Metro Outer Development Assessment Panel Agenda

Meeting Date and Time: Thursday, 19 March 2026; 9:30am
Meeting Number: MODAP/131
Meeting Venue: 140 William Street, Perth

A live stream will be available at the time of the meeting, via the following link:
MODAP/131- 19 March 2026 - Shire of Serpentine-Jarrahdale - City of Cockburn

PART A – INTRODUCTION

1. Opening of Meeting, Welcome and Acknowledgement
2. Apologies
3. Noting of Minutes

PART B – SHIRE OF SERPENTINE-JARRAHDALE

1. Declarations of Due Consideration
2. Disclosure of Interests
3. Form 1 DAP Applications
   - 3.1 Lot 93 (834) and Lot 94(830) South Western Highway, Byford - 23 Multiple Dwellings and Commercial Development with Associated Parking and Landscape – DAP/25/03026
4. Form 2 DAP Applications
5. Section 31 SAT Reconsiderations

PART C – CITY OF COCKBURN

1. Declarations of Due Consideration
2. Disclosure of Interests
3. Form 1 DAP Applications
   - 3.1 Lot 701 Armadale Road, Jandakot - Large Retail Expansion – DAP/25/03002
   - 3.2 Lot 810L Wentworth Parade, Success - Proposed Child Care Premise and Swim School – DAP/25/03028
4. Form 2 DAP Applications
5. Section 31 SAT Reconsiderations

PART D – OTHER BUSINESS

1. State Administrative Tribunal Applications and Supreme Court Appeals
2. Meeting Closure

Please note, presentations for each item will be invited prior to the items noted on the agenda and the presentation details will be contained within the related information documentation

DAP Members
Francesca Lefante (Presiding Member)
Eugene Koltasz (Deputy Presiding Member)
John Syme
President Robert Coales (Part B – Shire of Serpentine-Jarrahdale)
Cr Tom Widenbar (Part C – City of Cockburn)
Cr Chontelle Stone (Part C – City of Cockburn)

DAP Secretariat
Tenielle Brownfield
Ashlee Kelly

PART A – INTRODUCTION

1. Opening of Meeting, Welcome and Acknowledgement

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PART B – SHIRE OF SERPENTINE-JARRAHDALE

1. Declarations of Due Consideration

2. Disclosure of Interests

3. Form 1 DAP Applications

3.1 Lot 93 (834) and Lot 94(830) South Western Highway, Byford - 23 Multiple Dwellings and Commercial Development with Associated Parking and Landscape – DAP/25/03026

4. Form 2 DAP Applications

Nil

5. Section 31 SAT Reconsiderations

Nil

Part B – Item 3.1 - LOT 93 (834) & LOT 94 (830) SOUTH WESTERN HIGHWAY, BYFORD – 23 MULTIPLE DWELLINGS AND COMMERCIAL DEVELOPMENT WITH ASSOCIATED PARKING AND LANDSCAPING

Form 1 – Responsible Authority Report
(Regulation 12)

DAP Name:	Metro Outer Development Assessment Panel
Local Government Area:	Shire of Serpentine Jarrahdale
Applicant:	Planning Solutions
Owner:	Spinnaker Developments No. 4 Pty Ltd
Value of Development:	$8 million
Responsible Authority:	Shire of Serpentine Jarrahdale
Authorising Officer:	Director Development Services
LG Reference:	PA25/157
DAP File No:	DAP/25/03026
Application Received Date:	15 December 2025
Report Due Date:	10 March 2026
Application Statutory Process Timeframe:	90 Days
Attachment(s):	1. Development Plans 2. Schedule of Submissions 3. Applicant and Shire Responses to Community Submissions 4. Full Planning Assessment – Clause 67 5. R-Codes Volume 2 Assessment 6. Proposed Subdivision Plan 7. Traffic Impact Statement 8. Stormwater Management Information Note 9. Noise Management Plan 10. Waste Management Plan 11. Landscaping Plan 12. Tree Survey Report

Responsible Authority Recommendation

That the Metro Outer Development Assessment Panel resolves to:

1. **Approve** DAP Application reference DAP/25/03026 and accompanying plans in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and the provisions of Clause 3 of the Shire of Serpentine Jarrahdale Local Planning Scheme No. 3, subject to the following conditions:

Conditions

1. The development is to be carried out in compliance with the plans and documentation listed below except where amended by other conditions of this consent:

Plans and Specifications	P1 – Development Plans received on 23 February 2026 P2 – Traffic Impact Statement prepared by PTG Consulting on 26 November 2025 P3 – Noise Management Plan prepared by Herring Storer Acoustics on 24 October 2025 P4 – Waste Management Plan prepared by Talis Consultants on 27 October 2025

2. This decision constitutes planning approval only and is valid for a period of 4 years from the date of approval. If the subject development is not substantially commenced within the specified period, the approval shall lapse and be of no further effect.

3. Prior to lodgement of Building Permit, the landowner shall contribute towards development infrastructure pursuant to Local Planning Scheme No. 3, and the specific Development Contribution Plan for Development Contribution Area No. 1, to the satisfaction of the Shire of Serpentine Jarrahdale.

4. Prior to lodgement of Building Permit, the landowner shall contribute towards community infrastructure pursuant to Local Planning Scheme No. 3, and the specific Development Contribution Plan for Development Contribution Area No. 4, to the satisfaction of the Shire of Serpentine Jarrahdale.

5. Prior to lodgement of Building Permit, percent for art shall be provided to the satisfaction of the Shire of Serpentine Jarrahdale, in accordance with Local Planning Policy 1.6 – Public Art for Major Developments. Such art is to be established prior to occupation of the development.

6. Prior to the lodgement of Building Permit, modified plans are to be submitted to and approved by the Shire of Serpentine Jarrahdale, demonstrating the following design changes:

    a. The addition of eight additional visitor and customer parking bays, five within the new verge of Raggle Lane (being created by subdivision of the subject land) and three on the north side of Clara Street, immediately east of the existing street tree opposite Raggle Lane;
    b. The footpath design in the northwest corner of the site including a 3m by 3m truncation and return to ensure a suitable crossing point of Clara Street;
    c. Raggle Lane being fully constructed through to Blytheswood Avenue, within the existing cross section of the land available.

7. Prior to lodgement of Building Permit, civil drawings shall be submitted to and approved by the Shire of Serpentine Jarrahdale, based on the final revised plans required by the conditions of this approval. The civil drawings must detail vehicle parking areas including street bays, accessways, internal roads, crossovers and extensions to the median strip, and all adjoining verge upgrades pertaining to pathways, which must:

    - Be designed in accordance with the relevant Australian/New Zealand Standard;
    - Include a suitable number of car parking spaces dedicated to people with disability designed in accordance with the relevant Australian/New Zealand Standard;
    - Be constructed, sealed, kerbed, drained, marked and thereafter maintained.

    The works are to be completed prior to operation of the development and thereafter maintained.

8. Prior to lodgement of Building Permit, a Stormwater Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. The Plan shall be developed in accordance with Local Planning Policy 2.4: Water Sensitive Urban Design Guidelines to the satisfaction of the Shire of Serpentine Jarrahdale. The Plan must specifically demonstrate:
    a. Complete removal of the historic culvert within the eastern portion of the site;
    b. Excavation of the site to suitably fit culverts which seamlessly continue the concrete box culverts beneath Raggle Lane through the entire site, to connect seamlessly with the culverts beneath South Western Highway;
    c. There being no open gaps at either interface with Raggle Lane or South Western Highway;
    d. The full details of the culverts needing to be constructed through the site in order to fully accommodate the identified storage and conveyance requirements, as set out in the Development Plans, entirely separate to the onsite storage requirements and their catchments which are depicted to deal with onsite drainage runoff.

9. Prior to lodgement of the Building Permit, a Final Acoustic Assessment shall be submitted to and approved by the Shire of Serpentine Jarrahdale. The acoustic assessment shall address the final quiet home design criteria for the apartments, the location and design of mechanical services and noise emissions from future commercial tenancies to comply with the *Environmental Protection (Noise) Regulations 1997* and State Planning Policy 5.4. The Final Acoustic Assessment shall be implemented thereafter.

10. Prior to occupation of the development, an updated Landscaping Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. The updated Landscaping Plan shall include all adjoining verge areas and must detail:

    a. Selection of local native species for trees and understorey planting;
    b. Detailed irrigation plan demonstrating waterwise design principles;

c. New footpaths which are placed along the property edge of the subject site, including a 3m by 3m truncation and footpath return in the northwest corner of the site.

Once approved, the updated Landscaping Plan shall be implemented prior to occupation and maintained thereafter, including all adjoining verge areas.

11. Prior to lodgement of the Building Permit, a schedule of materials, colours and textures shall be submitted which reflect generally LPP3.8 – Byford Town Centre Built Form Guidelines, with particular emphasis on the selection of materials that constitute natural and earthy tones and recycled facebrick and/or stacked stone façade elements.

12. Prior to occupation of the development, a Signage Strategy for the commercial development component shall be submitted to and approved by the Shire of Serpentine Jarrahdale. Once approved, signage shall be displayed in accordance with the approved strategy.

13. Prior to occupation of the development, arrangements being made with the Shire of Serpentine Jarrahdale for ceding 2.5m of land for the widening (completion) of Raggle Lane, plus the associated upgrade of that 2.5m verge space to become visitor parking as referenced in condition 6 (which the widening will become) in the locations shown on the approved plans, to a standard of LPP3.9 – Subdivision and Development Fronting Laneways Within the Byford Old Quarter. The 2.5m strip of land is to be ceded free of cost to the Crown as road widening, and the area fully upgraded to visitor parking in accordance with the specifications and satisfaction of the Shire.

14. Prior to occupation of the development, a 3m x 3m truncation is to be provided in the northwest corner of the site, in order to provide the minimum required space to return the footpath to its intended crossing of Clara Street, as referenced in condition 6. The truncation is to be ceded free of cost to the Crown as road widening.

15. Prior to occupation of the development, arrangements being made for a drainage easement to be secured over the drainage infrastructure through the site which is covering the winter creekline, to the satisfaction of the Shire of Serpentine Jarrahdale. This easement must be granted free of cost and vested in the Shire of Serpentine Jarrahdale under Section 167 of the *Planning and Development Act 2005*. All costs associated with surveying and creating the easement are to be met by the applicant.

16. Prior to occupation of the development, pursuant to Section 165 of the *Planning and Development Act 2005*, a notification is to be placed on the Certificate(s) of Title of the proposed development. The notification is to state:

    "The lots are situated in the vicinity of a transport corridor and are currently affected, or may in the future be affected by, transport noise."

17. Prior to the occupation of the development, all measures depicted within the Waste Management Plan prepared by Talis Consultants and dated 24 October 2025 shall be implemented and thereafter adhered to, to the satisfaction of the Shire of Serpentine Jarrahdale.

18. Prior to lodgement of a Building Permit, a Lighting Plan shall be submitted to and approved by the Shire to demonstrate the provision of suitable directional lighting that helps maintain the amenity of the immediate area. Once approved, lighting shall be installed prior to occupation and maintained thereafter in accordance with the approved Lighting Plan.

19. Prior to lodgement of a Building Permit, plans shall be submitted to and approved by the Shire demonstrating how vehicles accessing the office tenancy tandem car bays (2) can reverse out of the site with suitable site lines so as to limit any risk to pedestrians using Clara Street.

20. No permanent development is permitted within the land acquired for future road widening purposes, including the corner truncation, as detailed in the Land Protection Plan 201231-0007-1.

21. Prior to the issue of a Building Permit, the redundant vehicle crossovers are to be removed and kerbing, verge, and footpath (where relevant) reinstated with grass or landscaping to the specifications and satisfaction of the Shire of Serpentine Jarrahdale.

22. No waste collection is permitted from South Western Highway.

Advice Notes:

1. The property is affected by land reserved in the Metropolitan Region Scheme as shown on Land Protection Plan 201231-0007-1 and will be required for road purposes in the future.

2. The upgrading/widening of South Western Highway is not in Main Roads current 4-year forward estimated construction program and all projects not listed are subject to change without notice, and Main Roads assumes no liability for the information provided.

3. Prior to undertaking works within the South Western Highway Reserve, a Working on Roads Permit must be obtained from Main Roads.

4. The applicant is required to submit an Application form to undertake works within a 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.

