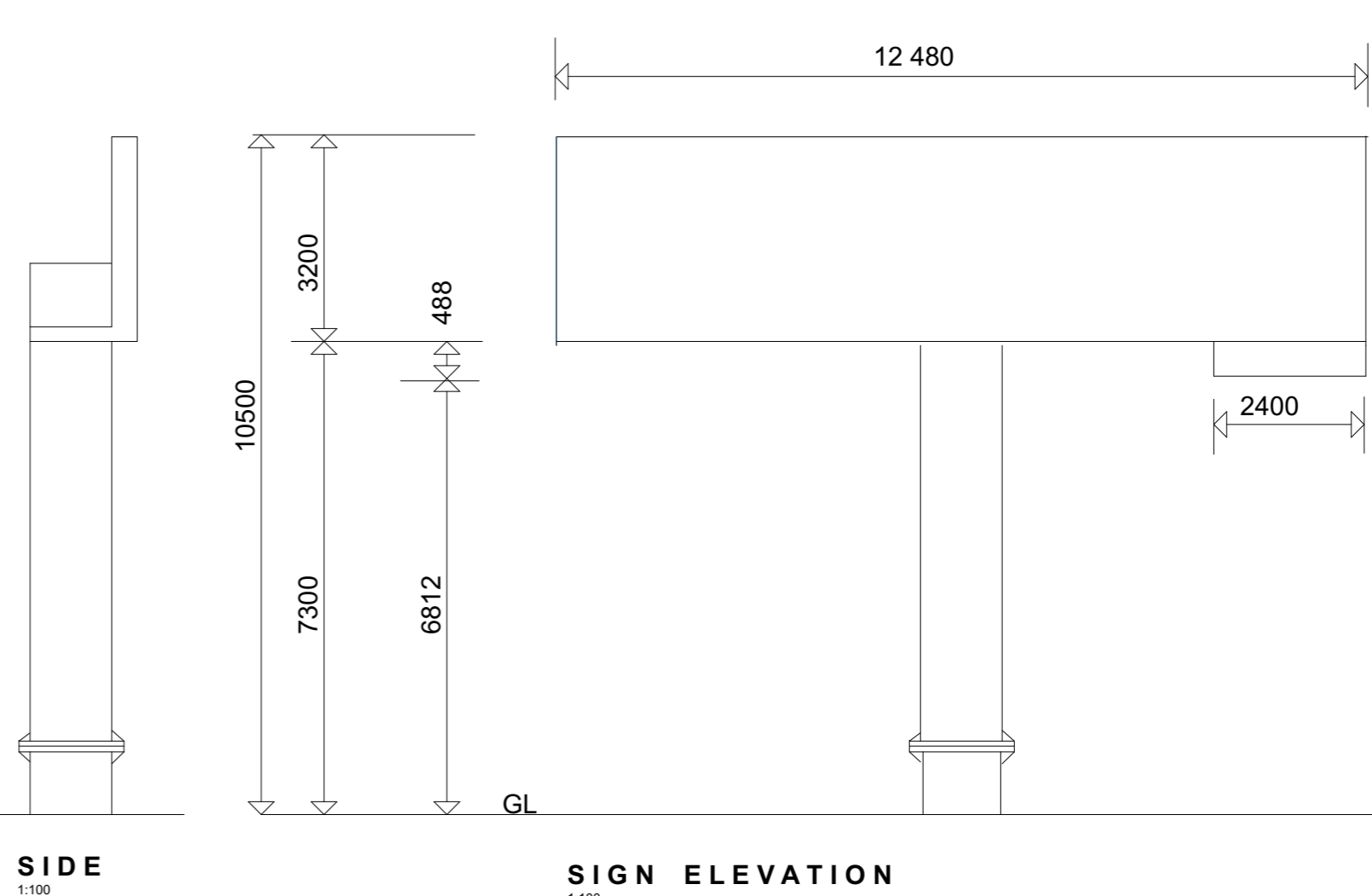
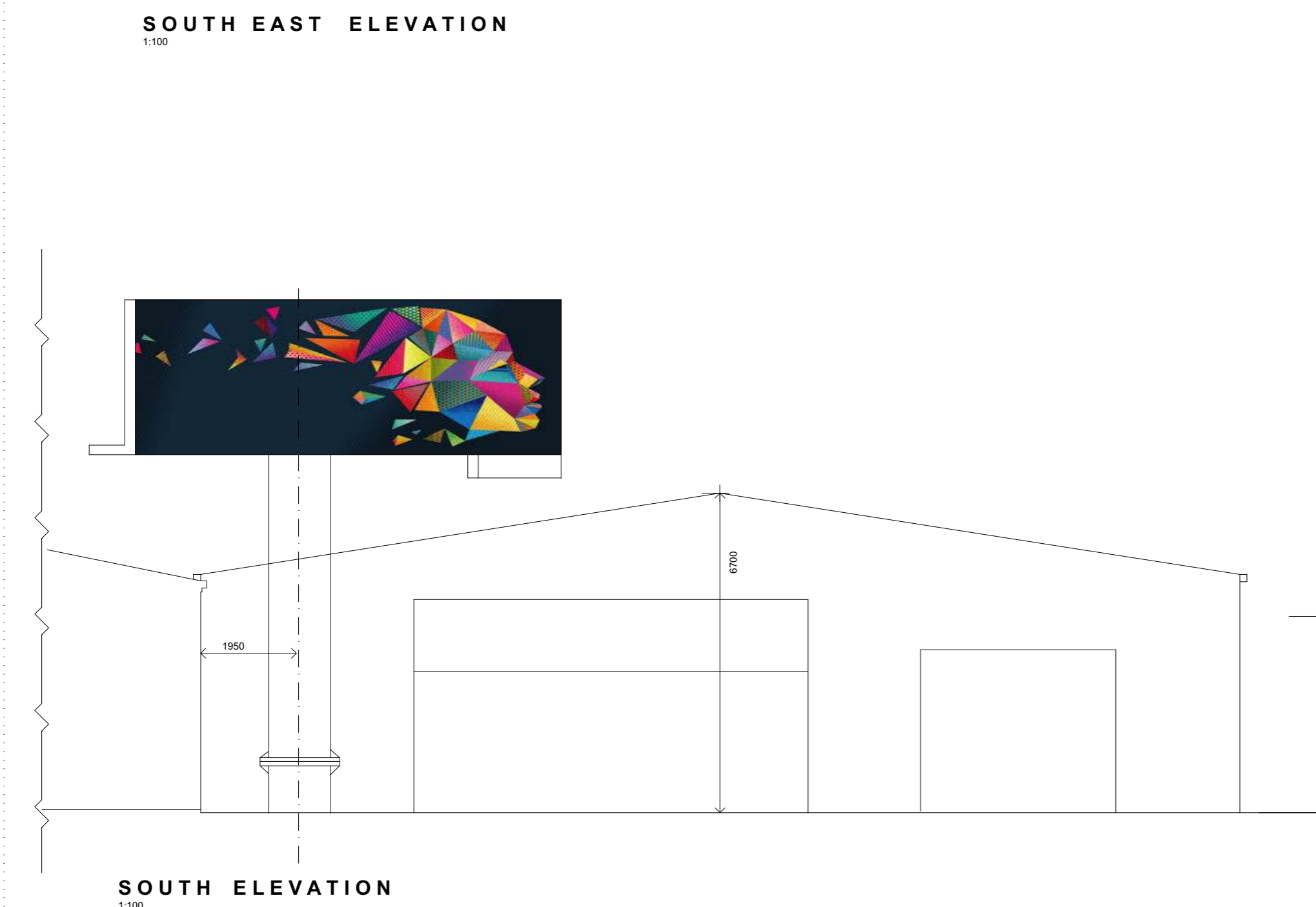
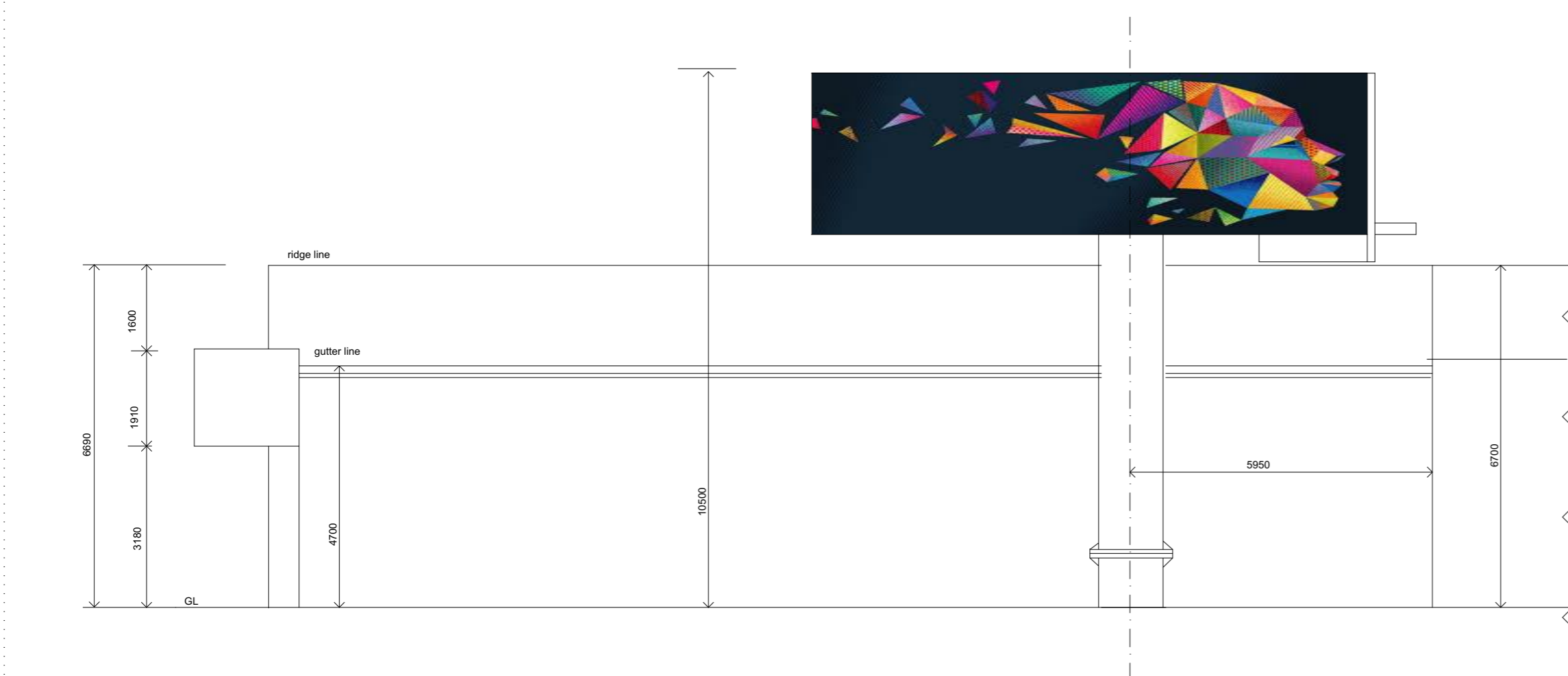
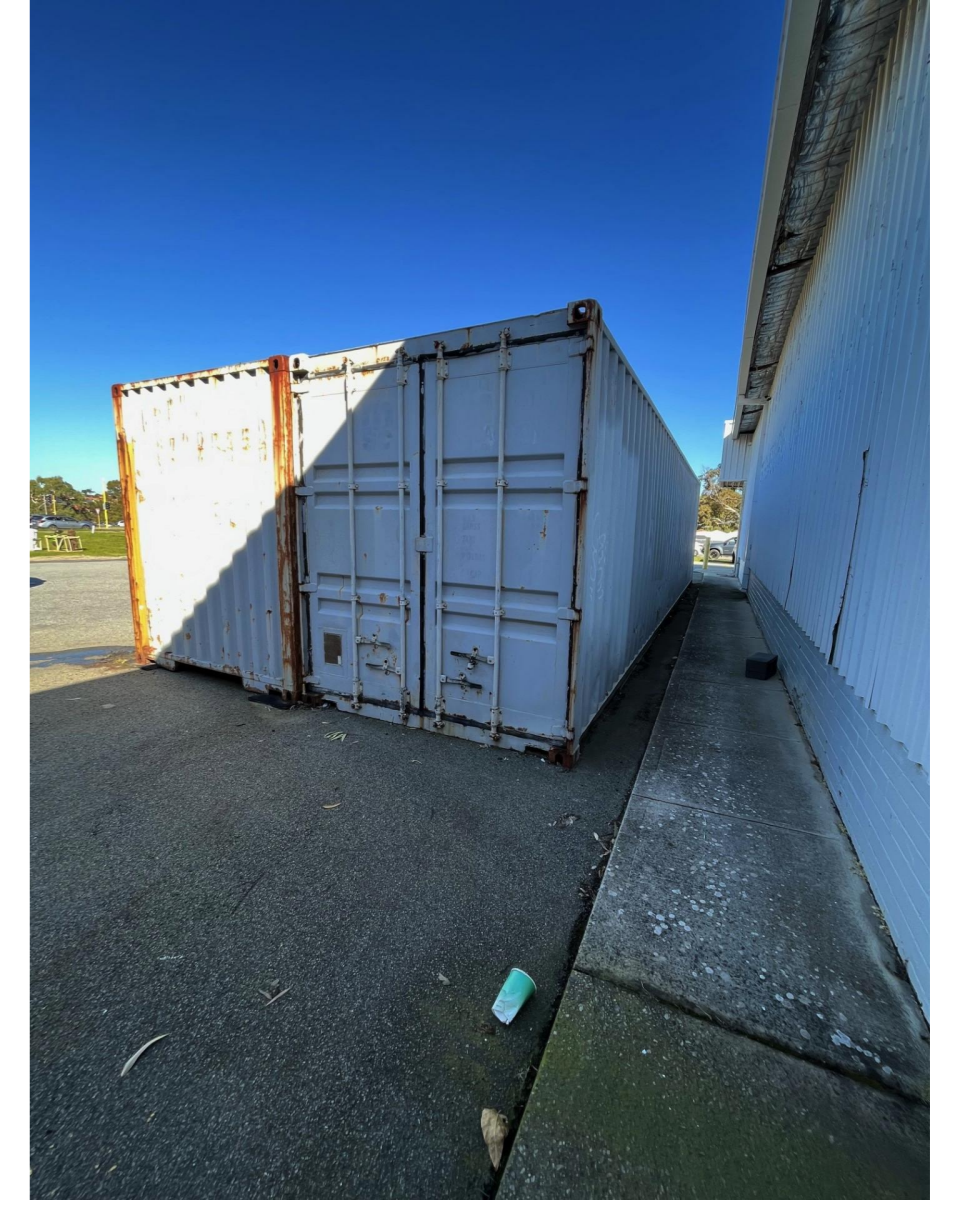
1:100

Submit to note:  
 All dimensions and levels to be verified on site.  
 Presence of services, particularly stormwater, sewer, gas, and electricity, shall be confirmed prior to any excavation. If any services are located, they shall be protected and the excavation shall be closed and backfilled immediately.  
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**LARGE FORMAT DIGITAL SIGN  
 8 PRITCHARD ST  
 O'CONNOR**

Client/Owner	ACW/Willis	Date	AUGUST 2023
Project No.	29659/2023	Drawing No.	2

**WILLIS DESIGN GROUP PTY LTD**  
 10/100 South Street, Fremantle, Western Australia 6155  
 Project Design Manager: [Name]  
 Email: [Email]  
 Website: [Website]



Build to note:  
All dimensions and levels to be verified on site.  
Presence of materials, products, services to verify the pipe and lead according to manufacturer's instructions and specifications. Report dimensions and materials used. All work to conform to the latest BCA regulatory requirements, current Australian Standards and good trade practice.

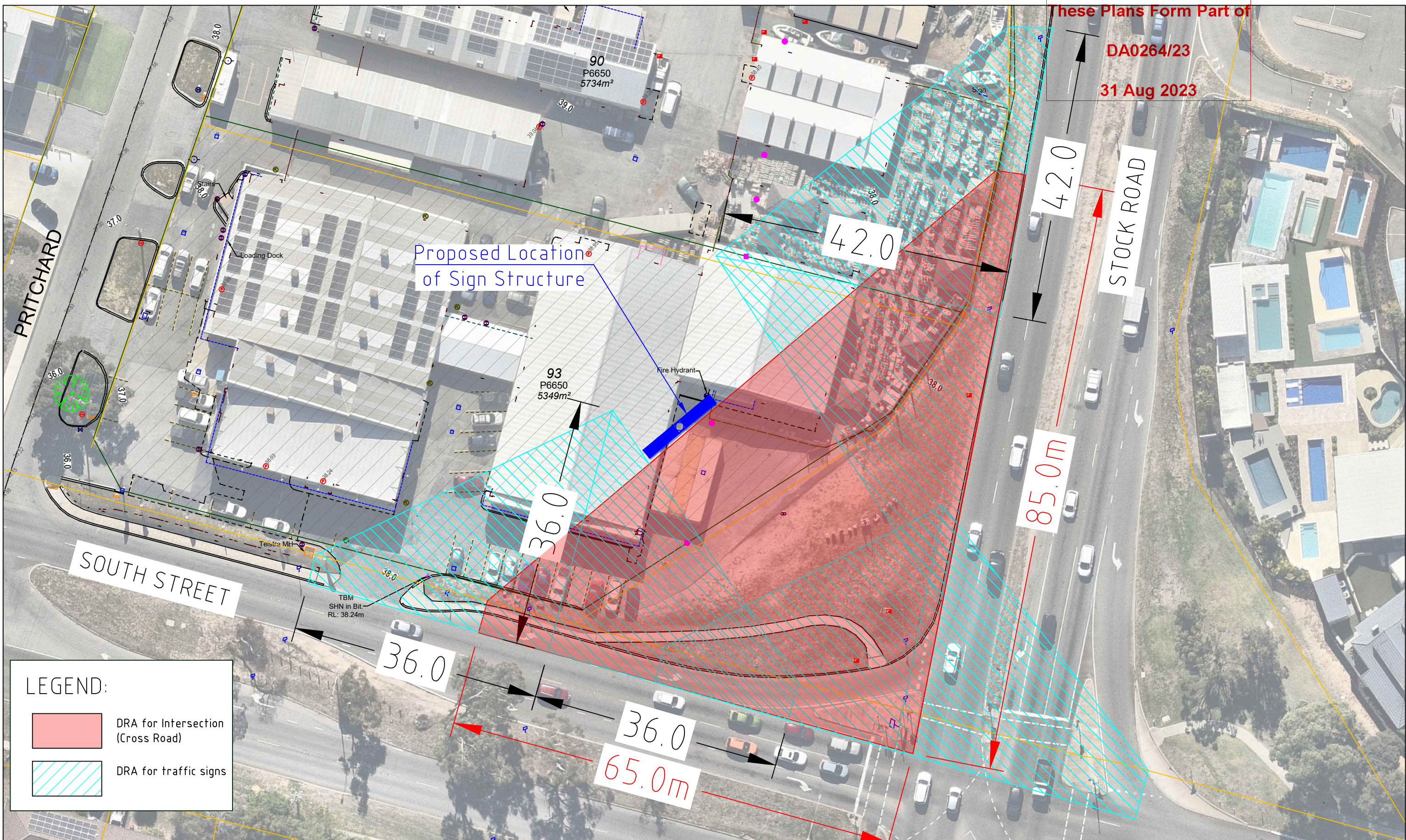
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**LARGE FORMAT DIGITAL SIGN**  
8 FRITCHARD ST  
O'CONNOR

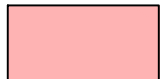
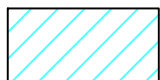
Designed by: ACWills Date: AUGUST 2023  
Project No: 2868/9/2023 Drawing No: 3

**WILLIS DESIGN GROUP PT. LTD.**  
10/100 South Beach Road, South Beach, Western Australia 6150  
Tel: 83180877 Mobile: 84188872  
Email: willisdesigngroup.com.au  
Website: www.willisdesigngroup.com.au





LEGEND:

-  DRA for Intersection (Cross Road)
-  DRA for traffic signs

Lot 93 (8) Pritchard Street, O'Connor  
All Device Restriction Areas (in the vicinity of the subject sign)

t21.164.sk02c  
10/08/2023  
Scale: 1:500 @ A3



**DA0264/23**

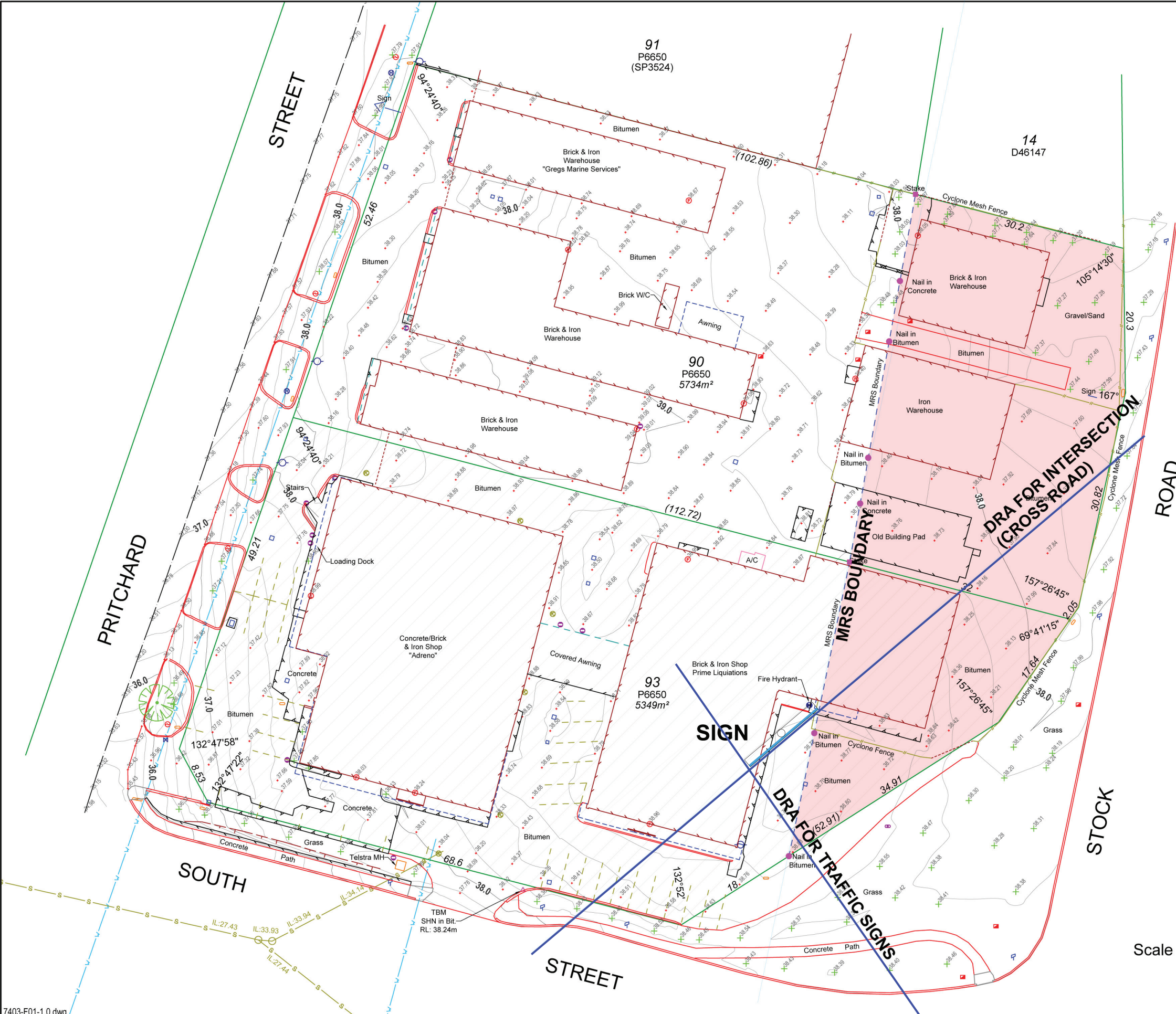
**APPENDIX 3**  
**DEVELOPMENT PLANS**

**31 Aug 2023**

**CITY OF FREMANTLE**  
**These Plans Form Part of**  
**DA0264/23**  
**31 Aug 2023**



**LOCATION SKETCH**  
NOT TO SCALE



**Zoning Legend**

	Clause 32
	Primary Regional Roads

**SYMBOL LEGEND**

	Power Pole
	Electrical Cable Pit
	Communication Pit
	Telstra Pit
	Sewer Manhole
	Sewer Connection
	Hydrant Ground
	Hydrant Pillar
	Stop Valve
	Water Meter
	Gully
	Bollard
	Floor Level
	Natural Surface
	Tree

**LINestyle LEGEND**

	Contour Major 1.0m Intervals
	Contour Minor 0.2m Intervals
	Cadastral Boundary
	Kerb Line
	Road Centreline
	Pedestrian Ramp
	Parking Bay
	Building
	Awning
	Roof Eve Line
	Wall
	Concrete Edge
	Fence Line
	Gate
	Overhead Power
	DBYD Sewer
	DBYD Water

**CONTROL POINT SCHEDULE**

Point	Easting	Northing	Elevation	Description
9001	47719.528	251154.611	37.41	Spike
9005	47826.727	251107.415	38.43	R/Set
TBM	47759.901	251112.402	38.24	SHN in Bitumen

Scale @A3 1:563

VER.	DATE	BY	AMENDMENTS	FILE SOURCE
1.0	11.11.2021	MDB	Issued for Information	7403F-02112021-PCG94

**Notes:**  
1. Boundary constructed from cadastral connection.  
2. Heights established from VRS Via GPS connection.  
3. Sewer & water data plotted from Dial Before You Dig and survey.  
4. Refer to Certificate of Title for limitations, interests, Encumbrances and Notifications.



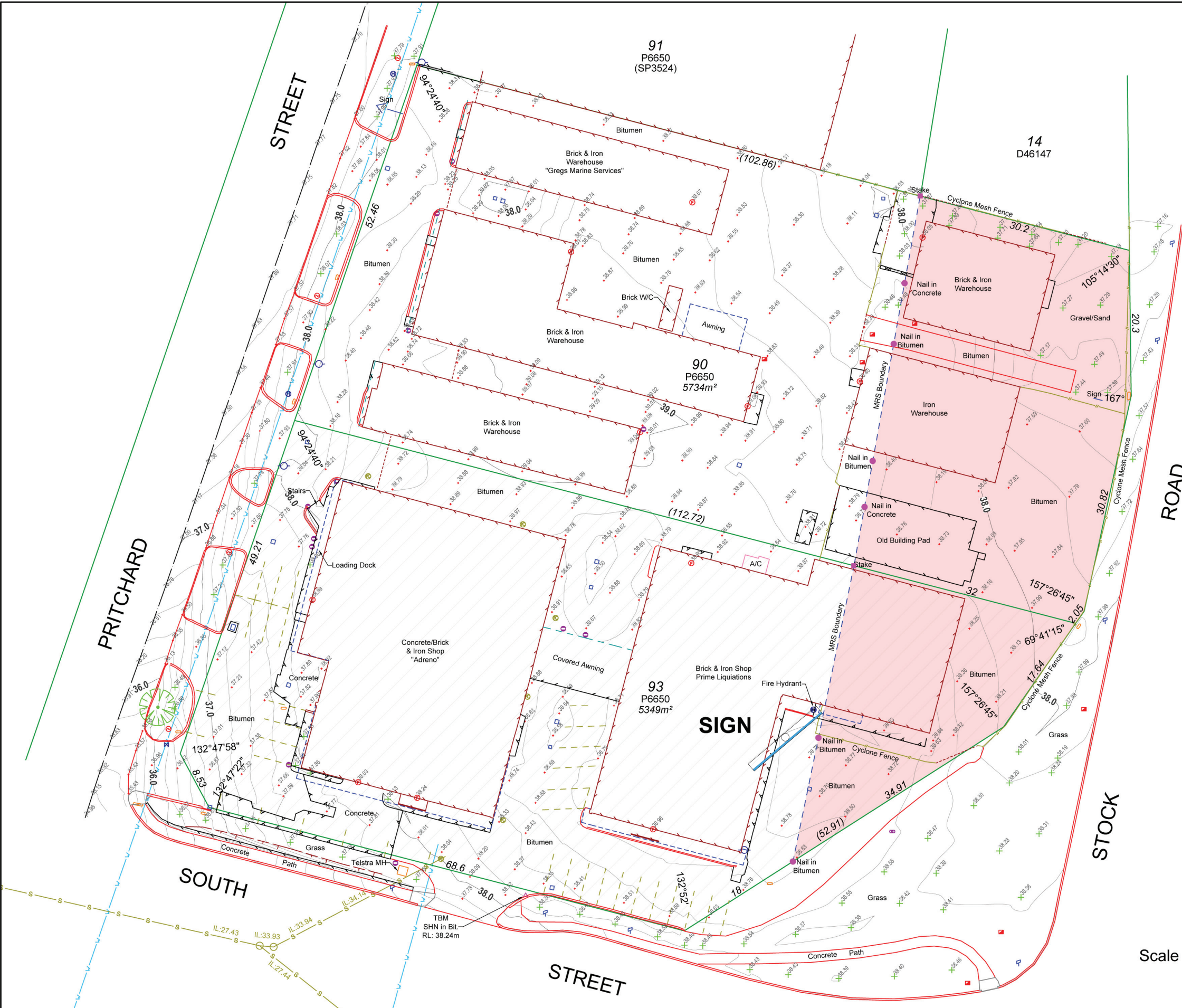
CLIENT:  
**EDGEWATER MANAGEMENT**

JOB NO: 7403	TITLE: FEATURE SURVEY	DATUM	N 
PROJECT:	LOT 90 & 93 ON P6650 Nº 6 & 8 PRITCHARD STREET O'CONNOR, WA, 6163 C/T 1221-769 & C/T 284-70A	VERT: AHD HORIZ: PCG94 SCALE: 1:400	
SURVEYOR: SW	DATE OF SURVEY: 08.11.2021	DRAWN BY: MDB	APPROVED BY: NRW
DWG NO: 7403-F01		SHEET NO: 1 OF 1	
VER: 1.0		A3	

**CITY OF FREMANTLE**  
**These Plans Form Part of**  
**DA0264/23**  
**31 Aug 2023**



LOCATION SKETCH  
NOT TO SCALE



**Zoning Legend**

	Clause 32
	Primary Regional Roads

**SYMBOL LEGEND**

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	Electrical Cable Pit
	Communication Pit
	Telstra Pit
	Sewer Manhole
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	Hydrant Ground
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Scale @A3 1:563

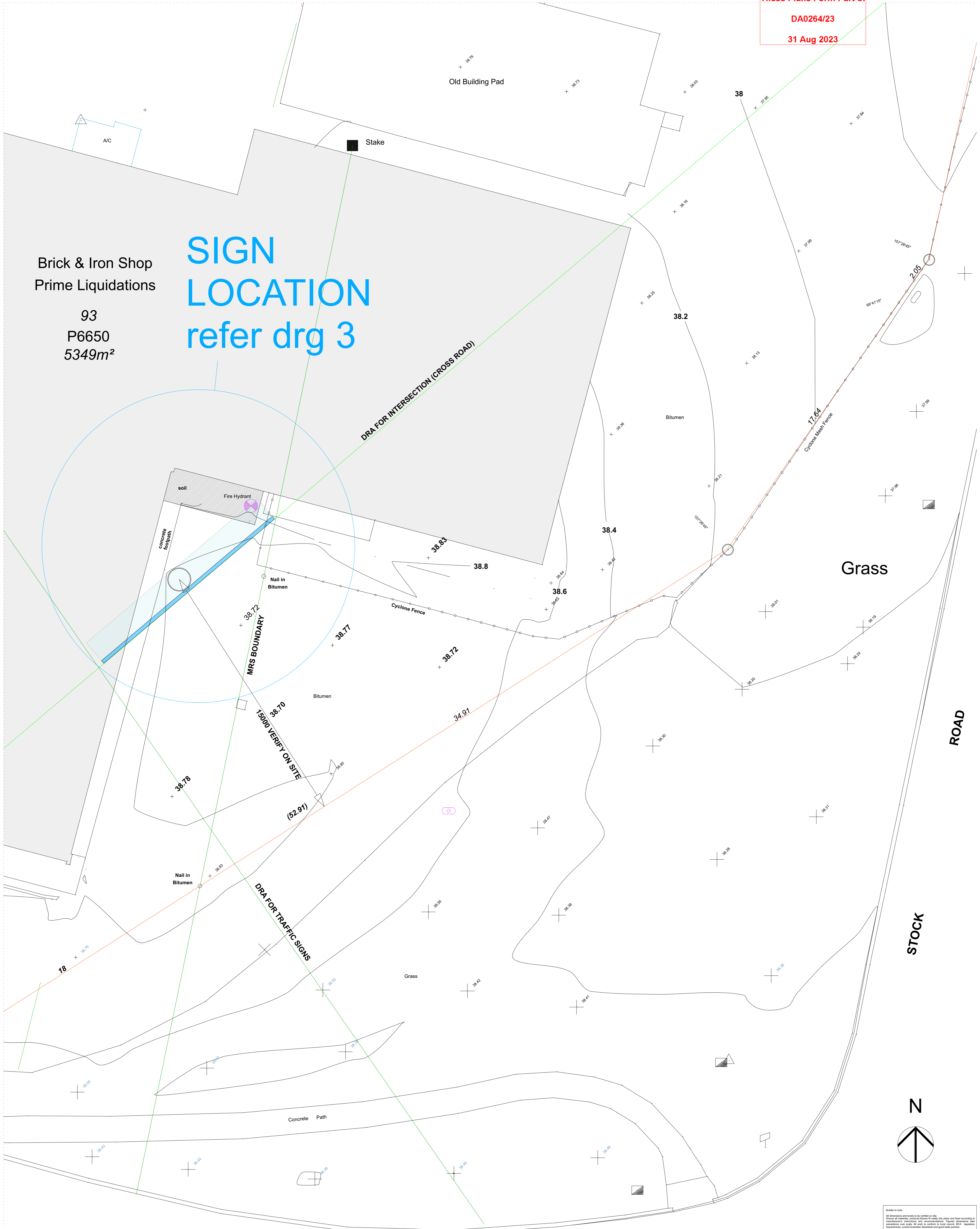
VER.	DATE	BY	AMENDMENTS	FILE SOURCE
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CLIENT:  
**EDGEWATER MANAGEMENT**

JOB NO: 7403	TITLE: FEATURE SURVEY	DATUM	N 
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SURVEYOR: SW	DATE OF SURVEY: 08.11.2021	DRAWN BY: MDB	APPROVED BY: NRW
DWG NO: 7403-F01			VER: 1.0
SHEET NO: 1 OF 1			A3