Details: outline of development application

Region Scheme	Metropolitan Region Scheme
Region Scheme - Zone/Reserve	Urban, Primary Regional Roads
Local Planning Scheme	Shire of Serpentine Jarrahdale – Local Planning Scheme No. 3 (LPS3)
Local Planning Scheme - Zone/Reserve	Mixed Use

Structure Plan/Precinct Plan	Byford Town Centre
Structure Plan/Precinct Plan - Land Use Designation	Mixed Use
Use Class and permissibility:	'Multiple Dwelling' - P 'Office' - P
Lot Size:	2602m^2
Existing Land Use:	Single house
State Heritage Register	No
Local Heritage	☒ N/A ☐ Heritage List ☐ Heritage Area
Design Review	☒ N/A ☐ Local Design Review Panel ☐ State Design Review Panel
Bushfire Prone Area	No
Swan River Trust Area	No

Proposal:

The application seeks approval for a mixed use development at Lot 94 (830) and Lot 93 (834) South Western Highway, Byford, which involves the following components:

- A residential development compromising:
    - 2x two-storey buildings
    - 23 multiple dwellings
    - 24 parking bays (23 resident bays / 1 visitor bay)
    - Vehicle access from Raggle Lane

- A commercial development comprising:
    - 1 x two-storey building
    - 167m^2 of gross commercial floorspace (2 x tenancies)
    - 2 x tandem parking bays
    - Vehicle access from Clara Street

- Associated verge upgrades and landscaping and the construction of 2 x embayed parking bays

Proposed Land Use	'Multiple Dwelling' and 'Office'
Proposed Net Lettable Area	167m^2
Proposed No. Storeys	2
Proposed No. Dwellings	23 multiple dwellings

Background:

The subject site is located within the Byford Town Centre and is approximately 150m from the new Byford Train Station.

The site is a corner lot bound by South Western Highway to the west, Clara Street to the north and Raggle Lane to the east. The site is also bisected by part of the Oakland Creek, which currently functions as an open water winter creek with its headwater emanating to the east, up the Darling Scarp. The development site is shown following:



Figure 1: Aerial - development site

The site benefits from its close proximity to a range of local amenities and infrastructure, including:

- 100m northeast of Byford Dome and Byford Centre
- 150m southeast of Byford Train Station
- Immediately north, east and south of the site is residential development

The site in the context of its surroundings is shown following:



Figure 2: Aerial – Surrounding locality

Existing Development

The subject site compromises of 2 single residential dwellings, both of which are vacant. The buildings currently have frontage and crossovers to South Western Highway.

The site is largely flat with a slight slope heading towards the east of the site. There is also a pedestrian footpath located approximately 2.5m from the South Western Highway boundary.

Proposed Development

The proposed development includes the following components:

1. **A 2,140m^2 residential site containing:**
   - A two-storey residential building with frontage to Clara Street, including:
     - 7 x apartments (2 bed) on the ground floor
     - 8 x apartments (2 bed) on the first floor
     - 1 x visitor parking bay
     - 3 x resident parking bays
   - A two-storey residential building with frontage to South Western Highway, including:
     - 4 x apartments (2 bed) on the ground floor
     - 4 x apartments (2 bed) on the first floor
   - 19 surface level resident parking bays with access from Raggle Lane
   - Associated landscaping including communal open space

2. **A 350m^2 commercial site containing:**
   - A two-storey commercial building with frontage to South Western Highway, including:
     - 167m^2 commercial floorspace (2 x tenancies)
     - 2 x tenant parking bays in a tandem configuration
   - A landscaped corner with a feature shade tree
   - Vehicle access from Clara Street

3. Verge landscaping and construction of 2 x verge parking bays along Clara Street

Full details of the proposal are contained within **Attachment 1**. The site plan, elevation plan and floor plans are shown following:

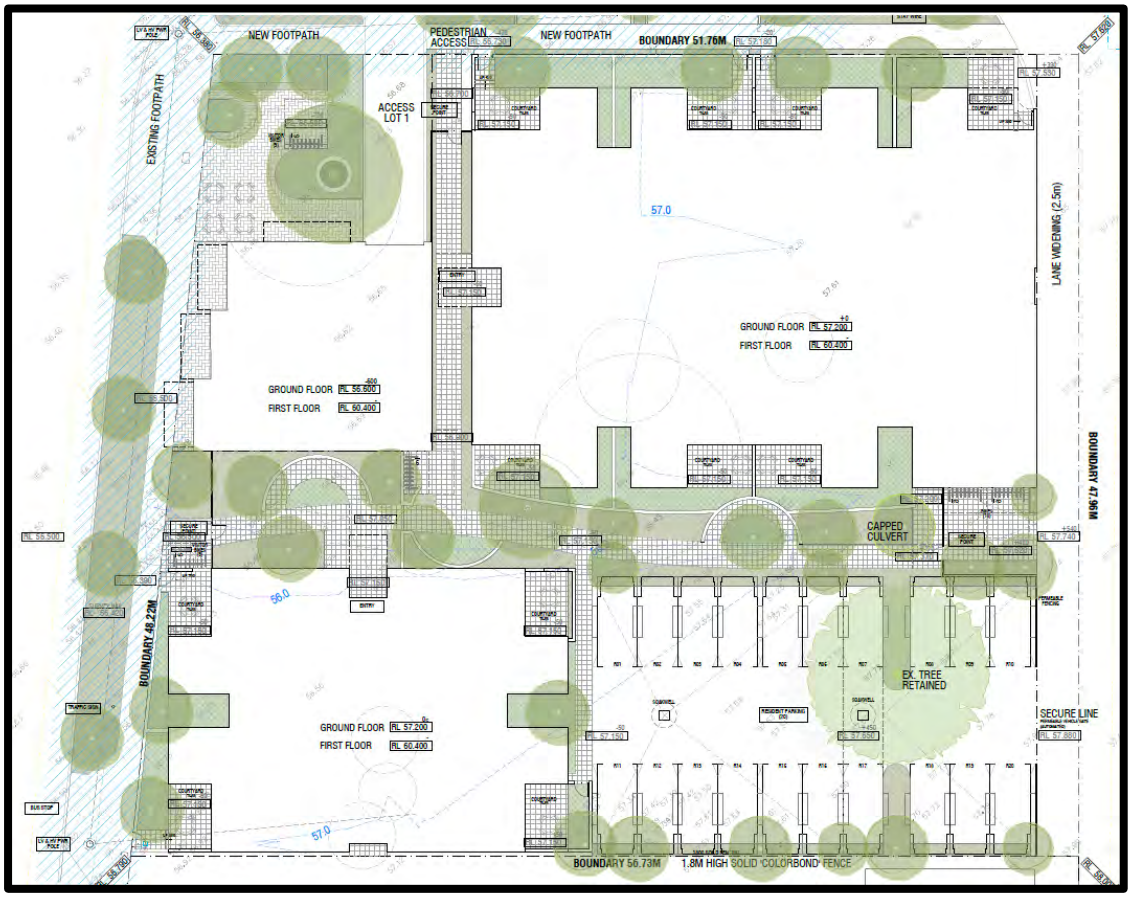


Figure 3: Site plan



Figure 4: Elevation plan



Figure 5: Ground floor plan



Figure 6: First floor plan

Legislation and Policy:

Legislation

- *Planning and Development Act 2005*
- *Planning and Development (Local Planning Schemes) Regulations 2015*
- *Environmental Protection (Noise) Regulations 1997*
- *Planning and Development (Development Assessments Panel) Regulations 2011*
- *Metropolitan Region Scheme (MRS)*

State Government Policies

- Residential Design Codes Volume 2 – Apartments (R-Codes)
- WA Planning Manual – Non-Residential Car Parking Rates in Perth and Peel
- State Planning Policy 5.4 – Road and Rail Noise (SPP5.4)
- State Planning Policy 7.0 – Design of the Built Environment (SPP7.0)

Structure Plans/Activity Centre Plans

- Local Structure Plan – Byford Town Centre

Local Policies

- Shire of Serpentine Jarrahdale Local Planning Scheme No. 3

- Shire of Serpentine Jarrahdale Local Planning Strategy
- Local Planning Policy 1.4 – Advertising Development Applications (LPP1.4)
- Local Planning Policy 1.6 – Public Art for Major Developments (LPP1.6)
- Local Planning Policy 2.4 – Water Sensitive Design (LPP2.4)
- Local Planning Policy 3.8 – Byford Town Centre Built Form Guidelines (LPP3.8)
- Local Planning Policy 3.9 – Subdivision and Development Fronting Historic Lanes Within the Byford Old Quarter (LPP3.9)
- Local Planning Policy 4.11 – Advertising Policy (LPP4.11)
- Local Planning Policy 4.16 – Tree Retention and Planting (LPP4.16)
- Local Planning Policy 24 – Designing out Crime (LPP24)

Consultation:

Public Consultation

LPP1.4 provides a framework for assessing development applications received by the Shire pursuant to Clause 64 of the *Planning and Development (Local Planning Scheme) Regulations* 2015. In regard to the advertisement of development that is a permitted 'P' use under LPS3, LPP1.4 states that:

"The Shire may advertise any other application (including P, I and D land uses) for development approval where the Shire is of the opinion that:

f. Works component of the Development Application proposes non-compliance with an additional site and development requirements under Schedule 4 of LPS3 or any other relevant framework (LPPs, SPPs, etc).

g. Development is likely to adversely affect any owners or occupiers in the general locality or in an area adjoining the site of the development."

Shire officers advertised the application as it seeks variations to multiple policy requirements and has the potential to cause broader external traffic impacts to the wider locality.

The application was advertised for period of 21 days (inclusive of public holidays) to surrounding landowners within a 200m radius of the site from 23 December 2025 to 13 January 2026 in accordance with LPP1.4. An advertisement was posted on the Shire's website for the same period.

At the end of the advertisement period, 155 submissions were received, comprising of 153 objections and 2 supporting the proposal. It is noted that 13 additional objections from community members were received after the conclusion of the advertisement period. A full schedule of submissions is contained within **attachment 2**.

Applicant and Shire responses to key concerns raised during the community consultation period are contained within **attachment 3** and summarised within the following table:

Issue Raised	Officer comments
Objection to the development of social housing (crime, antisocial behaviour, and community safety/concerns, concerns about property management and maintenance)	The original development plans and planning report received on 15 December 2025 stated, *"the component of the development will be managed by the Department of Housing and Works for social housing purposes*." The application was subsequently advertised with this information. Following the completion of advertising, the Shire was advised that while the intent is for the development to become social housing, there is currently no binding agreement in place for this. An updated planning report was received by the Shire on 21 January 2026 removing all referencing to social housing. Given that no material changes were proposed to the development itself, the readvertisement of the application was not warranted. Notwithstanding this, Clause 67 of the Deemed Provisions list the matters that are to be considered as part of an assessment of a development. It is not a relevant planning consideration to specifically consider tenure arrangements, and there is no specific evidence presented in submissions to support the position that a development which includes social housing, will lead to crime. Notwithstanding this, Clause 67 does list relevant matters including safety and social impacts of the development. In this regard, it is a principle of Crime Prevention Through Environmental Design that achieving lower crime incidents is through combination of : 1. designing the built environment so that it is more difficult to commit crimes undetected and; 2. designing the built environment where people feel safe (i.e they don't have the *perception* of a high crime/antisocial behaviour environment.) This principle is reflected in both the LSP and LPP 24 – Designing out Crime which aims to ensure built form outcomes support the reduction in actual and perceived crime as well as anti-social behaviour. The five principles of LPP24 are; Surveillance, Access Control, Territorial Reinforcement, Target Hardening and Management and Maintenance. The location and orientation of the buildings are considered to provide clear sightlines between buildings and parking areas. All lot boundaries abut a street except for the southern lot boundary where the building has a nil setback so as to not result in any secluded areas not capable of surveillance from the street or

	public realm. The borders of the development are clearly defined to ensure ease of wayfinding. A condition is recommended for a Lighting Plan to be provided to ensure the lighting of pedestrian routes to reinforce the perception of a safe environment. Fencing along street boundaries is proposed to be visually permeable increasing the perception of surveillance. Windows are also located so as to ensure passive surveillance of communal areas and accessways. Whilst the consideration of land use tenure is not a relevant planning consideration, the development does address safety and social impacts through CPTED design which is considered satsifactory.
Onsite parking shortfall will result in overflow onto verges, neighbouring streets and surrounding businesses	Onsite residential parking complies with the R-Codes and all multiple dwellings have been provided with one parking bay. The only parking shortfall proposed is a shortfall in on-site visitor parking. This is assessed under the **car parking** section of this report.
Inadequate consultation and timing of notification	The application was advertised in accordance with LPP1.4 – Advertising Development Applications and Clause 64 of the Deemed Provisions. It was advertised for a period of 21 days to account for the Christmas holiday period. The Shire understands that several surrounding landowners received notification by mail less than one week before the conclusion of the advertisement period. Late submissions from surrounding landowners have been included within the schedule of submissions.
Traffic generation will negatively impact the local street network and South Western Highway	This is assessed under the **Traffic** section of this report.
Building design, scale and height is incompatible with and does not reflect the Byford Old Quarter	This is addressed under the **R-Codes** section of this report.
Pressure on local infrastructure and public services (e.g. schools, healthcare, policing)	Both the 'multiple dwelling' and 'office' land uses are permitted uses within the Mixed Use zone and may be considered expected development for this site. Further, the proposed development aligns with the objectives of the Byford Town Centre.

Loss of privacy / overlooking on neighbouring properties	This is addressed under the **R-Codes** section of this report.
No evidence that stormwater can be managed on site and will not cause upstream impacts	This is addressed under the **Stormwater** section of this report.
Need for more and higher quality landscaping	This is addressed under the **Landscaping** section of this report.
Impact on property values	Not a relevant planning consideration in accordance with the Deemed Provisions.