Brick & Iron Shop  
Prime Liquidations  
93  
P6650  
5349m<sup>2</sup>

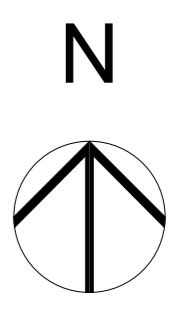
**SIGN  
LOCATION  
refer drg 3**

Grass

ROAD

STOCK

SOUTH STREET



**PART SITE PLAN**

1:100

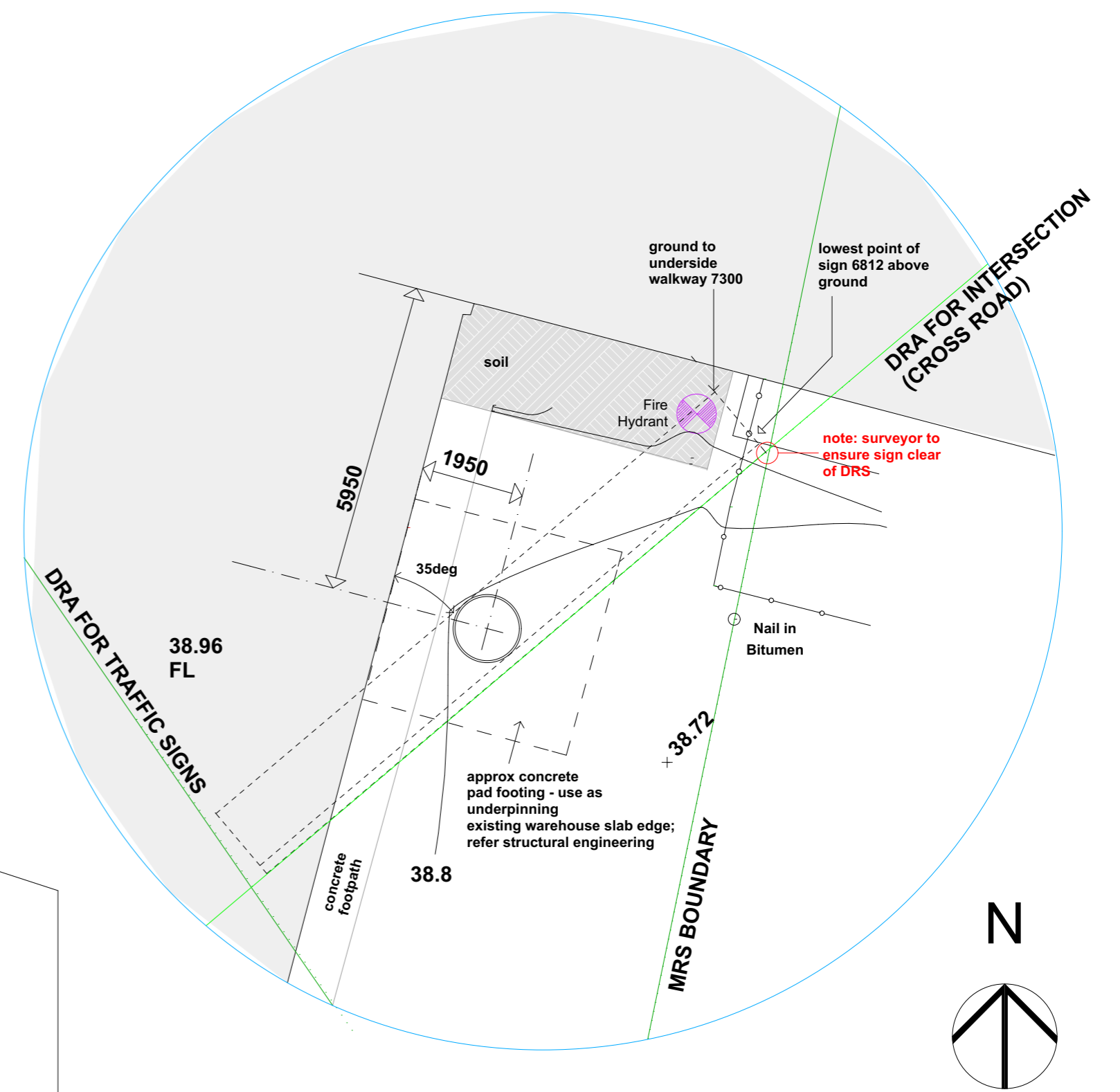
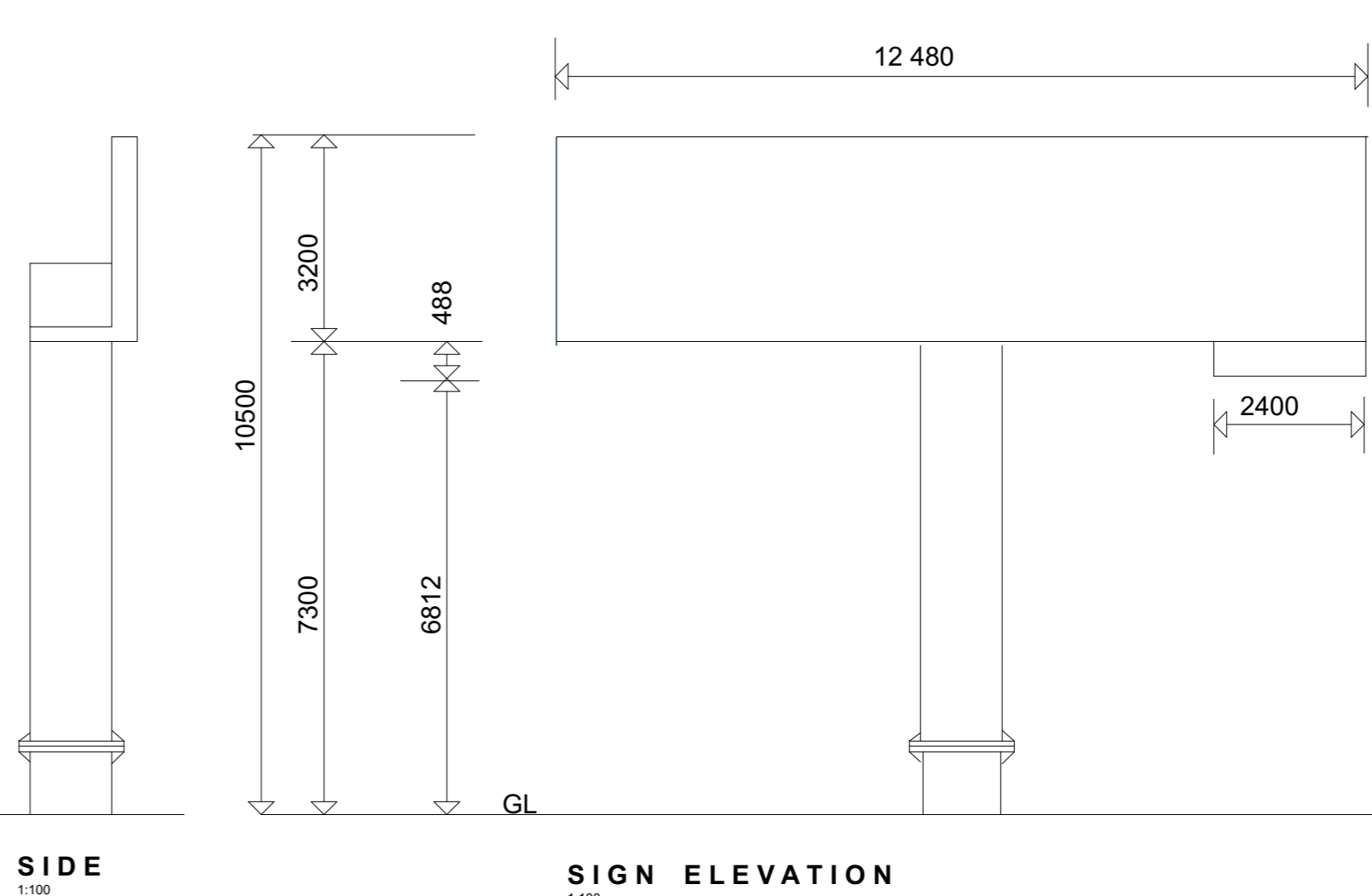
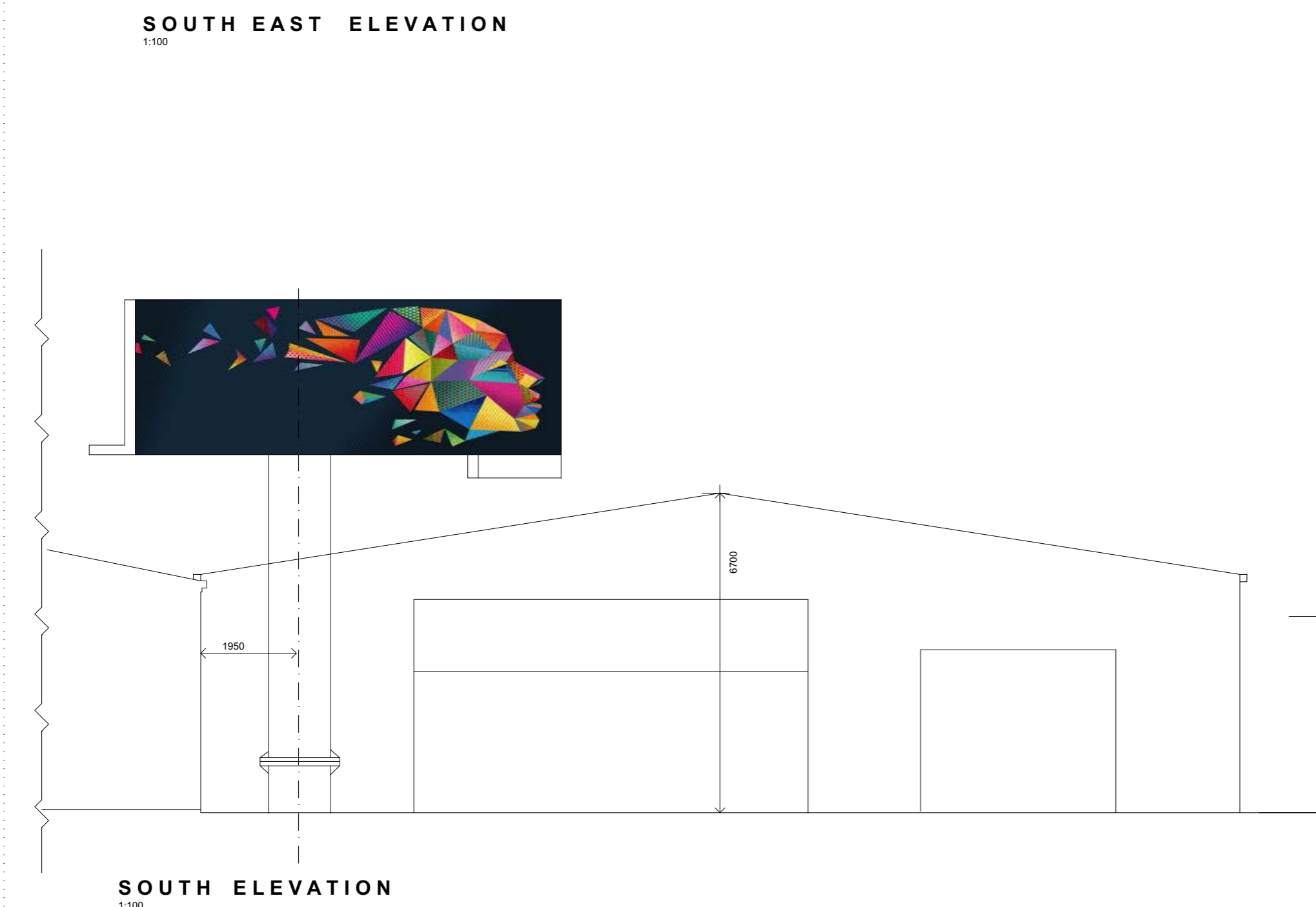
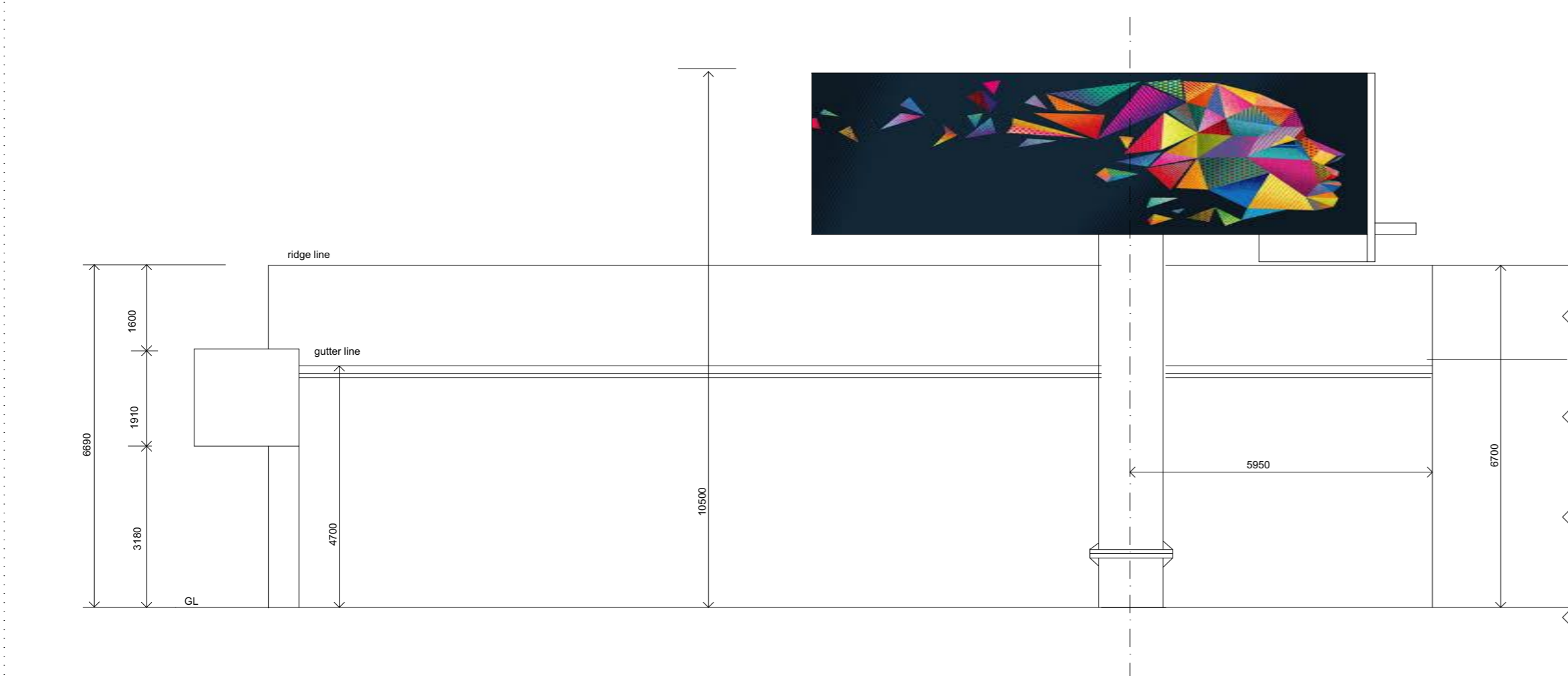
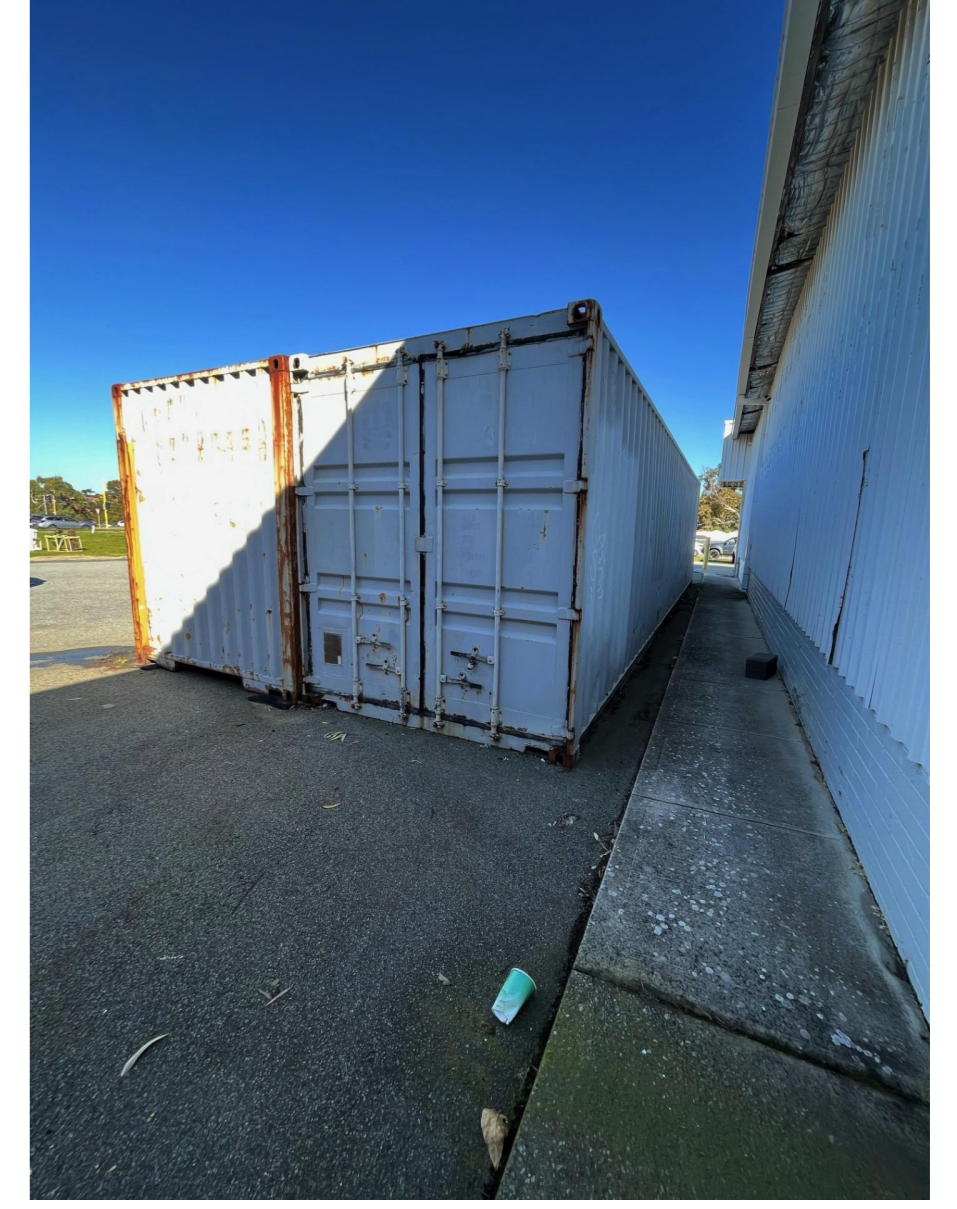
Submit to note:  
All dimensions and levels to be verified on site.  
Presence of services, particularly stormwater, to be confirmed by site inspection and/or utility records.  
Site conditions may vary from those shown on the plan. All work to conform to local council, BCA, regulatory requirements, current Australian Standards and good trade practice.

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**LARGE FORMAT DIGITAL SIGN  
8 PRITCHARD ST  
O'CONNOR**

Client/Owner	ACW/Willis	Date	AUGUST 2023
Project No	29659/2023	Drawing No	2

**WILLIS DESIGN GROUP PTY LTD**  
Professional, Commercial, Residential, Heritage, Urban Design & Planning  
Project Design Manager  
31 Newmarket Road, St Leonards, New South Wales 1570  
Tel: 61555577 | Mobile: 0415555575  
Email: info@willisdesigngroup.com.au  
Website: www.willisdesigngroup.com.au



Build to note:  
All dimensions and levels to be verified on site.  
Presence of materials, products, services to verify the pipe and lead according to manufacturer's instructions and specifications. Report dimensions and materials used. All work to conform to the relevant BCA regulatory requirements, current Australian Standards and good trade practice.

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**LARGE FORMAT DIGITAL SIGN**  
8 FRITCHARD ST  
O'CONNOR

Designed by: ACWills Date: AUGUST 2023  
Project No: 2868/9/2023 Drawing No: 3

**WILLIS DESIGN GROUP PTY LTD**  
15/1500 Road, Stirling, Western Australia 6116  
Tel: 84388271 Mobile: 94188872  
Email: willis@willisdesigngroup.com.au  
Website: www.willisdesigngroup.com.au

# Specification.

## 10mm Outdoor Specification Sheet

Item	Specification
Pixel Pitch	10mm, physical
Pixel Density	10000 pixels/m <sup>2</sup>
Diode	AST BSV SPECIFIED
Diode Configuration	SMD LED
Diode Size	3535 BSV SPECIFIED
Module Dimension (W x H)	320mm x 160mm
Module Resolution (W x H)	32 x 16 pixels
Cabinet Material	Metal Plate
Standard Cabinet Size(s)	1280mm x 640mm x 170mm
Viewing Angle	H 140 Deg. / V 90 Deg.
Best Viewing Distance	10+m
Maintenance	Front or Rear Service
Protection Degree	Front IP65, Rear IP54
Panel Net Weight	60kg/sqm
Luminance (Peak White at 6,500k)	AST 7000 nits BSV SPECIFIED
Gray Scale	16-bit Color Processing Depth BSV SPECIFIED
Refresh Rate	3840+ Hz BSV SPECIFIED
Contrast Ratio	3000:1
Display Control	Synchronous control
Power Supply	240V, 50Hz
Operation Temp.	- 20°C~50°C
Display Dimming	Auto/Manual, 8~256 Levels
Display Capacity	Text, image, graphics animations, video
Power Consumption (Max./Avg.)	0.58kw/sqm; 0.21kw/sqm
MTBF	50,000hrs
Lifetime	100,000hrs

**DA0264/23**

**APPENDIX 4**  
**LANDSCAPE CONCEPT PLAN**

31 Aug 2023



GENERAL NOTES:  
 1. THIS IS A CONCEPT PLAN ONLY  
 2. ALL STRUCTURES SUBJECT TO ENGINEERING AND COUNCIL APPROVAL  
 3. ALL MEASUREMENTS TO BE CHECKED PRIOR TO CONSTRUCTION.

93  
 P6650  
 5349m<sup>2</sup>



CITY OF FREMANTLE These Plans Form Part of DA0264/23				
	DWN	APP	DESCRIPTION	
A	25.01.2022	KD	KD	PLANTING PLAN
B	27.01.2022	KD	KD	UPDATED LANDSCAPE LAYOUT
C	13.07.2023	AC	KD	UPDATED LANDSCAPE LAYOUT
D	18.07.2023	AC	KD	UPDATED LANDSCAPE LAYOUT
E	15.09.2023	AC	KD	UPDATED SIGN POSITION

**LEGEND**

- PLANTING**
- PLANTING TYPE 01 GROUNDCOVERS
  - PLANTING TYPE 02 SHRUBS
  - PLANTING TYPE 03 STRAPPY/MIXED
  - PLANTING TYPE 04 SHADE TOLERANT
  - PLANTING TYPE 04 FEATURE PLANTING
- OTHER**
- LIMESTONE WALL 1000x350x350mm BLOCKS
  - EXISTING BITUMEN AREA AROUND WAREHOUSE

**NOTES**

- 1. LANDSCAPE WORKS**
- ALL AREAS ARE TO BE FINE GRADED EVENLY TO CONFORM TO KERB LEVELS AND SURROUNDING FINISHES.
  - SURFACES SHALL BE FREE FROM DEPRESSIONS, IRREGULARITIES AND NOTICEABLE CHANGES IN GRADE. GENERALLY, GRADES SHALL DEVIATE IN LEVEL NO GREATER THAN 20mm IN ONE LINEAR METRE.
- 2. SOIL PREPARATION**
- PLANTED AREAS SHALL BE SPREAD WITH MIN. 30mm OF APPROVED STANDARD SOIL CONDITIONER THAT SHALL BE RIPPED INTO EXISTING SOIL TO A MIN. DEPTH OF 200mm.
  - RAISED PLANTING AREAS TO HAVE APPROVED FILL SOIL AND SOIL CONDITIONER FILLED AND MIXED TO A FINISHED HEIGHT OF 150mm BELOW TOW.
- 3. PLANTING**
- PLANTED AREAS SHALL BE MULCHED WITH AN ORGANIC WOOD CHIP MULCH UNLESS OTHERWISE STATED TO A MINIMUM DEPTH OF 75mm.
  - REFER TO PLANTING SCHEDULE FOR SPECIES AND SIZES.
  - PLANTS TO BE SET OUT IN EVEN SPACING TO FILL THE DESIGNATED AREAS.
  - IN AREAS OF MIXED PLANTING, SPECIES TO BE SPREAD OUT AT RANDOM, IN GROUPINGS OF 2 OR 3.
  - PLANTS SHALL BE SUPPLIED FROM AN INDUSTRY ACCREDITED WHOLESALE NURSERY. PLANTS SHALL BE IN APPROPRIATE SIZE FOR THE LISTED POT SIZE AND IN GOOD HEALTH.
  - IF SPECIES ARE UNAVAILABLE (OR IN SIZES SPECIFIED), SUBSTITUTES MUST BE APPROVED BY SUPERINTENDENT BEFORE DELIVERY AND INSTALLATION.
  - SUPERINTENDENT TO REVIEW SAMPLES OF ALL TREE SPECIES AND PLANTS AT SOURCE OR BY PHOTOGRAPH PRIOR TO DELIVERY AND INSTALLATION.
- 4. IRRIGATION**
- ALL PLANTING TO BE IRRIGATED VIA A FULLY AUTOMATIC SYSTEM FROM MAINS.
  - IRRIGATION TO GARDEN BEDS TO BE NETAFIM TECHLINE, SUB SURFACE IRRIGATION. INSTALLED TO MANUFACTURERS SPECIFICATION.
  - SHADE PLANTING AREA SHALL BE ON A SEPARATE STATION TO ALLOW FOR MORE FREQUENT WATERING THROUGH SUMMER
  - WATER PRESSURE TO HAVE A MINIMUM FLOW RATE OF 30L/pm AT 300KPA FROM THE WATER CONNECTION POINT.
  - CONTROLLER TO BE LOCATED IN SERVICE ROOM UNLESS OTHERWISE DIRECTED.
  - SLEEVES BENEATH PAVED SURFACES TO BE PROVIDED BY OTHERS.
- 5. GENERAL**
- PLEASE NOTE THAT KDLA'S QUOTATION & SCHEDULE OF QUANTITIES IS TO TAKE PRECEDENCE OVER DRAWING NOTES.
  - THIS DRAWING SHALL NOT BE USED FOR CONSTRUCTION UNLESS REVISED 'O' ISSUED FOR CONSTRUCTION AND SIGNED AND APPROVED BY PROJECT MANAGER/SUPERINTENDENT.

**PLANTING SCHEDULE**

Symbol	Species	Common Name	Quantity	Size
<b>Shrubs and Groundcovers:</b>				
DIaeme	Dianella tasmanica 'Emerald Arch'	Emerald Arch	20	140mm
DIAbla	Dianella tasmanica 'Blaze'	Blaze	5	140mm
EREblu	Eremophila 'Blu Horizon'	Blue Horizon	10	140mm
GREgin	Grevillea 'Gin Gin Gem'	Gin Gin Gem	10	140mm
HIBsca	Hibbertia scandens	Snake Vine	10	140mm
LIRjus	Liriope 'Just Right'	Just Right	12	140mm
LOMtan	Lomandra 'Tankika'	Tanika	20	200mm
MYOpar	Myoporum parvifolium 'Yareena'	Yareena	10	140mm
PHixan	Philodendron Xanadu	Xanadu	12	200mm
<b>Feature Plants:</b>				
AGAatt	Agave attenuata	Century Plant	12	12L

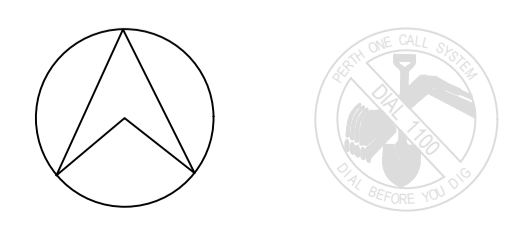
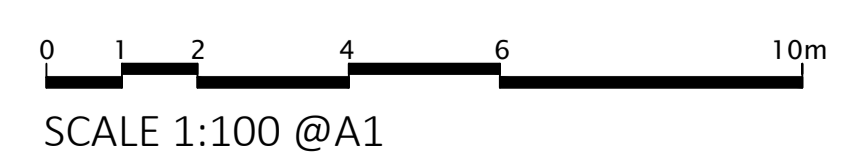
**PLANTING IMAGES**



DEVELOPMENT APPROVAL

Innaloo WA 6018  
 mob: 0450 965 569  
 email: kelsie@kdla.com.au

JOB No. 0183    PAGE 101    REV E



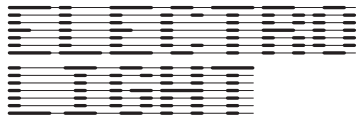
**O'CONNOR SIGNAGE LANDSCAPE  
 LANDSCAPE CONCEPT PLAN**

**25 NOMINEES PTY LTD  
 8 PRITCHARD STREET, O'CONNOR**

**DA0264/23**

**APPENDIX 5**  
**LIGHTING IMPACT ASSESSMENT**

**31 Aug 2023**



25 Nominees Pty Ltd

LIGHTING IMPACT ASSESSMENT  
OUTDOOR SIGNAGE AT 8 PRITCHARD ST, O'CONNOR, WA

16th August 2023  
Ref: 3453

**Lighting Impact Assessment Outdoor Signage at  
8 Pritchard St, O'Connor, WA**

DATE	REV	COMMENT	PREPARED BY	CHECKED BY
16/08/23	Rev B	For Information	CB	RS

Electrolight Australia Pty Ltd  
ABN: 44 600 067 392

info@electrolight.com  
www.electrolight.com

4/414 Bourke St, Surry Hills  
Sydney NSW 2010  
T + 612 9267 4777

CONTENTS

1. INTRODUCTION	3
2. DEFINITIONS	3
2.1 Illuminance	3
2.2 Luminance	3
2.3 Luminous Intensity	3
2.4 Obtrusive Light	3
2.5 Threshold Increment	3
2.6 AGI32 Light Simulation Software	3
2.7 Upward Light Ratio (ULR)	3
3. SITE DESCRIPTION AND SCOPE	4
4. DESIGN GUIDELINES AND STANDARDS	4
5. LUMINANCE ASSESSMENT	5
6. AS4282 ASSESSMENT	7
7. SUMMARY	9
8. DESIGN CERTIFICATION	10
APPENDIX A	11
APPENDIX B	14
APPENDIX C	15
APPENDIX D	16

## 1. INTRODUCTION

Electrolight have been appointed by 25 Nominees Pty Ltd to undertake a Lighting Impact Assessment on the proposed pylon digital signage to be installed at 8 Pritchard St, O'Connor, Western Australia. The objective of the assessment is to report on compliance with AS4282-2019 Control of the Obtrusive Effects of Outdoor Lighting and the Western Australia Main Roads "Policy and Application Guidelines for Advertising Signs".

## 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/m<sup>2</sup>.

(a) Horizontal illuminance (E<sub>h</sub>) The value of illuminance on a designated horizontal plane

(b) Vertical illuminance (E<sub>v</sub>) 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 is referred to as environmental vertical illuminance (E<sub>ve</sub>).

### 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/m<sup>2</sup>) – also referred to as "nits".

### 2.3 Luminous Intensity

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

### 2.4 Obtrusive Light

Spill Light which, because of quantitative, directional or spectral attributes in a given context, gives rise to annoyance, discomfort, distraction or a reduction in the ability to see essential information.

### 2.5 Threshold Increment

The measure of disability glare expressed as the percentage increase in contrast required between a standard object and its background (the carriageway) for it to be seen equally as well with the source of glare present as with it absent, derived in the specified manner. This metric is directly related to Veiling Luminance.

NOTE: The required value is a maximum for compliance of the lighting scheme.

### 2.6 AGI32 Light Simulation Software

AGI32 (by U.S. company Lighting Analysts) 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.

### 2.7 Upward Light Ratio (ULR)

The ratio between the luminous flux emitted above the horizontal plane to the total flux emitted by a light source. The ULR is used as a measure to limit direct spill light to the sky.

### 3. SITE DESCRIPTION AND SCOPE

The proposed pylon digital signage is located at 8 Pritchard St, O'Connor, Western Australia, and faces the westbound direction of traffic on South Street and northbound traffic on Stock Rd. The total active display (illuminated) area of the proposed digital signage is 39.94m<sup>2</sup>. The digital signage is to be in 24 hour operation. Refer Appendix A for proposed signage location plan and elevations.

The proposed digital 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.

For the purpose of this report the proposed manufacturer of the digital signage is noted as Big Screen Video model type with performance parameters as outlined in Appendix B. The signage includes baffles which mitigate upward waste light, resulting in an Upward Light Ratio (ULR) of less than 50%. 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.

### 4. DESIGN GUIDELINES AND STANDARDS

The Lighting Impact Assessment will review the proposed digital signage against the follow Criteria, Design Guidelines and Standards.

- Western Australia Main Roads “Policy and Application Guidelines for Advertising Signs” Document (October 2020). (Refer Appendix C)
- AS 4282-2019 Control of the Obtrusive Effects of Outdoor Lighting.

## 5. LUMINANCE ASSESSMENT

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 1 below:

TABLE 1 - MAXIMUM NIGHT TIME AVERAGE LUMINANCE FOR SIGNAGE		
Environmental Zone	Description	Max Average Luminance (cd/m <sup>2</sup> )
A4	High district brightness e.g. Town and city centres, commercial areas, and residential areas abutting commercial areas	350
A3	Medium district brightness e.g. suburban areas in towns and cities	250
A2	Low district brightness e.g. sparsely inhabited rural and semi-rural areas	150
A1	Dark e.g. relatively uninhabited rural areas. No Road Lighting	0.1
A0	Intrinsically Dark e.g. Major Optical Observatories. No Road Lighting	0.1

Note: Where the signage is viewed against a predominantly dark background (e.g. night sky) then the maximum applicable environmental zone is A2

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 of the signage is 350 cd/m<sup>2</sup> under the standard.

In addition, Appendix B of the Western Australia Main Roads “Policy and Application Guidelines for Advertising Signs” document outlines the maximum allowable day time, dawn/dusk and night time luminances of electronic signs to exhibit consistent apparent brightness in all lighting conditions (refer to Appendix C). The Guidelines require a maximum luminance limit of 6000cd/m<sup>2</sup> during the day, 600cd/m<sup>2</sup> at Dawn/Dusk and 300 cd/m<sup>2</sup> during night time operation.

Table 2 outlines the maximum luminance levels to comply with AS4282 and the Western Australia Main Roads “Policy Application Guidelines for Advertising Signs” for the various lighting conditions listed below:

TABLE 2 - LUMINANCE LEVELS FOR DIGITAL ADVERTISEMENTS		
Lighting Condition	Max Permissible Luminance (cd/m <sup>2</sup> ) #	Compliant
Day Time	6000	✓
Dawn/Dusk	600	✓
Night time	300	✓

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

**DA0264/23**

**31 Aug 2023**

Appendix B of the Western Australia Main Roads “Policy and Application Guidelines for Advertising Signs” Document also requires that the signage be initially commissioned to half the recommended maximum luminances shown in the document for the various lighting conditions (see Table 3 below). The sign luminances shall be gradually increased over time to an appropriate level as agreed with Main Roads.

TABLE 3 - INITIAL LUMINANCE LEVELS FOR DIGITAL ADVERTISEMENTS		
Lighting Condition	Max Permissible Luminance (cd/m <sup>2</sup> )	Compliant
Day Time Luminance	3000	✓
Dawn/Dusk	300	✓
Night Time	150	✓

The operator of the screen must not exceed the maximum dimming levels above to comply with the Western Australia Main Roads “Policy and Application Guidelines for Advertising Signs” Document.

To maintain constant visibility of the signage, the dimming value may increase to the maximum level at certain times of the day (such as in direct sunlight). This is to compensate for high levels of light striking the front the face of the sign, which would otherwise dull the image and make it difficult to view.



## 6. AS4282 ASSESSMENT

The proposed signage has been assessed against AS 4282-2019 Control of the Obtrusive Effects of Outdoor Lighting as outlined in Section 4.

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.

### Illuminance Assessment

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

The acceptable level of 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 - MAXIMUM VALUES OF LIGHT TECHNICAL PARAMETERS			
Environmental Zone	Max Vertical Illuminance (lx)		Description
	Pre-curfew	Post-curfew	
A0	0	0	Intrinsically Dark e.g. Major Optical Observatories. No Road Lighting
A1	2	0.1	Dark e.g. relatively uninhabited rural areas. No Road Lighting
A2	5	1	Low district brightness e.g. sparsely inhabited rural and semi-rural areas
A3	10	2	Medium district brightness e.g. suburban areas in towns and cities
A4	25	5	High district brightness e.g. Town and city centres, commercial areas, and residential areas abutting commercial areas

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

Address	Zone	Address	Zone
64A Chadwick St	A3	43 Marshall Way	A3
64B Chadwick St	A3	44 Marshall Way	A3
64C Chadwick St	A3	45 Marshall Way	A3
2 Bromley Rd	A3	46 Marshall Way	A3
4A Bromley Rd	A3	47 Marshall Way	A3
4B Bromley Rd	A3	49 Marshall Way	A3
6 Bromley Rd	A3	51 Marshall Way	A3

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 screen was provided by the signage manufacturer\*, with luminances corresponding to the night time limit outlined in Table 2 of Section 5. Appendix D shows the lighting model and the results of the calculations.

It can be seen from the lighting model that the maximum illuminance to all dwellings in Zone A3 is 0.6 lux at 64A Chadwick St. The illuminance levels comply with the maximum limit outlined in Table 4.

#### Threshold Increment Assessment

The Threshold Increment was also calculated for traffic approaches of Stock Rd (Southbound), Stock Rd (Northbound), Stock Rd left turn (Westbound), South St left turn (Northbound), South St (Westbound) and South St right turn (Northbound). The calculation grids were located at 1.5m above ground level, with an approach viewing distance of between 34m to 200 m from the sign. The calculation results show that the Threshold Increment does not exceed 5.92% along any of the traffic approaches (the allowable maximum under the standard is 20%).

#### Luminous Intensity

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

#### Additional Requirements:

The signage operator must ensure that the average luminance difference between successive images does not exceed 30% to ensure compliance with AS4282. The dwell time shall be 10 seconds or greater.

#### Summary:

It can therefore be seen that the proposed digital signage complies with all relevant requirements of AS 4282-2019 Control of the Obtrusive Effects of Outdoor Lighting.

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

**7. SUMMARY**

- When commissioned to the maximum dimming levels below, the illuminated signage will comply with the Western Australia Main Roads “Policy and Application Guidelines for Advertising Signs” Document and AS4282-2019 Control of the Obtrusive Effects of Outdoor Lighting.

LUMINANCE LEVELS FOR DIGITAL ADVERTISEMENTS		
Lighting Condition	Max Permissible Luminance (cd/m2) #	Compliant
Day Time	6000	✓
Dawn/Dusk	600	✓
Night time	300	✓

- The signage shall be initially commissioned to half the recommended maximum luminances outlined in the Western Australia Main Roads “Policy and Application Guidelines for Advertising Signs” (as shown in the table below). The luminance shall be gradually increased over time to the maximum levels shown in the table above if deemed appropriate by Main Roads.

INITIAL LUMINANCE LEVELS FOR DIGITAL ADVERTISEMENTS		
Lighting Condition	Max Permissible Luminance (cd/m2)	Compliant
Day Time Luminance	3000	✓
Dawn/Dusk	300	✓
Night Time	150	✓

- The signage operator must ensure that the average luminance difference between successive images does not exceed 30% to ensure compliance with AS4282. The dwell time shall be 10 seconds or greater in order to comply with the requirements of AS4282.
- The proposed signage has been found to comply with all relevant requirements of AS4282-2019 Control of the Obtrusive Effects of Outdoor Lighting.
- In complying with the above requirements, the proposed signage shall not result in unacceptable glare nor should it adversely impact the safety of pedestrians, residents or vehicular traffic. Additionally, the proposed signage shall not cause any unacceptable amenity impacts to nearby residences or accommodation.

DA0264/23

31 Aug 2023

## 8. DESIGN CERTIFICATION

The proposed digital signage to be installed at the 8 Pritchard St, O'Connor, if commissioned according to this report, will comply with the following criteria, guidelines and standards:

- Western Australia Main Roads "Policy and Application Guidelines for Advertising Signs" Document (October 2020) - Appendix B luminance and illuminance of electronic advertising signs.
- AS 4282-2019 Control of the Obtrusive Effects of Outdoor Lighting.



Ryan Shamier

M.Des.Sc (Illumination)

B.Elec.Eng (Hons) MIES RPEQ

Registered Professional Engineer - New South Wales (PRE0000868)

Registered Professional Engineer - Victoria (AMR Ref PE0006091)

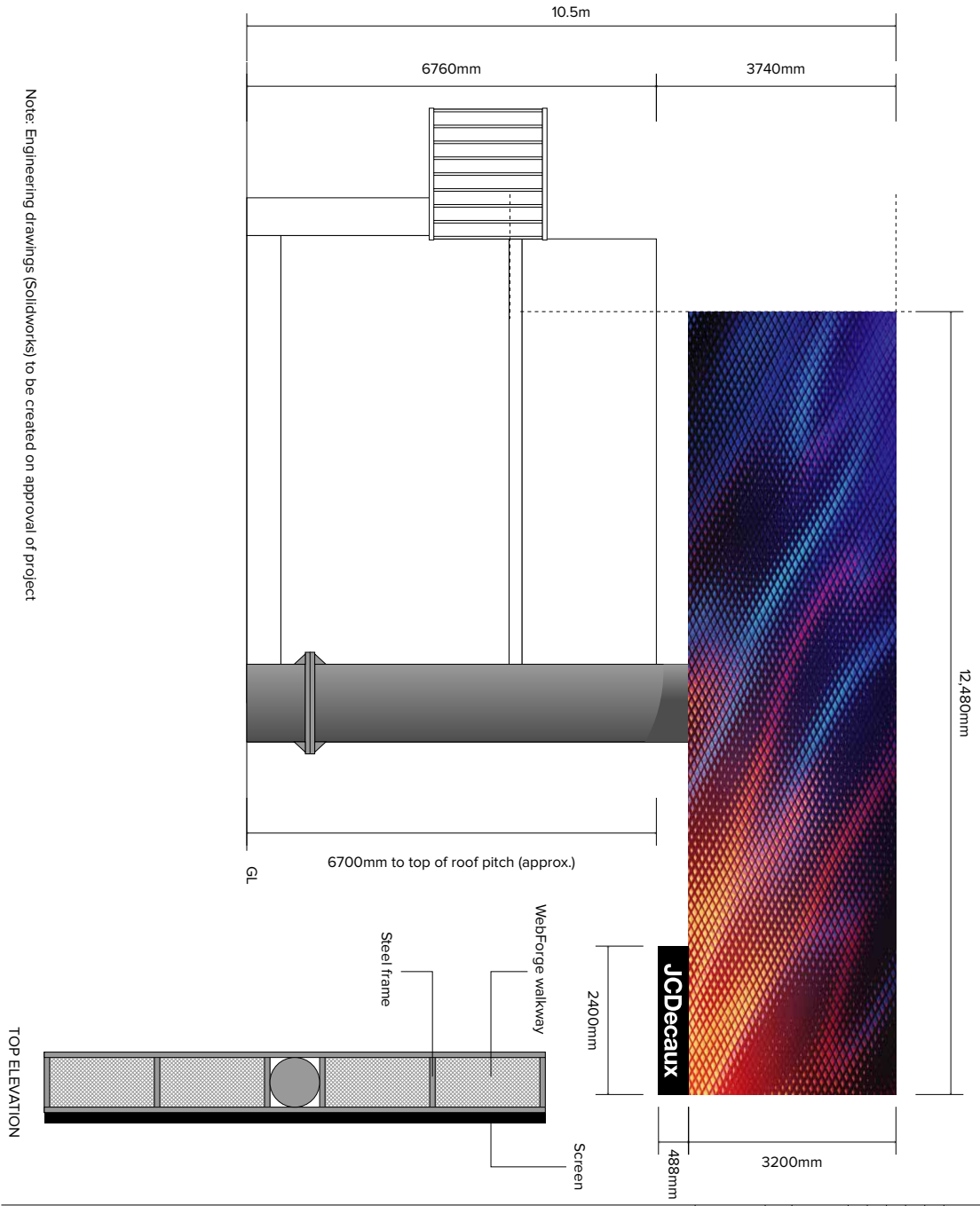
Registered Professional Engineer - Queensland (RPEQ 21425)

Senior Lighting Designer

Electrolight Sydney

16/08/23

APPENDIX A  
SIGNAGE LOCATION PLAN



Note: Engineering drawings (Solidworks) to be created on approval of project

TOP ELEVATION

<b>Client:</b>	25 Nominees Pty Ltd
<b>Project:</b>	Digital Pylon
<b>Job No:</b>	127219
<b>Contact:</b>	Justin Pasqua
<b>Consultant:</b>	Paul Arnold
<b>Designer:</b>	DB
<b>Checked:</b>	
<b>A3</b>	<b>Revision: L</b>
<b>File location:</b>	\\THECUS\Artnor\KLOBS ARTWORK\DEF1 Edgewater Management\2021\127219 O'Connor Digital Pylon3 - Artnor

- (x1) Digital screens (outdoor) P10 resolution display Single steel post with framework to support screen - galv. finish
- Fix to nominated location with baseplate secured to cagebolts set into concrete footings Engineer to certify structure and footings according to site conditions Power to be supplied to sign location by others

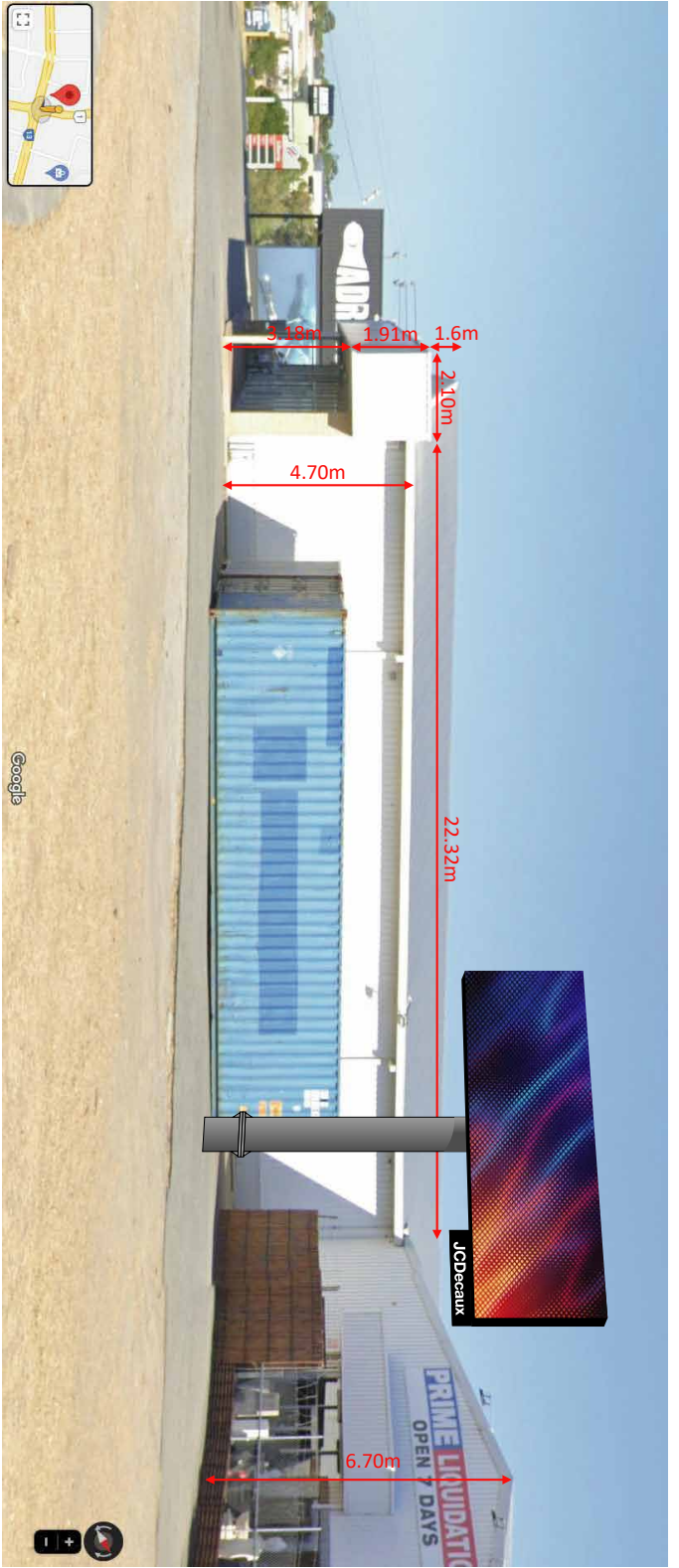


Page 02 of 10

**ARTWORK APPROVAL**  
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**IMPORTANT:** It is the responsibility of the client to ensure that all information is correct before approving commencement of works)

APPENDIX A  
SIGNAGE LOCATION PLAN



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Sign on must verify all critical dimensions on site prior to commencement of work. The contractor shall ensure that all dimensions are correct and that the signage is installed in accordance with the approved plans. The contractor shall be responsible for ensuring that the signage is installed in accordance with the approved plans. The contractor shall be responsible for ensuring that the signage is installed in accordance with the approved plans.

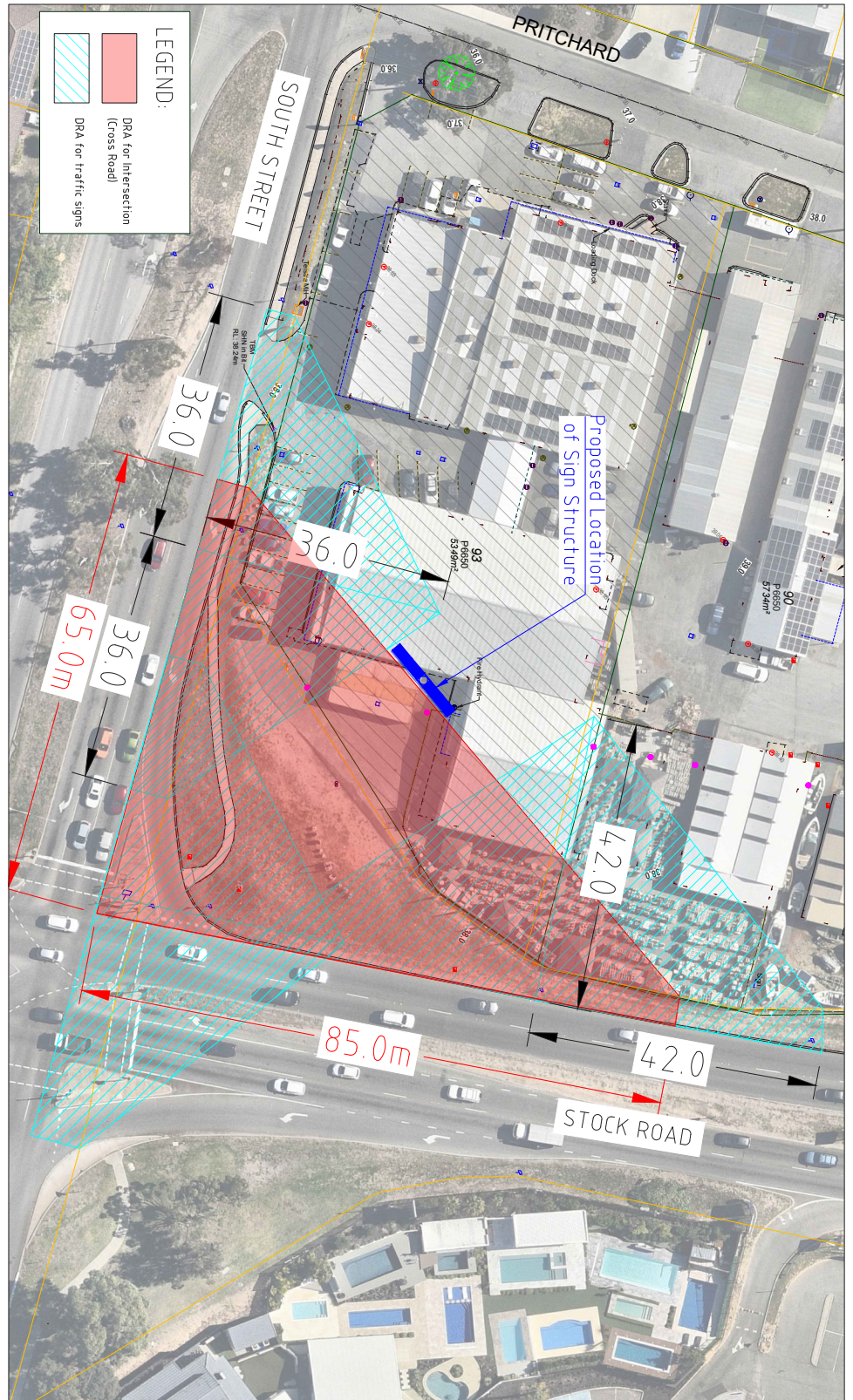
<b>Client:</b>	25 Nominees Pty Ltd
<b>Project:</b>	Digital Pylon
<b>Job No.:</b>	127219
<b>Contact:</b>	Justin Pasqua
<b>Consultant:</b>	Paul Arnold
<b>Designer:</b>	DB
<b>Checked:</b>	
<b>A3</b>	<b>Revision: L</b>

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APPENDIX A  
 SIGNAGE LOCATION PLAN



Lot 93 (8) Pritchard Street, O'Connor  
 All Device Restriction Areas (in the vicinity of the subject sign)

t21.164.sk02c  
 10/08/2023  
 Scale: 1:500 @ A3



APPENDIX B  
 DIGITAL SIGNAGE SPECIFICATION

**Specification.**

10mm Outdoor Specification Sheet

Item	Specification
Pixel Pitch	10mm, physical
Pixel Density	10000 pixels/m <sup>2</sup>
Diode	AST BSV SPECIFIED
Diode Configuration	SMD LED
Diode Size	3535 BSV SPECIFIED
Module Dimension (W x H)	320mm x 160mm
Module Resolution (W x H)	32 x 16 pixels
Cabinet Material	Metal Plate
Standard Cabinet Size(s)	1280mm x 640mm x 170mm
Viewing Angle	H 140 Deg. / V 90 Deg.
Best Viewing Distance	10+m
Maintenance	Front or Rear Service
Protection Degree	Front IP65, Rear IP54
Panel Net Weight	60kg/sqm
Luminance (Peak White at 6,500k)	AST 7000 nits BSV SPECIFIED
Gray Scale	16-bit Color Processing Depth BSV SPECIFIED
Refresh Rate	3840+ Hz BSV SPECIFIED
Contrast Ratio	3000:1
Display Control	Synchronous control
Power Supply	240V, 50Hz
Operation Temp.	- 20°C~50°C
Display Dimming	Auto/Manual, 8~256 Levels
Display Capacity	Text, image, graphics animations, video
Power Consumption (Max./Avg.)	0.58kw/sqm; 0.21kw/sqm
MTBF	50,000hrs
Lifetime	100,000hrs

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## APPENDIX C

### WESTERN AUSTRALIA MAIN ROADS GUIDELINE

#### Luminance and Illumination of Electronic Advertising Signs

##### Safety and amenity

It is important that electronic billboards exhibit consistent apparent brightness in all lighting conditions, by maintaining a consistent ratio between the ambient light (illuminance) and light emitted by the billboard (luminance).

This allows the billboard to be easily read and reduces the time taken for a motorist to view the billboard content. Signs brighter than the ambient conditions may cause greater distraction and risk to drivers due to:

- Averting a motorists attention from important traffic devices / instructions.
- Temporary visual impairment where the difference in sign luminance and ambient light is disparate.

Due to the fast rate of change in ambient light during dusk and dawn periods, particular attention needs to be given to the luminance levels that are output during these periods to ensure that a consistent apparent brightness is maintained.

Any change to brightness levels should be applied during a message transition, not while an image is being displayed. This removes the risk that a motorist will be distracted by changing sign brightness.

##### Maximum Luminance

The following values are suggested *maximum* values for the varying ambient lighting conditions. The final luminance levels are to be determined based on the site specific requirements, including the orientation of the sign and shading around the sign.

- Daytime - 6000 cd/m<sup>2</sup>
- Dawn/Dusk - 600 cd/m<sup>2</sup>
- Night - 300 cd/m<sup>2</sup>

##### Commissioning Levels

It is required that when a new device is being commissioned, the initial luminance values be set to *half* the recommended maximum values outlined above, and gradually increased to an appropriate level as agreed to by Main Roads WA.

If required, the owner/operator of the billboard is responsible for shielding the electronic billboard to ensure that it does not cause a nuisance to surrounding properties.

**DA0264/23**

**31 Aug 2023**

APPENDIX D

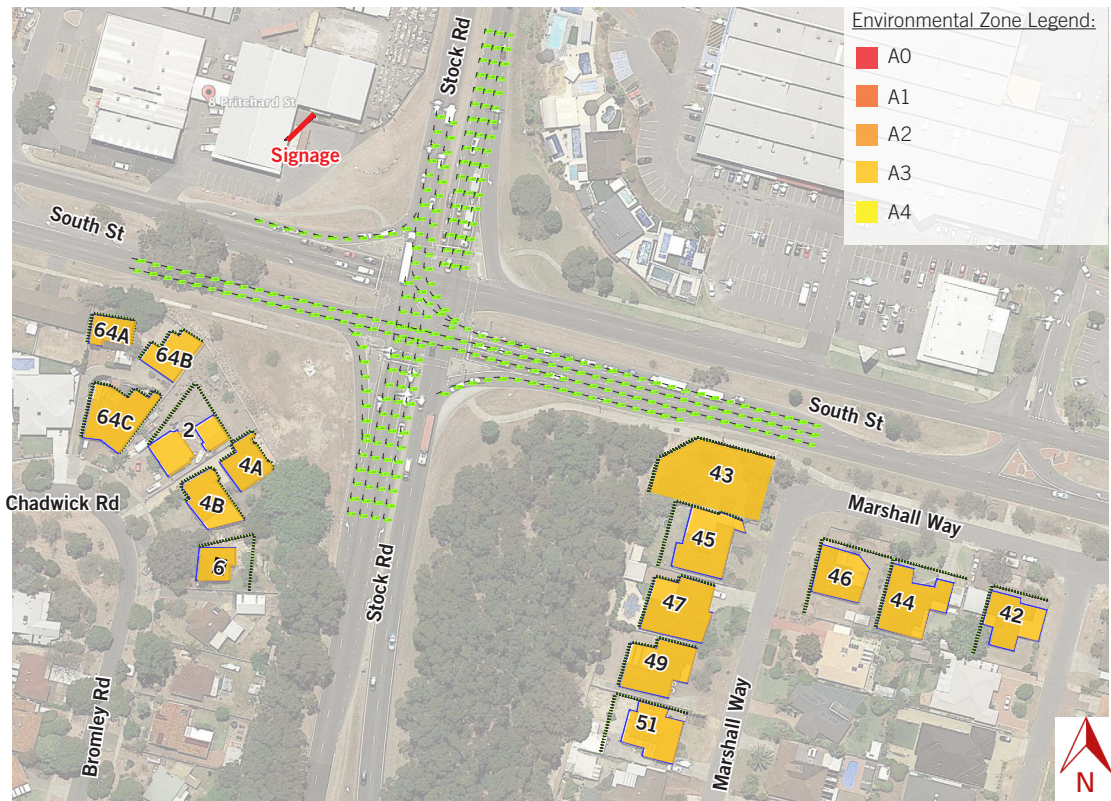
OBTRUSIVE LIGHTING CALCULATIONS

Calculation Summary				
Project: Obtrusive				
Label	CalcType	Units	Max	
2 Bromley Rd Ill Seg1	Obtrusive - Ill	Lux	0.1	
2 Bromley Rd Ill Seg2	Obtrusive - Ill	Lux	0.4	
4 Bromley Rd Ill Seg1	Obtrusive - Ill	Lux	0.3	
4 Bromley Rd Ill Seg10	Obtrusive - Ill	Lux	0.3	
4 Bromley Rd Ill Seg11	Obtrusive - Ill	Lux	0.1	
4 Bromley Rd Ill Seg2	Obtrusive - Ill	Lux	0.0	
4 Bromley Rd Ill Seg3	Obtrusive - Ill	Lux	0.4	
4 Bromley Rd Ill Seg4	Obtrusive - Ill	Lux	0.4	
4 Bromley Rd Ill Seg5	Obtrusive - Ill	Lux	0.0	
4 Bromley Rd Ill Seg6	Obtrusive - Ill	Lux	0.0	
4 Bromley Rd Ill Seg7	Obtrusive - Ill	Lux	0.4	
4 Bromley Rd Ill Seg8	Obtrusive - Ill	Lux	0.3	
4 Bromley Rd Ill Seg9	Obtrusive - Ill	Lux	0.5	
43 Marshall Way 1 Ill Seg1	Obtrusive - Ill	Lux	0.1	
43 Marshall Way 1 Ill Seg2	Obtrusive - Ill	Lux	0.0	
43 Marshall Way Ill Seg1	Obtrusive - Ill	Lux	0.3	
43 Marshall Way Ill Seg2	Obtrusive - Ill	Lux	0.3	
43 Marshall Way Ill Seg3	Obtrusive - Ill	Lux	0.2	
44 Marshall Way Ill Seg1	Obtrusive - Ill	Lux	0.2	
44 Marshall Way Ill Seg2	Obtrusive - Ill	Lux	0.1	
45 Marshall Way Ill Seg1	Obtrusive - Ill	Lux	0.2	
45 Marshall Way Ill Seg2	Obtrusive - Ill	Lux	0.2	
45 Marshall Way Ill Seg3	Obtrusive - Ill	Lux	0.0	
45 Marshall Way Ill Seg4	Obtrusive - Ill	Lux	0.1	
46 Marshall Way Ill Seg1	Obtrusive - Ill	Lux	0.2	
46 Marshall Way Ill Seg2	Obtrusive - Ill	Lux	0.1	
47 Marshall Way Ill Seg1	Obtrusive - Ill	Lux	0.2	
47 Marshall Way Ill Seg2	Obtrusive - Ill	Lux	0.2	
47 Marshall Way Ill Seg3	Obtrusive - Ill	Lux	0.2	
47 Marshall Way Ill Seg4	Obtrusive - Ill	Lux	0.0	
49 Marshall Way Ill Seg1	Obtrusive - Ill	Lux	0.2	
49 Marshall Way Ill Seg2	Obtrusive - Ill	Lux	0.2	
49 Marshall Way Ill Seg3	Obtrusive - Ill	Lux	0.2	
49 Marshall Way Ill Seg4	Obtrusive - Ill	Lux	0.0	
51 Marshall Way Ill Seg1	Obtrusive - Ill	Lux	0.2	
51 Marshall Way Ill Seg2	Obtrusive - Ill	Lux	0.2	
6 Bromley Rd Ill Seg1	Obtrusive - Ill	Lux	0.3	
6 Bromley Rd Ill Seg2	Obtrusive - Ill	Lux	0.0	
64A Chadwick St Ill Seg1	Obtrusive - Ill	Lux	0.0	
64A Chadwick St Ill Seg2	Obtrusive - Ill	Lux	0.3	
64A Chadwick St Ill Seg3	Obtrusive - Ill	Lux	0.0	
64A Chadwick St Ill Seg4	Obtrusive - Ill	Lux	0.4	
64A Chadwick St Ill Seg5	Obtrusive - Ill	Lux	0.0	
64A Chadwick St Ill Seg6	Obtrusive - Ill	Lux	0.6	
64B Chadwick St Ill Seg1	Obtrusive - Ill	Lux	0.0	
64B Chadwick St Ill Seg2	Obtrusive - Ill	Lux	0.0	
64B Chadwick St Ill Seg3	Obtrusive - Ill	Lux	0.1	
4 Bromley Rd 2 Ill Seg1	Obtrusive - Ill	Lux	0.1	
4 Bromley Rd 2 Ill Seg2	Obtrusive - Ill	Lux	0.0	
4 Bromley Rd 2 Ill Seg3	Obtrusive - Ill	Lux	0.0	
4 Bromley Rd 2 Ill Seg4	Obtrusive - Ill	Lux	0.3	
4 Bromley Rd 2 Ill Seg5	Obtrusive - Ill	Lux	0.4	
4 Bromley Rd 2 Ill Seg6	Obtrusive - Ill	Lux	0.2	
4 Bromley Rd 2 Ill Seg7	Obtrusive - Ill	Lux	0.0	
4 Bromley Rd 2 Ill Seg8	Obtrusive - Ill	Lux	0.3	
64C Chadwick St Ill Seg1	Obtrusive - Ill	Lux	0.0	
64C Chadwick St Ill Seg2	Obtrusive - Ill	Lux	0.0	
64C Chadwick St Ill Seg3	Obtrusive - Ill	Lux	0.0	
64C Chadwick St Ill Seg4	Obtrusive - Ill	Lux	0.0	
64C Chadwick St Ill Seg5	Obtrusive - Ill	Lux	0.0	
64C Chadwick St Ill Seg6	Obtrusive - Ill	Lux	0.0	
64C Chadwick St Ill Seg7	Obtrusive - Ill	Lux	0.0	
64C Chadwick St Ill Seg8	Obtrusive - Ill	Lux	0.0	

APPENDIX D

THRESHOLD INCREMENT LIGHTING CALCULATIONS

Calculation Summary			
Project: Ti			
Label	CalcType	Units	Max
South St (westbound)	Obtrusive - TI	%	0.18
South St to Stock Rd (N)	Obtrusive - TI	%	3.67
South St to Stock Rd (N)_1	Obtrusive - TI	%	5.92
South St to Stock Rd (S)	Obtrusive - TI	%	0.11
Stock Rd (Northbound)	Obtrusive - TI	%	0.24
Stock Rd (Southbound)	Obtrusive - TI	%	0.01
Stock Rd (Southbound)_1	Obtrusive - TI	%	0.00
Stock Rd to South St (N)	Obtrusive - TI	%	0.00
Stock Rd to South St (W)	Obtrusive - TI	%	3.13



**DA0264/23**

**31 Aug 2023**

APPENDIX D

OBTRUSIVE LIGHTING & THRESHOLD INCREMENT CALCULATIONS

**Obtrusive Light - Compliance Report**

AS/NZS 4282:2019, A3 - Medium District Brightness, Curfew  
Filename: 3453 8 Pritchard Street rev A.AGI  
16/08/2023 12:41:38 PM

**Illuminance**

Maximum Allowable Value: 2 Lux

Calculations Tested (63):

Calculation Label	Test Results	Max. Illum.
64A Chadwick St_III_Seg1	PASS	0.0
64A Chadwick St_III_Seg2	PASS	0.3
64A Chadwick St_III_Seg3	PASS	0.0
64A Chadwick St_III_Seg4	PASS	0.4
64A Chadwick St_III_Seg5	PASS	0.0
64A Chadwick St_III_Seg6	PASS	0.6
64B Chadwick St_III_Seg1	PASS	0.0
64B Chadwick St_III_Seg2	PASS	0.0
64B Chadwick St_III_Seg3	PASS	0.1
2 Bromley Rd_III_Seg1	PASS	0.1
2 Bromley Rd_III_Seg2	PASS	0.4
4 Bromley Rd_III_Seg1	PASS	0.3
4 Bromley Rd_III_Seg2	PASS	0.0
4 Bromley Rd_III_Seg3	PASS	0.4
4 Bromley Rd_III_Seg4	PASS	0.4
4 Bromley Rd_III_Seg5	PASS	0.0
4 Bromley Rd_III_Seg6	PASS	0.0
4 Bromley Rd_III_Seg7	PASS	0.4
4 Bromley Rd_III_Seg8	PASS	0.3
4 Bromley Rd_III_Seg9	PASS	0.5
4 Bromley Rd_III_Seg10	PASS	0.3
4 Bromley Rd_III_Seg11	PASS	0.1
6 Bromley Rd_III_Seg1	PASS	0.3
6 Bromley Rd_III_Seg2	PASS	0.0
45 Marshall Way_III_Seg1	PASS	0.2
45 Marshall Way_III_Seg2	PASS	0.2
45 Marshall Way_III_Seg3	PASS	0.0
45 Marshall Way_III_Seg4	PASS	0.1
47 Marshall Way_III_Seg1	PASS	0.2
47 Marshall Way_III_Seg2	PASS	0.2
47 Marshall Way_III_Seg3	PASS	0.2
47 Marshall Way_III_Seg4	PASS	0.0
49 Marshall Way_III_Seg1	PASS	0.2
49 Marshall Way_III_Seg2	PASS	0.2
49 Marshall Way_III_Seg3	PASS	0.2
49 Marshall Way_III_Seg4	PASS	0.0
46 Marshall Way_III_Seg1	PASS	0.2
46 Marshall Way_III_Seg2	PASS	0.1
44 Marshall Way_III_Seg1	PASS	0.2
44 Marshall Way_III_Seg2	PASS	0.1
43 Marshall Way_III_Seg1	PASS	0.3
43 Marshall Way_III_Seg2	PASS	0.3
43 Marshall Way_III_Seg3	PASS	0.2
43 Marshall Way_1_III_Seg1	PASS	0.1
43 Marshall Way_1_III_Seg2	PASS	0.0
51 Marshall Way_III_Seg1	PASS	0.2
51 Marshall Way_III_Seg2	PASS	0.2
64C Chadwick St_III_Seg1	PASS	0.0
64C Chadwick St_III_Seg2	PASS	0.0
64C Chadwick St_III_Seg3	PASS	0.0
64C Chadwick St_III_Seg4	PASS	0.0
64C Chadwick St_III_Seg5	PASS	0.0
64C Chadwick St_III_Seg6	PASS	0.0
64C Chadwick St_III_Seg7	PASS	0.0
64C Chadwick St_III_Seg8	PASS	0.0
4 Bromley Rd_2_III_Seg1	PASS	0.1
4 Bromley Rd_2_III_Seg2	PASS	0.0
4 Bromley Rd_2_III_Seg3	PASS	0.0
4 Bromley Rd_2_III_Seg4	PASS	0.3
4 Bromley Rd_2_III_Seg5	PASS	0.4
4 Bromley Rd_2_III_Seg6	PASS	0.2
4 Bromley Rd_2_III_Seg7	PASS	0.0
4 Bromley Rd_2_III_Seg8	PASS	0.3

**Threshold Increment (TI)**

Maximum Allowable Value: 20 %

Calculations Tested (9):

Calculation Label	Adaptation Luminance	Test Results
South St (westbound)	5	PASS
South St to Stock Rd (N)	5	PASS
South St to Stock Rd (N)_1	5	PASS
South St to Stock Rd (S)	5	PASS
Stock Rd (Southbound)	5	PASS
Stock Rd (Southbound)_1	5	PASS
Stock Rd (Northbound)	5	PASS
Stock Rd to South St (W)	5	PASS
Stock Rd to South St (N)	5	PASS

**CITY OF FREMANTLE**  
**These Plans Form Part of**  
**DA0264/23**  
**31 Aug 2023**

**APPENDIX 6**  
**OMA'S ROAD SAFETY RESEARCH MEDIA RELEASE**

## Media Release

16 April 2019  
For immediate release

# DIGITAL BILLBOARDS CAN IMPROVE DRIVER BEHAVIOUR, WORLD-FIRST AUSTRALIAN STUDY REVEALS

World-first research shows roadside advertising on digital billboards can improve driver performance.

The study, conducted by independent road safety research institute, the Australian Road Research Board (ARRB), measured driver behaviour in the presence of two digital billboards in real-world environments.

Drivers were unaware of the study that captured video data of vehicle movement around two complex intersections in Queensland. Data was captured during morning and afternoon peak-hour traffic and at night-time over a four-week period, both with and without a digital billboard present.

The locations measured, on the Gold Coast and in Gladstone, were selected because they had no existing sign but had approval to build a digital billboard during the study. This allowed researchers to capture data on driver behaviour before and after a digital sign was installed.

Researchers analysed two key indicators of distraction that are known to increase the risk of an accident: lane drift, which is veering within the lane; and, stopping over the line, which is failing to stop correctly at an intersection. The researchers also measured whether any crashes occurred. When the digital billboards were switched on at a range of dwell times (the time one advertisement is displayed before it changes) from 30 seconds down to 8 seconds, researchers observed the following results:

- Lane drift either improved or was unaffected
- Stopping over the line improved in all but one instance
- No crashes occurred.

Dr Paul Roberts, Principal Researcher for the ARRB noted: “Although we considered the introduction of a digital sign at an intersection would probably reduce driver performance, this study showed that it is sometimes possible for a digital sign at an intersection to operate with no negative impact on driver performance, and even, in some cases, to improve it.”

Charmaine Moldrich, CEO, Outdoor Media Association (OMA), the body that commissioned the report, said: “The Out of Home advertising industry is committed to ensuring its signs are safe. This study was finalised shortly after the release of research by the Accident Research Centre at Monash University which found that 88% of driver distraction occurs inside the car\*. We were already confident that well-designed digital Out of Home signs were safe, but we were surprised to learn that

our signs can actually help improve driver performance, probably because they encourage people to look up from in-car distractions.

“We hope this research prompts governments around Australia to streamline dwell time regulation of Out of Home signs, given they can improve driver performance,” concluded Moldrich.

*\* Source: Australian Naturalistic Driving Study 2018*

A summary of the research can be viewed here: <https://bit.ly/2FP8Yv3>

**Ends**

**For further information and interviews please contact:**

Rochelle Burbury

Third Avenue Consulting

0408 774 577

[Rochelle@thirdavenue.com.au](mailto:Rochelle@thirdavenue.com.au)

Jane O’Connell

Third Avenue Consulting

0408 248 024

[jane@thirdavenue.com.au](mailto:jane@thirdavenue.com.au)

**About OMA**

The OMA is the peak industry body which represents most of Australia's Outdoor Media Display companies and production facilities, and some Media Display asset owners.

The OMA operates nationally and prior to July 2005 traded as the Outdoor Advertising Association of Australia (OAAA). It was first incorporated in 1939.

The OMA's charter is to serve its members by promoting the OOH industry and developing constructive relations with its primary stakeholders.

Its core functions are Marketing and Research (including audience measurement), Government Relations and Regulatory Affairs, Media Relations, and Member Services.

The OMA is governed by a Board of Directors which is elected by the membership. Members of the OMA adhere to a Code of Ethics and abide by the regulatory frameworks in which they operate.

**Outdoor Media Association**

Suite 504, 80 William Street, East Sydney NSW 2011

**T** 02 9357 9900 **E** [info@oma.org.au](mailto:info@oma.org.au)

ABN 59 004 233 489 [www.oma.org.au](http://www.oma.org.au)

# Can Outdoor Advertising Make Roads Safer?



The Outdoor advertising industry has committed to make roads safer, investing in new research demonstrating how it can help.

## The risk of distraction

Every year, approximately 1,300 people die and 33,000 more are seriously injured on Australian roads. Every minute and a half, drivers do a 'secondary task' while driving (such as looking at their phone). In fact, 88% of driver distraction occurs inside our cars.<sup>1</sup>

Despite the risk of in-car distractions, regulation is primarily focused on distractions outside the car.

## Research shows Outdoor advertising helps

With thousands of roadside advertising signs across Australia, the Outdoor Media Association (OMA) has an ongoing research program to better understand driver behaviour.

Our latest research replicates a world-first 2017 study by independent road safety research institute, the Australian Road Research Board (ARRB). The study was conducted for Main Roads Western Australia, and measured all drivers passing a digital billboard in a real-world environment. Drivers were naive to the research, meaning the results accurately represent how people drive.

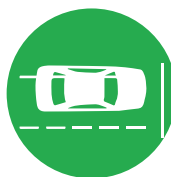
The OMA engaged ARRB to use the same methodology to investigate driver behaviour in the presence of two digital billboards at complex intersections in Queensland.

## What we measured

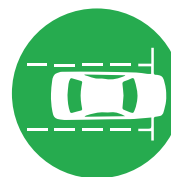
Using video data of vehicle movement, we measured driver behaviour around billboards operating at dwell times ranging from 30 seconds down to 8 seconds (dwell time is the duration one advertisement is displayed before changing to the next).

We captured data during morning and afternoon peak hours and at night-time, analysing three key measures of distraction with potential to increase the risk of crashes, sideswipes, rear-enders or running a red light:

### LANE DRIFT



### STOPPING OVER THE LINE



### INCIDENTS



Combined, lane drift and stopping over the line are responsible for 75% of serious accidents.<sup>2</sup>

## The Results<sup>3</sup>

When the digital signs were switched on, and operated at a range of dwell times, we saw the following results:



Lane drift either improved or was unaffected



Stopping over the line improved at five of the six dwell time-site combinations



No incidents (crashes or red light running)

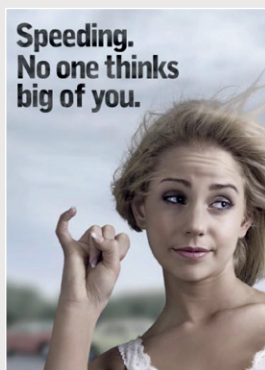
## What does this mean?

The presence of digital billboards may focus lateral attention, reduce visual distraction and improve driving performance.

## What can regulators do to help?

The Outdoor advertising industry is advocating for consistent dwell times of 6-10 seconds across the country for all digital signs.





## Outdoor advertising delivers safety benefits to Australian road users in two other ways: safe driving campaigns and infrastructure investment.

### Safe driving campaigns work

State Governments are one of the Outdoor industry's largest clients because roadside campaigns work. Here are three examples of successful road safety campaigns:

**Western Australia:** Research shows young men care about losing points from their licence and the right to drive. The 2016 'Time with Mum' campaign addressed these fears head on, achieving great success:

- 30,000 fewer speeding incidences across the state
- 70% of those surveyed said the campaign worked because it made them think about the embarrassment of losing their licence.

**New South Wales:** In 2007, the 'Pinkie' campaign ran in partnership with the NSW RTA, receiving global accolades for its salient message to young male drivers who ignored the speed limit. Billboards broadcasted the message "Speeding. No one thinks big of you" and yielded incredible results:

- 97% Campaign awareness
- 56 fewer deaths in target group of 17 to 25 year old males within two years of the campaign.

**Victoria:** In 2008, the Victorian TAC ran several campaigns on Outdoor advertising signs, targeting speeding, motorcyclists, and drunk drivers. TAC's 'This is why you're photographed when you speed' campaign resulted in the lowest speeding offences on record, and the 'This is 3 standard drinks' campaign saw drink driving drop 20%. The 'What's between you and the operating theatre?' campaign saw a 16% drop in two-wheeler fatalities across Victoria.



### Outdoor advertising pays for road improvements

Outdoor advertising generates significant revenue for Australian governments, helping to fund more impactful road safety campaigns and essential improvements to roads.

About 50% of Outdoor advertising revenue is returned to Government and landlords in rent and taxes. In 2017, we estimate that \$418.6 million was received by state and local governments, out of the total industry revenue for the year. In addition, the industry has provided and does the maintenance on 17,664 items of public infrastructure such as bus shelters and bins, with a replacement value of \$352 million.

## The evidence is in, good Outdoor advertising makes roads safer in three ways:

1. Roadside digital signage can have a positive impact on the way we drive
2. OOH campaigns save lives and reduce serious incidents on our roads
3. OOH advertising generates revenue, funding improvements to our roads.

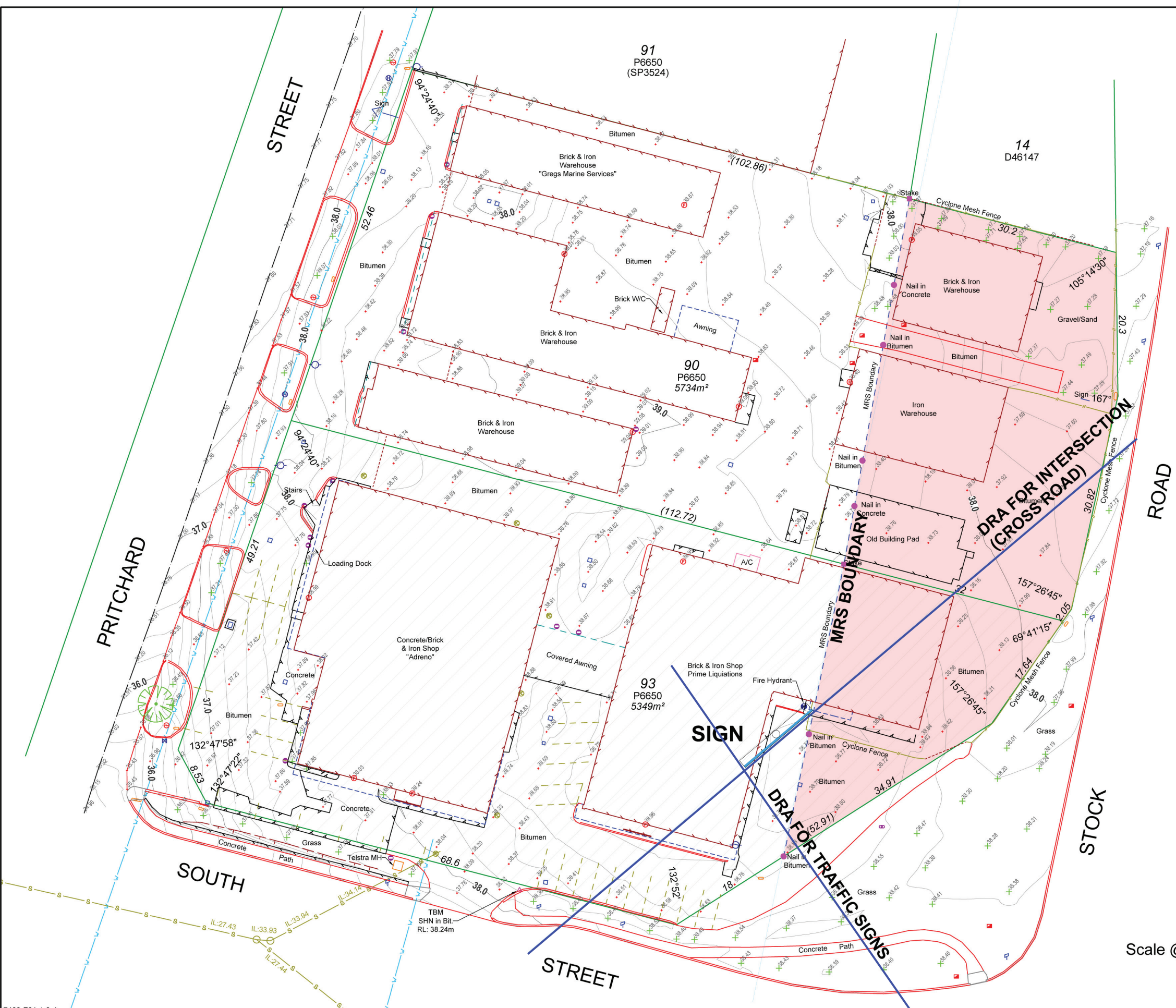
1. Australian Naturalistic Driving Study (ANDS), Accident Research Centre, Monash University, 2018.
2. Development & Evaluation of an evidence-based parent coaching guide for learner teen drivers, Transport & Accident Commission (TAC), 2015.
3. On-road evaluation of the driving performance impact of digital billboards at intersections, ARRB, 2018.