Referrals/consultation with Government/Service Agencies

The following Government agencies were referred to and the responses recorded below:

Department of Water and Environmental Regulations
The Department has identified that the proposed development has the potential to impact upon environment and water resource values and management. In principle the Department does not object to the proposal however key issues, recommendations and advice are provided below and these matters should be addressed. **Issue** Stormwater Management **Advice** The proponent should manage stormwater in accordance with the *'Decision process for stormwater management in WA (DoW 2016)'* and the *'Stormwater Management Manual for Western Australia (DoW 2004–2007)'.* The Department recommends that the first 15 mm of stormwater runoff from the carpark hardstand area should be designed to undergo water quality treatment via biofiltration. This can be through vegetated swales, raingardens or bioretention basins set off-line from the general flood storage. Furthermore, the Department recommends the proponent prepare a Stormwater Management Plan (SMP) as part of the development approval process. The SMP should include, • design cross-sections of any infiltration basins (cross-sections should include basin inverts, maximum groundwater level (MGL), use of amended soils and vegetation and top water levels for each rainfall event. • required storage for each rainfall event (Stormwater runoff should be fully contained onsite for small and minor storm events). • permitted outflow of stormwater/floodwater runoff from the site (post development discharge off-site should be similar to predevelopment discharge) • stormwater quality management objectives and proposed treatment train

In the event there are modifications to the proposal that may have implications on aspects of environment and/or water management, the Department should be notified to enable the implications to be assessed.

Officer Comment:
A Stormwater Design Note has been included as part of the initial plans, this has been reviewed by the Shire's officers and it has been demonstrated that it would be capable of enabling on site stormwater retention in addition to supporting flows from the Oaklands Creek in order to mitigate any upstream effects. A Condition requiring the submission of a full Stormwater Management Plan is supported and reflected in the recommendation, with the specific requirement to clearly document the culvert sizing and design, and a separate condition to also ensure protection of this through a drainage easement to the benefit of the Shire.

Main Roads WA

In response to your correspondence received on 15 December 2025, please be advised Main Roads has reviewed the development application and is unable to provide comments and a recommendation until the following further information has been provided:

Amended Development Plans
Amended development plans are required to address the following:

South Western Highway PRRR
The development plans are to be amended to accurately depict the South Western Highway Primary Regional Road Reservation (PRRR).

No form of development should encroach upon the land requirement for South Western Highway PRRR. The proposal is not to impact the ultimate road design of South Western Highway.

Removable potted vegetation, low-level landscaping and detachable awnings can be considered within the PRRR. In regard to landscaping, such landscaping is not to count toward the developments overall landscaping requirements or the dedicated outdoor living areas for dwellings. Landscaping must not create a safety issue by limiting sightlines to or from side roads.

The development plans are also to be revised to relocate any fencing/walls required to satisfy Quiet House Design Packages, in accordance with State Planning Policy 5.4 – *Road and Rail Noise,* wholly outside the PRRR.

Proposed Vehicular Access Lot 1
Swept path analysis for proposed access to Lot 1 was not undertaken or presented in the Transport Impact Statement. A vehicle wanting to turn right into the access point may not be able to undertake the manoeuvre in one attempt due to the driveway location and geometric constraints (existing median island, driveway and road kerbs). A vehicle would be required to turn more than 90 degrees to undertake the turn. Furthermore, a motorist undertaking a left turn from South Western Highway wishing to travel east along Clara Street will not expect a vehicle waiting to undertake a difficult manoeuvre into the proposed access to Lot 1. This situation could lead to rear end crashes on South Western Highway.

As such, the existing median island at South Western Highway and Clara Street is required to be extended eastward thus limiting the proposed access to Lot 1 to left-in-left-out and reduce safety risks. <u>Further Submission was received from Main Roads on 10 March 2026 providing support for the proposed development subject to conditions regarding:</u> • No development within South Western Highway road reserve; • Upgrading of median • Noise attenuation • Amalgamation of the lots • Stormwater • Removal of unused crossovers • Waste collection
Officer Comment: The applicant provided updated development plans on 19 February 2026 showing the extension of the existing median island on South Western Highway and Clara Street to limit right turn access from eastbound vehicles on Clara Street and avoid the associated safety risks of this manoeuvre. Further discussion is detailed under the Metropolitan Region Scheme and Traffic section of this report. The recommended conditions from Main Roads have been reflected in the recommendation except for the amalgamation of the lots. As discussed within the report following, the lots are proposed to be subdivided. This is considered to achieve the purpose of the recommended condition.

Planning Assessment:

A full assessment against Clause 67(2) of the Deemed Provisions has been undertaken within **attachment 4**. For the purposes of this report, discussion is confined to the objections received and key matters where discretion is required to be exercised.

<u>Metropolitan Region Scheme</u>

The subject site is primarily zoned 'Urban' under the Metropolitan Region Scheme (MRS).

A portion of the western boundary of the site is reserved as 'Primary Regional Road' under the MRS for the widening of South Western Highway. The alignment of the future road reserve is reflected in the design of the proposed development.



Figure 7: MRS zoning and reservation

Notwithstanding, it is noted that building awnings attached to the commercial building are proposed to encroach within the South Western Highway PRRR, thereby requiring written approval by MRWA for its construction in accordance with Section 76 of the *Building Act 2011*. In their referral comment, MRWA stated that *detachable awnings can be considered within the PRRR*, acknowledging the ability for this minor projection to be approved within this application. The area of awning encroaching within the South Western Highway PRRR is shown following:

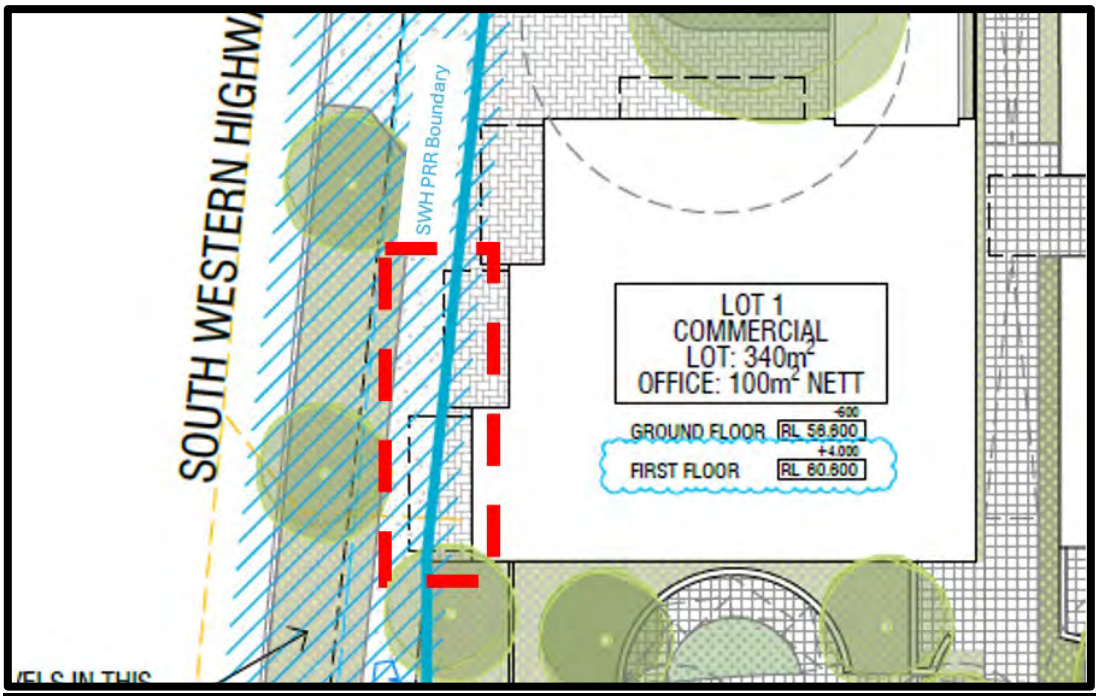


Figure 8: Awning encroaching within South Western Highway PRRR

Any other minor items such as planter boxes, etc do not require approval from MRWA and are subject to Shire discretion. It is therefore considered that the proposal meets the requirements of the PRR and can be supported through an advice note requiring any awnings or other structures of a similar nature to seek approval from MRWA.

Local Planning Scheme No. 3

Zoning and Land Use

The subject site is zoned 'Mixed Use' under Local Planning Scheme No. 3 (LPS3). The proposed development is considered to be 'office' and 'multiple dwelling' land uses, which are defined following:

Office – "*means premises used for administration, clerical, technical, professional or similar business activities."*

Multiple dwelling – "*a dwelling in a group of more than one dwelling on a lot where any part of the plot ratio area of a dwelling is vertically above any part of the plot ratio area of any other but:*

- does not include a grouped dwelling; and
- includes any dwellings above the ground floor in a mixed use development."

Office and multiple dwelling land uses are both 'P' within the Mixed Use zone. The combination of a commercial land use and residential land use is supported within the Mixed Use zone.

Car Parking

The car parking requirement for the residential component is detailed within the Clause 3.9 of the R-Codes. Given that the site is within an 800m distance of the Byford Train Station, the applicable parking rates for this development are:

- Residents – one bay per 2+ bedroom dwelling
- Visitors – one bay per four dwellings up to 12 dwellings and one (1) bay per eight dwellings for the 13th dwelling and above

The application therefore requires 23 bays for residents and 5 bays for visitors. The development proposes 23 bays for residents, compliant with the R-Codes. Only one visitor bay is provided on site and two visitor bays are proposed to be constructed on Clara Street. As such there is a two bay shortfall for the apartment component of the development under the R-Codes.

The car parking requirement for the office component is detailed within Schedule 4.3 of LPS3, which is *"1 bay per 40m^2 of NLA*." This requires the development to have five bays under LPS3 whereas the development proposes two onsite bays, representing a shortfall of three bays for that component of the development.

The car parking requirements and provisions are summarised following:

Land Use	Yield	Requirements	Parking Required	Parking Provision	Surplus / Shortfall
Residential	23 dwellings	1 bay per dwelling for 2+ bedroom dwellings	23	23	0
	Visitor Parking	1 bay per four dwellings up to 12 dwellings	4	3	-2
		1 bay per eight dwellings up to 13th dwelling and above	1		
Commercial (Office)	177 m^2 NLA	1 bay per 40 m^2 NLA	5	2	-3
Total			33	28	-5

Figure 9: Car parking requirements and provisions

With regard to the apartments, while the site is located in an accessible area with public transport services including the Byford train station situated nearby, this is not considered a sufficient offset to the need for convenient, nearby visitor parking. Depending on where visitors are coming from, there is a concern that the train station and public transport will only service a particular geographic catchment, and the nature of such visitation (e.g. goods delivery) means that public transport may further not represent a viable option.

With regard to the office component, there is clearly also the need for customer parking to be accounted for, and any attempt to not provide this will pose practical limitations on business operations. This would likely lead to either ad hoc street and/or verge parking, which in conjunction with the reduced visitor bays for the apartment component, would cause local amenity impacts.

In order to address this issue for both the apartment and office components, officers have identified that there is sufficient space for the development to add further constructed onstreet parking within the new verge area being created on Raggle Lane, and the north side of Clara Street. This is shown in the following image:



Figure 9a - Additional visitor parking

Given the need to also accommodate for more compact private transport choices of apartment owners, bay number 4 shown above is recommended to be allocated to motorcycle / scooter parking, further increasing the supply of parking and anticipated transport options for customers and visitors.

Bicycle Parking

The bicycle parking requirement for the residential component is detailed within Clause 3.9 of the R-Codes, which are detailed below:

- Residents – 0.5 space per dwelling
- Visitors – 1 space per 10 dwellings

The requirement for the office component is detailed under Schedule 4.4 of LPS3, which are detailed below:

- Staff – one (1) bay per 200m^2 NLA
- Visitors – one (1) bay per 750m^2 NLA

The proposed development will provide a total of nine (9) visitor bicycle racks, 18 communal bicycle racks, and six (6) resident bicycle racks across the facilities.

The bicycle parking requirements and provisions are summarised as follows:

Land Use	Yield	Requirements	Parking Required	Parking Provision	Surplus / Shortfall
Residential	23 dwellings	0.5 bay per dwelling	12	36	19
	Visitor Parking	1 bay per 10 dwellings	3		
Commercial (Office)	177 m^2 NLA	Staff: 1 bay per 200 m^2 NLA Visitors: 1 bay per 750 m^2 NLA	1		
Total			17	36	19

Figure 10: Bicycle parking requirements and provisions

Residential Design Codes Volume 2 – Apartments

R-Code Density

Schedule 4.1 of LPS3 states that *"Residential development within the Mixed Use zone shall have a density coding of R60 in accordance with the R-Codes unless otherwise specified in the Scheme or an approved structure plan*."

Section 1.10 of the Byford Town Centre LSP follows that *"a preferred R-Coding of R80 is set for the Town Centre*,' which includes both the retail core and mixed use area to the east of South Western Highway. Therefore, an R80 density is assumed for the assessment of the residential component of the proposed development.

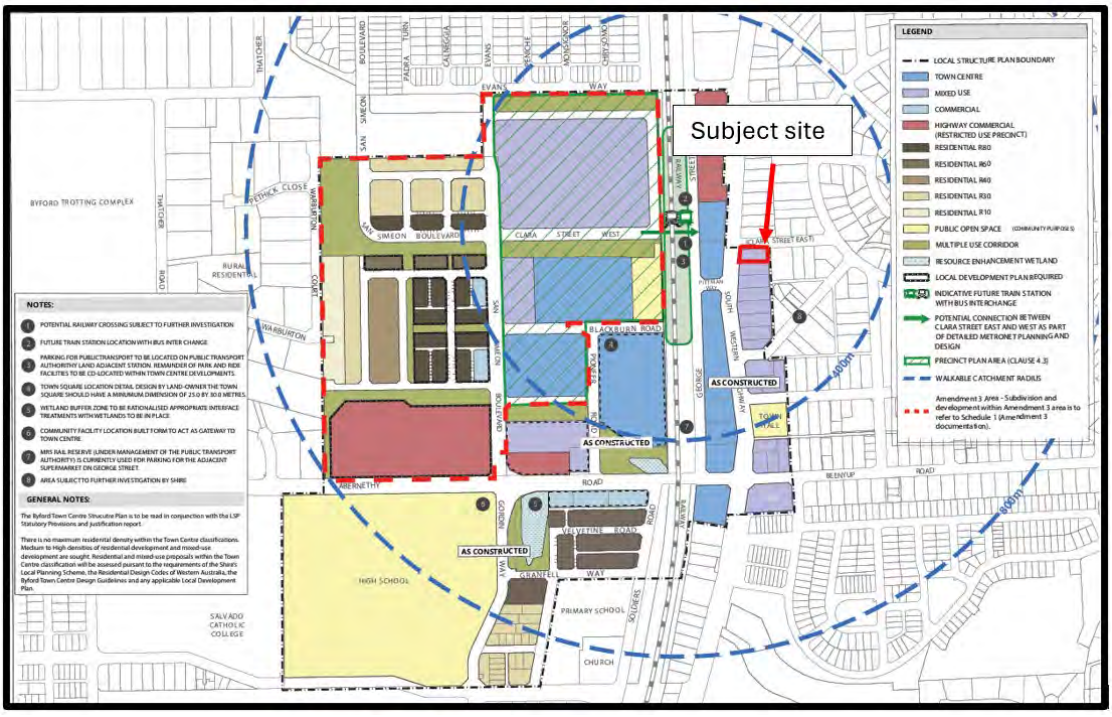


Figure 11: Byford Town Centre LSP

Assessment of Variations

A full assessment of all R-Code provisions, including those where augmented by the local planning framework, has been undertaken and contained within **attachment 5**. This has been reviewed by Shire officers. Shire officers have identified a number of

issues, as already covered, specific to carparking that need to be addressed through revised plans and specifically addition visitor parking capacity for both development components.

A summary of variations to the planning framework, including the R-Codes and Local Planning Policy 3.8 – Byford Town Centre Built Form Design Guidelines, is considered within the table following:

Provision	Requirement	Variation
2.3 Street Setbacks	Secondary street setback – 2m	Building 2 has a nil setback to Raggle Lane. The variation is acceptable given that Building 2 occupies only a portion of the total length of the eastern lot boundary with Building 1 set back more than 25m for the remainder. The eastern elevation of Building 2 is well articulated and will not negatively impact the character of the laneway.
	Primary street setback (south Western Highway) – 3m	Building 1 is set back variable distances of 0.85-4.4m from South Western Highway as a consequence of the angled lot boundary. The average setback is consistent with the policy objective of a 3m setback.
	Insets up to 3.0 metres deep and up to 10m long for façade walls may be permitted above GF. Any insets shall be framed on at least one side by a solid wall.	Building 1 fronting South Western Highway has one façade inset with a width of 2m and a depth of 3.6m, whilst Building 2 fronting Clara Street has two façade insets with a width of 2m and a depth of 3.6m. The minor variation in the depth of the insets is acceptable given that façade insets are framed by solid masonry walls on both sides which exceeds the minimum requirement.
3.3 Tree Canopy and Deep Soil Areas	Deep soil areas are provided in accordance with Table 3.3a (10% = 258.7sqm). Deep soil areas are to be co-located with existing trees for retention and/or adjoining trees or alternatively provided in a location that is conducive to tree growth and suitable for communal open space.	Deep soil areas around large trees do not meet the minimum area and dimensions but have been supplemented by permeable paving and confirmed by the landscape architect as acceptable.

3.5 Visual Privacy	Visual privacy setbacks for unenclosed private outdoor spaces – 6m	The A211 balcony is 1.4m from the southern lot boundary. Visual privacy outcomes have been achieved with screening and tree planting along the boundary.
	Balconies are unscreened for at least 25% of their perimeter (including edges abutting a building)	Balconies are screened for less than 25% of their perimeter for all apartments, with the exception of A211.
3.6 Public Domain Interface	Balustrading includes a mix of visually opaque and visually permeable materials to provide residents with privacy while maintaining casual surveillance of adjoining public domain areas	Balconies utilise a consistent balustrade design that is visually permeable to achieve casual surveillance of the public domain. Balconies are located adjacent to living areas, allowing residents to withdraw into their living rooms for privacy.
3.8 Vehicle Access	Walls, fences and other structures truncated or reduced to no higher than 0.75m within 1.5m of where walls, fences, or other structures adjoin vehicle access points where a driveway meets a public street and where two streets intersect	Whilst fences exceeding 0.75m are located within 1.5m of the access points, the fences are 100% visually permeable and would not obstruct reversing sightlines for vehicles.
3.9 Car and Bicycle Parking	Addressed under **Car Parking** section of this report.	
4.4 Private Open Space and Balconies	Each ground floor 2-bedroom apartment has a private open space accessed directly from a habitable room with minimum dimensions of 3m and a minimum area of $15m^2$.	A102, A103, A104, A105, A108, A109, A110, A111 have private open spaces with an area of less than $15m^2$ - however these areas are located within larger private open space area that all exceed 15m2, notwithstanding the minimum dimensions being less than 3m.

	Each upper-level 2-bedroom apartment has a private open space accessed directly from a habitable room with minimum dimensions of 2.4m and a minimum area of 10m^2.	A202 has a balcony with a total area of 8.2m^2, and a minimum dimension of 1.2m. The balcony exceeds the 8m^2 the R-Codes considers the minimum for a functional balcony, and is directly adjacent to a living room allowing for a larger, functional space.
4.5 Circulation and Common Spaces	Bedroom windows and major openings to living rooms do not open directly onto circulation or common spaces and are designed to ensure visual privacy and manage noise intrusion.	Three bedroom windows (A103, A104, A105) open onto the communal open space, however the windows are small, screened and separated by landscaping and fences to avoid any direct visibility.
4.6 Storage	Each dwelling has exclusive use of a separate, ventilated, weatherproof, bulky goods storage area. This can be located either internally or externally to the dwelling with dimensions in accordance with Table 4.6. Minimum dimension: 1.5m Minimum height: 2.1m 2 bedroom dwellings: 4m^2	Each dwelling has an internal storage space with a total area of 4m^2 and a minimum dimension of 1.3m^2. The variation to the minimum dimension is considered minor and does not detrimentally affect the functionality of the storage spaces in any way.
4.7 Managing the Impact of Noise	Addressed under the **Noise** section of this report.	

Built Form

SPP7.0 provides design principles for design quality and built form outcomes in Western Australia. An assessment against the policy is detailed below:

Design Element	**Design Outcome**

Context and Character Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place	The development proposes mixed use, two storey development within the Byford Town Centre, working towards achieving the identified objectives of the Byford Town Centre LSP. The development responds to the architectural context with a face brick façade treatment consistent with the residential character of the area. The proposed multiple dwellings respond to a need for high density residential development within proximity of the Byford train station.
Landscape Quality Good design recognises that together landscape and buildings operate an integrated and sustainable system, within a broader ecological context	The landscaping plan supports the location and number of deep soil areas that are capable of accommodating substantial tree planting. Tree and plant landscaping has been incorporated throughout the development to provide a comfortable space for residents and to provide a positive presentation to the public realm. The selection of species, tree sizes and arrangements will require further careful consideration to reflect native environmental assets.
Built Form and Scale Good design provides development with massing and height that is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the area	The building has a maximum height of two storeys, consistent with the expectations of the local planning framework. The building negotiates the transition between the district centre to the west and lower density residential area to the north, south and east. Building siting on the subject site considers access to solar and overshadowing and ensures an appropriate built form and scale is proposed to maximise solar opportunities.
Functionality and Build Quality Good design meets the needs of users efficiently and effectively, balancing functional requirements to deliver optimum benefit and performing well over the full lifestyle	The development delivers a simple and efficient structure with largely identical floorplates across the two residential buildings, facilitating an efficient and cost effective build. The design of the development also allows for sensitivity in the functionality of the development, providing appropriate security and safety for residents.
Sustainability Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes	The development involves a focus on passive design features while ensuring energy efficiency building requirements under the National Construction Code can be met. Solar panels have been incorporated into the development, promoting sustainability.

Amenity Good design optimises internal and external amenity for occupants, visitors and neighbours, contributing to living and working environments that are comfortable and productive	Windows maximise natural light and ventilation, with layouts based on Silver Liveable Housing Design Guidelines. The multiple dwellings are designed with sufficient balcony sizes, accessible from living spaces. An adequate landscaping provision throughout the development provides residents with a moderation of built form and vegetation.
Legibility Good design results in buildings and places that are legible, with clear connections and memorable elements to help people find their way around	Site access segregates cars and people. Access into the commercial building and residential buildings is appropriately designated from a legibility perspective. Simple building form allows spaces to be understood and clear distinction between the public and private realm. To ensure suitably safe pedestrian movement around the site, a 3m truncation is required in the northwest corner of the site as discussed, to ensure a suitable return of the footpath to cross Clara Street.
Safety Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use	Pedestrian safety is provided through ensuring visibility between pedestrian approaches and the building entrances. Passive surveillance of the street is provided from all dwellings fronting the street having appropriate passive surveillance elements. Additionally, appropriate separation is afforded within the development for resident safety minimising entrapment areas. To ensure suitably safe pedestrian movement around the site, a 3m truncation is required in the northwest corner of the site as discussed, to ensure a suitable return of the footpath to cross Clara Street.
Community Good design responds to local community needs as well as the wider social context, providing buildings and spaces that support a diverse range of people and facilitate social interaction	The development delivers high density housing in proximity to retail, community services and public transport (rail). All apartments have access to services and amenities such as bicycle parking and the nearby town centre. It supports a range of housing product that is not available within Byford or the Shire more broadly, creating opportunity for family and occupant diversity.
Aesthetics Good design is the product of a skilled, judicious design process that results in attractive and	Given the development is 2 storey it provides substantive built form in relation to the Byford Town Centre. The building is proposed to be finished in natural materials which compliment the existing streetscape. Awnings, windows

inviting buildings and places that engage the senses	and recessed frontages provide a breakup in the building bulk, integrated landscaping also provides a varied façade to all major street fronts.

Subdivision

LPP3.9 provides a framework for subdivision and development fronting historic lanes within the Byford Old Quarter, including Raggle Lane accessible via the rear of the site. The policy requires a condition of subdivision or development to cede a 2.5m section of the land for road widening to accommodate the shared needs of pedestrians, trees, cars and parking. In this case, the specific need is visitor parking. The development plans have delineated the area of Raggle Lane required to be upgraded, as well as an appropriate truncation at the intersection with Clara Street consistent with the requirements under the *Liveable Neighbourhood* Guidelines.