For more information on the research or the road safety benefits of outdoor advertising, please contact the OMA  
[info@oma.org.au](mailto:info@oma.org.au) // 02 9357 9900

**CITY OF FREMANTLE**  
**These Plans Form Part of**  
**DA0264/23**  
**31 Aug 2023**



LOCATION SKETCH  
NOT TO SCALE



Zoning Legend

	Clause 32
	Primary Regional Roads

SYMBOL LEGEND

	Power Pole
	Electrical Cable Pit
	Communication Pit
	Telstra Pit
	Sewer Manhole
	Sewer Connection
	Hydrant Ground
	Hydrant Pillar
	Stop Valve
	Water Meter
	Gully
	Bollard
	Floor Level
	Natural Surface
	Tree

LINestyle LEGEND

	Contour Major 1.0m Intervals
	Contour Minor 0.2m Intervals
	Cadastral Boundary
	Kerb Line
	Road Centreline
	Pedestrian Ramp
	Parking Bay
	Building
	Awning
	Roof Eve Line
	Wall
	Concrete Edge
	Fence Line
	Gate
	Overhead Power
	DBYD Sewer
	DBYD Water

CONTROL POINT SCHEDULE

Point	Easting	Northing	Elevation	Description
9001	47719.528	251154.611	37.41	Spike
9005	47826.727	251107.415	38.43	R/Set
TBM	47759.901	251112.402	38.24	SHN in Bitumen

Scale @A3 1:563

VER.	DATE	BY	AMENDMENTS	FILE SOURCE
1.0	11.11.2021	MDB	Issued for Information	7403F-02112021-PCG94

**Notes:**  
 1. Boundary constructed from cadastral connection.  
 2. Heights established from VRS Via GPS connection.  
 3. Sewer & water data plotted from Dial Before You Dig and survey.  
 4. Refer to Certificate of Title for limitations, interests, Encumbrances and Notifications.



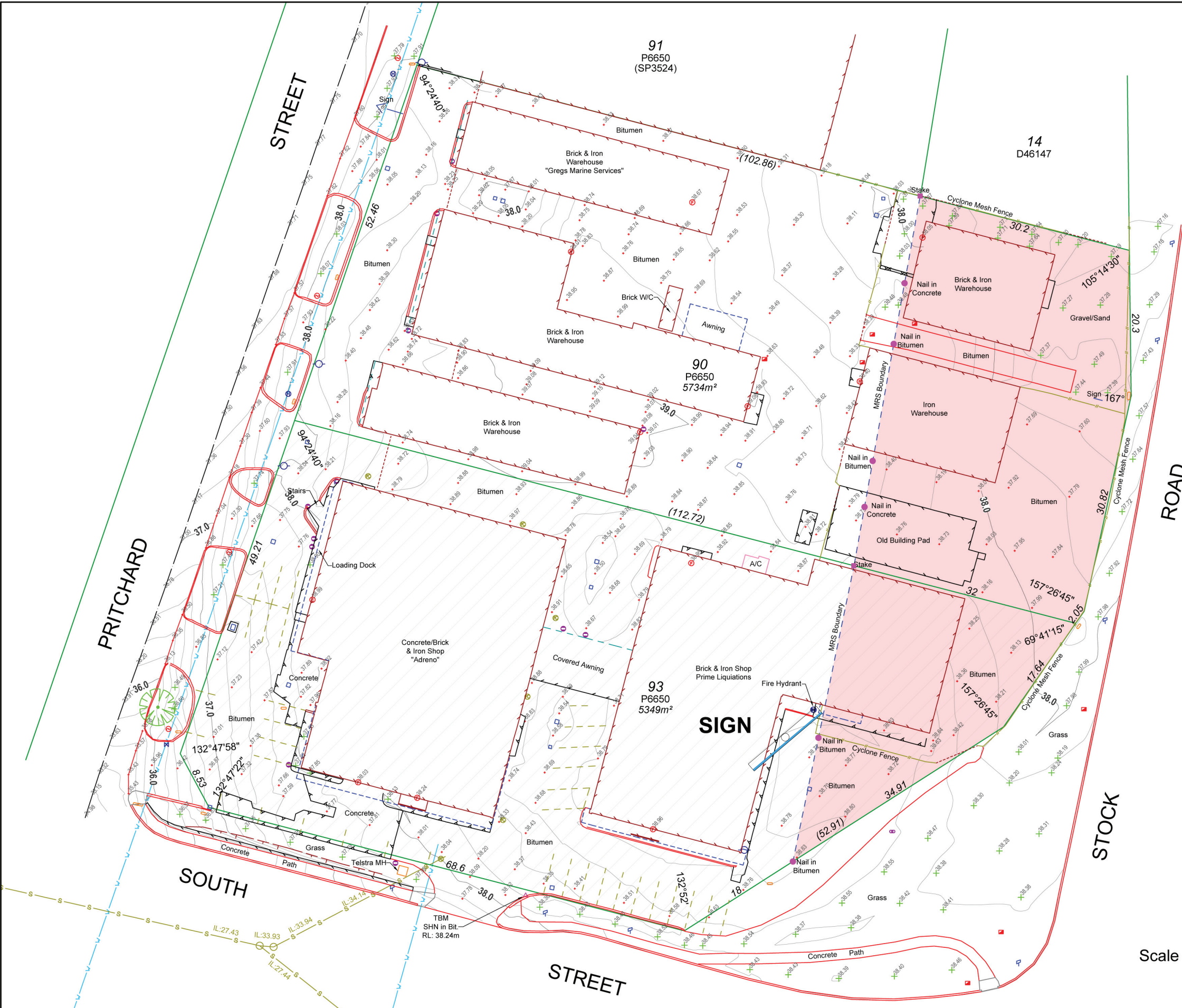
CLIENT:  
**EDGEWATER MANAGEMENT**

JOB NO: 7403	TITLE: FEATURE SURVEY	DATUM	N 
PROJECT:	LOT 90 & 93 ON P6650 Nº 6 & 8 PRITCHARD STREET O'CONNOR, WA, 6163 C/T 1221-769 & C/T 284-70A	VERT: AHD HORIZ: PCG94 SCALE: 1:400	
SURVEYOR: SW	DATE OF SURVEY: 08.11.2021	DRAWN BY: MDB	APPROVED BY: NRW
SHEET NO: 1 OF 1			VER: 1.0 A3

**CITY OF FREMANTLE**  
**These Plans Form Part of**  
**DA0264/23**  
**31 Aug 2023**



LOCATION SKETCH  
 NOT TO SCALE



Zoning Legend

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	Parking Bay
	Building
	Awning
	Roof Eve Line
	Wall
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	Fence Line
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	DBYD Water

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Scale @A3 1:563

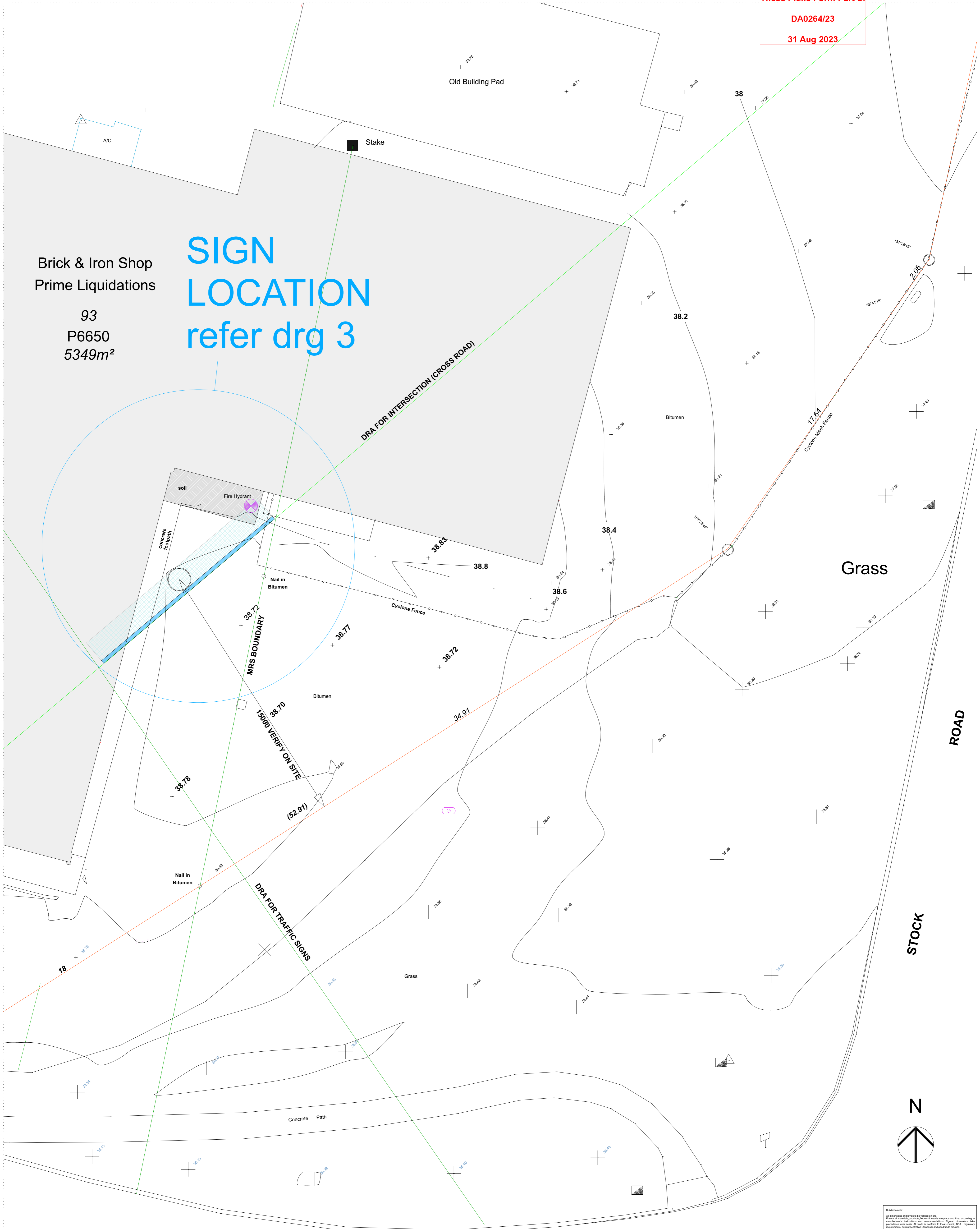
VER.	DATE	BY	AMENDMENTS	FILE SOURCE
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SURVEYOR: SW	DATE OF SURVEY: 08.11.2021	DRAWN BY: MDB	APPROVED BY: NRW
DWG NO: 7403-F01		VER: 1.0	
SHEET NO: 1 OF 1		A3	



Brick & Iron Shop  
 Prime Liquidations  
 93  
 P6650  
 5349m<sup>2</sup>

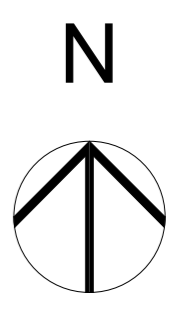
**SIGN  
 LOCATION  
 refer drg 3**

Grass

ROAD

STOCK

SOUTH STREET



**PART SITE PLAN**

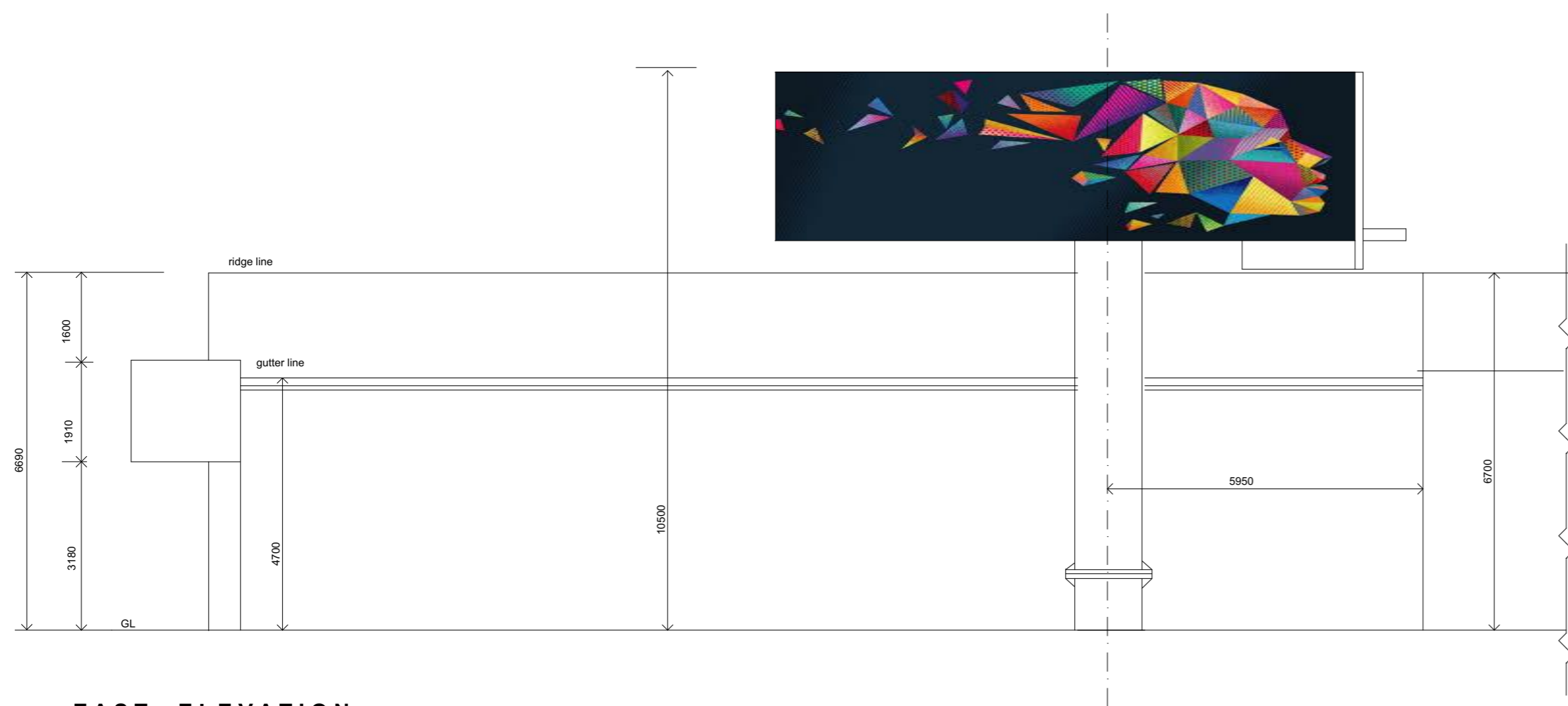
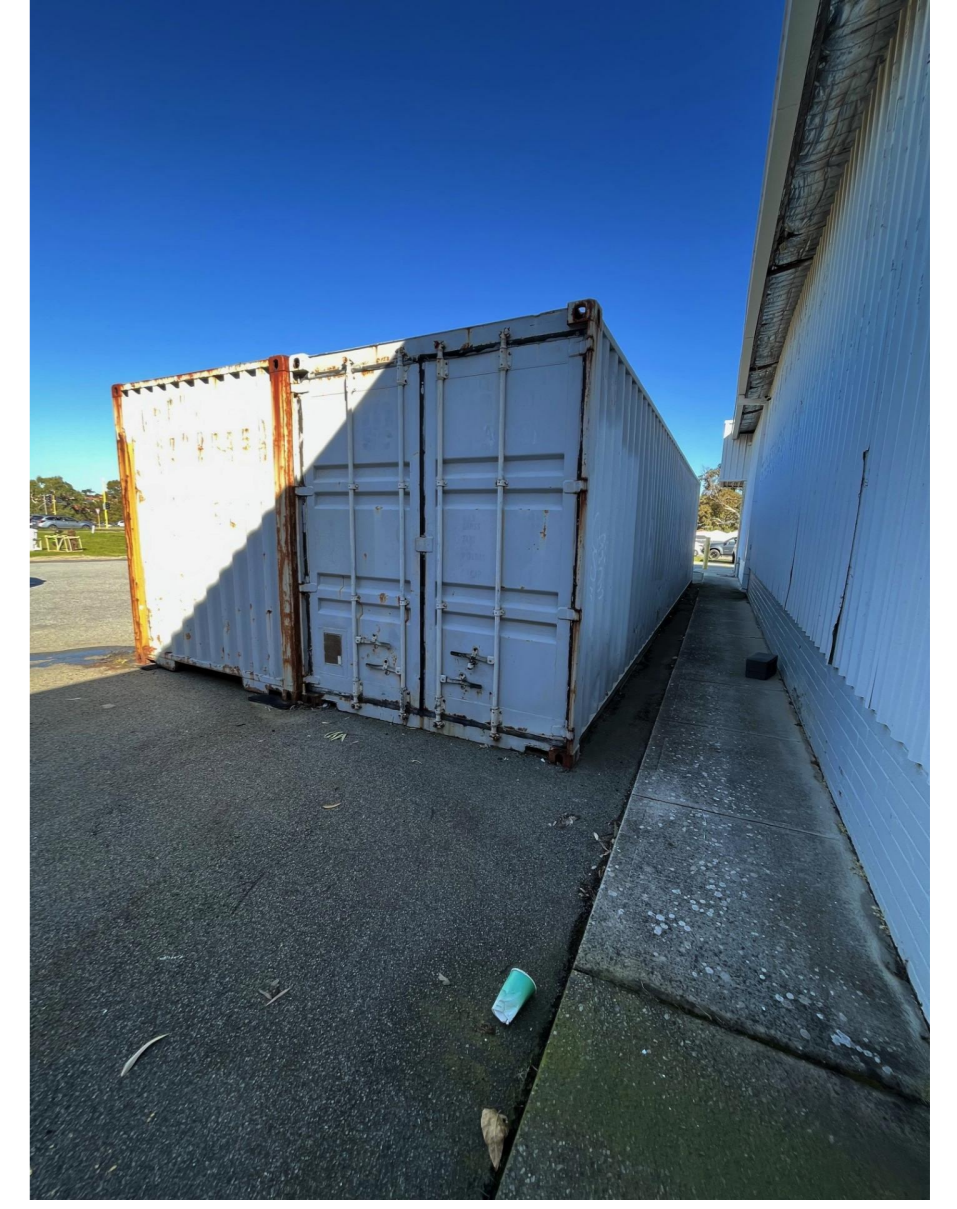
1:100

Submit to note:  
 All dimensions and levels to be verified on site.  
 Presence of services, particularly stormwater, sewer, gas, and electricity, shall be confirmed prior to any excavation work. All work to comply with local council, BCA, regulatory requirements, current Australian Standards and good practice.  
 Copyright:  
 This drawing is the property of Willis Design Group Pty Ltd and is not to be reproduced, stored, copied, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of Willis Design Group Pty Ltd. This drawing is the property of Willis Design Group Pty Ltd and is not to be reproduced, stored, copied, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of Willis Design Group Pty Ltd. This drawing is the property of Willis Design Group Pty Ltd and is not to be reproduced, stored, copied, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of Willis Design Group Pty Ltd.

**LARGE FORMAT DIGITAL SIGN  
 8 PRITCHARD ST  
 O'CONNOR**

Client/Owner ACW/Willis	Date AUGUST 2023
Project No. 28659/2023	Drawing No. 2

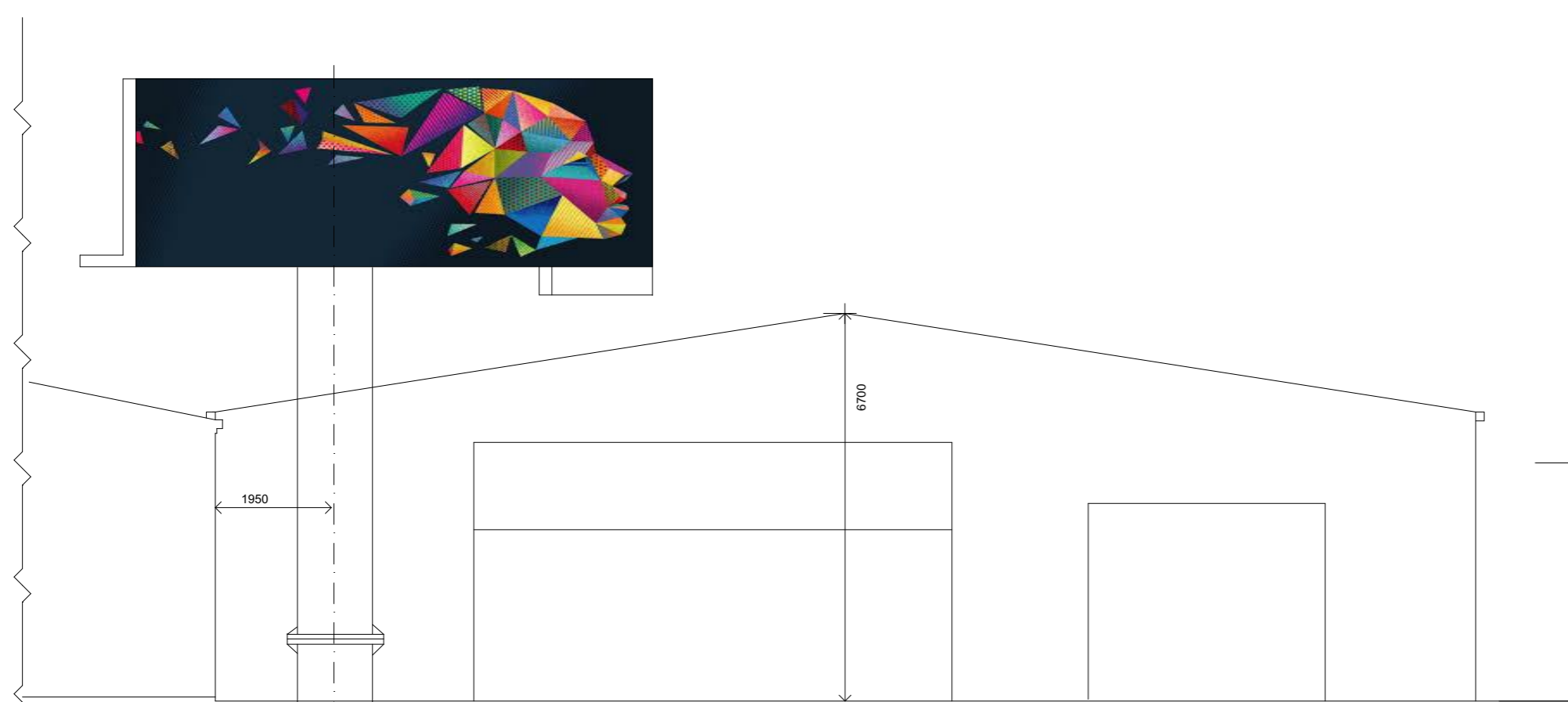
**WILLIS DESIGN GROUP PTY LTD**  
 61 South Street, Fremantle, Western Australia 6155  
 Project Design Manager  
 Tel: 83555577 Mobile: 84188878  
 Email: willis@willisdesigngroup.com.au  
 Website: www.willisdesigngroup.com.au



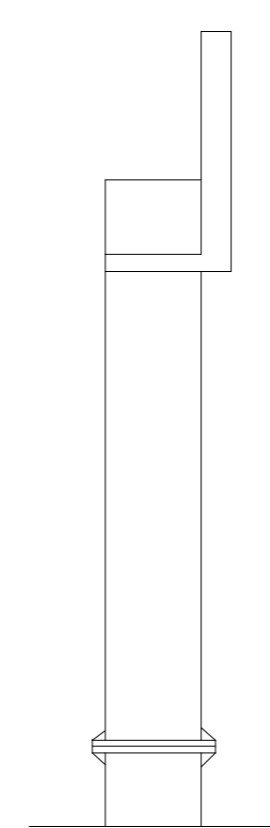
EAST ELEVATION  
1:100



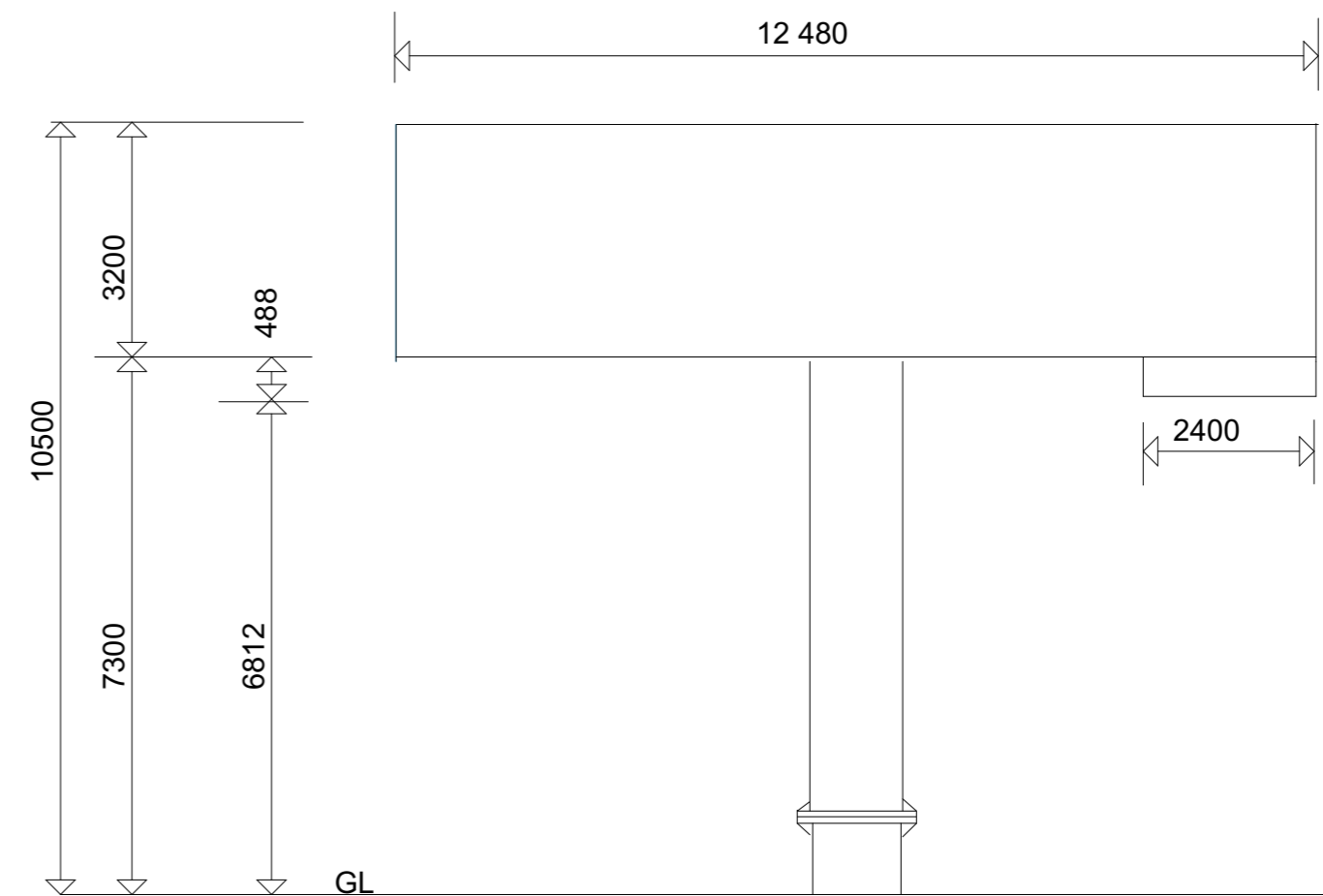
SOUTH EAST ELEVATION  
1:100



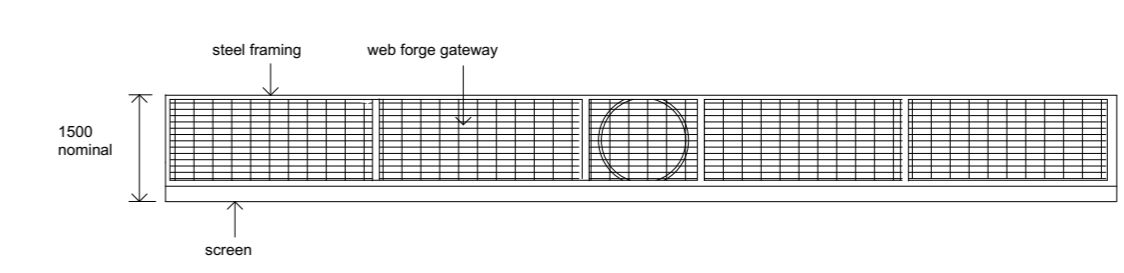
SOUTH ELEVATION  
1:100



SIDE  
1:100

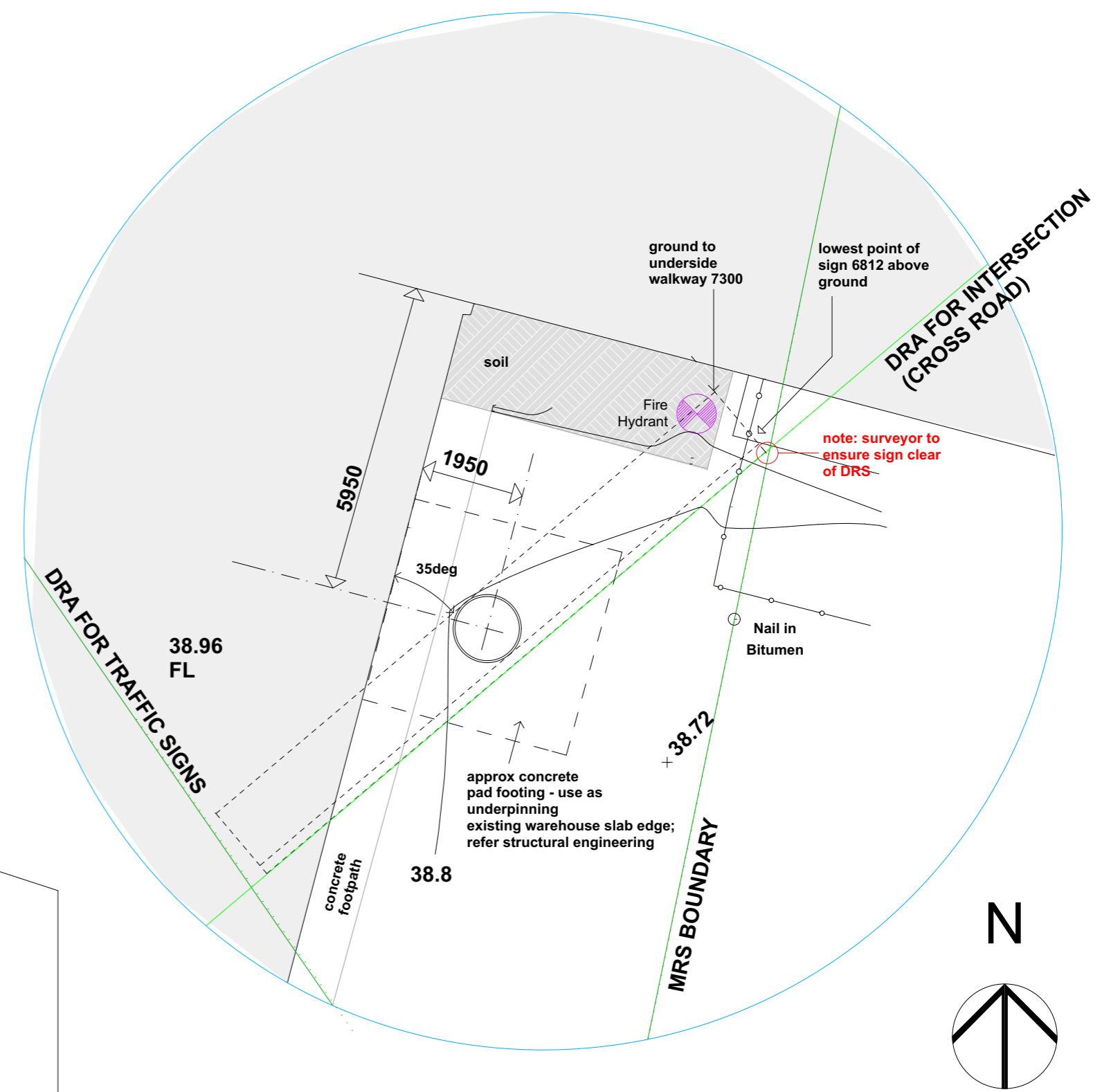


SIGN ELEVATION  
1:100



PLAN  
1:100

DIGITAL SIGN



Submit to note:  
All dimensions and levels to be verified on site.  
Presence of materials, structures, services, etc. may vary from those shown on the drawings. The Designer shall be responsible for ensuring that the site is suitable for the proposed works. All work to comply with all applicable BCA, regulatory requirements, current Australian Standards and good trade practice.  
Copyright:  
The drawing is the property of Willis Design Group Pty Ltd and is not to be used without the prior written consent of Willis Design Group Pty Ltd. The Designer shall be responsible for ensuring that the site is suitable for the proposed works. All work to comply with all applicable BCA, regulatory requirements, current Australian Standards and good trade practice.

LARGE FORMAT DIGITAL SIGN  
8 PRITCHARD ST  
O'CONNOR

Designed by: ACWills Date: AUGUST 2023  
Project No: 2868/9/2023 Drawing No: 3  
Willis Design Group Pty Ltd  
111 South Beach Road, Murdoch, Western Australia 6150  
Tel: 9458 8877 Mobile: 9458 8878  
Email: info@willisdesigngroup.com.au  
Website: www.willisdesigngroup.com.au

## Specification.

### 10mm Outdoor Specification Sheet

Item	Specification
<b>Pixel Pitch</b>	10mm, physical
<b>Pixel Density</b>	10000 pixels/m <sup>2</sup>
<b>Diode</b>	AST BSV SPECIFIED
<b>Diode Configuration</b>	SMD LED
<b>Diode Size</b>	3535 BSV SPECIFIED
<b>Module Dimension (W x H)</b>	320mm x 160mm
<b>Module Resolution (W x H)</b>	32 x 16 pixels
<b>Cabinet Material</b>	Metal Plate
<b>Standard Cabinet Size(s)</b>	1280mm x 640mm x 170mm
<b>Viewing Angle</b>	H 140 Deg. / V 90 Deg.
<b>Best Viewing Distance</b>	10+m
<b>Maintenance</b>	Front or Rear Service
<b>Protection Degree</b>	Front IP65, Rear IP54
<b>Panel Net Weight</b>	60kg/sqm
<b>Luminance (Peak White at 6,500k)</b>	AST 7000 nits BSV SPECIFIED
<b>Gray Scale</b>	16-bit Color Processing Depth BSV SPECIFIED
<b>Refresh Rate</b>	3840+ Hz BSV SPECIFIED
<b>Contrast Ratio</b>	3000:1
<b>Display Control</b>	Synchronous control
<b>Power Supply</b>	240V, 50Hz
<b>Operation Temp.</b>	- 20°C~50°C
<b>Display Dimming</b>	Auto/Manual, 8~256 Levels
<b>Display Capacity</b>	Text, image, graphics animations, video
<b>Power Consumption (Max./Avg.)</b>	0.58kw/sqm; 0.21kw/sqm
<b>MTBF</b>	50,000hrs
<b>Lifetime</b>	100,000hrs

GENERAL NOTES:  
 1. THIS IS A CONCEPT PLAN ONLY  
 2. ALL STRUCTURES SUBJECT TO ENGINEERING AND COUNCIL APPROVAL  
 3. ALL MEASUREMENTS TO BE CHECKED PRIOR TO CONSTRUCTION.

93  
 P6650  
 5349m<sup>2</sup>

CITY OF FREMANTLE  
 These Plans Form Part of  
 DA0264/23  
 25.01.2022  
 27.01.2022  
 31 Aug 2023

DWN	APP	DESCRIPTION
A	KD	PLANTING PLAN
B	KD	UPDATED LANDSCAPE LAYOUT
C	AC	UPDATED LANDSCAPE LAYOUT
D	AC	UPDATED LANDSCAPE LAYOUT
E	AC	UPDATED SIGN POSITION

NOTES

- 1. LANDSCAPE WORKS**  
 1.1 ALL AREAS ARE TO BE FINE GRADED EVENLY TO CONFORM TO KERB LEVELS AND SURROUNDING FINISHES.  
 1.2 SURFACES SHALL BE FREE FROM DEPRESSIONS, IRREGULARITIES AND NOTICEABLE CHANGES IN GRADE. GENERALLY, GRADES SHALL DEVIATE IN LEVEL NO GREATER THAN 20mm IN ONE LINEAR METRE.
- 2. SOIL PREPARATION**  
 2.1 PLANTED AREAS SHALL BE SPREAD WITH MIN. 30mm OF APPROVED STANDARD SOIL CONDITIONER THAT SHALL BE RIPPED INTO EXISTING SOIL TO A MIN. DEPTH OF 200mm.  
 2.2 RAISED PLANTING AREAS TO HAVE APPROVED FILL SOIL AND SOIL CONDITIONER FILLED AND MIXED TO A FINISHED HEIGHT OF 150mm BELOW TOW.
- 3. PLANTING**  
 3.1 PLANTED AREAS SHALL BE MULCHED WITH AN ORGANIC WOOD CHIP MULCH UNLESS OTHERWISE STATED TO A MINIMUM DEPTH OF 75mm.  
 3.2 REFER TO PLANTING SCHEDULE FOR SPECIES AND SIZES.  
 3.3 PLANTS TO BE SET OUT IN EVEN SPACING TO FILL THE DESIGNATED AREAS.  
 3.4 IN AREAS OF MIXED PLANTING, SPECIES TO BE SPREAD OUT AT RANDOM, IN GROUPINGS OF 2 OR 3.  
 3.5 PLANTS SHALL BE SUPPLIED FROM AN INDUSTRY ACCREDITED WHOLESALE NURSERY. PLANTS SHALL BE IN APPROPRIATE SIZE FOR THE LISTED POT SIZE AND IN GOOD HEALTH.  
 3.6 IF SPECIES ARE UNAVAILABLE (OR IN SIZES SPECIFIED), SUBSTITUTES MUST BE APPROVED BY SUPERINTENDENT BEFORE DELIVERY AND INSTALLATION.  
 3.7 SUPERINTENDENT TO REVIEW SAMPLES OF ALL TREE SPECIES AND PLANTS AT SOURCE OR BY PHOTOGRAPH PRIOR TO DELIVERY AND INSTALLATION.
- 4. IRRIGATION**  
 4.1 ALL PLANTING TO BE IRRIGATED VIA A FULLY AUTOMATIC SYSTEM FROM MAINS.  
 4.2 IRRIGATION TO GARDEN BEDS TO BE NETAFIM TECHLINE, SUB SURFACE IRRIGATION. INSTALLED TO MANUFACTURERS SPECIFICATION.  
 4.3 SHADE PLANTING AREA SHALL BE ON A SEPARATE STATION TO ALLOW FOR MORE FREQUENT WATERING THROUGH SUMMER  
 4.4 WATER PRESSURE TO HAVE A MINIMUM FLOW RATE OF 30L/pm AT 300KPA FROM THE WATER CONNECTION POINT.  
 4.5 CONTROLLER TO BE LOCATED IN SERVICE ROOM UNLESS OTHERWISE DIRECTED.  
 4.6 SLEEVES BENEATH PAVED SURFACES TO BE PROVIDED BY OTHERS.
- 5. GENERAL**  
 5.1 PLEASE NOTE THAT KDLA'S QUOTATION & SCHEDULE OF QUANTITIES IS TO TAKE PRECEDENCE OVER DRAWING NOTES.  
 5.1 THIS DRAWING SHALL NOT BE USED FOR CONSTRUCTION UNLESS REVISED 'O' ISSUED FOR CONSTRUCTION AND SIGNED AND APPROVED BY PROJECT MANAGER/SUPERINTENDENT.

PLANTING SCHEDULE

Symbol	Species	Common Name	Quantity	Size
<b>Shrubs and Groundcovers:</b>				
DIaeme	Dianella tasmanica 'Emerald Arch'	Emerald Arch	20	140mm
DIAbla	Dianella tasmanica 'Blaze'	Blaze	5	140mm
EREblu	Eremophila 'Blu Horizon'	Blue Horizon	10	140mm
GREgin	Grevillea 'Gin Gin Gem'	Gin Gin Gem	10	140mm
HIBsca	Hibbertia scandens	Snake Vine	10	140mm
LIRjus	Liriope 'Just Right'	Just Right	12	140mm
LOMTan	Lomandra 'Tanika'	Tanika	20	200mm
MYOpar	Myoporum parvifolium 'Yareena'	Yareena	10	140mm
PHIlan	Philodendron Xanadu	Xanadu	12	200mm
<b>Feature Plants:</b>				
AGAatt	Agave attenuata	Century Plant	12	12L

PLANTING IMAGES



**LEGEND**

**PLANTING**

- PLANTING TYPE 01 GROUNDCOVERS
- PLANTING TYPE 02 SHRUBS
- PLANTING TYPE 03 STRAPPY/MIXED
- PLANTING TYPE 04 SHADE TOLERANT
- PLANTING TYPE 04 FEATURE PLANTING

**OTHER**

- LIMESTONE WALL 1000x350x350mm BLOCKS
- EXISTING BITUMEN AREA AROUND WAREHOUSE



**kelsie davies**  
 landscape architecture

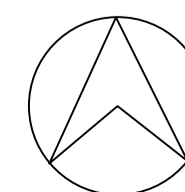
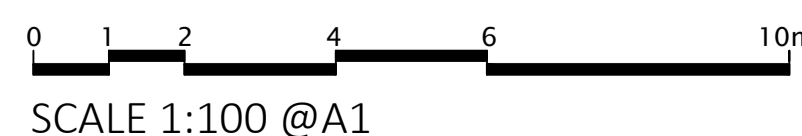
DEVELOPMENT APPROVAL

Innaloo WA 6018  
 mob: 0450 965 569  
 email: kelsie@kdla.com.au

JOB No. 0183

PAGE 101

REV E



**O'CONNOR SIGNAGE LANDSCAPE**  
**LANDSCAPE CONCEPT PLAN**

**25 NOMINEES PTY LTD**  
**8 PRITCHARD STREET, O'CONNOR**



**C2405-1 DEFERRED ITEM - PRITCHARD STREET, NOS. 6-8 (LOTS 93 AND 90), O'CONNOR - ANIMATED SIGN ADDITION AND PARTIAL CHANGE OF USE TO USE NOT LISTED (LARGE FORMAT THIRD PARTY DIGITAL ADVERTISING) (ED DA0264/23)**

**Attachment 4 – Main Roads Western Australia (MRWA) Advice**





Enquiries: Isabel Huston on (08) 9323 6232  
 Our Ref: 16/5705 (D24#461443)  
 Your Ref: DA0264/23

27 March 2024

Chief Executive Officer  
 City of Fremantle  
 PO Box 807  
 FREMANTLE WA 6959

Email: [info@fremantle.wa.gov.au](mailto:info@fremantle.wa.gov.au) (via email)

Dear Sir/Madam,

**DEVELOPMENT APPLICATION – PROPOSED LARGE FORMAT DIGITAL THIRD PARTY SIGN ADDITION, LANDSCAPING AND PARTIAL CHANGE OF USE TO USE NOT LISTED (LARGE FORMAT THIRD PARTY DIGITAL ADVERTISING) – REF DA0264/23 – LOT 98 (NO. 8) PRITCHARD STREET, O’CONNOR**

In response to correspondence received on 20 March 2024 pertaining to amended development plans please be advised Main Roads has no objections subject to the imposition of the following conditions:

Conditions

1. The minimum dwell time for any advertisement on the sign device shall be at 40 seconds at all times.
2. The illumination of the sign device shall not exceed the maximum luminance level during daytime, dawn / dusk and night-time as specified in the Table 1 for the first month and second month onwards from the commencement of the development, to the satisfaction of the City and in consultation with Main Roads.

<b>Table 1 – Maximum Luminance Level of Sign (cd/m<sup>2</sup> = candela per square metre)</b>		
<b>Time Period</b>	<b>First Month</b>	<b>Second Month Onwards</b>
Daytime	3000 cd/m <sup>2</sup>	6000 cd/m <sup>2</sup>
Dawn / Dusk	300 cd/m <sup>2</sup>	600 cd/m <sup>2</sup>
Night-time	150 cd/m <sup>2</sup>	300 cd/m <sup>2</sup>

Justification for Condition

To ensure compliance with Main Roads Policy and Application Guidelines for Advertising Signs within and beyond State road reserves. In relation to Condition 2) the luminance levels in the first month of the commencement of the development are to be set to half the maximum luminance level permitted.

3. The development must be within the subject lot and must not overhang or encroach the Primary Regional Road Reservation.



**mainroads**  
WESTERN AUSTRALIA

#### Justification for Condition

To ensure the development is contained to land appropriately zoned.

4. Landscaping within the South Street and Stock Road reserves is to be limited to a maximum height of 0.5 metres above natural ground level.

#### Justification for Condition

To maintain driver sight lines.

#### Advice Notes

- a) In relation to Condition 3, the sign and planter wall are located abutting land reserved in the Metropolitan Region Scheme, as shown on the enclosed land protection plan 1.3621/1, land will be required for road purposes sometime in the future.
- b) The upgrading/widening of Stock Road (Melville Mandurah Highway) or the Stock Road / South Street Intersection is not in Main Roads current 4-year forward estimated construction program and all projects not listed are considered long term. Please be aware that timing information is subject to change and that Main Roads assumes no liability for the information provided.
- c) The landowner / applicant is required to submit an Application form to undertake works within the road reserve prior to undertaking any works within the road reserve. Application forms and supporting information about the procedure can be found on the Main Roads website > Technical & Commercial > Working on Roads.

Should the City disagree with or resolve not to include as part of its conditional approval any of the above conditions or advice, Main Roads requests an opportunity to meet and discuss the application further, prior to a final determination being made.

Main Roads requests a copy of the City's final determination on this proposal to be sent to [planninginfo@mainroads.wa.gov.au](mailto:planninginfo@mainroads.wa.gov.au).

In the interim, if you have any queries please do not hesitate to contact Isabel Huston on (08) 9323 6232.

Yours sincerely

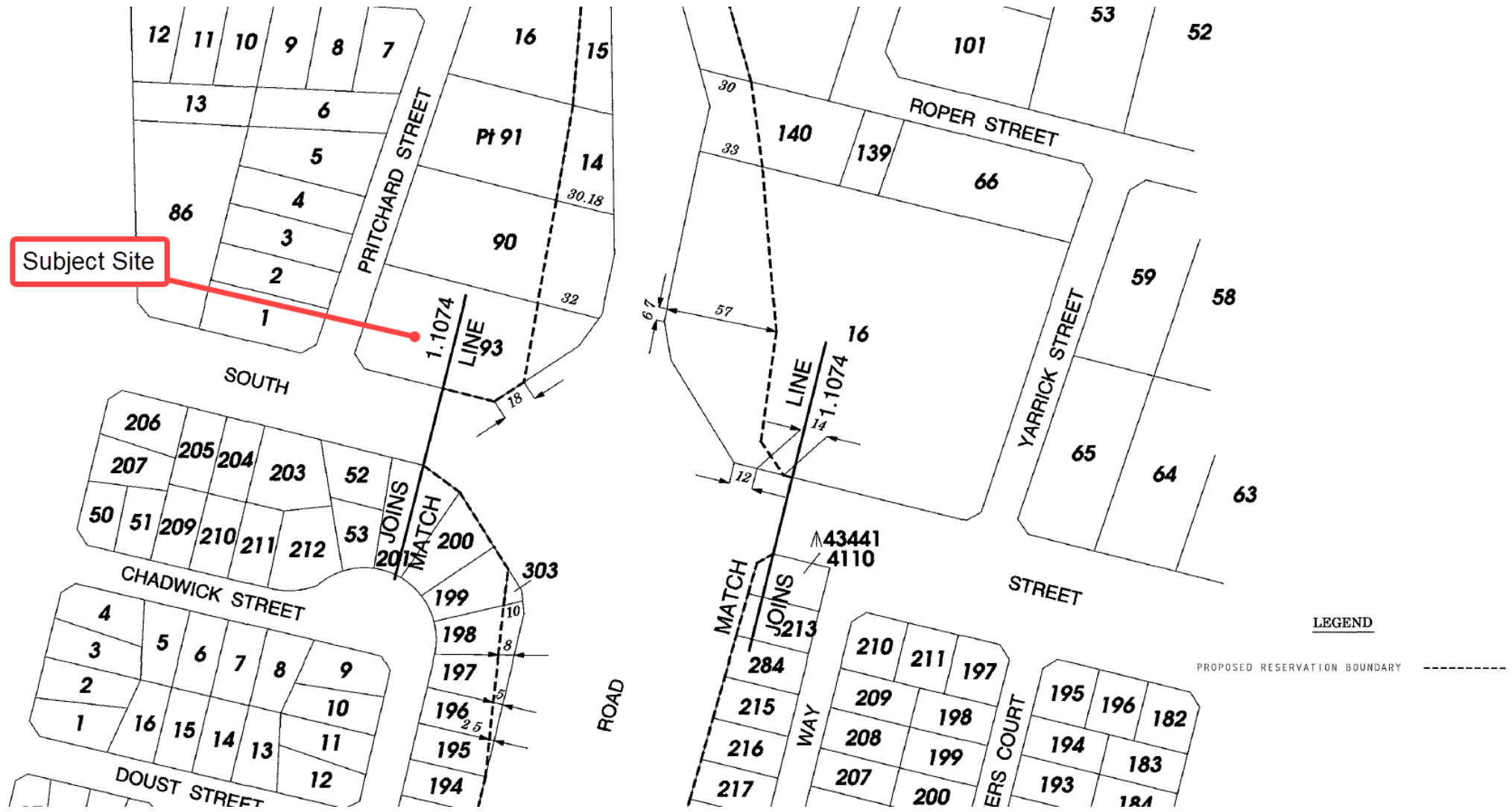
Chris Fudge

**Planning Assessment Coordinator**

*Encl Main Roads Extract of Land Requirement Drawing Number 1.3621/1*



**Main Roads Extract of Land Requirement Drawing Number 1.3621/1**





**C2405-1 DEFERRED ITEM - PRITCHARD STREET, NOS. 6-8 (LOTS 93 AND 90), O'CONNOR - ANIMATED SIGN ADDITION AND PARTIAL CHANGE OF USE TO USE NOT LISTED (LARGE FORMAT THIRD PARTY DIGITAL ADVERTISING) (ED DA0264/23)**

**Attachment 5 – Applicant Response to Deferral Letter and Attachments**

PS ref: 7517  
City ref: DA0264/23

14 March 2024

City of Fremantle  
PO Box 807  
Fremantle WA 6959

Attention: Chloe Johnston, Manager Development Approvals

Dear Chloe,

**APPLICATION FOR DEVELOPMENT APPROVAL – PROPOSED DIGITAL ADVERTISING SIGN & LANDSCAPING  
RESPONSE TO DEFERRAL  
LOT 90 (6) AND LOT 93 (8) PRITCHARD STREET, O’CONNOR**

Planning Solutions acts on behalf of 25 Nominees Pty Ltd, the proprietor and proponent of the proposed large format digital sign and associated landscaping on the land identified as Lot 90 (6) and Lor 93 (8) Pritchard Street, O’Connor (**subject site**). An application for development approval for the aforementioned development was lodged with the City of Fremantle (**City**) on 23 August 2023.

At its meeting 14 February 2024, Council resolved to defer determination of the application to allow additional information to be submitted.

In response to the reasons for deferral and subsequent discussions with the City, we are pleased to provide the following submission as well as the below additional information in support of the application:

1. Development Renders (refer **Attachment 1**).
2. Amended Landscaping Plan (refer **Attachment 2**).
3. Amended Development Plans (refer **Attachment 3**).
4. Revised Lighting Impact Assessment Report (refer **Attachment 4**).
5. Traffic Technical Note (refer **Attachment 5**).
6. Revised Road Safety Assessment (refer **Attachment 6**).

**REASONS FOR DEFERRAL**

At its Ordinary Council Meeting (**OCM**) on 14 February 2024, Council resolved to defer determination of the application to allow additional information to be submitted. Specifically, Council resolved that the...

*item be deferred for a decision to the next appropriate Council meeting, to allow the applicant time to submit an amended proposal and/or provide additional information to support their application.*

*This item is deferred to enable the applicant additional time to consider providing additional information or amending the proposal as follows:*

- *Include a percentage of advertising time for the businesses on site;*
- *Provide technical supporting information that the residents in Hilton on the far side of South Street will not receive light overspill from the screen; and*

- *Provide a comprehensive, staged landscaping improvement plan for the site, including surrounding verge areas, that ensures that landscaping and signage in the open areas between the buildings and surrounding roads are maintained (or improved) in a coordinated and well presented manner, with consideration of City and Main Roads WA requirements; or*
- *otherwise amend the proposal and provide additional information to address the objectives of LPP 2.14 Advertisement Policy to reduce the amenity impact on the locality and nearby residents.*

*The intent is to ensure that signage is just one part of an overall coordinated proposal for how the site presents to surrounding roads. It is not expected that a comprehensive landscape plan is required, but rather a strategy that identifies the scope and timing of improvements that will be made over time in liaison with the City and ther relevant authorities.*

Following subsequent discussions with the City, we understand that the item will be presented to the 10 April 2024 Ordinary Council Meeting.

## **RESPONSES TO THE REASONS FOR DEFERRAL**

### **Advertising time**

During the assessment of the application, we confirmed that the proposed sign will be made available for the use of the City and local community groups. We understand that Council seeks confirmation that the sign will also be made available the use of the tenants on the subject site. We confirm that the proposed sign will be utilised in the following manner:

- 5% for the City and/or local community groups. This will be free of charge. Should the City or community groups seek additional time, they will be able to apply to the contracted operator of the sign for additional slots for a fee.
- 5% for the use of the on-site tenants. This will be free of charge. There are currently 10 tenancies at the subject site that will enjoy this benefit and all will have equal access to the sign. Should the tenants seek additional time, they will be able to apply to the contracted operator of the sign for additional slots for a fee.
- 90% as third party advertising. This will be under commercial agreement for a fee.

Revenue from the sign will be partially used for the ongoing maintenance and landscaping of the site.

As previously noted, the signage will be partially solar powered. An oversized 40kW system has recently been installed on an adjacent building on the site that will connect to the sign to offset power usage of the sign.

Refer **Figure 1** below.

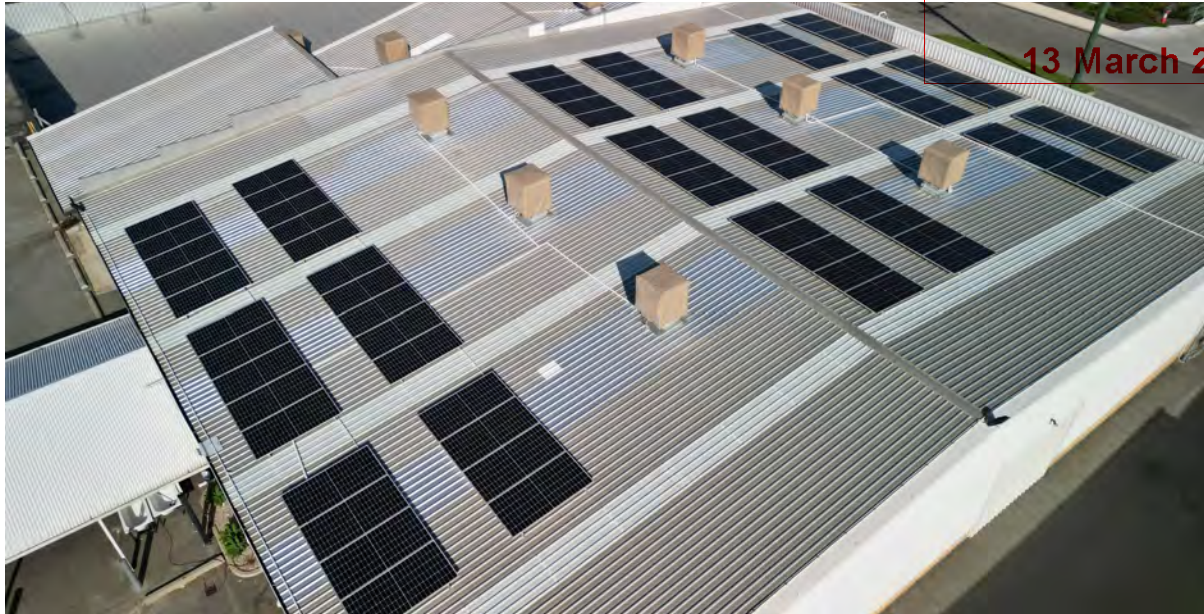


Figure 1 - Existing solar panels.

### Light overspill

In response to the revised development plans lodged prior to the 14 February Council meeting which **reduced the overall height of the sign by 1.3m to 9.2m**, a revised Lighting Impact Assessment Report (**lighting report**) was prepared.

The revised lighting report includes detailed modelling and lighting calculations of the proposed signage, using photometric data from the sign manufacturer, to accurately determine its potential impact upon the surrounding environment, including to residential properties. The calculations demonstrate that the potential vertical illuminance from the proposed signage on to residential properties **is well within the maximum allowable limits** for vertical illuminance being 70% to 100% below the maximum allowable limits in all situations. Specific details on this are show in Appendix D of the revised lighting report.

The lighting report concludes that the proposed signage **shall not cause any unacceptable amenity impacts to nearby residences or accommodation**. The sign shall also **not result in unacceptable glare nor should it adversely impact the safety of pedestrians, residents or vehicular traffic**. This takes into account each specific residential property in proximity to the sign around the project area and road intersection.

Refer **Attachment 4**, revised Lighting Impact Assessment Report.

In addition to the above, it is noted that the application was advertised to all surrounding properties in accordance with the Schedule 2, clause 64 of the *Planning and Development (Local Planning Schemes) Regulations 2015*.

The advertising period concluded on 10 October 2023, and **nil submissions were received**.

### Landscaping

In response to the matters raised during the OCM, revised landscaping plans and plant schedules were prepared. The landscaping will be undertaken in two stages, and will significantly enhance the amenity of the site and locality at large. Specifically, the landscaping proposes:

- **Stage 1** – landscaping bed below the proposed sign, within the site boundary. The landscaping will comprise groundcovers, shrubs and trees within a limestone wall bed. The species will be shade tolerant.

- **Stage 2** - landscaping along each respective street boundary. The landscaping will comprise groundcovers, shrubs and various trees which will enhance the f the existing street condition, which currently comprises a poor amenity.

A special additional feature is the landscaping plans incorporate feature lighting to showcase the feature trees proposed along Pritchard Street to create an illuminated green corridor. This Stage 2 landscaping is proposed to occur within 18 months of practical completion of the sign and Stage 1 landscaping as the revenue from the sign will be re-invested in the site to assist in completing the Stage 2 landscaping.

A specialist landscape architect was engaged to consult and select plant species and design to provide an attractive and consistent landscape theme incorporating a substantial amount of native species across the site.

Refer **Attachment 2**, revised landscaping plans.

Refer **Attachment 1** and **Figures 2-5** below for before and after renders of the proposed landscaping improvements. The renders demonstrate the significant and comprehensive improvements to the site, ensuring that the proposed sign forms a single aspect of the overall coordinated upgrade to the site.



**Figure 2** - Existing condition - North West view.





**Figure 3** - Proposed landscaping and sign (at its reduced height)- North West view.



**Figure 4** - Existing condition - North East view.



Figure 5 – Proposed landscaping – North East view.

## OTHER MATTERS

### Height and Design

We wish to re-iterate that in response to the City's planning officers comments about the height of the proposed sign, the development plans were amended to reduce the overall height of the sign by 1.3m to 9.2m.

As shown in Attachment 1, renders, Attachment 2, revised landscaping plans, and Attachment 3, revised development plans, this new height gives the sign even more consistency with the scale and perspective of existing built form and surrounding mature vegetation and properties. The sign's colour scheme has been designed to blend in with the adjoining built form with the sign's pylon coloured white and the sign's display frame being a dark charcoal colour.

### Traffic and Main Roads Matters

In response to the amended plans, the Road Safety Assessment (RSA) was amended. The revised RSA confirms that the reduced height does not result in any impact to the road network and remains compliant with all relevant Main Roads Guidelines.

Further to the above, we have prepared an additional technical note in support of the application from a transport planning perspective. The technical note provides an overview of all correspondence with Main Roads to date, including summarising proposed conditions of approval, compliance with all relevant guidelines, as well as the requirements the proponent is required to undertake following development approval to obtain a 'Conditional Approval Agreement' with Main Roads.

We highlight that these approvals are separate to the development approval process.

Refer **Attachment 5** Traffic Technical Note and **Attachment 6**, revised Road Safety Assessment.

## CONCLUSION

We trust the information provided above, and enclosed, addresses the Council's reasons for deferral. The amendments to the development and landscaping plans, as well as the provision of a revised lighting plan and traffic technical note are significant and is considered to provide a refined design outcome for the site.

**DA0264/23**

**13 March 2024**

Ultimately, the proposed development provides significant opportunity to improve the existing urban blight which in part is a result of the planning instruments in place to provide for road widening. The proposed works improve the amenity and make a positive contribution to the businesses on the site and broader locality.

Accordingly, we respectfully request the Council approves the development.

Should you have any queries or require further clarification in regard to the above matter please do not hesitate to contact the writer.

Yours faithfully,

  
\_\_\_\_\_  
**NATHAN MAAS**  
**SENIOR PLANNER**

240313 7517 Ltr to City - Response to deferral.docx

**DA0264/23**

**Attachment 1**  
**13 March 2024**  
**Renders**



Before – North West view of subject site  
from corner of South Street and Stock Road



After – North West view of subject site  
from corner of South Street and Stock Road



Before – North East view of subject site  
from corner of South Street and Pritchard Street



After – North East view of subject site  
from corner of South Street and Pritchard Street



**CITY OF FREMANTLE**  
**These Plans Form Part of**

**DA0264/23**

**Attachment 2**

**Revised Landscaping Plan**

**13 March 2024**

GENERAL NOTES:  
 1. THIS IS A CONCEPT PLAN ONLY.  
 2. ALL STRUCTURES SUBJECT TO ENGINEERING AND COUNCIL APPROVAL.  
 3. ALL MEASUREMENTS TO BE CHECKED PRIOR TO CONSTRUCTION.

93  
 P6650  
 5349m<sup>2</sup>



**LEGEND**

- PLANTING**
- PLANTING TYPE 01 GROUNDCOVERS
  - PLANTING TYPE 02 SHRUBS
  - PLANTING TYPE 03 STRAPPY/MIXED
  - PLANTING TYPE 04 SHADE TOLERANT
  - PLANTING TYPE 05 FEATURE PLANTING
- OTHER**
- LIMESTONE WALL 1000x350x350mm BLOCKS
  - EXISTING BITUMEN AREA AROUND WAREHOUSE

**NOTES**

- 1. LANDSCAPE WORKS**
- 1.1 ALL AREAS ARE TO BE FINE GRADED EVENLY TO CONFORM TO KERB LEVELS AND SURROUNDING FINISHES.
  - 1.2 SURFACES SHALL BE FREE FROM DEPRESSIONS, IRREGULARITIES AND NOTICEABLE CHANGES IN GRADE. GENERALLY, GRADES SHALL DEVIATE IN LEVEL NO GREATER THAN 20mm IN ONE LINEAR METRE.
- 2. SOIL PREPARATION**
- 2.1 PLANTED AREAS SHALL BE SPREAD WITH MIN. 30mm OF APPROVED STANDARD SOIL CONDITIONER THAT SHALL BE RIPPED INTO EXISTING SOIL TO A MIN. DEPTH OF 200mm.
  - 2.2 RAISED PLANTING AREAS TO HAVE APPROVED FILL SOIL AND SOIL CONDITIONER FILLED AND MIXED TO A FINISHED HEIGHT OF 150mm BELOW TOW.
- 3. PLANTING**
- 3.1 PLANTED AREAS SHALL BE MULCHED WITH AN ORGANIC WOOD CHIP MULCH UNLESS OTHERWISE STATED TO A MINIMUM DEPTH OF 75mm.
  - 3.2 REFER TO PLANTING SCHEDULE FOR SPECIES AND SIZES.
  - 3.3 PLANTS TO BE SET OUT IN EVEN SPACING TO FILL THE DESIGNATED AREAS.
  - 3.4 IN AREAS OF MIXED PLANTING, SPECIES TO BE SPREAD OUT AT RANDOM, IN GROUPINGS OF 2 OR 3.
  - 3.5 PLANTS SHALL BE SUPPLIED FROM AN INDUSTRY ACCREDITED WHOLESALE NURSERY. PLANTS SHALL BE IN APPROPRIATE SIZE FOR THE LISTED POT SIZE AND IN GOOD HEALTH.
  - 3.6 IF SPECIES ARE UNAVAILABLE (OR IN SIZES SPECIFIED), SUBSTITUTES MUST BE APPROVED BY SUPERINTENDENT BEFORE DELIVERY AND INSTALLATION.
  - 3.7 SUPERINTENDENT TO REVIEW SAMPLES OF ALL TREE SPECIES AND PLANTS AT SOURCE OR BY PHOTOGRAPH PRIOR TO DELIVERY AND INSTALLATION.
- 4. IRRIGATION**
- 4.1 ALL PLANTING TO BE IRRIGATED VIA A FULLY AUTOMATIC SYSTEM FROM MAINS.
  - 4.2 IRRIGATION TO GARDEN BEDS TO BE NETAFIM TECHLINE, SUB SURFACE IRRIGATION, INSTALLED TO MANUFACTURERS SPECIFICATION.
  - 4.3 SHADE PLANTING AREA SHALL BE ON A SEPARATE STATION TO ALLOW FOR MORE FREQUENT WATERING THROUGH SUMMER.
  - 4.4 WATER PRESSURE TO HAVE A MINIMUM FLOW RATE OF 30L/pm AT 300KPA FROM THE WATER CONNECTION POINT.
  - 4.5 CONTROLLER TO BE LOCATED IN SERVICE ROOM UNLESS OTHERWISE DIRECTED.
  - 4.6 SLEEVES BENEATH PAVED SURFACES TO BE PROVIDED BY OTHERS.
  - 4.7 MAIN LINES TO BE RETRO FITTED BETWEEN PLANTING AREAS TO ENSURE ALL AREAS WILL BE IRRIGATED.
- 5. GENERAL**
- 5.1 PLEASE NOTE THAT KDLA'S QUOTATION & SCHEDULE OF QUANTITIES IS TO TAKE PRECEDENCE OVER DRAWING NOTES.
  - 5.2 THIS DRAWING SHALL NOT BE USED FOR CONSTRUCTION UNLESS REVISED 'O' ISSUED FOR CONSTRUCTION AND SIGNED AND APPROVED BY PROJECT MANAGER/SUPERINTENDENT.

**PLANTING SCHEDULE**

Symbol	Species	Common Name	Quantity	Size
<b>Groundcovers:</b>				
MYOpar	Myoporum parvifolium 'Yareena'	Yareena	6	140mm
HIBsca	Hibbertia scandens	Snake Vine	6	140mm
EREblu	Eremophila 'Blue Horizon'	Blue Horizon	6	140mm
GREgin	Grevillea 'Gin Gin Gem'	Gin Gin Gem	6	140mm
<b>Strappy/Mixed:</b>				
DIaeme	Dianella tasmanica 'Emerald Arch'	Emerald Arch	14	140mm
DIABla	Dianella tasmanica 'Blaze'	Blaze	5	140mm
LOMtan	Lomandra 'Tankka'	Tanka	14	200mm
<b>Shade Tolerant:</b>				
LIRjus	Liriodendron 'Just Right'	Just Right	8	140mm
PHIxan	Philodendron 'Xanadu'	Xanadu	8	200mm
<b>Shrubs:</b>				
SYZpin	Syzygium australe 'Pinnacle'	Lily Lilly	15	200mm
<b>Feature Plants:</b>				
AGAtt	Agave attenuata	Century Plant	9	12L
ANIFla	Anigozanthos flavidus	Kangaroo Paw	6	12L
ANIGol	Anigozanthos 'Gold Velvet'	Kangaroo Paw	6	12L

**PLANTING IMAGES**



GENERAL NOTES:  
 1. THIS IS A CONCEPT PLAN ONLY.  
 2. ALL STRUCTURES SUBJECT TO ENGINEERING AND COUNCIL APPROVAL.  
 3. ALL MEASUREMENTS TO BE CHECKED PRIOR TO CONSTRUCTION.

- 30 x GREgin
- 30 x SCAhum
- 30 x MYOpar
- 30 x FICnod
  
- 500mm WIDE MULCH ONLY STRIP TO VERGE
  
- 32 x GREgin
- 32 x EREblu
- 32 x MYOpar
- 32 x FICnod
  
- 17 x GREgin
- 17 x EREblu
- 17 x SCAhum
- 17 x FICnod
  
- 5 x EUCfor
  
- 8 x GREgin
- 8 x EREblu
- 8 x SCAhum
- 8 x FICnod
  
- UPLIGHTING TO TREES FIXINGS TBC
  
- 27 x GREgin
- 27 x SCAhum
- 27 x MYOpar
- 27 x FICnod
  
- 21 x GREgin
- 21 x EREblu
- 21 x SCAhum
- 21 x FICnod
  
- EXISTING TREE TO BE RETAINED
  
- 23 x LOMtan
- 23 x DIAeme
- 23 x EREblu
- 23 x MYOpar
  
- STEEL EDGE RESTRAINT
  
- SOIL LEVELS TO BE BOXED OUT TO REDUCE SLOPE
  
- EXISTING RETAINING TO BE FIXED ONSITE



**LEGEND**

**TREES**

- EXISTING TREES TO BE RETAINED
- SELECTED MEDIUM TREES  
EG. FUCHSIA GUM  
CANOPY: 5m

**PLANTING**

- PLANTING TYPE 01  
GROUNDCOVERS
- PLANTING TYPE 02  
SHRUBS
- PLANTING TYPE 03  
STRAPPY / MIXED
- PLANTING TYPE 04  
SHADE TOLERANT
- SELECTED LAWN SPECIES

**MISC**

- ORGANIC MULCH
- UPLIGHTING TO TREES  
FIXINGS TBC

**PLANTING SCHEDULE - OVERALL SITE**

Symbol	Species	Common Name	Quantity	Size
<b>Trees:</b>				
EUCor	Eucalyptus forrestiana	Fuchsia Gum	5	100L
<b>Mixed and Strappy:</b>				
DIAeme	Dianella tasmanica 'Emerald Arch'	Emerald Arch	46	140mm
LOMtan	Lomandra tanikika	Tanika	46	200mm
FICnod	Ficinia nodosa	Knobby Club Rush	135	140mm
<b>Groundcovers:</b>				
GREgin	Grewia 'Gn Gn Gem'	Gn Gn Gem	158	140mm
MYOpar	Myoporum parvifolium 'Yareena'	Yareena	112	140mm
SCAhum	Scaveola humilis	Purple Fan Flower	126	140mm
EREblu	Eremophila 'Blue Horizon'	Blue Horizon	101	140mm

REFER TO PAGE 101 FOR PLANTING NOTES



**NOTE:**  
 ALL AREAS TO BE BOXED OUT, LEVELED AND IRRIGATED BEFORE PLANTING BEGINS

**DA0264/23**

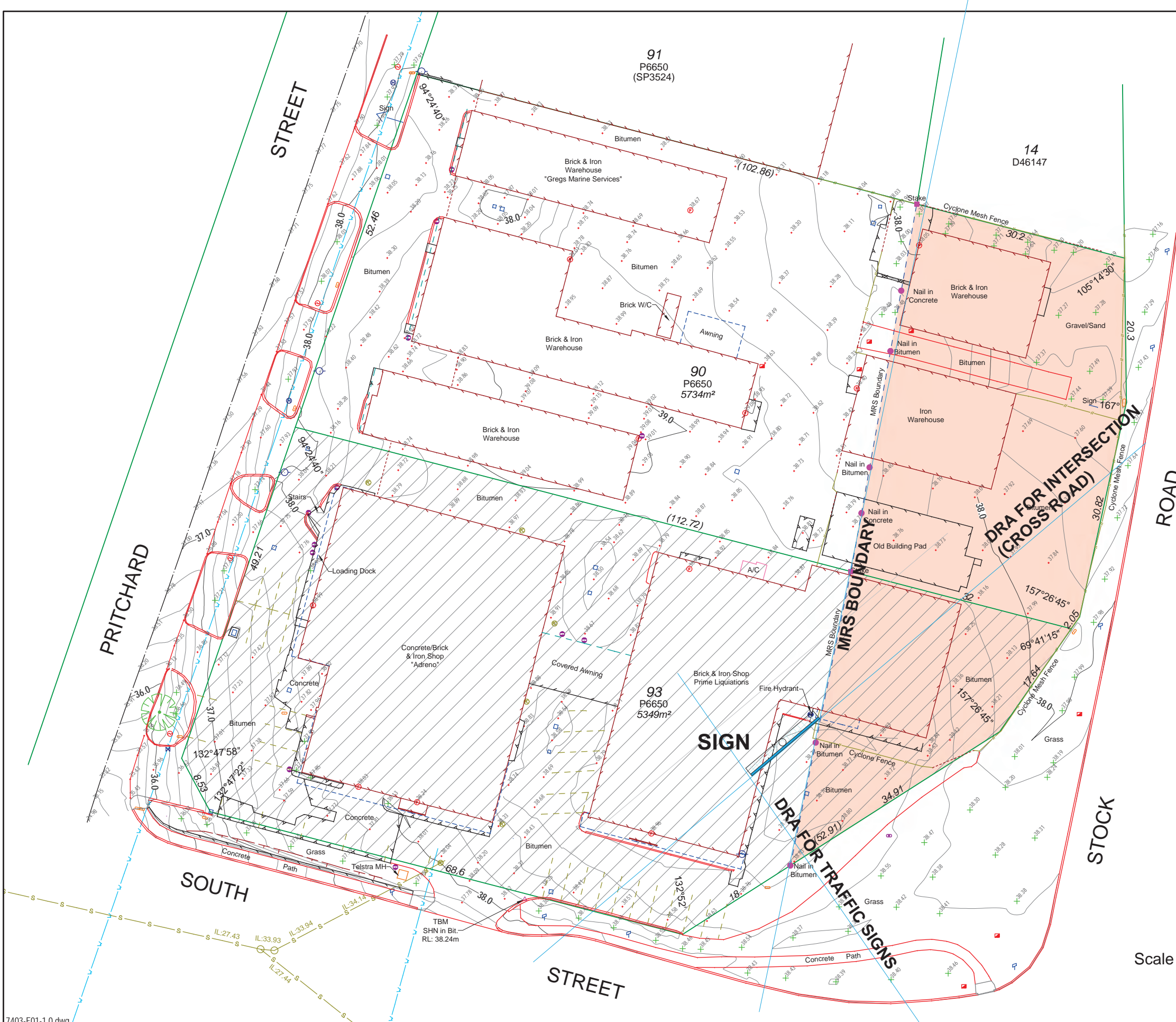
**Attachment 3**

**Revised Development Plans**

**13 March 2024**



LOCATION SKETCH  
NOT TO SCALE



**Zoning Legend**

	Clause 32
	Primary Regional Roads

**SYMBOL LEGEND**

	Power Pole
	Electrical Cable Pit
	Communication Pit
	Telstra Pit
	Sewer Manhole
	Sewer Connection
	Hydrant Ground
	Hydrant Pillar
	Stop Valve
	Water Meter
	Gully
	Bollard
	Floor Level
	Natural Surface
	Tree

**LINestyle LEGEND**

	Contour Major 1.0m Intervals
	Contour Minor 0.2m Intervals
	Cadastral Boundary
	Kerb Line
	Road Centreline
	Pedestrian Ramp
	Parking Bay
	Building
	Awning
	Roof Eve Line
	Wall
	Concrete Edge
	Fence Line
	Gate
	Overhead Power
	DBYD Sewer
	DBYD Water

**CONTROL POINT SCHEDULE**

Point	Easting	Northing	Elevation	Description
9001	47719.528	251154.611	37.41	Spike
9005	47826.727	251107.415	38.43	R/Set
TBM	47759.901	251112.402	38.24	SHN in Bitumen

Scale @A3 1:563

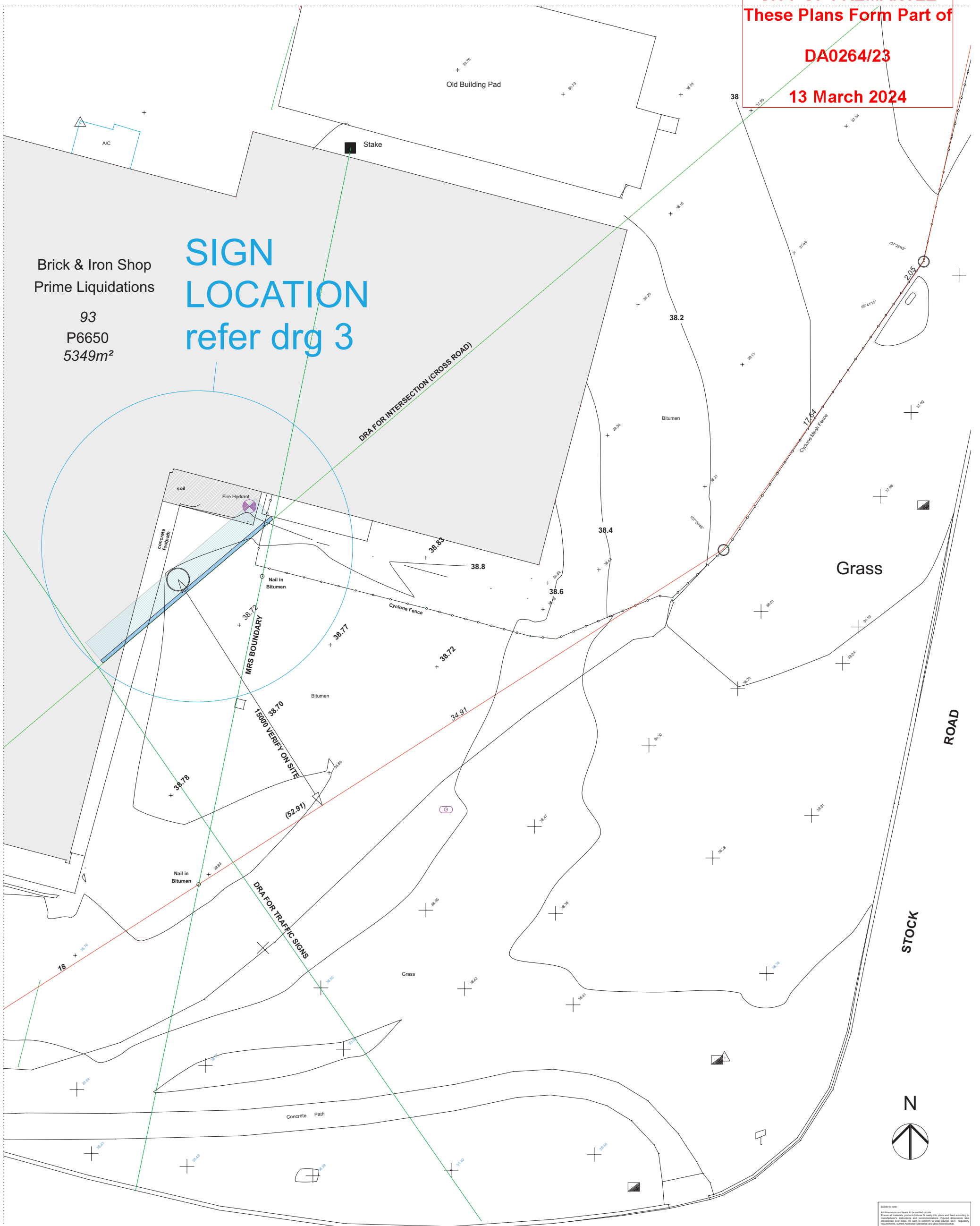
VER.	DATE	BY	AMENDMENTS	FILE SOURCE
1.0	11.11.2021	MDB	Issued for Information	7403F-02112021-PCG94

**Notes:**  
 1. Boundary constructed from cadastral connection.  
 2. Heights established from VRS Via GPS connection.  
 3. Sewer & water data plotted from Dial Before You Dig and survey.  
 4. Refer to Certificate of Title for limitations, Interests, Encumbrances and Notifications.