It is understood that a subdivision application was lodged with the WAPC on 9 February 2026 proposing the subdivision of the site in accordance with the development plans. The proposed subdivision plan is contained within **attachment 6** and shown following:

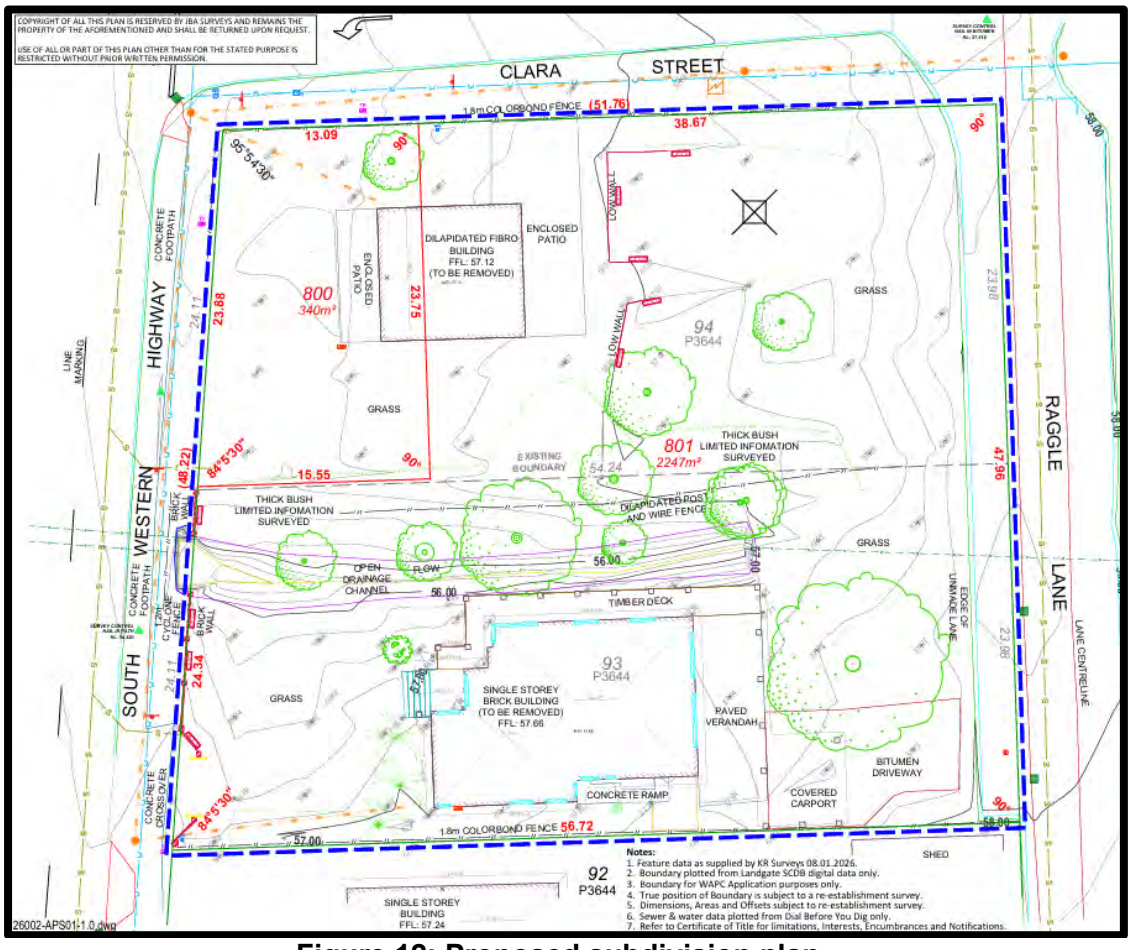


Figure 12: Proposed subdivision plan

Currently Raggle Lane has been upgraded from the adjacent development shown following. This subdivision would formalise the ceding component of the remaining

2.5m section to widen the lane. This is then conditioned to be converted to visitor parking, as previously mentioned.

Addition to this requirement, is the need for a suitable truncation in the northwest corner of the site, in order to provide sufficient space to return the modified footpath back to Clara Street, to enable safe crossing. This will require a 3m by 3m truncation to be ceded free of cost, and the footpath upgrades completed prior to occupation of the development.



Figure 13: Existing upgrades to Raggle Lane adjacent development and truncation for new footpath return

The proposed subdivision, including the ceding and upgrading of Raggle Lane and 3x by 3m northwest truncation, will be required to be completed prior to occupation of the development.

Traffic

The applicant submitted a Traffic Impact Statement (TIS) prepared by PTG Consulting on 26 November 2025 to assess the operations of the proposed development internally and its connections to the adjacent road network, with a focus on traffic volumes, access and accessibility. The TIS is contained within **attachment 7.**

The report was prepared in consideration of the location of the site within the context of the local road network and existing major attractors and generators within proximity of the proposed development, as shown following:



Figure 14: Major attractors and generators

The trip generation rates and trip distribution percentages are summarised in the following figure. A total of 22 vehicle trips are expected to be generated in the AM peak, 23 vehicle trips during the PM peak and 226 daily trips. According to the WAPC *Transport Impact Assessment Guidelines*, developments generating 10-100 trips during peak period fall under the 'moderate impact' category. Therefore, the estimated trip generation is anticipated to have only a low to moderate impact on the surrounding road network and does not warrant detailed traffic assessment.

Table 1 Trip Generation Rates

Land Use	Source	Yield	Unit	AM Peak	PM Peak	Daily
Residential (Low-density)	TfNSW	23 dwellings	veh. trip/ dwelling	0.68	0.77	8.12
Commercial (Office)	TfNSW	334 m^2 (GFA)	veh. trip/ 100 m^2 GFA	1.69	1.2	11.29

Table 2 Trip Distribution

Land Use	Source	AM Peak		PM Peak		Daily	
		IN	OUT	IN	OUT	IN	OUT
Residential (Low-density)	ITE 220	24%	76%	63%	37%	50%	50%
Commercial (Office)	ITE 710	88%	12%	17%	83%	50%	50%

Table 3 Total Generated Trips

Land Use	AM Peak		PM Peak		Daily	
	IN	OUT	IN	OUT	IN	OUT
Residential (Low-density)	4	12	12	7	94	94
Commercial (Office)	5	1	1	3	19	19
Total	22		23		226	

Figure 15: Trip generation and distribution

In their original referral comment, MRWA raised concerns regarding the safety of vehicles travelling eastbound on Clara Street to reach the access point of the proposed commercial lot. Motorists wishing to turn right into the access point would be required to turn more than 90 degrees to undertake the manoeuvre given the geometric constraints of the existing median strip. In addition, there is an associated risk of rear end crashes due to its proximity to the intersection of South Western Highway as shown following:

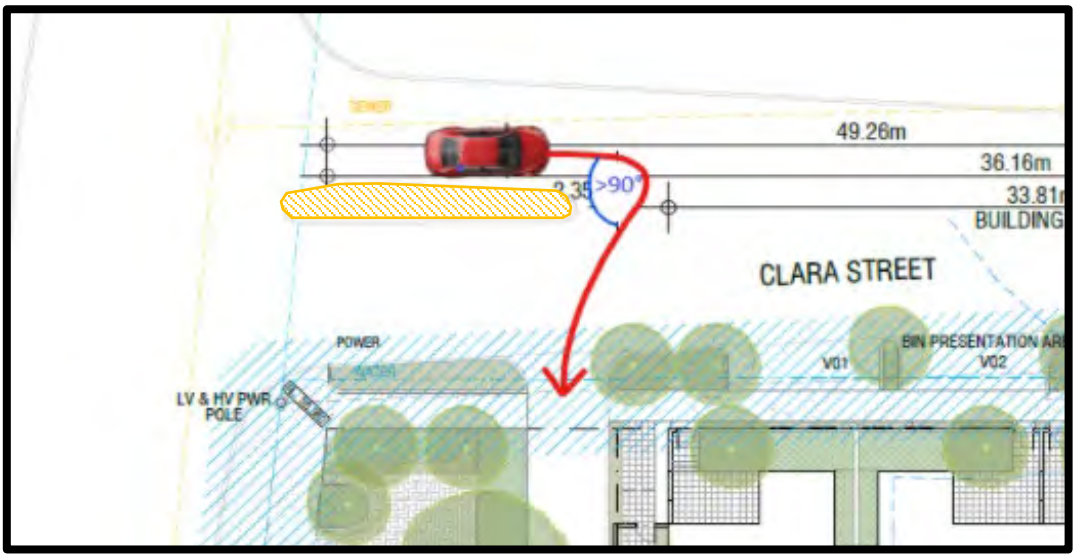


Figure 17: Existing median strip – unsafe right turn access required by vehicles travelling east on Clara Street

The applicant has resolved to extend the island median strip to the necessary extent to restrict these right turn movements. Vehicle access to the commercial lot would be effectively restricted to left-in-left-out to minimise safety risks associated with the location of this crossover.

This however creates clear flow on issues for other streets, as vehicles (visitors, customers, residents) contemplate how access to the site can occur from a northbound direction on South Western Highway.

In order to achieve this, vehicles travelling to the commercial site from South Western Highway would be required to use Blythswood Avenue. This would then necessitate the completed construction of Raggle Lane, as the most immediate and legible access to the proposed development. This is shown following, together with the Clara Street island extension that necessitates the Raggle Lane construction completion:

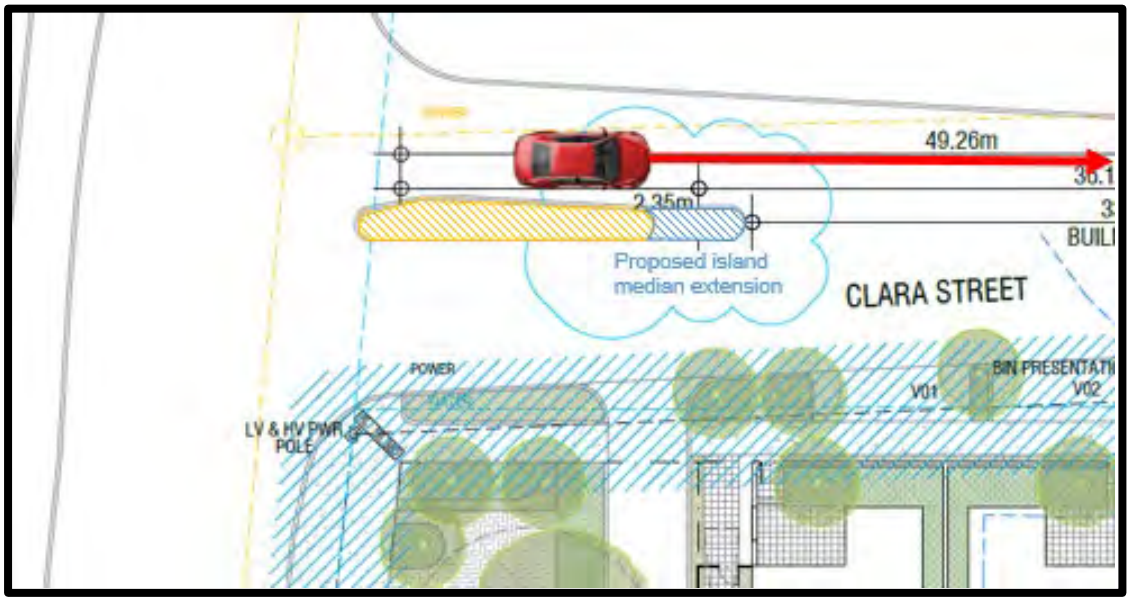


Figure 18: Propose modified median strip – restricting access from vehicles travelling east on Clara Street



Figure 18a – extent of laneway completion

It is noted that vehicles utilising the onsite parking bays for the commercial development are currently required to undertake reverse manoeuvres into the flow of traffic on Clara Street. Whilst the number of outbound vehicle movements associated with the proposed access is minimal (one vehicle during the AM peak and three vehicles during the PM peak) and is not anticipated to introduce any material safety risk to the surrounding road network, Officers consider that plans should be submitted clearly depicting adequate site lines for reversing cars to clearly ensure no risk to pedestrians.

In addition, swept path analysis was also undertaken for vehicles accessing residential car parking bays both on Raggle Lane and the internal car park for use by the residents and visitors of the multiple dwellings. This demonstrates that the principal design of these car parking areas is sufficient to facilitate the movement of expected passenger vehicles. The related figures are shown following:

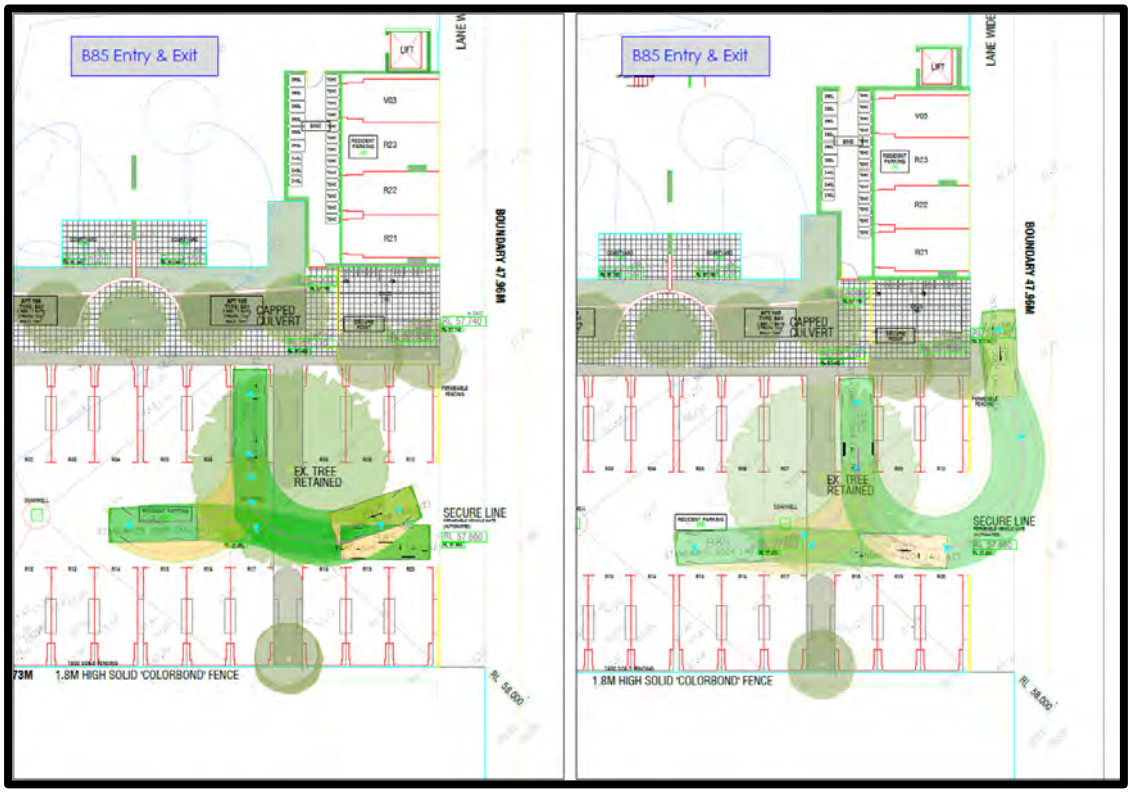


Figure 17: Swept path analysis around retained trees

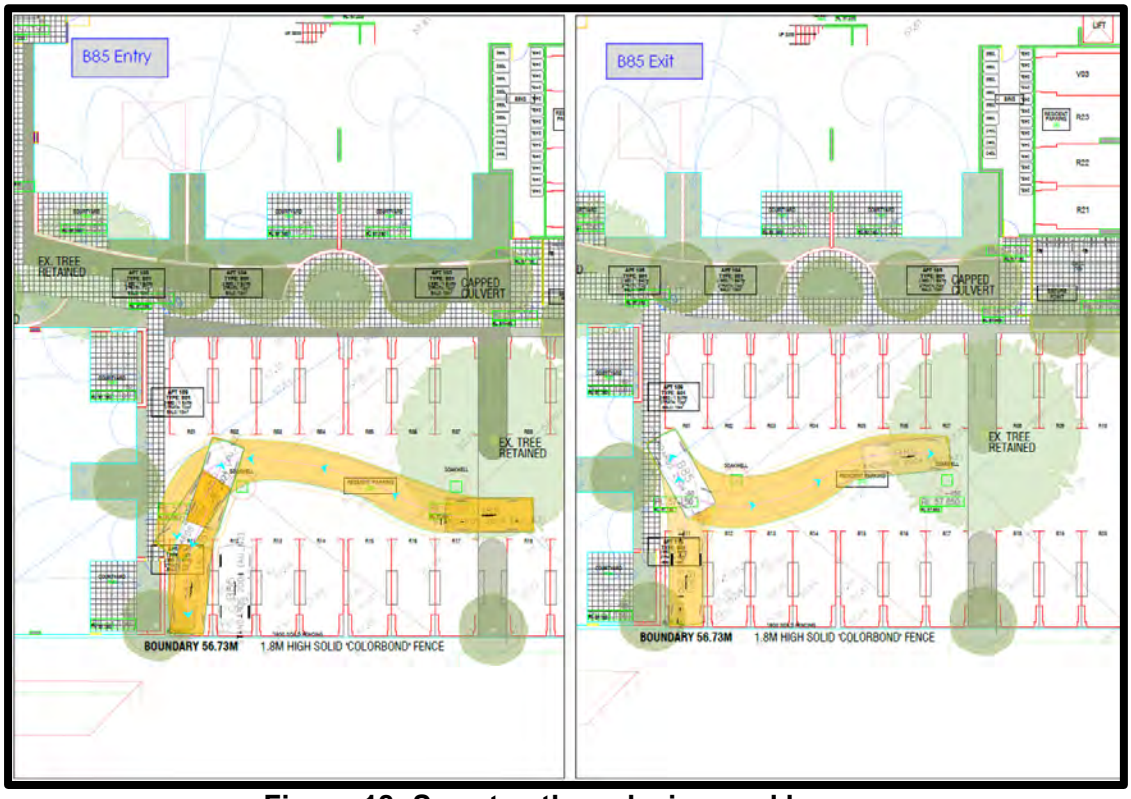


Figure 18: Swept path analysis – end bays

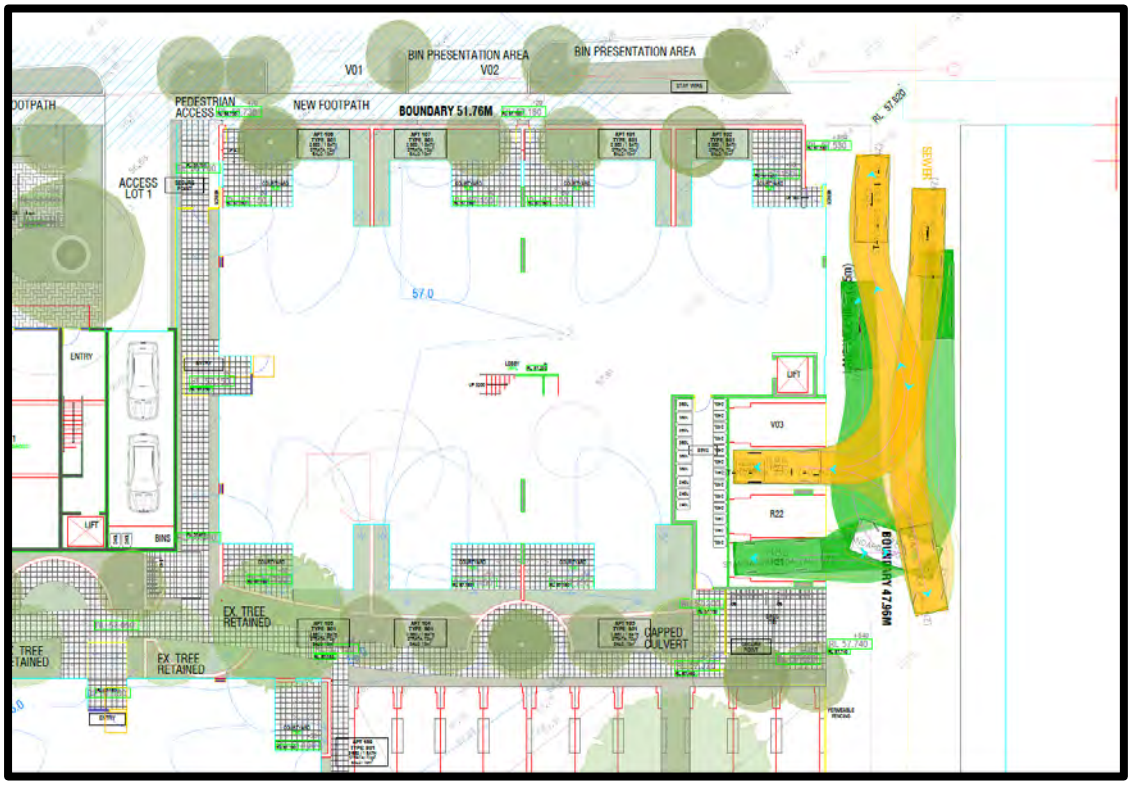


Figure 19: Swept path analysis – Raggle Lane

Conditions are recommended requiring the submission of detailed civil drawings to ensure that vehicle parking areas, accessways, internal roads, crossovers, paths etc are constructed in accordance with the relevant Australian Standards as well as the extension of the median.

Stormwater

The site currently has an existing open creek channel running through the site, identified as a section of the Oakland Creek which runs across the Byford locality. It is noted that other existing sections of the creek have been infilled with appropriately designed culverts and associated stormwater infrastructure to ensure that there are no upstream impacts relating to the methods of stormwater management. Where this has occurred, an associated drainage easement to the benefit of the Shire has been executed to ensure that maintenance works can be performed, where required. The location of these easements immediately located adjacent to the development site are shown following:

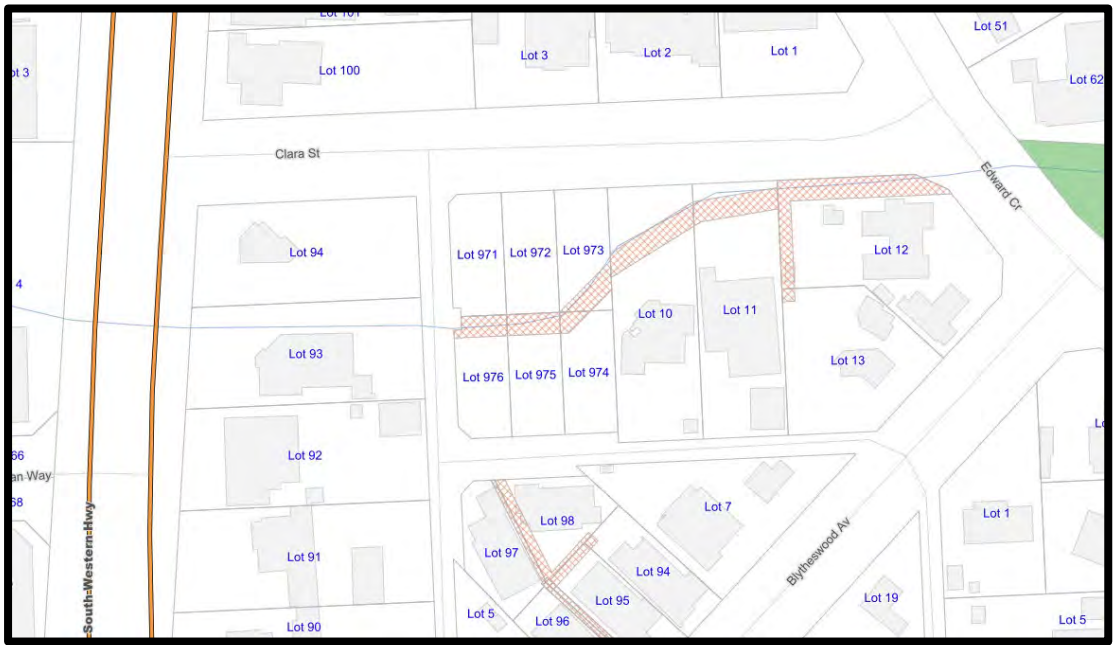


Figure 20: Application of drainage easement adjacent to development site

It is acknowledged that the modification of a drain is common practice within the urban environment and generally addressed through conditions of the approval. However, in this instance, considering the spatial constraints of the site and expected volume of stormwater runoff, the Shire considers that details relating to stormwater management are necessary in demonstrating that upstream and downstream impacts will not be experienced. This matter was also raised by multiple community submissions during the advertisement period.

The applicant has submitted a Stormwater Management Information Note demonstrating how the proposed development can accommodate sufficient on-site stormwater detention to address both the replacement of storage loss through infilling of the existing open channel traversing the site, and the development's standard on site detention requirements. The purpose of the note is to confirm that, in principle, the proposed approach can achieve compliance with the Shire's requirements for like-for-like storage replacement, while also satisfying the applicable onsite detention criteria for the development. The Stormwater Management Information Note is contained within **attachment 8.**

The stormwater management note includes information to support that predevelopment flows will be equivalent to post development flows, particularly relating to the modification of the creek line. The proposed stormwater catchment plan is shown following:

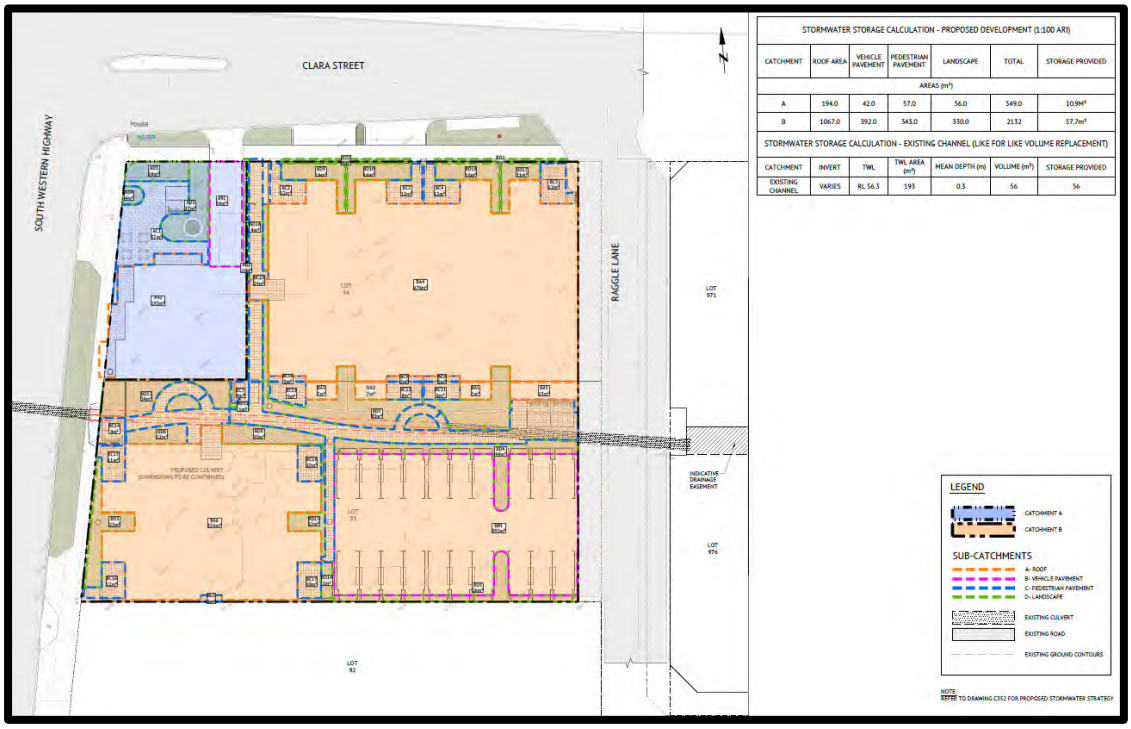


Figure 21: Proposed Stormwater Catchment Plan

The proposed strategy to manage stormwater generated by development is shown following:

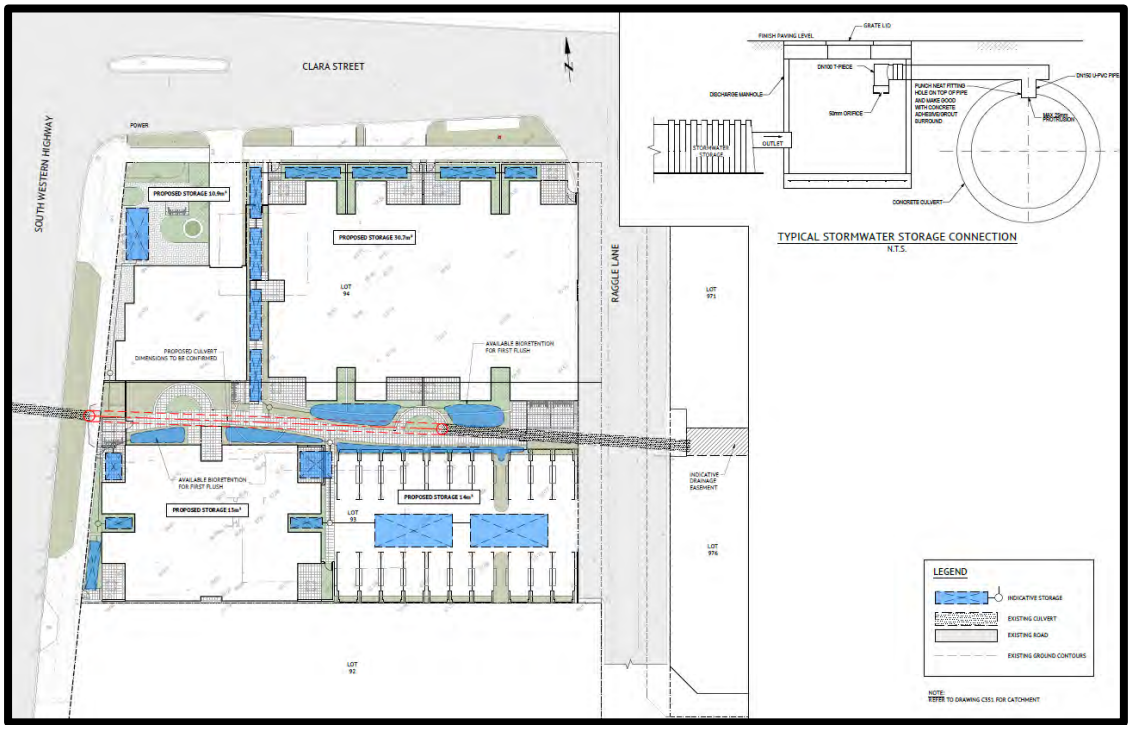


Figure 22: Proposed Stormwater Strategy

A detailed hydraulic assessment of the culvert system, hydraulic grade line, and any potential upstream impacts is recommended to be addressed within a full Stormwater Management Plan as a condition of the approval. The plan is required to be prepared in accordance with water sensitive urban design principles outlined within LPP2.4 and

consistent with the submitted stormwater management strategies. There is also specific reference in the condition to adequate culvert sizing. Furthermore, the condition states that the historic private culvert within the eastern portion of the site must be fully excavated and removed, and seamless new culvert constructed to connect between the culvert openings into the site at Raggle Lane, and out of the site at South Western Highway, with no gaps.

Furthermore, a condition is also recommended related to the creation of an easement over the site incorporating stormwater drainage to the benefit of the Shire to ensure that the infrastructure can be maintained in perpetuity. The exact dimensions and alignment of the easement would be subject to the details of a full stormwater management plan and civil drawings. Therefore, it is recommended that the drainage easement is executed prior to occupation of the development to ensure a coordinated approach to this stormwater management.

Noise

The proposed residential development abuts South Western Highway, which is classified as a strategic freight and major traffic route under SPP5.4. The site is outside of the 100m trigger distance of the Byford passenger railway line and an assessment of the cumulative noise impacts of both the highway and the railway line is not warranted.

A Noise Management Plan (**attachment 9**) was prepared by Herring Storer Acoustics on 24 October 2025 to assess the proposed development against SPP5.4 and the associated guidelines (as amended). The report recommends internal construction requirements in accordance with the SPP5.4 guidelines, to ensure internal noise does not adversely impact the amenity of the residents. These are shown following:

TABLE 5.1 – QUIET HOUSE DESIGN REQUIREMENTS

Quiet House Design Requirements	
Item	**Requirements**
Walls	$R_w + C_{tr}$ 50 dB
External Doors	Individual glazing requirements to meet specifications listed in the table of Appendix B.
Windows	Individual glazing requirements to meet specifications listed in the table of Appendix B.
Roofs and Ceilings of Highest Floors	$R_w + C_{tr}$ 45 dB
Mechanical Ventilation	Mechanical ventilation to not compromise the performance of any of the façade elements.
Notification on Title	Required

These measures would be reconsidered at the detailed design stage as part of determining the quiet house design criteria. A condition requiring the submission of a final Acoustic Assessment is recommended to detail the specific Quiet House Design packages for the development to ensure compliant noise levels within the buildings.

The acoustic assessment however indicates that noise received at the development from future traffic will exceed external noise level criteria of 55 dB(A) during daytime and 50 dB(A) during nighttime. Noise modelling undertaken for the proposed development are summarised following:

TABLE 3.1 - SUMMARY OF MEASURED ROAD NOISE LEVELS			
Measurement Location	Measured/Calculated Noise Level, dB(A)		
	L_{A10}	$L_{Aeq,\ day\ (6am\ to\ 10pm)}$	$L_{Aeq,\ night\ (10pm\ to\ 6am)}$
South Western Highway	66.6	64.8	56.9

Figure 23: Summary of measured road noise levels

Outdoor living areas contained within building 2 and oriented towards South Western Highway were subject to the highest exposure of road noise. One key noise mitigation measure identified within the report was the construction of a 2.4m high solid and continuous barrier within the shared outdoor space between building 2 and the commercial building to attenuate noise from the mechanical plant on the commercial building. This does not however attenuate noise from South Western Highway. The outdoor living areas abutting South Western Highway will not comply with the assigned noise levels as currently proposed. It is recommended through a condition of approval that notifications are placed on the certificate of Tite to ensure that prospective residents are aware that there is the potential to be impacted upon by noise. It is noted that there are communal areas external to the buildings that could be used for outdoor enjoyment whilst not readily accessible from the apartments.

An acoustic assessment was also provided to assess noise emissions associated with the commercial tenancies and internal noises arising from the mechanical plant servicing the apartments. The report confirms that compliance with the requirements of the NCC will require additional mitigation measures that will be identified at the detailed designs stage for both the apartments and commercial tenancies when the design of air conditioners and exhausts are finalised.

Waste Management Plan

A Waste Management Plan (**attachment 10**) was prepared by Talis Consultants on 27 October 2025 to demonstrate how waste is to be stored and collected for the proposed development. The residential development includes a bin storage area that is appropriately screened from the public domain. There are also two designated bin presentation areas on the verge on Clara Street for use on kerbside collection days as shown following:

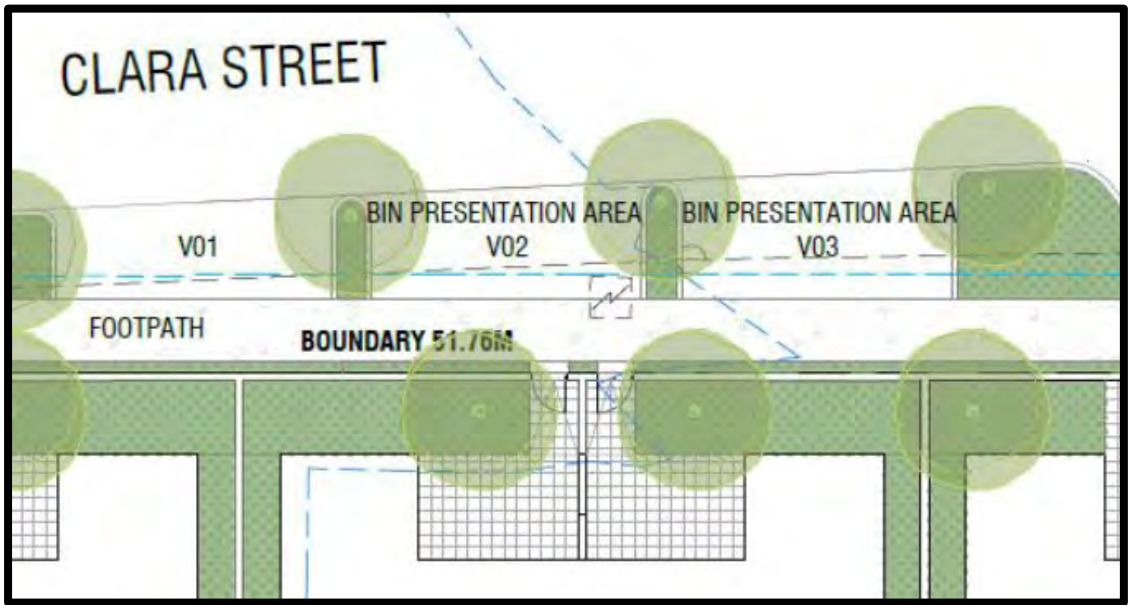


Figure 24: Bin presentation area

The plan is consistent with the Western Australian Local Government Association's (WALGA) *Multi Dwelling Development Waste Management Plan Guidelines* and therefore supported by the Shire. An appropriate condition recommending the waste management plan to be implemented for the duration of the development.

Landscaping

The applicant has submitted a Landscaping Plan showing the proposed planting of understorey and tree species, as required by the R-Codes, concentrated along the communal open space and edges of the development site. It also shows the proposed landscaping treatments for impervious surfaces to create a high quality environment. The Landscaping Plan is contained within **attachment 11** and shown following:



Figure 25: Landscaping plan

A Tree Survey Report identifying the environmental significance of all existing trees on site is contained within **attachment 12**.

As already mentioned, a 3m truncation is needed in the northwest portion of the site, to ensure suitable footpath return to Clara Street.

The minimum landscaping requirements for the Mixed Use zone are '*10% in total, compromised of 5% of the front setback area.'* The proposed site layout includes a small, landscaped area at the intersection at South Western Highway and Clara Street, creating an entry statement for the development and broader Byford Town Centre. In addition, as informed by a tree survey report, the site layout seeks to retain one significant amenity tree (Eucalyptus variegata) within the internal car park to provide shade and character to this site.

The Shire recommends that minor modifications are made to the Landscaping Plan to ensure that the provision of landscaping is contributory to the amenity of the area. This includes the selection of WA native species of understoreys and trees reflective of the area and detailing the materials, colours and textures of hardscaped areas consistent with LPP3.8. A detailed irrigation plan is also required in accordance with the waterwise design principles. Plus details of the new footpath network. Hence, a condition requiring the submission of an updated Landscaping Plan is recommended.

Public Art

The objectives of LPP1.6 is to establish a framework requiring major developments with a construction cost exceeding $1 million to either provide site-specific artworks or contribute to a fund dedicated to delivering public art. The required value of the art would be minimum cost of 1% value of the construction, or otherwise a contribution of equal value towards a public art fund. Hence, a condition is recommended requiring the art to be applied to the development.

Signage

It is anticipated that the two commercial tenants on Lot 1 will have some form of advertisement. Details of signage to be displayed have not been provided. Therefore, a condition is recommended requiring a signage strategy for the development to ensure full details of signage are provided and assessed in a coordinated manner, consistent with the planning framework. This will allow a consistent approach to signage for the development.

Conclusion

The proposed development aligns with the planning framework and is recommended for approval subject to conditions. The combination of commercial and residential land uses is consistent with the intent of the Mixed Use zone. The built form has been carefully designed in accordance with the relevant R-Code and policy requirements relating to the Byford Town Centre. In addition, the development layout shows due regard for the environmental constraints of the site, including its proximity to South Western Highway and appropriate management of a creek line running across the site.