CLIENT:  
**EDGEWATER MANAGEMENT**  
 12b Pepler Ave, Salter Point WA 6152  
 Ph: 9450 7188  
 email: admin@jbasurveys.com.au  
 web: www.jbasurveys.com.au

JOB NO: 7403	TITLE: FEATURE SURVEY	DATUM		
PROJECT:	LOT 90 & 93 ON P6650 No 6 & 8 PRITCHARD STREET O'CONNOR, WA, 6163 C/T 1221-769 & C/T 284-70A	VERT: AHD HORIZ: PCG94 SCALE: 1:400		
SURVEYOR: SW		DATE OF SURVEY: 08.11.2021	DRAWN BY: MDB	APPROVED BY: NRW
DWG NO: 7403-F01		SHEET NO: 1 OF 1		VER: 1.0 A3



Brick & Iron Shop  
Prime Liquidations  
93  
P6650  
5349m<sup>2</sup>

**SIGN  
LOCATION  
refer drg 3**

SOUTH STREET

ROAD

STOCK



PART SITE PLAN

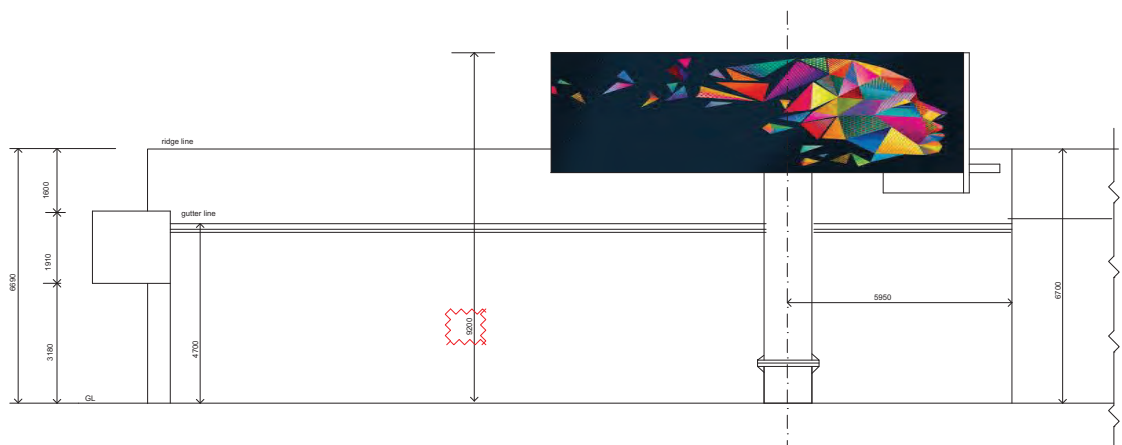
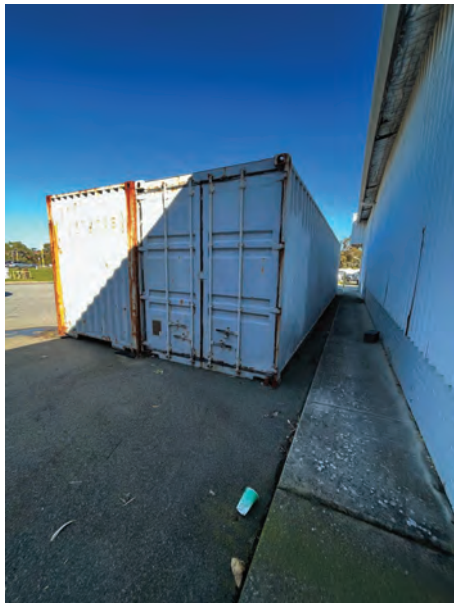
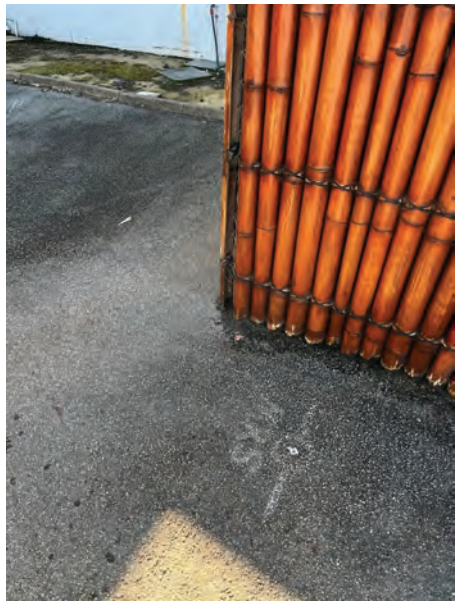
1:200 @ A3

Build to note  
All dimensions and notes to be verified on site.  
Owner of works, shall be liable to verify the plans and build according to the conditions of the contract and any amendments. If the contractor has any queries or concerns, they should be raised with the City of Fremantle, Planning Department, 100 South Street, Fremantle, WA 6155.  
The drawing is the property of Willis Design Group P/L and is not to be used for any other purpose without the written consent of Willis Design Group P/L. It is the responsibility of the client to ensure that the drawing is used for the intended purpose and that all necessary permissions and approvals are obtained from the relevant authorities. The drawing is provided as a guide only and is not to be used as a basis for any other work. The drawing is not to be used for any other purpose without the written consent of Willis Design Group P/L.

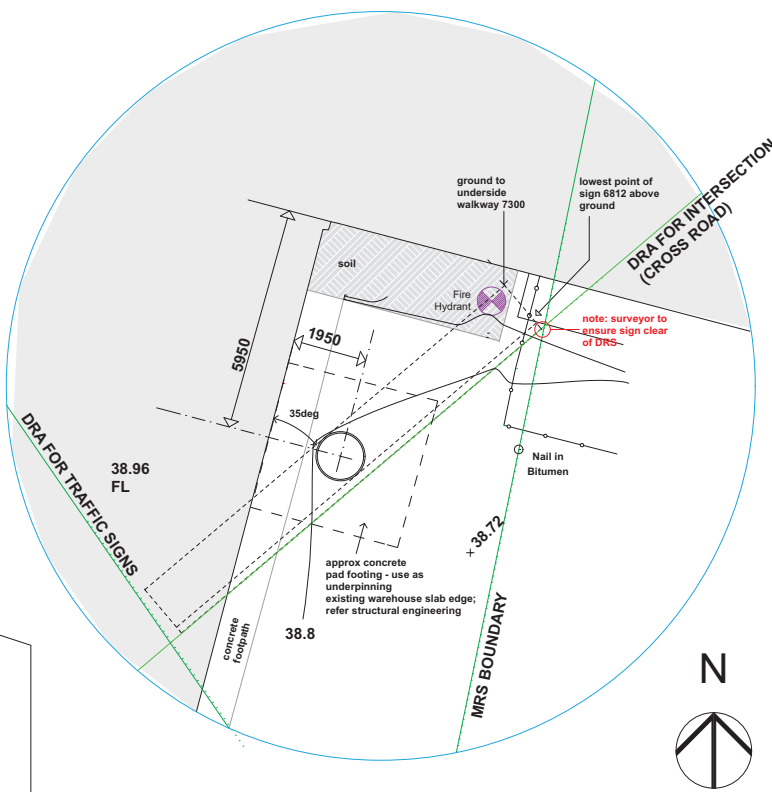
**LARGE FORMAT DIGITAL SIGN  
8 PRITCHARD ST  
O'CONNOR**

Drawn by ACW/lls	Date AUGUST 2023
Project No. 28669/2023	Sheet No. 2

**WILLIS DESIGN GROUP P/L**  
Professional Consulting Engineers, Surveyors, Planners & Quantity Surveyors  
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Website: [www.willisdesigngroup.com.au](http://www.willisdesigngroup.com.au)

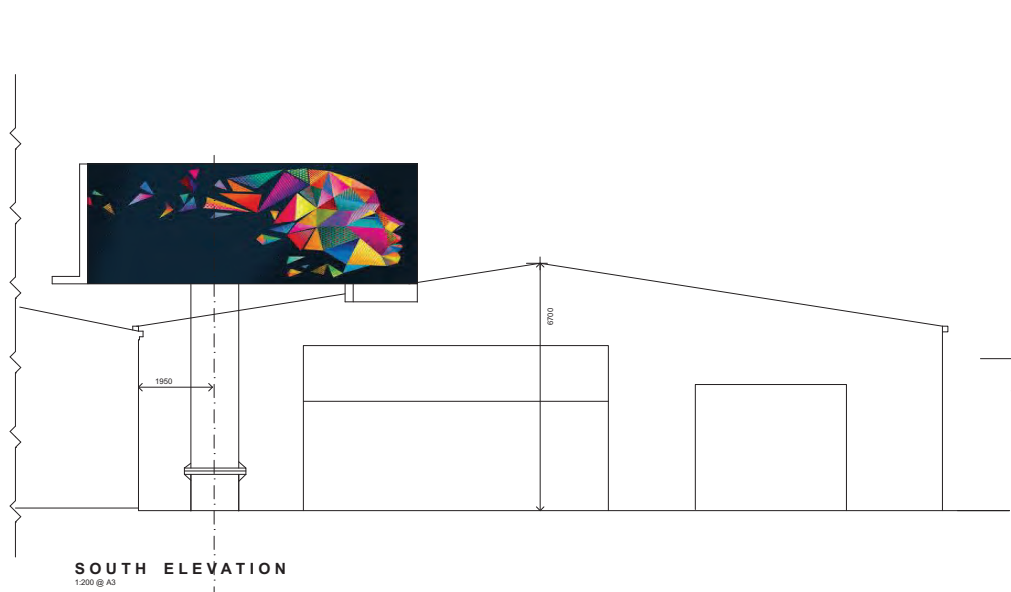


**EAST ELEVATION**  
1:200 @ A3

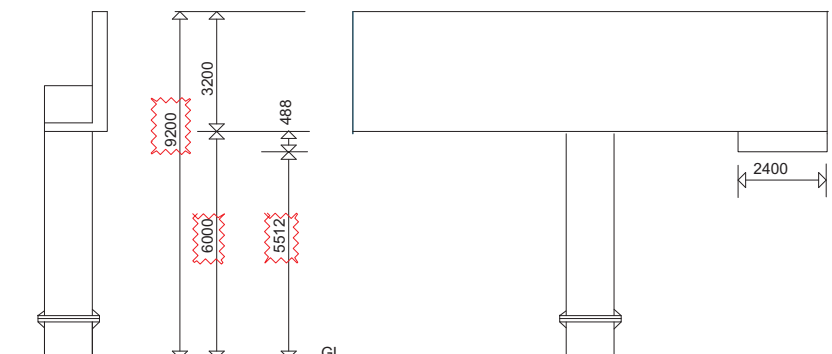


**SOUTH EAST ELEVATION**  
1:200 @ A3

12 480

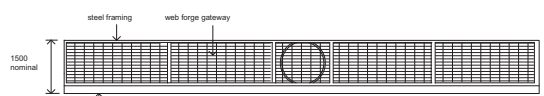


**SOUTH ELEVATION**  
1:200 @ A3



**SIDE**  
1:200 @ A3

**SIGN ELEVATION**  
1:200 @ A3



**PLAN**  
1:200 @ A3

**DIGITAL SIGN**

R1 FEBRUARY 2024  
HEIGHT OF SIGN REDUCED FROM 10.5m TO 9.2m (a reduction of 1.3m)

**LARGE FORMAT DIGITAL SIGN**  
8 PRITCHARD ST  
O'CONNOR

Project Design Manager  
ACWills  
28/08/2023  
3 R1

**WILLIS DESIGN GROUP P/L**  
19 Bradfield Street, Victoria Park, Western Australia 6105  
Tel: 94592577 Mobile: 94592573  
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Website: www.willisdesign.com.au

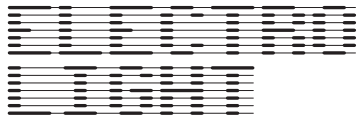
**DA0264/23**

**Attachment 4**

**Amended Lighting Strategy**

**13 March 2024**





25 Nominees Pty Ltd

LIGHTING IMPACT ASSESSMENT

OUTDOOR SIGNAGE AT 8 PRITCHARD ST, O'CONNOR, WA

23rd February 2024  
Ref: 3453

## Lighting Impact Assessment Outdoor Signage at 8 Pritchard St, O'Connor, WA

DATE	REV	COMMENT	PREPARED BY	CHECKED BY
23/02/24	Rev C	For Information	CB	RS

Electrolight Australia Pty Ltd  
ABN: 44 600 067 392

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**CONTENTS**

1. EXECUTIVE SUMMARY	3
1. INTRODUCTION	4
2. DEFINITIONS	4
2.1 Illuminance	4
2.2 Luminance	4
2.3 Luminous Intensity	4
2.4 Obtrusive Light	4
2.5 Threshold Increment	4
2.6 AGI32 Light Simulation Software	4
2.7 Upward Light Ratio (ULR)	4
3. SITE DESCRIPTION AND SCOPE	5
4. DESIGN GUIDELINES AND STANDARDS	5
5. LUMINANCE ASSESSMENT	6
6. AS4282 ASSESSMENT	8
7. SUMMARY	10
8. DESIGN CERTIFICATION	11
APPENDIX A	12
APPENDIX B	15
APPENDIX C	16
APPENDIX D	17

## EXECUTIVE SUMMARY

Electrolight have been appointed by 25 Nominees Pty Ltd to undertake a Lighting Impact Assessment on the proposed pylon digital signage to be installed at 8 Pritchard St, O'Connor, Western Australia.

Electrolight is a practice with extensive expertise in the field of architectural lighting design, which includes assessing the resulting impact of light on people and environments. Over the last decade, we have undertaken over 400 separate lighting impact assessments for digital signage around the country, as well as consulted with road authorities, councils, Australian Standard committees and tribunals on how best to frame and apply their guidelines for digital and illuminated signage. To the best of my knowledge, Electrolight has undertaken more lighting impact assessments for digital signage than anyone else in the country. This gives us a unique appreciation of the complexities associated with the lighting impact of digital signage and their use in the urban environment.

The assessment includes detailed modelling and lighting calculations of the proposed signage, using photometric data from the sign manufacturer, to accurately determine its potential impact upon the surrounding environment, including to residential properties. The calculations demonstrate that the potential vertical illuminance from the proposed signage on to residential properties is well within the maximum allowable limits for vertical illuminance (refer Section 6 for further details).

As a result of our assessment, we conclude that the proposed signage shall not cause any unacceptable amenity impacts to nearby residences or accommodation. The sign shall also not result in unacceptable glare nor should it adversely impact the safety of pedestrians, residents or vehicular traffic.

## 1. INTRODUCTION

Electrolight have been appointed by 25 Nominees Pty Ltd to undertake a Lighting Impact Assessment on the proposed pylon digital signage to be installed at 8 Pritchard St, O'Connor, Western Australia. The objective of the assessment is to report on compliance with AS4282-2019 Control of the Obtrusive Effects of Outdoor Lighting and the Western Australia Main Roads "Policy and Application Guidelines for Advertising Signs".

## 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/m<sup>2</sup>.

(a) Horizontal illuminance (E<sub>h</sub>) The value of illuminance on a designated horizontal plane

(b) Vertical illuminance (E<sub>v</sub>) 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 is referred to as environmental vertical illuminance (E<sub>ve</sub>).

### 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/m<sup>2</sup>) – also referred to as "nits".

### 2.3 Luminous Intensity

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

### 2.4 Obtrusive Light

Spill Light which, because of quantitative, directional or spectral attributes in a given context, gives rise to annoyance, discomfort, distraction or a reduction in the ability to see essential information.

### 2.5 Threshold Increment

The measure of disability glare expressed as the percentage increase in contrast required between a standard object and its background (the carriageway) for it to be seen equally as well with the source of glare present as with it absent, derived in the specified manner. This metric is directly related to Veiling Luminance.

NOTE: The required value is a maximum for compliance of the lighting scheme.

### 2.6 AGI32 Light Simulation Software

AGI32 (by U.S. company Lighting Analysts) 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.

### 2.7 Upward Light Ratio (ULR)

The ratio between the luminous flux emitted above the horizontal plane to the total flux emitted by a light source. The ULR is used as a measure to limit direct spill light to the sky.

### 3. SITE DESCRIPTION AND SCOPE

The proposed pylon digital signage is located at 8 Pritchard St, O'Connor, Western Australia, and faces the westbound direction of traffic on South Street and northbound traffic on Stock Rd. The total active display (illuminated) area of the proposed digital signage is 39.94m<sup>2</sup>. The digital signage is to be in 24 hour operation. Refer Appendix A for proposed signage location plan and elevations.

The proposed digital 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.

For the purpose of this report the proposed manufacturer of the digital signage is noted as Big Screen Video model type with performance parameters as outlined in Appendix B. The signage includes baffles which mitigate upward waste light, resulting in an Upward Light Ratio (ULR) of less than 50%. 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.

### 4. DESIGN GUIDELINES AND STANDARDS

The Lighting Impact Assessment will review the proposed digital signage against the follow Criteria, Design Guidelines and Standards.

- Western Australia Main Roads "Policy and Application Guidelines for Advertising Signs" Document (October 2020). (Refer Appendix C)
- AS 4282-2019 Control of the Obtrusive Effects of Outdoor Lighting.

## 5. LUMINANCE ASSESSMENT

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 1 below:

TABLE 1 - MAXIMUM NIGHT TIME AVERAGE LUMINANCE FOR SIGNAGE		
Environmental Zone	Description	Max Average Luminance (cd/m <sup>2</sup> )
A4	High district brightness e.g. Town and city centres, commercial areas, and residential areas abutting commercial areas	350
A3	Medium district brightness e.g. suburban areas in towns and cities	250
A2	Low district brightness e.g. sparsely inhabited rural and semi-rural areas	150
A1	Dark e.g. relatively uninhabited rural areas. No Road Lighting	0.1
A0	Intrinsically Dark e.g. Major Optical Observatories. No Road Lighting	0.1

Note: Where the signage is viewed against a predominantly dark background (e.g. night sky) then the maximum applicable environmental zone is A2

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 of the signage is 350 cd/m<sup>2</sup> under the standard.

In addition, Appendix B of the Western Australia Main Roads “Policy and Application Guidelines for Advertising Signs” document outlines the maximum allowable day time, dawn/dusk and night time luminances of electronic signs to exhibit consistent apparent brightness in all lighting conditions (refer to Appendix C). The Guidelines require a maximum luminance limit of 6000cd/m<sup>2</sup> during the day, 600cd/m<sup>2</sup> at Dawn/Dusk and 300 cd/m<sup>2</sup> during night time operation.

Table 2 outlines the maximum luminance levels to comply with AS4282 and the Western Australia Main Roads “Policy Application Guidelines for Advertising Signs” for the various lighting conditions listed below:

TABLE 2 - LUMINANCE LEVELS FOR DIGITAL ADVERTISEMENTS		
Lighting Condition	Max Permissible Luminance (cd/m <sup>2</sup> ) #	Compliant
Day Time	6000	✓
Dawn/Dusk	600	✓
Night time	300	✓

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

Appendix B of the Western Australia Main Roads “Policy and Application Guidelines for Advertising Signs” Document also requires that the signage be initially commissioned to half the recommended maximum luminances shown in the document for the various lighting conditions (see Table 3 below). The sign luminances shall be gradually increased over time to an appropriate level as agreed with Main Roads.

TABLE 3 - INITIAL LUMINANCE LEVELS FOR DIGITAL ADVERTISEMENTS		
Lighting Condition	Max Permissible Luminance (cd/m <sup>2</sup> )	Compliant
Day Time Luminance	3000	✓
Dawn/Dusk	300	✓
Night Time	150	✓

The operator of the screen must not exceed the maximum dimming levels above to comply with the Western Australia Main Roads “Policy and Application Guidelines for Advertising Signs” Document.

To maintain constant visibility of the signage, the dimming value may increase to the maximum level at certain times of the day (such as in direct sunlight). This is to compensate for high levels of light striking the front the face of the sign, which would otherwise dull the image and make it difficult to view.

## 6. AS4282 ASSESSMENT

The proposed signage has been assessed against AS 4282-2019 Control of the Obtrusive Effects of Outdoor Lighting as outlined in Section 4.

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.

### Illuminance Assessment

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

The acceptable level of 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 - MAXIMUM VALUES OF LIGHT TECHNICAL PARAMETERS			
Environmental Zone	Max Vertical Illuminance (lx)		Description
	Pre-curfew	Post-curfew	
A0	0	0	Intrinsically Dark e.g. Major Optical Observatories. No Road Lighting
A1	2	0.1	Dark e.g. relatively uninhabited rural areas. No Road Lighting
A2	5	1	Low district brightness e.g. sparsely inhabited rural and semi-rural areas
A3	10	2	Medium district brightness e.g. suburban areas in towns and cities
A4	25	5	High district brightness e.g. Town and city centres, commercial areas, and residential areas abutting commercial areas

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

Address	Zone	Address	Zone
64A Chadwick St	A3	43 Marshall Way	A3
64B Chadwick St	A3	44 Marshall Way	A3
64C Chadwick St	A3	45 Marshall Way	A3
2 Bromley Rd	A3	46 Marshall Way	A3
4A Bromley Rd	A3	47 Marshall Way	A3
4B Bromley Rd	A3	49 Marshall Way	A3
6 Bromley Rd	A3	51 Marshall Way	A3

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 screen was provided by the signage manufacturer\*, with luminances corresponding to the night time limit outlined in Table 2 of Section 5. Appendix D shows the lighting model and the results of the calculations.

It can be seen from the lighting model that the maximum illuminance to all dwellings in Zone A3 is 0.6 lux at 64A Chadwick St. The illuminance levels comply with the maximum limit of 2 lux outlined in Table 4.

#### Threshold Increment Assessment

The Threshold Increment was also calculated for traffic approaches of Stock Rd (Southbound), Stock Rd (Northbound), Stock Rd left turn (Westbound), South St left turn (Northbound), South St (Westbound) and South St right turn (Northbound). The calculation grids were located at 1.5m above ground level, with an approach viewing distance of between 34m to 200 m from the sign. The calculation results show that the Threshold Increment does not exceed 7.87% along any of the traffic approaches (the allowable maximum under the standard is 20%).

#### Luminous Intensity

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

#### Additional Requirements:

The signage operator must ensure that the average luminance difference between successive images does not exceed 30% to ensure compliance with AS4282. The dwell time shall be 10 seconds or greater.

#### Summary:

It can therefore be seen that the proposed digital signage complies with all relevant requirements of AS 4282-2019 Control of the Obtrusive Effects of Outdoor Lighting.

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

**7. SUMMARY**

- When commissioned to the maximum dimming levels below, the illuminated signage will comply with the Western Australia Main Roads “Policy and Application Guidelines for Advertising Signs” Document and AS4282-2019 Control of the Obtrusive Effects of Outdoor Lighting.

LUMINANCE LEVELS FOR DIGITAL ADVERTISEMENTS		
Lighting Condition	Max Permissible Luminance (cd/m2) #	Compliant
Day Time	6000	✓
Dawn/Dusk	600	✓
Night time	300	✓

- The signage shall be initially commissioned to half the recommended maximum luminances outlined in the Western Australia Main Roads “Policy and Application Guidelines for Advertising Signs” (as shown in the table below). The luminance shall be gradually increased over time to the maximum levels shown in the table above if deemed appropriate by Main Roads.

INITIAL LUMINANCE LEVELS FOR DIGITAL ADVERTISEMENTS		
Lighting Condition	Max Permissible Luminance (cd/m2)	Compliant
Day Time Luminance	3000	✓
Dawn/Dusk	300	✓
Night Time	150	✓

- The signage operator must ensure that the average luminance difference between successive images does not exceed 30% to ensure compliance with AS4282. The dwell time shall be 10 seconds or greater in order to comply with the requirements of AS4282.
- The proposed signage has been found to comply with all relevant requirements of AS4282-2019 Control of the Obtrusive Effects of Outdoor Lighting.
- In complying with the above requirements, the proposed signage shall not result in unacceptable glare nor should it adversely impact the safety of pedestrians, residents or vehicular traffic. Additionally, the proposed signage shall not cause any unacceptable amenity impacts to nearby residences or accommodation.

## 8. DESIGN CERTIFICATION

The proposed digital signage to be installed at the 8 Pritchard St, O'Connor, if commissioned according to this report, will comply with the following criteria, guidelines and standards:

- Western Australia Main Roads "Policy and Application Guidelines for Advertising Signs" Document (October 2020) - Appendix B luminance and illuminance of electronic advertising signs.
- AS 4282-2019 Control of the Obtrusive Effects of Outdoor Lighting.



Ryan Shamier  
M.Des.Sc (Illumination)  
B.Elec.Eng (Hons) MIES RPEQ

Registered Professional Engineer - New South Wales (PRE0000868)

Registered Professional Engineer - Victoria (AMR Ref PE0006091)

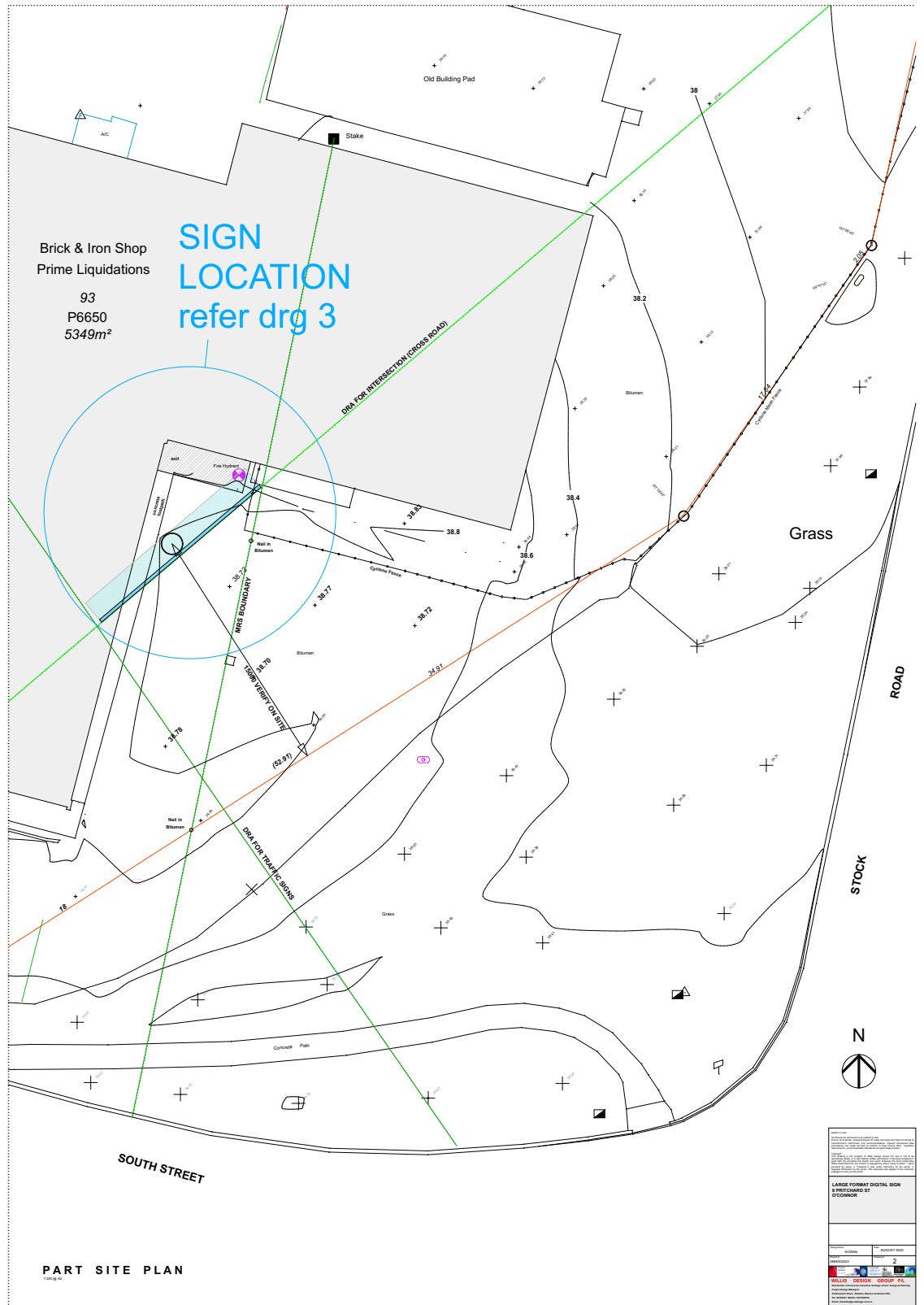
Registered Professional Engineer - Queensland (RPEQ 21425)

Senior Lighting Designer

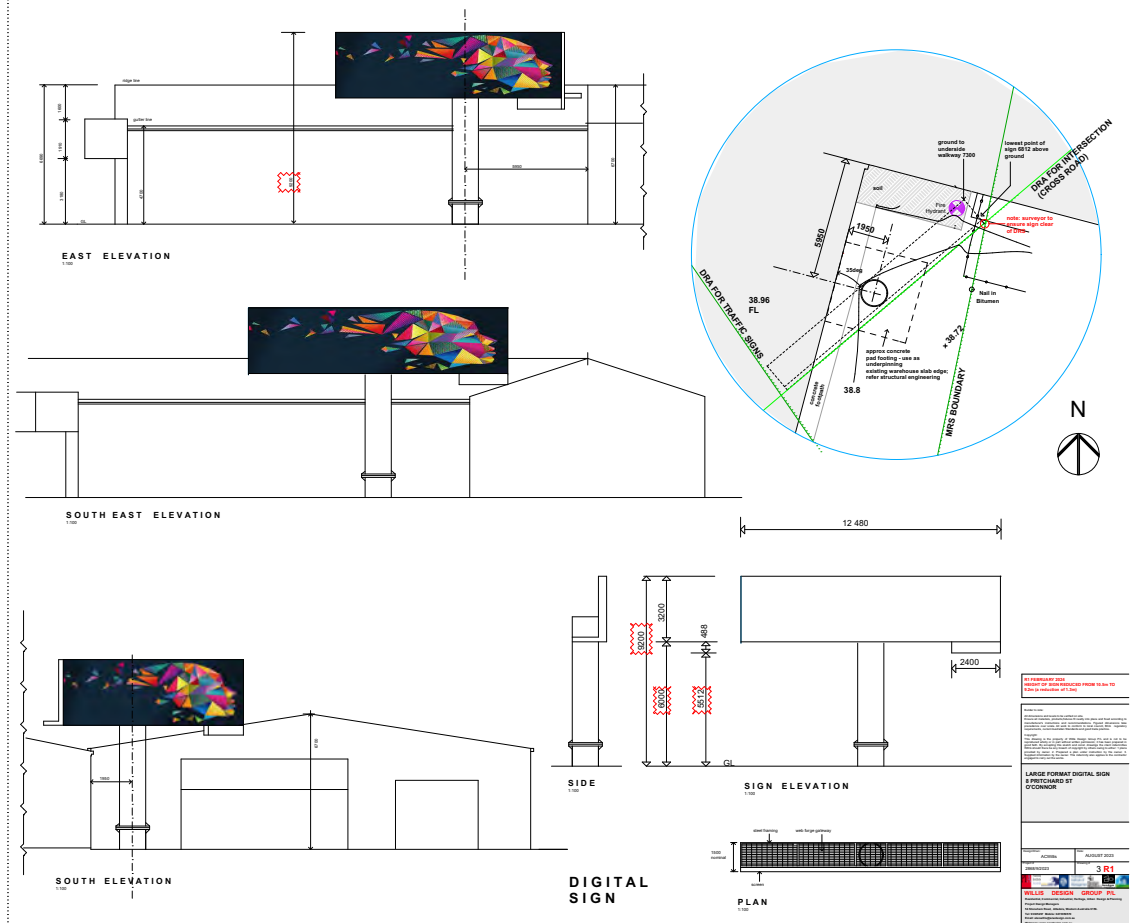
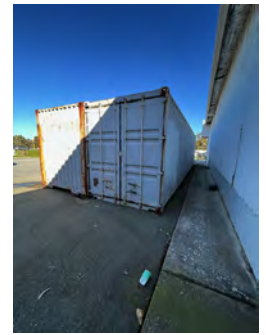
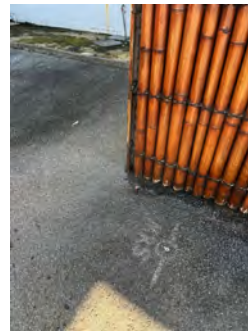
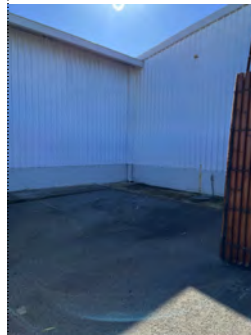
Electrolight Sydney

23/2/24

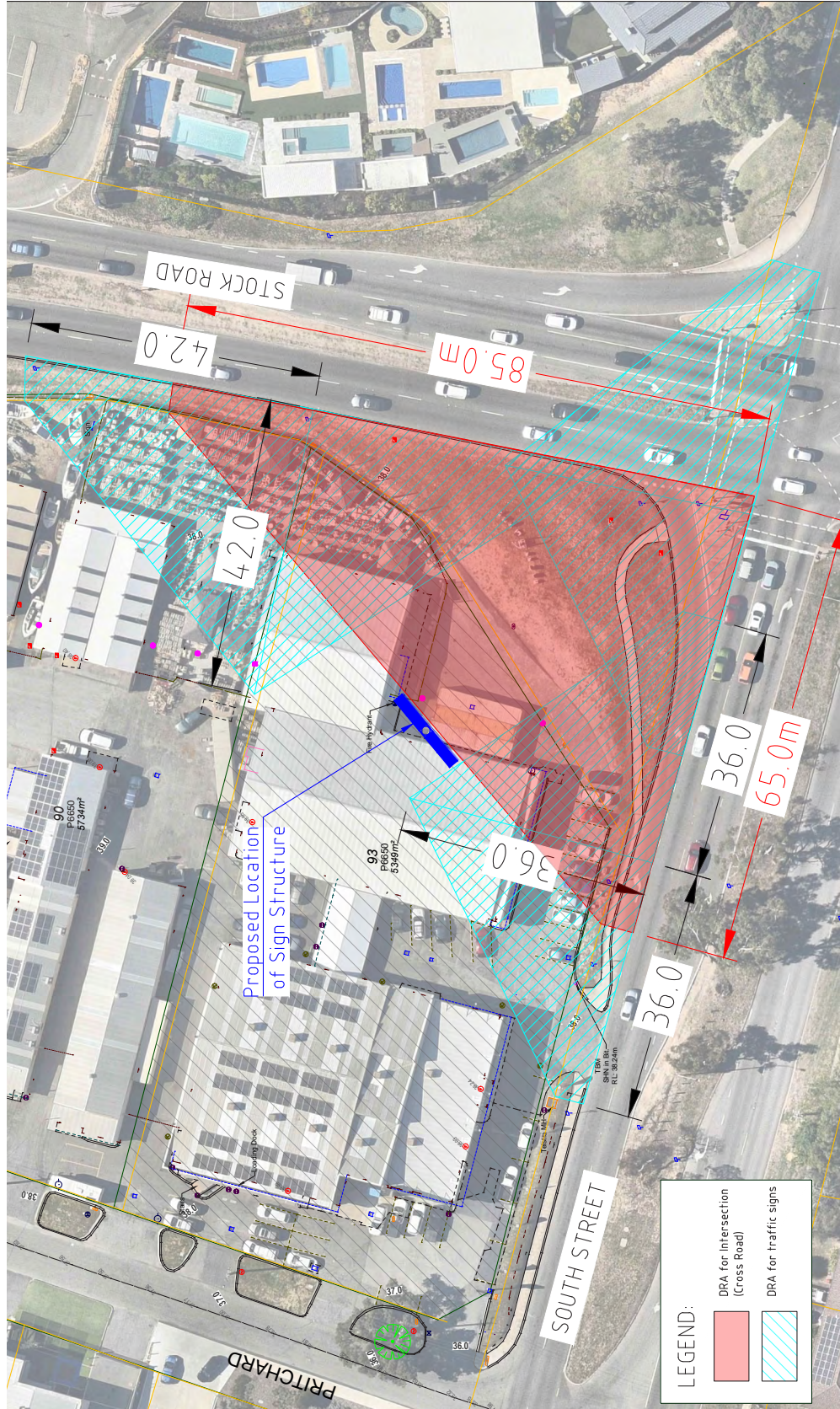
APPENDIX A  
SIGNAGE LOCATION PLAN



APPENDIX A  
 SIGNAGE LOCATION PLAN



APPENDIX A  
SIGNAGE LOCATION PLAN



t21.164.sk02c  
10/08/2023  
Scale: 1:500 @ A3

Lot 93 (8) Pritchard Street, O'Connor  
All Device Restriction Areas (in the vicinity of the subject sign)

APPENDIX B  
 DIGITAL SIGNAGE SPECIFICATION

**Specification.**

10mm Outdoor Specification Sheet

Item	Specification
Pixel Pitch	10mm, physical
Pixel Density	10000 pixels/m <sup>2</sup>
Diode	AST BSV SPECIFIED
Diode Configuration	SMD LED
Diode Size	3535 BSV SPECIFIED
Module Dimension (W x H)	320mm x 160mm
Module Resolution (W x H)	32 x 16 pixels
Cabinet Material	Metal Plate
Standard Cabinet Size(s)	1280mm x 640mm x 170mm
Viewing Angle	H 140 Deg. / V 90 Deg.
Best Viewing Distance	10+m
Maintenance	Front or Rear Service
Protection Degree	Front IP65, Rear IP54
Panel Net Weight	60kg/sqm
Luminance (Peak White at 6,500k)	AST 7000 nits BSV SPECIFIED
Gray Scale	16-bit Color Processing Depth BSV SPECIFIED
Refresh Rate	3840+ Hz BSV SPECIFIED
Contrast Ratio	3000:1
Display Control	Synchronous control
Power Supply	240V, 50Hz
Operation Temp.	- 20°C~50°C
Display Dimming	Auto/Manual, 8~256 Levels
Display Capacity	Text, image, graphics animations, video
Power Consumption (Max./Avg.)	0.58kw/sqm; 0.21kw/sqm
MTBF	50,000hrs
Lifetime	100,000hrs

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## APPENDIX C

### WESTERN AUSTRALIA MAIN ROADS GUIDELINE

#### Luminance and Illumination of Electronic Advertising Signs

##### Safety and amenity

It is important that electronic billboards exhibit consistent apparent brightness in all lighting conditions, by maintaining a consistent ratio between the ambient light (illuminance) and light emitted by the billboard (luminance).

This allows the billboard to be easily read and reduces the time taken for a motorist to view the billboard content. Signs brighter than the ambient conditions may cause greater distraction and risk to drivers due to:

- Averting a motorists attention from important traffic devices / instructions.
- Temporary visual impairment where the difference in sign luminance and ambient light is disparate.

Due to the fast rate of change in ambient light during dusk and dawn periods, particular attention needs to be given to the luminance levels that are output during these periods to ensure that a consistent apparent brightness is maintained.

Any change to brightness levels should be applied during a message transition, not while an image is being displayed. This removes the risk that a motorist will be distracted by changing sign brightness.

##### Maximum Luminance

The following values are suggested *maximum* values for the varying ambient lighting conditions. The final luminance levels are to be determined based on the site specific requirements, including the orientation of the sign and shading around the sign.

- Daytime - 6000 cd/m<sup>2</sup>
- Dawn/Dusk - 600 cd/m<sup>2</sup>
- Night - 300 cd/m<sup>2</sup>

##### Commissioning Levels

It is required that when a new device is being commissioned, the initial luminance values be set to *half* the recommended maximum values outlined above, and gradually increased to an appropriate level as agreed to by Main Roads WA.

If required, the owner/operator of the billboard is responsible for shielding the electronic billboard to ensure that it does not cause a nuisance to surrounding properties.



APPENDIX D

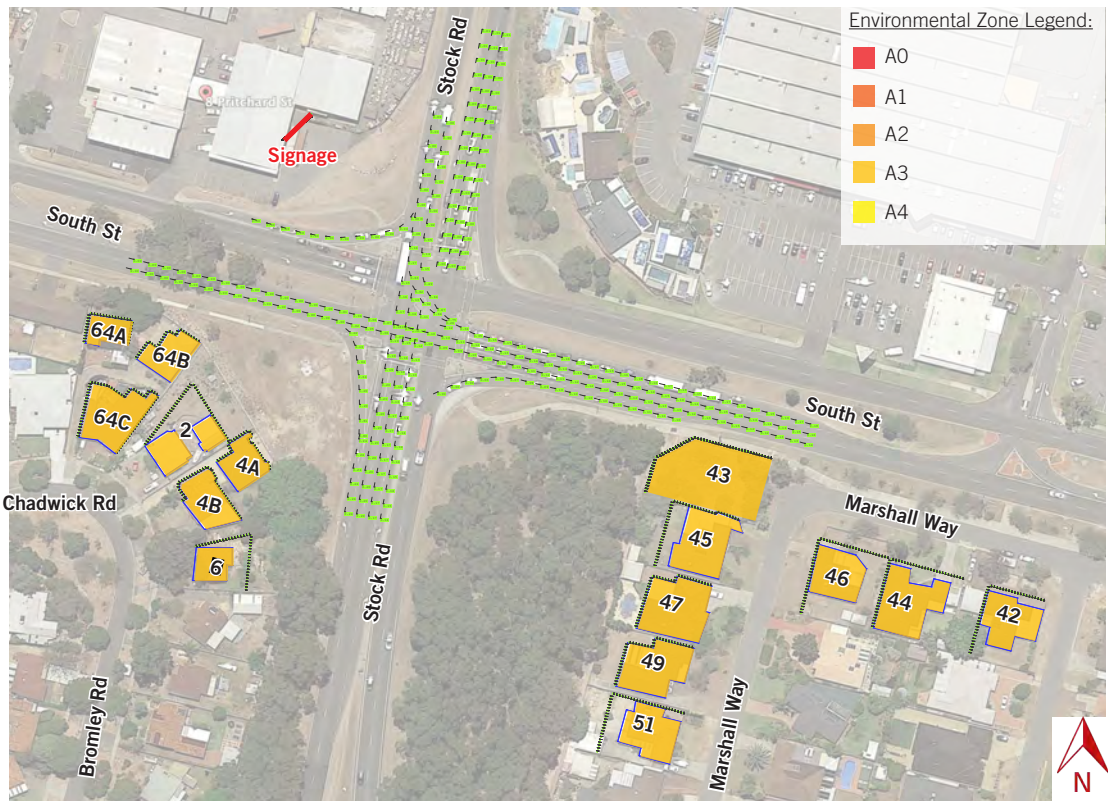
OBTRUSIVE LIGHTING CALCULATIONS

Calculation Summary			
Project: Obtrusive			
Label	CalcType	Units	Max
2 Bromley Rd Ill Seg1	Obtrusive - Ill	Lux	0.1
2 Bromley Rd Ill Seg2	Obtrusive - Ill	Lux	0.4
4 Bromley Rd Ill Seg1	Obtrusive - Ill	Lux	0.3
4 Bromley Rd Ill Seg10	Obtrusive - Ill	Lux	0.3
4 Bromley Rd Ill Seg11	Obtrusive - Ill	Lux	0.1
4 Bromley Rd Ill Seg2	Obtrusive - Ill	Lux	0.0
4 Bromley Rd Ill Seg3	Obtrusive - Ill	Lux	0.4
4 Bromley Rd Ill Seg4	Obtrusive - Ill	Lux	0.4
4 Bromley Rd Ill Seg5	Obtrusive - Ill	Lux	0.0
4 Bromley Rd Ill Seg6	Obtrusive - Ill	Lux	0.0
4 Bromley Rd Ill Seg7	Obtrusive - Ill	Lux	0.4
4 Bromley Rd Ill Seg8	Obtrusive - Ill	Lux	0.3
4 Bromley Rd Ill Seg9	Obtrusive - Ill	Lux	0.5
43 Marshall Way 1 Ill Seg1	Obtrusive - Ill	Lux	0.1
43 Marshall Way 1 Ill Seg2	Obtrusive - Ill	Lux	0.0
43 Marshall Way Ill Seg1	Obtrusive - Ill	Lux	0.3
43 Marshall Way Ill Seg2	Obtrusive - Ill	Lux	0.3
43 Marshall Way Ill Seg3	Obtrusive - Ill	Lux	0.2
44 Marshall Way Ill Seg1	Obtrusive - Ill	Lux	0.2
44 Marshall Way Ill Seg2	Obtrusive - Ill	Lux	0.1
45 Marshall Way Ill Seg1	Obtrusive - Ill	Lux	0.2
45 Marshall Way Ill Seg2	Obtrusive - Ill	Lux	0.2
45 Marshall Way Ill Seg3	Obtrusive - Ill	Lux	0.0
45 Marshall Way Ill Seg4	Obtrusive - Ill	Lux	0.1
46 Marshall Way Ill Seg1	Obtrusive - Ill	Lux	0.2
46 Marshall Way Ill Seg2	Obtrusive - Ill	Lux	0.1
47 Marshall Way Ill Seg1	Obtrusive - Ill	Lux	0.2
47 Marshall Way Ill Seg2	Obtrusive - Ill	Lux	0.2
47 Marshall Way Ill Seg3	Obtrusive - Ill	Lux	0.2
47 Marshall Way Ill Seg4	Obtrusive - Ill	Lux	0.0
49 Marshall Way Ill Seg1	Obtrusive - Ill	Lux	0.2
49 Marshall Way Ill Seg2	Obtrusive - Ill	Lux	0.2
49 Marshall Way Ill Seg3	Obtrusive - Ill	Lux	0.1
49 Marshall Way Ill Seg4	Obtrusive - Ill	Lux	0.0
51 Marshall Way Ill Seg1	Obtrusive - Ill	Lux	0.2
51 Marshall Way Ill Seg2	Obtrusive - Ill	Lux	0.2
6 Bromley Rd Ill Seg1	Obtrusive - Ill	Lux	0.3
6 Bromley Rd Ill Seg2	Obtrusive - Ill	Lux	0.0
64A Chadwick St Ill Seg1	Obtrusive - Ill	Lux	0.0
64A Chadwick St Ill Seg2	Obtrusive - Ill	Lux	0.3
64A Chadwick St Ill Seg3	Obtrusive - Ill	Lux	0.0
64A Chadwick St Ill Seg4	Obtrusive - Ill	Lux	0.4
64A Chadwick St Ill Seg5	Obtrusive - Ill	Lux	0.0
64A Chadwick St Ill Seg6	Obtrusive - Ill	Lux	0.6
64B Chadwick St Ill Seg1	Obtrusive - Ill	Lux	0.0
64B Chadwick St Ill Seg2	Obtrusive - Ill	Lux	0.0
64B Chadwick St Ill Seg3	Obtrusive - Ill	Lux	0.1
4 Bromley Rd 2 Ill Seg1	Obtrusive - Ill	Lux	0.1
4 Bromley Rd 2 Ill Seg2	Obtrusive - Ill	Lux	0.0
4 Bromley Rd 2 Ill Seg3	Obtrusive - Ill	Lux	0.0
4 Bromley Rd 2 Ill Seg4	Obtrusive - Ill	Lux	0.3
4 Bromley Rd 2 Ill Seg5	Obtrusive - Ill	Lux	0.4
4 Bromley Rd 2 Ill Seg6	Obtrusive - Ill	Lux	0.2
4 Bromley Rd 2 Ill Seg7	Obtrusive - Ill	Lux	0.0
4 Bromley Rd 2 Ill Seg8	Obtrusive - Ill	Lux	0.3
64C Chadwick St Ill Seg1	Obtrusive - Ill	Lux	0.0
64C Chadwick St Ill Seg2	Obtrusive - Ill	Lux	0.0
64C Chadwick St Ill Seg3	Obtrusive - Ill	Lux	0.0
64C Chadwick St Ill Seg4	Obtrusive - Ill	Lux	0.0
64C Chadwick St Ill Seg5	Obtrusive - Ill	Lux	0.0
64C Chadwick St Ill Seg6	Obtrusive - Ill	Lux	0.0
64C Chadwick St Ill Seg7	Obtrusive - Ill	Lux	0.0
64C Chadwick St Ill Seg8	Obtrusive - Ill	Lux	0.0

APPENDIX D

THRESHOLD INCREMENT LIGHTING CALCULATIONS

Calculation Summary			
Project: Ti			
Label	CalcType	Units	Max
South St (westbound)	Obtrusive - TI	%	0.18
South St to Stock Rd (N)	Obtrusive - TI	%	4.41
South St to Stock Rd (N) 1	Obtrusive - TI	%	7.87
South St to Stock Rd (S)	Obtrusive - TI	%	0.11
Stock Rd (Northbound)	Obtrusive - TI	%	0.25
Stock Rd (Southbound)	Obtrusive - TI	%	0.01
Stock Rd (Southbound) 1	Obtrusive - TI	%	0.00
Stock Rd to South St (N)	Obtrusive - TI	%	0.00
Stock Rd to South St (W)	Obtrusive - TI	%	3.67



APPENDIX D

OBTRUSIVE LIGHTING & THRESHOLD INCREMENT CALCULATIONS

**Obtrusive Light - Compliance Report**

AS/NZS 4282:2019, A3 - Medium District Brightness, Curfew  
Filename: 3453 - 8 Pritchard Street - Rev C  
20/02/2024 4:24:27 PM

**Illuminance**

Maximum Allowable Value: 2 Lux

Calculations Tested (63):

Calculation Label	Test Results	Max. Illum.
64A Chadwick St_III_Seg1	PASS	0.0
64A Chadwick St_III_Seg2	PASS	0.3
64A Chadwick St_III_Seg3	PASS	0.0
64A Chadwick St_III_Seg4	PASS	0.4
64A Chadwick St_III_Seg5	PASS	0.0
64A Chadwick St_III_Seg6	PASS	0.6
64B Chadwick St_III_Seg1	PASS	0.0
64B Chadwick St_III_Seg2	PASS	0.0
64B Chadwick St_III_Seg3	PASS	0.1
2 Bromley Rd_III_Seg1	PASS	0.1
2 Bromley Rd_III_Seg2	PASS	0.4
4 Bromley Rd_III_Seg1	PASS	0.3
4 Bromley Rd_III_Seg2	PASS	0.0
4 Bromley Rd_III_Seg3	PASS	0.4
4 Bromley Rd_III_Seg4	PASS	0.4
4 Bromley Rd_III_Seg5	PASS	0.0
4 Bromley Rd_III_Seg6	PASS	0.0
4 Bromley Rd_III_Seg7	PASS	0.4
4 Bromley Rd_III_Seg8	PASS	0.3
4 Bromley Rd_III_Seg9	PASS	0.5
4 Bromley Rd_III_Seg10	PASS	0.3
4 Bromley Rd_III_Seg11	PASS	0.1
6 Bromley Rd_III_Seg1	PASS	0.3
6 Bromley Rd_III_Seg2	PASS	0.0
45 Marshall Way_III_Seg1	PASS	0.2
45 Marshall Way_III_Seg2	PASS	0.2
45 Marshall Way_III_Seg3	PASS	0.0
45 Marshall Way_III_Seg4	PASS	0.1
47 Marshall Way_III_Seg1	PASS	0.2
47 Marshall Way_III_Seg2	PASS	0.2
47 Marshall Way_III_Seg3	PASS	0.2
47 Marshall Way_III_Seg4	PASS	0.0
49 Marshall Way_III_Seg1	PASS	0.2
49 Marshall Way_III_Seg2	PASS	0.2
49 Marshall Way_III_Seg3	PASS	0.1
49 Marshall Way_III_Seg4	PASS	0.0
46 Marshall Way_III_Seg1	PASS	0.2
46 Marshall Way_III_Seg2	PASS	0.1
44 Marshall Way_III_Seg1	PASS	0.2
44 Marshall Way_III_Seg2	PASS	0.1
43 Marshall Way_III_Seg1	PASS	0.3
43 Marshall Way_III_Seg2	PASS	0.3
43 Marshall Way_III_Seg3	PASS	0.2
43 Marshall Way_1_III_Seg1	PASS	0.1
43 Marshall Way_1_III_Seg2	PASS	0.0
51 Marshall Way_III_Seg1	PASS	0.2
51 Marshall Way_III_Seg2	PASS	0.2
64C Chadwick St_III_Seg1	PASS	0.0
64C Chadwick St_III_Seg2	PASS	0.0
64C Chadwick St_III_Seg3	PASS	0.0
64C Chadwick St_III_Seg4	PASS	0.0
64C Chadwick St_III_Seg5	PASS	0.0
64C Chadwick St_III_Seg6	PASS	0.0
64C Chadwick St_III_Seg7	PASS	0.0
64C Chadwick St_III_Seg8	PASS	0.0
4 Bromley Rd_2_III_Seg1	PASS	0.1
4 Bromley Rd_2_III_Seg2	PASS	0.0
4 Bromley Rd_2_III_Seg3	PASS	0.0
4 Bromley Rd_2_III_Seg4	PASS	0.3
4 Bromley Rd_2_III_Seg5	PASS	0.4
4 Bromley Rd_2_III_Seg6	PASS	0.2
4 Bromley Rd_2_III_Seg7	PASS	0.0
4 Bromley Rd_2_III_Seg8	PASS	0.3

**Threshold Increment (TI)**

Maximum Allowable Value: 20 %

Calculations Tested (9):

Calculation Label	Adaptation Luminance	Test Results
South St (westbound)	5	PASS
South St to Stock Rd (N)	5	PASS
South St to Stock Rd (N)_1	5	PASS
South St to Stock Rd (S)	5	PASS
Stock Rd (Southbound)	5	PASS
Stock Rd (Southbound)_1	5	PASS
Stock Rd (Northbound)	5	PASS
Stock Rd to South St (W)	5	PASS
Stock Rd to South St (N)	5	PASS

**DA0264/23**

**Attachment 5**  
**13 March 2024**  
**Traffic Technical Note**



13 March 2024

25 Nominees Pty Ltd  
25 Edgewater Road  
Salter Point WA 6152

Attention: Jason Pasqua (Director)

Dear Jason,

**RE: Proposed Digital Sign – Lot 93 (8) Pritchard Street, O'Connor**

This letter has been prepared by Transcore on behalf of 25 Nominees Pty Ltd C/- Planning Solutions for the digital sign proposed to be located at Lot 93 (8) Pritchard Street O'Connor. This letter aims to summarise the consultation process and the draft conditions of approval received from Main Roads WA.

The advertising sign is proposed to be within the private property located at the northwest corner of the signalised intersection of South Street and Stock Road. The proposed advertising LED sign will be visible from the westbound direction of traffic flow on South Street and both directions of traffic flow on Stock Road.

During the course of this project, the project team liaised closely with Main Roads WA's relevant officers. The liaison process included meetings on 15 March 2022, 14 June 2022 and 3 August 2023, however Main Roads advised these draft conditions would still be negotiated with the Proponent after a development approval has been obtained.

During the course of the liaison process, a number of different documents were presented to Main Roads in relevance to Main Roads WA Policy and Application Guidelines for Advertising Signs within and Beyond State Road Reserves.

As requested by the proponent Main Roads WA provided their draft conditions of approval for the proposed LED sign in December 2022. This is because, in addition to the regulatory planning approval, the application for the proposed digital sign is required to be submitted to Main Roads WA for approval in accordance with Regulation 5 of the *Main Roads (Control of Advertisements) Regulation 1996 (Main Roads Act 1930)*.

During the August 2023 meeting, the project team and Main Roads WA's officers discussed the draft conditions. As a result, Main Roads provided revisions to the original draft conditions in October 2023. Main Roads further advised that once

the proponent is obtained planning approval for the proposed sign, they are prepared to discuss and negotiate the conditions of approval specified by Main Roads WA (the current draft conditions).

Overall, the draft conditions of Main Roads WA approval (to be negotiated between Main Roads WA and the Proponent after the development approval) can be summarised as follows:

#### GENERAL CONDITIONS:

3. **Approvals:** The Proponent must obtain all necessary authorisations, registrations, agreements, certificates, exemptions, consents, approvals, licenses and permits.
4. **Activities:** The Advertising Activities must be carried out in a timely manner, with due skill, care, and diligence, and in accordance with all applicable laws and conditions attached to any approvals.
5. **Minimise Disturbance:** The Proponent must minimise disturbance or interference with the use of infrastructure or facilities on the road and comply with road laws at all times.
6. **Safety and Aesthetics:** The Advertising Activities must not be hazardous to traffic safety or aesthetically objectionable.
7. **Right, Interest or Title in the Approved Location:** The Proponent acknowledges and agrees that this Approval does not operate to extinguish or acquire any right, title or interest in the Approved Location.
8. **Removal:** The Proponent must cease Advertising Activities and remove the Advertisement at its own cost on the expiry of approval.
9. **Restoration of Approved Location:** The proponent must restore the approved location to a safe and tidy condition to the satisfaction of Main Roads, at its own cost on the expiry of the approval.
10. **Expiry Date:** The approval will expire on the earlier of the following:
  - a) 5 years from the approval date; or
  - b) the date a revocation becomes effective under regulation 10 of the Main Roads (Control of Advertisements) Regulations 1996 (WA); or
  - c) 6 months after the date on which the Proponent receives notice in writing from Main Roads that the removal of the advertisement is necessary or convenient for the exercise of Main Roads' functions under the Main Roads Act 1930 (WA) or the Land Administration Act 1997 (WA).
11. **Compensation:** The Proponent is not entitled to compensation upon the expiry of the approval.
12. **Main Road Powers:** Main Roads retains the power to lawfully exercise its powers under road laws.
13. **Re-Application:** The Proponent can reapply for approval for Advertising Activities or any other hoarding, advertising structure, or advertisement.
14. **Laws:** The approval is governed by the law in force in Western Australia, and the Proponent submits to the jurisdiction of the courts in Western Australia.
16. **Novation or Assignment:** The Proponent cannot sell, transfer, assign, or dispose of its rights or obligations under the approval without prior written consent from Main Roads.

**TECHNICAL CONDITIONS:**

1. The type, size, content and location of the sign must comply with relevant by-laws and planning schemes and
2. The sign must be placed on private property without encroaching on the road reserve.
3. The minimum dwell time for any advertisement on the sign shall be 40 seconds.
4. The luminance of the sign must not exceed the maximum luminance level specified in Table 1. It must not flash, pulsate, or chase during all hours.

<b>Table 1 – Maximum Luminance Level of Sign (cd/m<sup>2</sup> = candela per square metre)</b>		
<b>Time Period</b>	<b>First Month</b>	<b>Second Month Onwards</b>
Daytime	3000 cd/m <sup>2</sup>	6000 cd/m <sup>2</sup>
Dawn / Dusk	300 cd/m <sup>2</sup>	600 cd/m <sup>2</sup>
Night-time	150 cd/m <sup>2</sup>	300 cd/m <sup>2</sup>

5. The display content must not include colours and shapes that may be mistaken for traffic signals or signs.
6. The sign must not contain fluorescent, reflective, or retro-reflective colours or materials.

**FINAL TERMS TO BE AGREED:**

Eventhough the draft conditions states a 5 year approval period Transcore has previously advised Main Roads that the Proponent would be seeking a 12 year approval with two consecutive 5 year approval period extensions. As outlined earlier Main Roads has indicated they are prepared to discuss and negotiate the draft conditions including the period of approval once the planning approval is achieved. The Proponent is therefore not seeking a development approval from the City of Fremantle that contains a time limit, because the approval period will be negotiated between Main Roads and the proponent.

Yours truly,



Behnam Bordbar  
Managing Director

**CITY OF FREMANTLE**  
**These Plans Form Part of**

**DA0264/23**

**Attachment 6**  
**13 March 2024**

**Revised Road Safety Assessment**





transport planning  
traffic engineering  
modelling

**CITY OF FREMANTLE**  
**These Plans Form Part of**

**DA0264/23**

**13 March 2024**

# Proposed Advertising LED Sign

Lot 93 (8) Pritchard Street, O'Connor

Road Safety Assessment

**PREPARED FOR:**  
**25 Nominees Pty Ltd**

**February 2024**

## Document history and status

Author	Revision	Approved by	Date approved	Revision type
Waihin Tun	r01	B Bordbar	17/12/2021	Draft
Waihin Tun	r01a	B Bordbar	19/01/2022	Final
Roger Bajwa	r01b	B Bordbar	07/08/2023	Revised
Roger Bajwa	r01c	B Bordbar	15/08/2023	2 <sup>nd</sup> Revision
Roger Bajwa	r01d	B Bordbar	29/02/2024	3 <sup>rd</sup> Revision

13 March 2024

**File name:** t21.164.rb.r01d

**Author:** Roger Bajwa

**Project manager:** Behnam Bordbar

**Client:** 25 Nominees Pty Ltd

**Project:** Lot 93 (8) Pritchard Street, O'Connor

**Document revision:** r01d

**Project number:** t21.164

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# TABLE OF CONTENTS

<b>1</b>	<b>INTRODUCTION.....</b>	<b>1</b>
<b>2</b>	<b>PROPOSED SIGN DESCRIPTION .....</b>	<b>2</b>
<b>3</b>	<b>MAIN ROADS WA ROADSIDE ADVERTISING GUIDELINES.....</b>	<b>3</b>
3.1	MRWA GUIDELINES – SECTION 3 GENERAL SAFETY AND EFFICIENCY CONSIDERATIONS.....	5
3.1.1	GENERAL SAFETY AND EFFICIENCY CRITERIA.....	5
3.1.2	SITE SELECTION CRITERIA.....	5
3.1.3	PHYSICAL CHARACTERISTICS.....	6
3.1.4	CRASH HISTORY.....	6
3.1.5	INTERSECTION RESTRICTION DISTANCE.....	6
3.2	MAIN ROADS WA GUIDELINES – SECTION 5 SAFETY CONSIDERATIONS.....	7
3.2.1	DISPLAY.....	7
3.2.2	LOCATION .....	8
3.2.3	CONTENT.....	10
3.2.4	MOVEMENT AND ROTATION.....	10
<b>4</b>	<b>ROAD SAFETY ASSESSMENT.....</b>	<b>11</b>
4.1	DOCUMENT REFERENCES AND GUIDELINES.....	11
4.2	ROAD SAFETY ASSESSMENT GENERAL FINDINGS.....	11
4.3	SITE LOCATION ASSESSMENT .....	12
4.4	CRASH HISTORY CALCULATIONS.....	14
<b>5</b>	<b>ASSESSMENT OF SIGN AGAINST LOCAL POLICY REQUIREMENTS.....</b>	<b>19</b>
<b>6</b>	<b>CONCLUSION.....</b>	<b>21</b>

## APPENDIX A: ADVERTISING SIGN PLAN

## REPORT FIGURES

DA0264/23

13 March 2024

Figure 1. Subject site and the proposed sign location .....	1
Figure 2: Proposed sign structure.....	2
Figure 3. Local Planning Scheme.....	4
Figure 4. Restriction areas for advertising devices visible from a state-controlled road other than a Freeway or Freeway standard road .....	9
Figure 5. DRA assessment for the relevant intersection of South Street and Stock Road (Melville Mandurah Hwy) and traffic signs.....	13

## REPORT TABLES

Table 1. Distance 'd' and '0.6v' for use with Device Restriction Area drawings.....	7
Table 2. Typical advertising device dimensions .....	8
Table 3. Electronic advertising dwell times .....	8
Table 4. Critical Crash Rate Thresholds (Main Roads WA).....	15
Table 5. Casualty Crash Rate (R) – South Street Westbound (Adjusted 1.5km rolling sections) .....	16
Table 6. Casualty Crash Rate (R) – Stock Road (Melville Mandurah Hwy) Northbound (Adjusted 1.5km rolling section) .....	17
Table 7. Casualty Crash Rate (R) – Stock Road (Melville Mandurah Hwy) Southbound (Adjusted 1.5km rolling section) .....	18

# 1 Introduction

This Road Safety Assessment has been undertaken by Transcore on behalf of 25 Nominees Pty Ltd with regard to the proposed LED sign to be located at Lot 93 (8) Pritchard Street, O'Connor in the City of Fremantle.

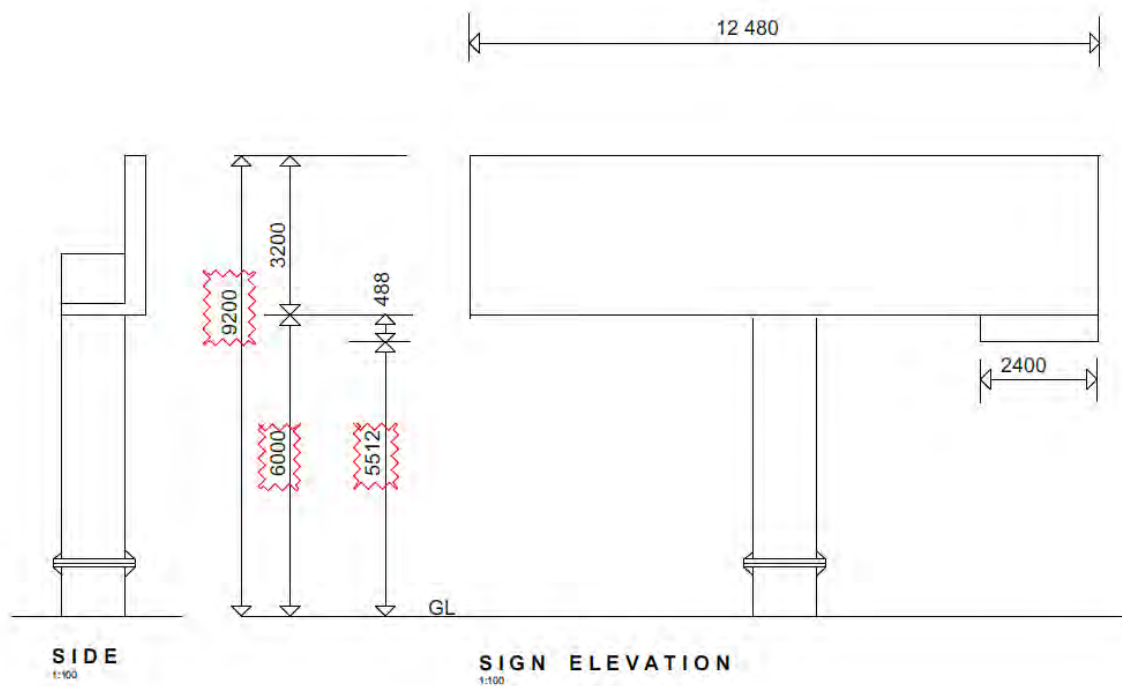
The subject site currently accommodates retail/commercial tenancies as shown in **Figure 1**. The advertising sign is proposed to be located at the northwest corner of the signalised intersection of South Street and Stock Road (Melville Mandurah Hwy). The proposed advertising LED sign will be visible to westbound direction of traffic flow on South Street and possibly both directions of traffic flows on Stock Road (Melville Mandurah Hwy).



**Figure 1. Subject site and the proposed sign location**

## 2 Proposed Sign Description

As detailed in **Figure 2** and **Appendix A**, a single sided LED sign is proposed to be mounted on a steel column at the subject site. The LED screen will be approximately 3.2m high and 12.48m wide and will be mounted approximately 6.0m above ground level (relative to the adjacent Street).



**Figure 2: Proposed sign structure**

The proposed sign panel will feature the following specifications:

- ✚ The device is an electronic variable message LED sign which will display static advertising only;
- ✚ The sign will not be illuminated externally;
- ✚ The device will cycle through a series of static advertisements. The device can be programmed with a specific display time/dwell time for each advertisement; and;
- ✚ Advertisement and other device programming can be undertaken online and therefore physical access to the sign will not be required to change advertisements.

### 3 Main Roads WA Roadside Advertising Guidelines

DA0264/23

13 March 2024

Revision 8 of the Main Roads WA 'Policy and Application Guidelines for Advertising Signs Within and Beyond State Road Reserves' (the Guidelines), amended October 2020, provides guidance on the assessment of roadside advertising signs located within State Road reserves, or visible from State Road reserves.

Section 2.3 of the Guidelines states that *"These guidelines apply to all gazetted highways and main roads ("State roads") controlled by Main Roads Western Australia....."*

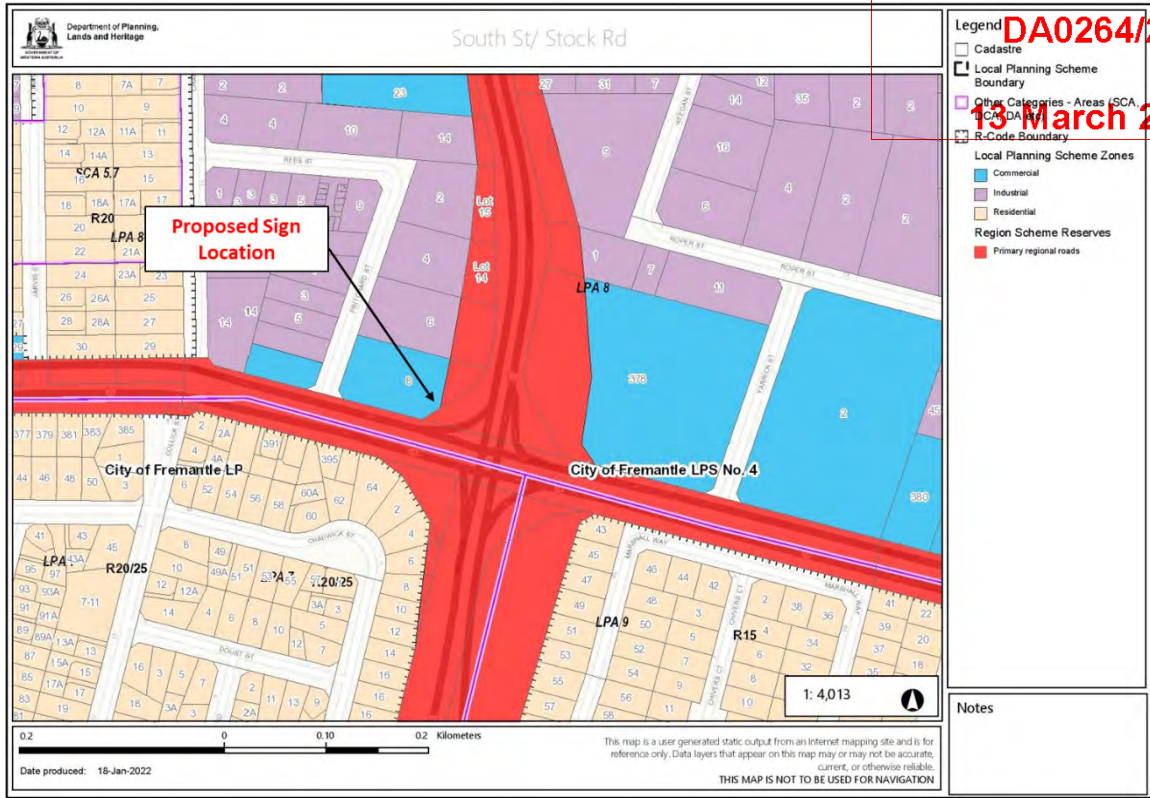
The proposed digital LED advertising sign will be installed on private property outside the Primary Regional Roads Reserve. The LED sign will be visible to the westbound direction of traffic flow on South Street and possibly both directions of traffic flows on Stock Road (Melville Mandurah Hwy).

As detailed in **Figure 3**, both South Street and Stock Road (Melville Mandurah Hwy) form part of the State Road network. The speed limit on the eastbound direction of South Street in the vicinity of the subject site is 60km/h. The speed limit in the northbound direction of Stock Road (Melville Mandurah Hwy) is 70km/h in this vicinity.

As the proposed LED sign will be visible from a State Road reserve, then Main Roads WA roadside advertising guidelines are applicable to the sign.

The relevant requirements of the Guidelines are summarised in this section of the report. The road safety assessment undertaken through application of the Guidelines is presented in **Section 4**.

**DA0264/23**  
**13 March 2024**



**Figure 3. Local Planning Scheme**



## 3.1 MRWA Guidelines – Section 3 General Safety and Efficiency Considerations

Section 3 of the Guidelines provides general conditions relating to safety, traffic efficiency, site selection and physical characteristics of advertising devices. Some items of note relevant to the sign includes:

### 3.1.1 General Safety and Efficiency Criteria

An advertising device may be considered a traffic hazard if it interferes with road safety or traffic efficiency; or if it:

- ✚ Interferes with the effectiveness of traffic control devices (e.g. traffic signals, stop or give way signs), or
- ✚ Distracts a driver at a critical time (high demand, decision making areas), or
- ✚ Obscures a driver's view of a road hazard (e.g. curves, traffic Stopping Sight Distance), or
- ✚ Gives instructions to traffic to "stop", "halt" or other (give way, merge, turn), or
- ✚ Imitates a traffic control device, or is a dangerous obstruction to road or other infrastructure, traffic, pedestrians, cyclists or other road users, or
- ✚ Is in an area where there are several devices and the cumulative effect of those devices may be potentially hazardous, distracting or demanding.

The application of these criteria is discussed in **Section 4.2** of this report.

### 3.1.2 Site Selection Criteria

#### Lateral Placement

Advertising signs should be located outside road clear zones to minimise the risk of collision of an errant vehicle with an advertising device. Consideration of lateral placement normally applies only to advertising devices that are within the boundaries of state-controlled roads. The application of the clear zone concept is intended to minimise the risk of collision of an errant vehicle with an advertising device.

The application of these criteria is discussed in **Section 4** of this report.

#### Longitudinal Placement

The application of the longitudinal placement controls is intended to:

- ✚ Minimise the level of driver distraction in areas where greater concentration is required;
- ✚ Preserve sight distance; and,
- ✚ Retain a high level of traffic efficiency.

Longitudinal placement controls for Advertising Devices within and/or visible from state-controlled roads shall be in the form of device restriction distances to be designated traffic situations and official traffic signs.

The application of these criteria is discussed in **Section 4** of this report.

### 3.1.3 Physical Characteristics

Control of the physical characteristics of Advertising Devices shall relate to the:

- ✚ Size and shape;
- ✚ Colour;
- ✚ Illumination and luminance;
- ✚ Movement and rotation;
- ✚ Advertising Device content; and,
- ✚ Supporting structure.

The application of these criteria is discussed in **Section 4.2** of this report.

### 3.1.4 Crash History

#### Killed and Serious Injury Criteria

A billboard sign is subject to amendment when the proposed site has a vehicle crash history of three (3) or more Killed and Serious Injury (KSI) crashes at any intersection within 'd' metres (see Table 3.1) of the approach to the proposed billboard sign location. If the approaching road section has 3 or more KSI crashes based on the above conditions, then the billboard restriction distance 'd' needs to be increased by a factor of 2 for all diagrams as set out in Appendix A.

The results of the KSI calculations are presented in **Section 4.4**.

#### Crash Rate Criteria

A billboard sign is not permitted where sections of the road on a carriageway have a crash rate higher than the critical crash rate.

Crash rate calculations were undertaken by Transcore as outlined in Appendix C of the Main Roads WA guidelines. The results of the calculations are presented in **Section 4.4**.

### 3.1.5 Intersection Restriction Distance

The device restriction distances, for use with the Device Restriction Area drawings in Appendix A of the Main Roads WA guidelines, are detailed in **Table 1**.

Table 1. Distance 'd' and '0.6v' for use with Device Restriction Area drawings DA0264/23

Speed Limit (km/h)	Distance 'd' (m)	0.6V (m)
50 or less	45	30
60	65	36
70	85	42
80	110	48
90	140	54
100	170	60
110	210	66

13 March 2024

### 3.2 Main Roads WA Guidelines – Section 5 Safety Considerations

Section 5 of the Guidelines provides specific conditions relating to road user safety for advertising devices. Conditions relating to display, location, content, movement and rotation are detailed in Section 5 of the Guidelines and are summarised as following:

#### 3.2.1 Display

- ✚ Advertising displays that have the potential to unduly distract drivers due to their design form, orientation or physical size, or iridescence, lustre or brilliance of reflected light, shall not be permitted (refer **Table 2**).
- ✚ Advertising signs likely to dazzle or distract drivers due to their brightness, high light emissions and/or frequent flashing, shall not be permitted.
- ✚ Advertising displays that could create a confusing or dominating background, which have the potential to reduce the clarity of a traffic control device or the readability of the road layout, shall not be permitted.
- ✚ For digital format billboards, the duration of transition between the full display of one message and the full display of the next message shall not exceed 0.1 seconds.
- ✚ Animated transitional effects such as fly-in, sliding and checker boarding shall not be permitted on electronic signs.
- ✚ The primary textual elements of advertisements intended to be read by passing motorists shall be legible for drivers travelling at the normal road operating speed and when viewed within a ten-degree horizontal field of vision. No more than seven words on any single sign display shall be readable by such drivers at any one time.

Table 2. Typical advertising device dimensions

DA0264/23

13 March 2024

Description	Dimensions (m)	Area (m <sup>2</sup> )
Small Portraits	3 x 4.5	13.5
Posters	6 x 3	18
Super 8's	8.22 x 2.66	18.6
Portraits	4 x 6	24
Supersites	12.66 x 3.35	42.4
Spectaculars	18.99 x 4.45	84.5

Signs with variable displays must have a minimum dwell time and transition duration in compliance with the Guidelines (refer **Table 3**). Therefore, it is recommended that the duration of transition between the full display of one message and the full display of the next message shall not exceed 0.1 seconds.

Table 3. Electronic advertising dwell times

Speed Limit or Operating Speed (km/h)	Dwell Time (sec)
110	20
100	25
90	25
80	30
70	35
60	40
<50	45

The application of these criteria is discussed in **Section 4.2** of this report.

### 3.2.2 Location

As depicted in the Guidelines, advertising devices should not be located in Device Restriction Areas. The relevant reference diagram from Appendix A: Figure 1 of the Guidelines has been identified by Main Roads WA as:

- ✚ Cross Road – Diagram 2 in **Figure 4**.

The application of the Device Restriction Area criteria is discussed separately in **Section 4.3**.

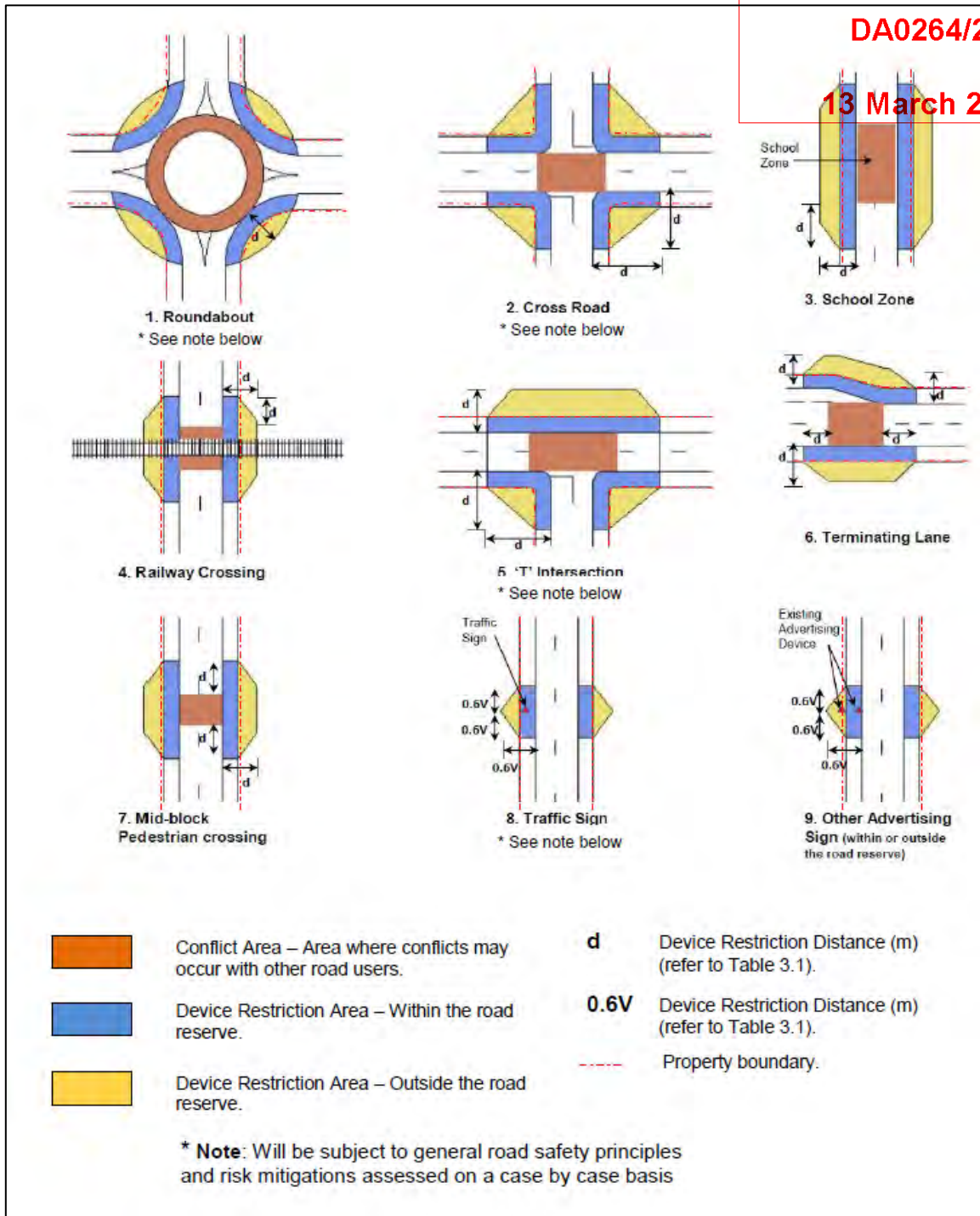


Figure 4. Restriction areas for advertising devices visible from a state-controlled road other than a Freeway or Freeway standard road

### 3.2.3 Content

The content of advertising devices shall exclude the following:

- ✦ Colours and shapes arranged that may be mistaken for a traffic signals, traffic signs or instruction signs.
- ✦ Symbols, graphics or text that entices drivers to immediately turn or change lanes, or which could be mistaken for an instruction to drivers.
- ✦ Complicated / long website, social media or email addresses, and text messaging instructions.

### 3.2.4 Movement and Rotation

- ✦ Moving advertising devices shall be restricted to speed environments of 70 km/h or less;
- ✦ Movement of an advertising device shall be restricted to rotation about a vertical axis or axes (Advertising devices in the form of a flag or banner are excluded from this condition); and,
- ✦ Variable message sign advertising shall not be displayed on a moving advertising device.

The application of the content and movement rotation criteria is discussed in **Section 4.2** of this report.

## 4 Road Safety Assessment

### 4.1 Document References and Guidelines

Transcore has undertaken a Road Safety Assessment of the proposed LED sign with reference to the following documents:

- ✚ Main Roads WA 'Policy and Application Guidelines for Advertising Signs Within and Beyond State Road Reserves' – October 2020.

### 4.2 Road Safety Assessment General Findings

The findings of the Road Safety Assessment confirm that the proposed LED sign satisfies the general, physical characteristics, and displays requirements set out in the Main Roads WA Guidelines.

The proposed sign is of acceptable shape and dimensions for the proposed mounting location, is static with no mechanical movement and rotation, and will display static advertising messages. No flashing, coloured, or pulsating lights will be installed on the proposed sign. This complies with Main Roads WA guidelines.

The display area of the proposed sign is  $12.48\text{m} \times 3.2\text{m} = 39.94\text{m}^2$  which complies with the typical supersites of a maximum  $42.4\text{m}^2$  signage area identified in Main Roads WA policy.

Main Roads WA guidelines specify a minimum dwell time of 40 seconds and 35 seconds for a vehicle travelling with a speed limit of 60km/h and 70km/h (Table 3). It is understood that the proposed advertising LED sign dwell time will be 40 seconds and therefore comply with or exceed the minimum requirement of Main Roads WA guidelines.

The proposed transition time is instantaneous, and no message sequencing will be permitted, in accordance with Main Roads WA.

The proposed LED advertising sign panel will have the ability to display advertising content at variable luminance levels. The luminance of the display will be programmed to operate at different levels required for different times of the day and night, as specified in the Main Roads WA guidelines. The luminance level should not exceed those of static signs in typical ambient light conditions, in accordance with Main Roads WA Guidelines.

Additionally, the proposed LED sign will not obstruct or interfere with any traffic control signs or devices, or with the driver's view of hazards as it is proposed to be located within a private property. The sign will not obstruct access to road or other infrastructure, traffic, pedestrian, cyclist or other road user movements.

Other conditions relating to advertising content will be met on a continuous basis through the ongoing adoption of appropriate advertising content. These include:

- ✦ Advertising content should not imitate a traffic control device, or display a message which may be interpreted as a traffic related instruction;
- ✦ No more than 7 words (readable by drivers) should be displayed at any time per sign;
- ✦ Advertising devices should not contain extreme emotional material; and
- ✦ No complicated email, social messaging or text messaging instructions should be displayed on the sign.

### 4.3 Site Location Assessment

The location of the proposed sign satisfies Lateral and Longitudinal placement of the guidelines as it is located within a private property.

Based on the assessment undertaken by Transcore, the proposed digital advertising sign is **not** impacted by the Device Restriction Areas (DRAs). Please refer **Figure 5** for details.



DA0264/23

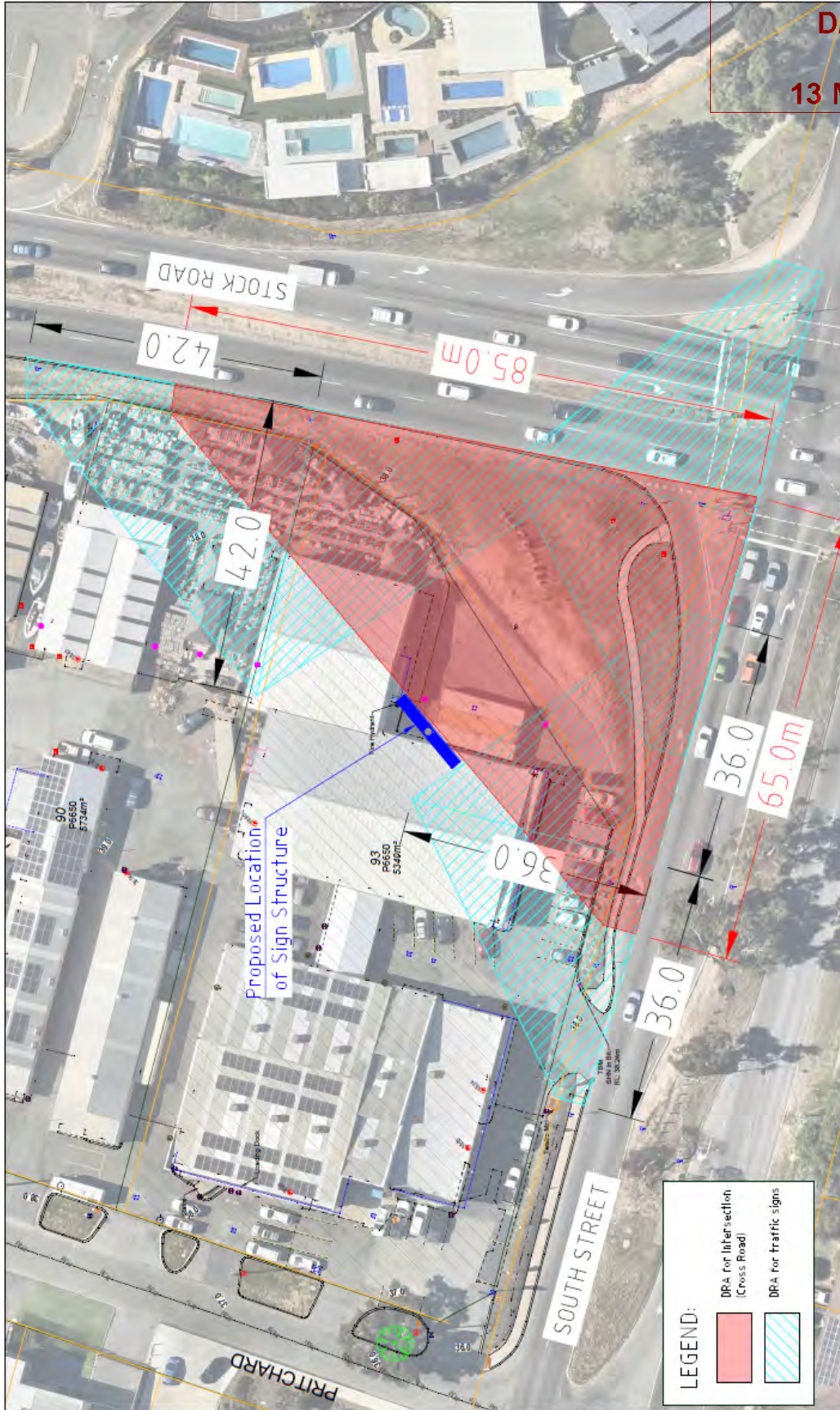
13 March 2024



t21.164.sk02c

10/08/2023

Scale: 1:500 @ A3



Lot 93 (8) Pritchard Street, O'Connor  
All Device Restriction Areas (in the vicinity of the subject sign)

Figure 5. DRA assessment for the relevant intersection of South Street and Stock Road (Melville Mandurah Hwy) and traffic signs

## 4.4 Crash History Calculations

The following outlines the casualty crash rate calculations in accordance with Main Roads WA policy.

### Step 1

Detailed crash history data was extracted from the Main Roads WA Crash Analysis Reporting System (CARS) to undertake crash rate calculations in accordance with Appendix C of the Main Roads WA advertising signs guidelines.

The crash analysis was undertaken for the westbound direction of traffic flow on South Street and both directions of traffic flow on Stock Road (Melville Mandurah Hwy). The crash data was reviewed for the 1.5km sections of South Street and Stock Road (Melville Mandurah Hwy) (1km before the proposed sign and 500m after the proposed sign) in accordance with the guidelines. The data was sourced for the five-year period ending December 2022.

### Step 2

The casualty crash rate (R), expressed as 10<sup>4</sup> ERU (Equivalent Risk Unit) per 10<sup>8</sup> VKT (vehicle kilometres travelled) was calculated as per **Equation 1** adopted from the Main Roads WA guidelines.

Eq(1):

$$R = \frac{\sum_{t=1}^{20} C_t \times A_t \times 10^4}{n \times L \times V \times 365}$$

Where,

R = Casualty Crash Rate (expressed in terms of 10<sup>4</sup> ERU per 10<sup>8</sup> VKT)

t = RUM Group (1 - 20)

C<sub>t</sub> = Crash Risk Score for a crash in RUM Group "t"

A<sub>t</sub> = Number of crashes in RUM Group "t"

n = Number of years of crash data (usually 5)

L = Length (km) of road section (usually 1km)

V = Annual Average Daily Traffic (AADT) for the section

365 = Number of days in one year

### Step 3

The Critical Crash Rates (CCR) for a highway in a METRO environment are 212.7 for a 70km/h road as shown in **Table 4**.

The resulting Casualty Crash Rates for South Street and Stock Road (Melville Mandurah Hwy) are detailed in **Table 5**, **Table 6** and **Table 7**.

Table 4. Critical Crash Rate Thresholds (Main Roads WA) DA0264/23

13 March 2024

Table 3. Metropolitan Critical Crash Rate Thresholds							
Road Type (x)	Speed Zone (km/h)						
	<=50	60	70	80	90	100	110
Freeways	-	-	300.8	390.4	-	410.5	145.3
Highways	-	265.7	212.7	150.4	520.8	425.5	1,079.8
Main Roads	-	-	-	-	-	-	1,438.4

Table 4. Rural Critical Crash Rate Thresholds							
Road Type (x)	Speed Zone (km/h)						
	<=50	60	70	80	90	100	110
Freeways	-	-	-	-	-	-	228.5
Highways	293.0	206.3	158.0	578.0	899.0	356.2	733.5
Main Roads	692.0	436.4	207.3	659.0	1,003.7	1,755.7	905.7

The signalised intersection of South Street and Stock Road (Melville Mandurah Hwy) is reviewed for Killed and Serious Injury Criteria (KSI) for the five-year period ending December 2022. It is reported that two hospital crashes were recorded at this intersection during the last 5 years and therefore, the crash records satisfy the KSI requirement of Main Roads WA guidelines as outlined in **Section 3.1.4** of this report.

As evident from the casualty crash rate calculations along the relevant sections of South Street and Stock Road (Melville Mandurah Hwy), the casualty crash rate calculations for all relevant sections of the roads are below the critical crash threshold for all the six 1km rolling segments and therefore, the proposed sign is acceptable with respect to the crash calculation requirement of Main Roads WA policy and guidelines.

Table 5. Casualty Crash Rate (R) – South Street Westbound (Adjusted 1.5km rolling section) DA0264/23

13 March 2024

Crash Calculation  
 Site: 8 Pritchard St, O' Connor Road Name: South St (Westbound) Carriageway: Right Sign SLK: 2.77 Assessment Period: 2018 - 2022

Time Period = 5 years  
 Length of Road Segment = 1 km  
 Traffic Volume = 15,276 AADT  
 Speed Environment = 70 km/h (Low Speed)  
 Metro / Rural = Metro  
 Road Type = Highways

Length of road segment (km) = 1  
 Sign SLK = 2.77 START = 3.77 FINISH = 2.27

Segment	1	2	3	4	5	6
Start	3.77	3.67	3.57	3.47	3.37	3.27
Finish	2.77	2.67	2.57	2.47	2.37	2.27

RUM Group	RUM Codes	Crash Risk Score (x 10 <sup>4</sup> Risk Unit) Low Speed (< 80km/h)	Crash Risk Score (x 10 <sup>4</sup> Risk Unit) High Speed (>= 80km/h)	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6
1	10, 11, 12, 13, 14, 15, 16, 17, 18, 19	21	96	0.00	0.00	0.00	0.00	0.00	0.00
2	21, 51	98	319	0.00	0.00	0.00	0.00	0.00	0.00
3	22, 23, 24, 25, 26	19	64	0.00	0.00	0.00	0.00	0.00	0.00
4	31, 32, 33	8	21	86.09	86.09	86.09	86.09	86.09	86.09
5	35, 36, 37, 54	13	31	0.00	0.00	0.00	0.00	0.00	0.00
6	38, 39	11	67	0.00	0.00	0.00	0.00	0.00	0.00
7	27, 34	12	183	0.00	0.00	0.00	0.00	0.00	0.00
8	42, 46, 47, 48	23	23	0.00	0.00	0.00	0.00	0.00	0.00
9	53, 55, 56	9	88	0.00	0.00	0.00	0.00	0.00	0.00
10	43, 44, 61, 62, 63, 64	12	101	0.00	0.00	0.00	0.00	0.00	0.00
11	93	669	73	0.00	0.00	0.00	0.00	0.00	0.00
12	1, 2, 3, 4, 5, 6, 7, 8, 9, 98	60	235	0.00	0.00	0.00	0.00	0.00	0.00
13	65	0	0	0.00	0.00	0.00	0.00	0.00	0.00
14	69, 95	23	33	0.00	0.00	0.00	0.00	0.00	0.00
15	52, 71, 73, 76, 77	20	79	0.00	0.00	0.00	0.00	0.00	0.00
16	72, 74, 94	37	95	0.00	0.00	0.00	0.00	0.00	0.00
17	75	27	70	0.00	0.00	0.00	0.00	0.00	0.00
18	81, 83	17	101	0.00	0.00	0.00	0.00	0.00	0.00
19	82, 84	72	107	0.00	0.00	0.00	0.00	0.00	0.00
20	85	23	62	0.00	0.00	0.00	0.00	0.00	0.00
21	20, 30, 40, 45, 49, 50, 60, 66, 67, 70, 80, 90, 91, 92, 94, 96, 97	0	0	0	0	0	0	0	0
Total Crashes				3	3	3	3	3	3
Casualty Crash Rate (R)				86.1	86.1	86.1	86.1	86.1	86.1
Threshold				212.7					
Crash Category				Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
OVERALL CRASH CATEGORY				SATISFACTORY					

Segment	Start SLK	End SLK	AADT	Casualty Crashes	Crash Rate	Critical Crash Rate	Satisfactory/ Not Satisfactory
1	3.77	2.77	15,276	3	86.1	212.7	SATISFACTORY
2	3.67	2.67		3	86.1	212.7	
3	3.57	2.57		3	86.1	212.7	
4	3.47	2.47		3	86.1	212.7	
5	3.37	2.37		3	86.1	212.7	
6	3.27	2.27		3	86.1	212.7	

Crash SLK	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	RUM	RUM GROUP
3.16	1	1	1	1	1	1	31	4
3.17	1	1	1	1	1	1	31	4
3.24	1	1	1	1	1	1	31	4
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		
0	0	0	0	0	0	0		

Table 6. Casualty Crash Rate (R) – Stock Road (Melville Mandurah Hwy) Northbound (Adjusted 1.5km road) DIA0264/23

13 March 2024

Crash Calculation  
 Site: B Pritchard St, O' Connor Road Name: Stock Rd (Northbound) Carriageway: Right Sign SLK: 1.6 Assessment Period: 2018 - 2022

Time Period = 5 years  
 Length of Road Segment = 1 km  
 Traffic Volume = 13,124 AADT  
 Speed Environment = 70 km/h (Low Speed)  
 Metro / Rural = Metro  
 Road Type = Highways

Length of road segment (km) 1  
 Sign SLK 1.6 START 2.1 FINISH 0.6

Segment	1	2	3	4	5	6
Start	2.1	2	1.9	1.8	1.7	1.6
Finish	1.1	1	0.9	0.8	0.7	0.6

RUM Group	RUM Codes	CASUALTY CRASH RATE (R)							
		Crash Risk Score (x 10 <sup>4</sup> Risk Unit) Low Speed (< 80km/h)	Crash Risk Score (x 10 <sup>4</sup> Risk Unit) High Speed (>= 80km/h)	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6
1	10, 11, 12, 13, 14, 15, 16, 17, 18, 19	21	96	0.00	0.00	0.00	0.00	0.00	0.00
2	21, 51	98	319	0.00	0.00	0.00	0.00	0.00	0.00
3	22, 23, 24, 25, 26	19	64	0.00	0.00	0.00	0.00	0.00	0.00
4	31, 32, 33	8	21	33.40	33.40	33.40	0.00	0.00	0.00
5	35, 36, 37, 54	13	51	0.00	0.00	0.00	0.00	0.00	0.00
6	38, 39	11	67	0.00	0.00	0.00	0.00	0.00	0.00
7	27, 34	12	183	0.00	0.00	0.00	0.00	0.00	0.00
8	42, 46, 47, 48	23	23	0.00	0.00	0.00	0.00	0.00	0.00
9	53, 55, 56	9	88	0.00	0.00	0.00	0.00	0.00	0.00
10	43, 44, 61, 62, 63, 64	12	101	0.00	0.00	0.00	0.00	0.00	0.00
11	93	669	73	0.00	0.00	0.00	0.00	0.00	0.00
12	1, 2, 3, 4, 5, 6, 7, 8, 9, 98	60	235	0.00	0.00	0.00	0.00	0.00	0.00
13	65	0	0	0.00	0.00	0.00	0.00	0.00	0.00
14	69, 95	23	33	0.00	0.00	0.00	0.00	0.00	0.00
15	52, 71, 73, 76, 77	20	79	0.00	0.00	0.00	0.00	0.00	0.00
16	72, 74, 94	37	95	0.00	0.00	0.00	0.00	0.00	0.00
17	75	27	70	0.00	0.00	0.00	0.00	0.00	0.00
18	81, 83	17	101	0.00	0.00	0.00	0.00	0.00	0.00
19	82, 84	72	107	0.00	0.00	0.00	0.00	0.00	0.00
20	85	23	62	0.00	0.00	0.00	0.00	0.00	0.00
21	20, 30, 40, 45, 49, 50, 60, 66, 67, 70, 80, 90, 91, 92, 94, 96, 97	0	0	0	0	0	0	0	0
Total Crashes				1	1	1	0	0	0
Casualty Crash Rate (R)				33.4	33.4	33.4	0.0	0.0	0.0
Threshold				212.7					
Crash Category				Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
OVERALL CRASH CATEGORY				SATISFACTORY					

Segment	Start SLK	End SLK	AADT	Casualty Crashes	Crash Rate	Critical Crash Rate	Satisfactory/ Not Satisfactory
1	2.1	1.1	13,124	1	33.4	212.7	SATISFACTORY
2	2	1		1	33.4	212.7	
3	1.9	0.9		0	0.0	212.7	
4	1.8	0.8		0	0.0	212.7	
5	1.7	0.7		0	0.0	212.7	
6	1.6	0.6		0	0.0	212.7	

Crash SLK	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	RUM	RUM GROUP
1.83	1	1	1	0	0	0	31	4
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		
	0	0	0	0	0	0		



## 5 Assessment of Sign Against Local Policy Requirements

Design and location characteristics of the proposed advertising sign relevant to road safety were assessed against the requirements of the City of Fremantle Policy: Advertising Policy 2.14.

The general requirements included in the Policy includes:

- (a) *Advertisements will not be approved on properties primarily used for residential purposes where the advertisement does not pertain to a relevant home business, occupation or store on site unless otherwise provided for in another local planning policy.*
- (b) *Advertisements are to be located and designed so as not to cause a hazardous distraction to motorists, pedestrians or other road users.*
- (c) *Advertisements will be compatible with the style, scale and character of the surrounding streetscape, and the predominant uses within the locality. Consideration will be given to the number and type of existing signs in the locality so as to avoid visual clutter.*
- (d) *Advertisements shall not impede pedestrian or vehicle movements.*
- (e) *Illuminated signs are to be maintained to operate as an illuminated sign.*
- (f) *Advertisements are not to emit a flashing or moving light or radio; animation or movement in its design or structure; reflective, retro-reflective or fluorescent materials in its design structure.*
- (g) *Advertisements in the form of an Animated signs will not, be supported by Council.*
- (h) *Advertisements will not be approved on private land which include:*
  - i. *The name, logo, or symbol of a company or other organisation that does not own or substantially occupy the site or building on which the advertisement is located; or*
  - ii. *A product or service not provided on the site on which the advertisement is located;*
  - iii. *A product or service that does not form part of the signage displaying the name, logo or symbol; of a company or other organisation that owns or substantially occupy the site or building on which the advertisement is located; or*
  - iv. *Signs for an activity or event not occurring on the site on which the advertisement is located.*

The proposed digital sign is generally consistent with the Policy general requirements, except for the advertising content requirement.

The policy further states that:

*2.5.1: Free Standing Sign or Pole or Pylon Signs are deemed acceptable where:*

- (a) *The advertisement is no more than the height of the immediately adjoining subject building or no more than 6.0m in height whichever is the lesser; and,*

DA0264/23

13 March 2024

- (b) *The advertisement does not significantly obstruct the view between the building and the street, thereby preventing causal surveillance of the street from the property and vice versa; and,*
- (c) *It can be demonstrated that the advertisement is consistent with a particular design convention associated with a specific land use (i.e.; pylon signs for petrol stations); and,*
- (d) *The advertisement is restricted to one sign per site, may include the advertising of multiple tenancies and can be illuminated and / or double sided.*

It is acknowledged that the proposed electronic sign component does not meet the height standard of the Policy; however, this requirement is not related to road or traffic safety. Moreover, the proposed sign shape, size, luminance and other design characteristics are in accordance with Main Roads WA Roadside Advertising Policy and therefore, the proposed sign does not interfere with or is hazardous to vehicular traffic and pedestrians.

Therefore, the proposed electronic sign satisfies all the relevant road and traffic-related safety requirements of Main Roads WA Roadside Advertising Policy and City of Fremantle's Advertisement Policy.



## 6 Conclusion

This Road Safety Assessment has been undertaken by Transcore on behalf of 25 Nominees Pty Ltd regarding the proposed LED sign, to be located at Lot 93 (8) Pritchard Street, O'Connor in the City of Fremantle.

The proposed LED advertising sign consists of one single-sided LED sign panel proposed to be mounted on one steel column at the subject site. The proposed sign will be visible to motorists travelling in the westbound direction of South Street and possibly both directions of Stock Road (Melville Mandurah Hwy).

The proposed sign is of acceptable dimensions, with no movement or rotation and will display variable advertising messages. The advertisements will be static with no flashing or animations.

Additionally, the proposed LED sign will not obstruct or interfere with any traffic control signs or devices, or with the driver's view of hazards as they will be vertically installed within a private property. Moreover, the proposed LED sign will not obstruct access to any road or other infrastructure, or impact on the movement of general traffic, pedestrians, cyclists or other road users.

Transcore has undertaken a Road Safety Assessment of the advertising sign, with reference to the Guidelines set out in the Main Roads WA 'Policy and Application Guidelines for Advertising Signs Within and Beyond State Road Reserves'. The Road Safety Assessment established that the advertising sign satisfies the general, physical characteristics, display, luminance and dwell time safety conditions set out in the Main Roads WA guidelines.

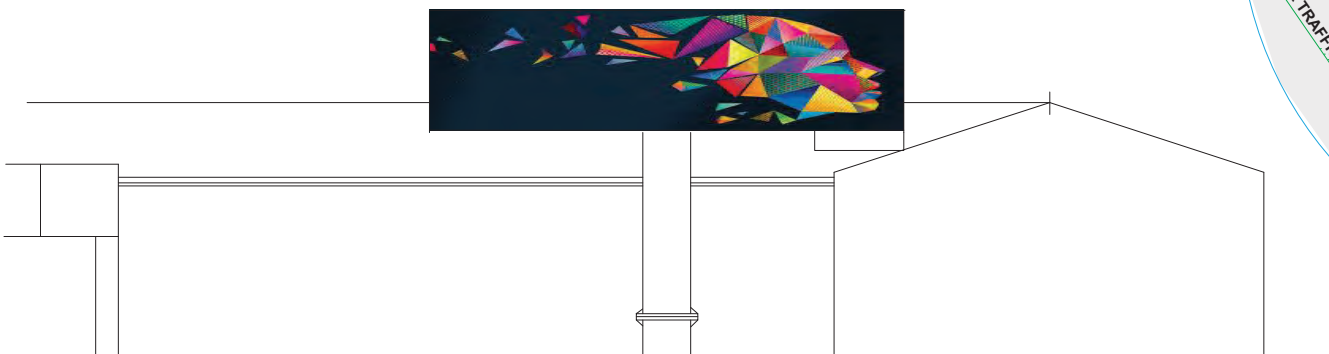
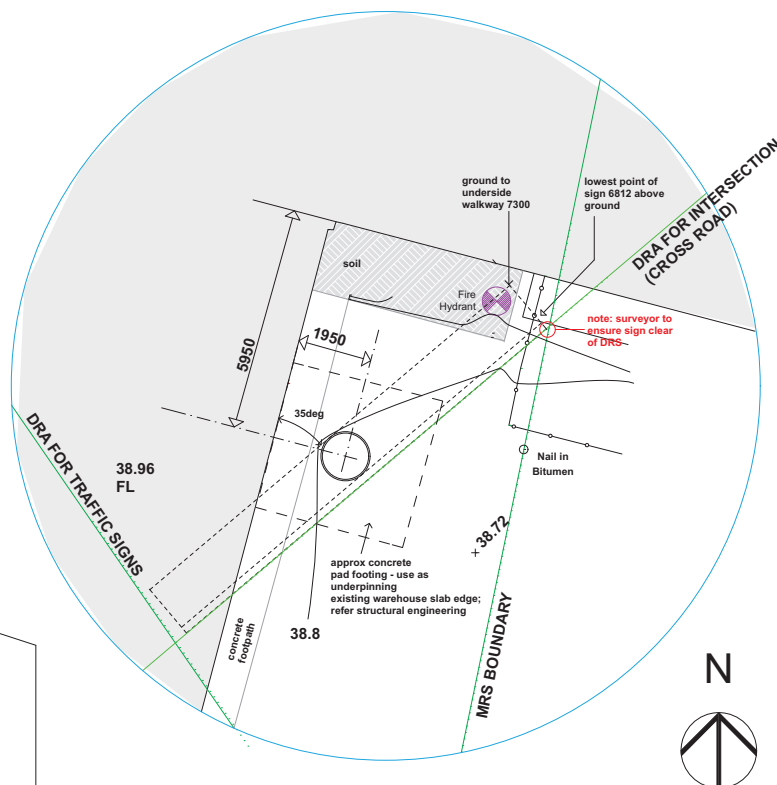
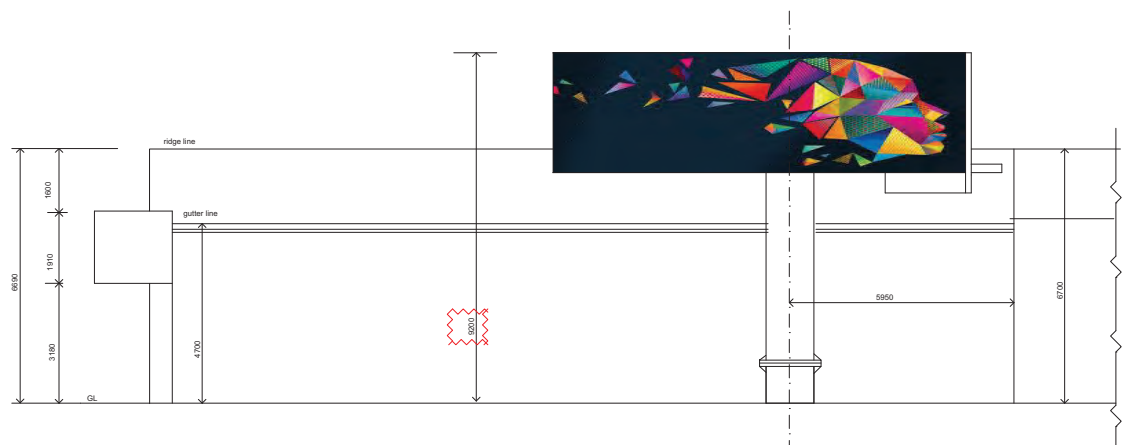
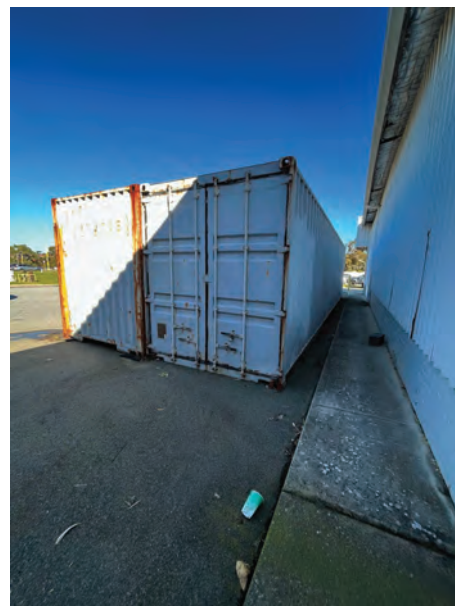
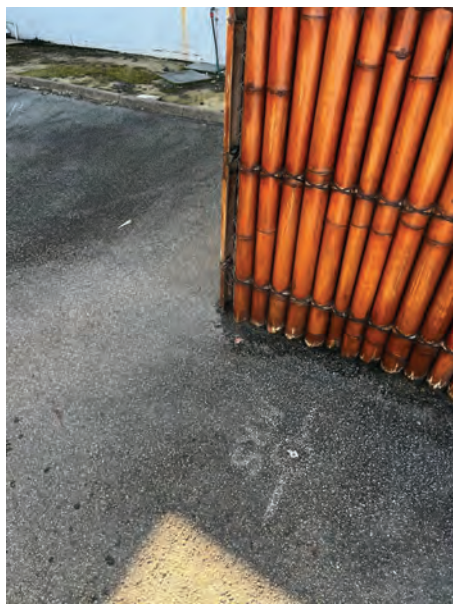
Based on the assessment undertaken by Transcore, the proposed digital advertising sign is **not** impacted by the Device Restriction Areas (DRAs).

The analysis undertaken demonstrates that the crash rate calculations for all relevant sections of South Street and Stock Road (Melville Mandurah Hwy) are below the critical crash threshold and therefore, the proposed sign does not present an unacceptable risk to traffic safety.

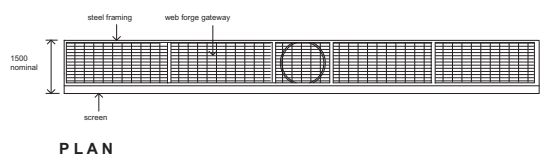
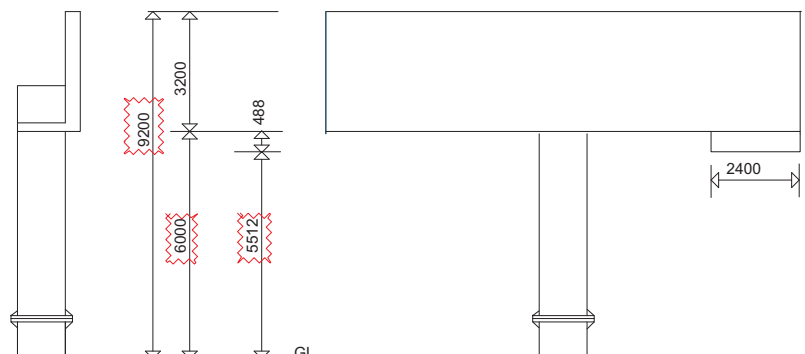
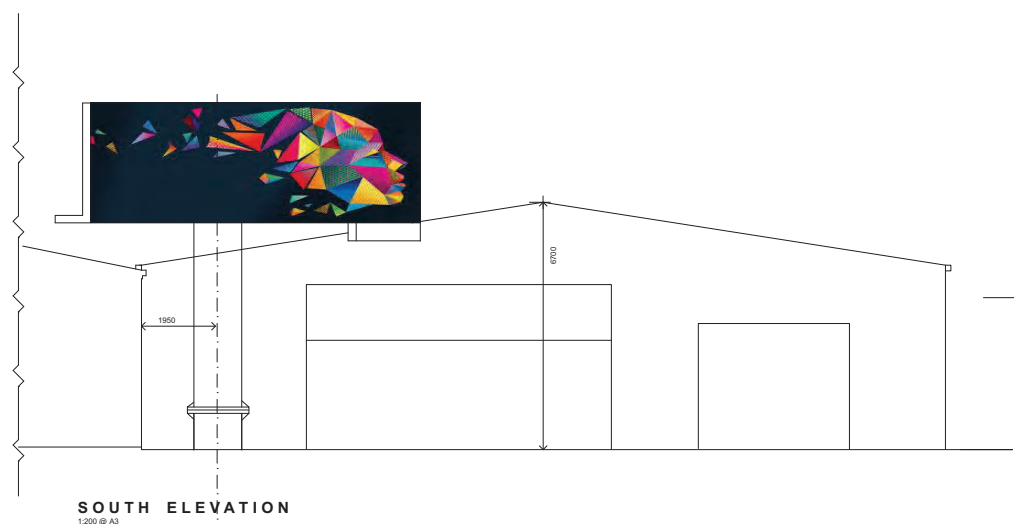
In conclusion, it is considered that the findings of the Road Safety Assessment are supportive of the proposed LED advertising sign.

# Appendix A

## ADVERTISING LED SIGN PLAN



12 480



**R1 FEBRUARY 2024**  
 HEIGHT OF SIGN REDUCED FROM 10.5m TO 9.2m (a reduction of 1.3m)

**LARGE FORMAT DIGITAL SIGN**  
 8 PRITCHARD ST  
 O'CONNOR

Project Design Manager  
 19 Bradstreet Road, Midvale, Western Australia 6156  
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 Email: acw@willisdesigngroup.com.au  
 Website: www.willisdesign.com.au

ACWills AUGUST 2023  
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