A range of conditions are needed to address issues associated with visitor parking, access from Raggle Lane, suitable treatment of the critical culvert connections through the site, truncations and road widenings, etc, in order to limit impacts of the amenity of the area.

The development also provides a new choice of housing variety, which will be compact and thus affordable, being considered to meet current and projected future needs in respect of housing. According to the most recent census, more than 46% of households were single or couple only.

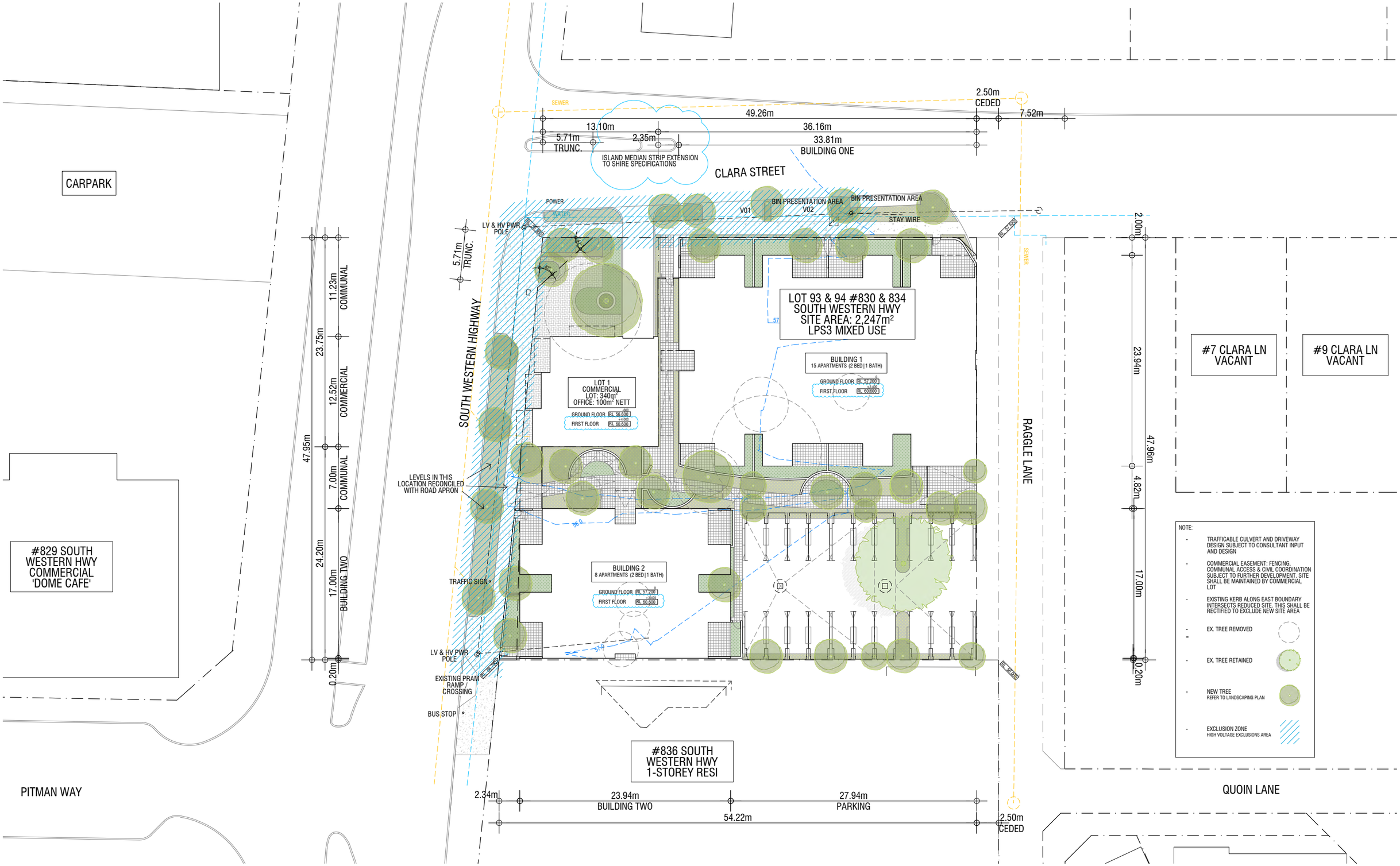
Household size

Shire of Serpentine Jarrahdale - Households (Enumerated)	2021	
Number of persons usually resident	Number	%
1 person	1,542	15.1
2 persons	3,205	31.4
3 persons	1,811	17.7
4 persons	2,058	20.2
5 persons	1,002	9.8
6 or more persons	592	5.8
Total classifiable households	10,210	100.0

This compares with dwelling mix, which showed less than 5% of dwelling comprises single or two bedroom configurations. This development, with its delivery of 2 bedroom dwellings, is considered to meet both a current and projected future need for more compact dwelling types.

Shire of Serpentine Jarrahdale - Households (Enumerated)	2021	
Number of bedrooms	Number	%
0 or 1 bedrooms	94	0.9
a 2 bedrooms	376	3.6
3 bedrooms	2,391	22.6
a 4 bedrooms	6,236	59.1
5 bedrooms or more	1,027	9.7
Not stated	436	4.1
Total households	10,560	100.0

It is recommended for support by Officers.



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U	10-11-25	CLIENT ISSUE	
T	24-10-25	CLIENT ISSUE	
S	08-10-25	CONSULTANT ISSUE	
R	04-09-25	DESIGN UPDATE	

PROJECT: CLARA STREET RESIDENCES
CLIENT: SPINNAKER DEVELOPMENTS
ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

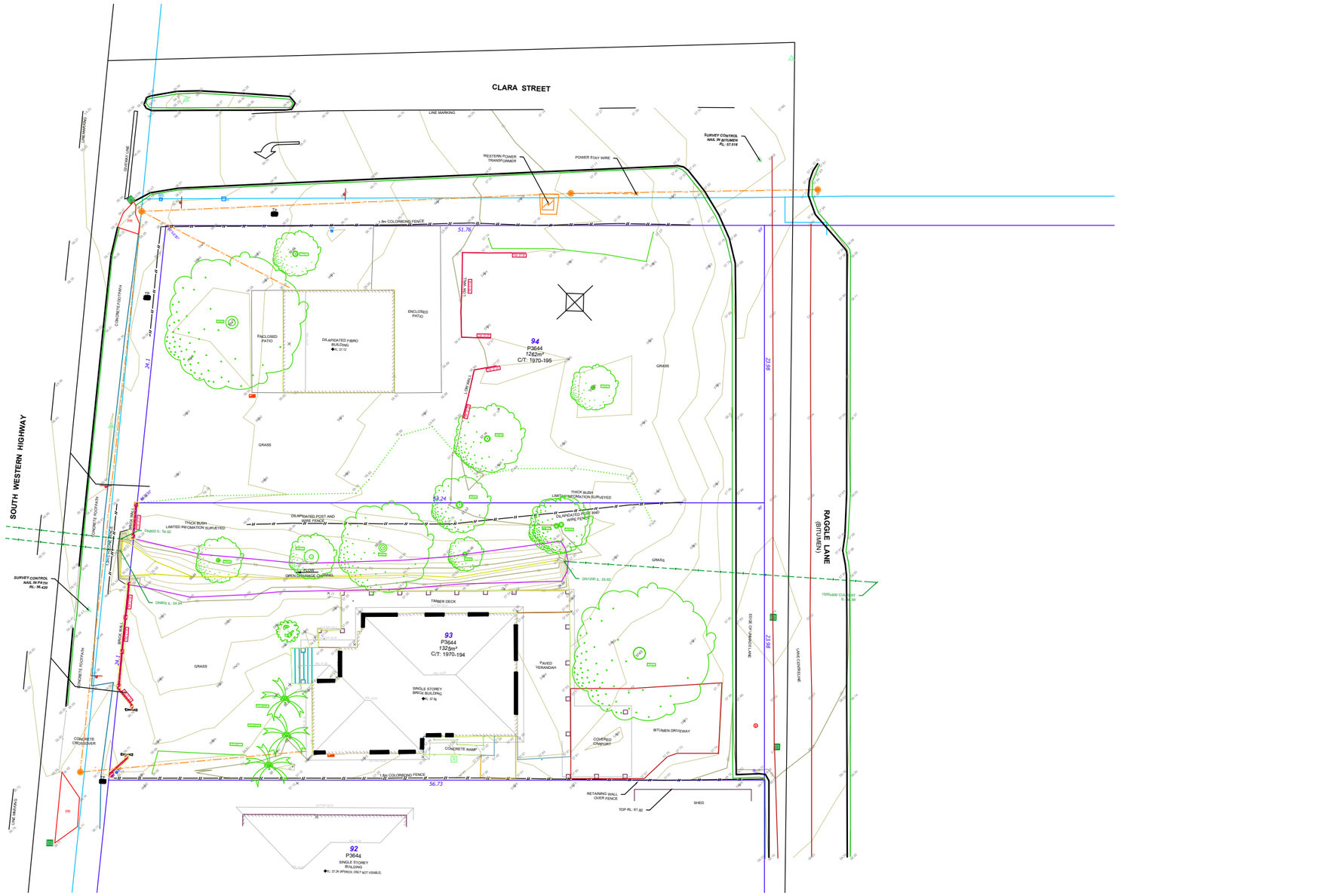
DWG: LOCATION PLAN
STAGE: DEVELOPMENT APPLICATION

SCALE: 1:400
JOB #: 2422

NORTH

DWG: A101
ISSUE W

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PROJECT: CLARA STREET RESIDENCES

CLIENT: SPINNAKER DEVELOPMENTS

ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

DWG: SITE SURVEY (BY OTHERS)

STAGE: DEVELOPMENT APPLICATION

SCALE: 1:400

JOB #: 2422

NORTH

DWG: A102

ISSUE W

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NOTE:

- TRAFFICABLE CULVERT AND DRIVEWAY DESIGN SUBJECT TO CONSULTANT INPUT AND DESIGN
- COMMERCIAL EASEMENT: FENCING, COMMUNAL ACCESS & CIVIL COORDINATION SUBJECT TO FURTHER DEVELOPMENT. SITE SHALL BE MAINTAINED BY COMMERCIAL LOT
- EXISTING KERB ALONG EAST BOUNDARY INTERSECTS REDUCED SITE. THIS SHALL BE RECTIFIED TO EXCLUDE NEW SITE AREA
- EX. TREE REMOVED
- EX. TREE RETAINED
- NEW TREE
  REFER TO LANDSCAPING PLAN
- EXCLUSION ZONE
  HIGH VOLTAGE EXCLUSIONS AREA

NEW FOOTPATH
PEDESTRIAN ACCESS RL 56.730
NEW FOOTPATH
BOUNDARY 51.76M
RL 57.180
STAY WIRE
RL 57.620
SEWER
EXISTING FOOTPATH
8.48m TRUNCATION
LV & HV PWR POLE
RL 56.380
ACCESS LOT 1
SECURE POINT
RL 56.700
RL 57.530
RL 57.150
COURTYARD TILES
VISITOR BIKES (9)
RL 56.500
LANE WIDENING (2.5m)
57.0
ENTRY
RL 57.150
GROUND FLOOR RL 56.600
FIRST FLOOR RL 60.600
GROUND FLOOR RL 57.200
FIRST FLOOR RL 60.600
RL 56.900
RL 57.050
CAPPED CULVERT
RL 57.200
BIKES (18)
RL 57.740
RL 57.370
RL 57.620
PERMEABLE FENCING
RL 56.500
SURVEY NAIL RL 56.420
BOUNDARY 48.22M
56.0
GROUND FLOOR RL 57.200
FIRST FLOOR RL 60.600
EX. TREE RETAINED
SOAKWELL
RESIDENT PARKING (20)
RL 57.650
SECURE LINE
PERMEABLE VEHICLE GATE (AUTOMATED)
RL 57.880
TRAFFIC SIGN
BUS STOP
LV & HV PWR POLE
RL 56.790
57.0
1800 SOLID RENDERED
BOUNDARY 56.73M
1.8M HIGH SOLID 'COLORBOND' FENCE
RL 58.000
BOUNDARY 47.96M

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R	04-09-25	DESIGN UPDATE	

PROJECT: CLARA STREET RESIDENCES
CLIENT: SPINNAKER DEVELOPMENTS
ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

DWG: SITE PLAN
STAGE: DEVELOPMENT APPLICATION

SCALE: 1:200
JOB #: 2422

NORTH

DWG: A103
ISSUE W

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R	04-09-25	DESIGN UPDATE

PROJECT: CLARA STREET RESIDENCES

CLIENT: SPINNAKER DEVELOPMENTS

ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

DWG: GROUND FLOOR PLAN

STAGE: DEVELOPMENT APPLICATION

SCALE: 1:200

JOB #: 2422

NORTH

DWG: A104

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R	04-09-25	DESIGN UPDATE	

PROJECT: CLARA STREET RESIDENCES

CLIENT: SPINNAKER DEVELOPMENTS

ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

DWG: FIRST FLOOR PLAN

STAGE: DEVELOPMENT APPLICATION

SCALE: 1:200

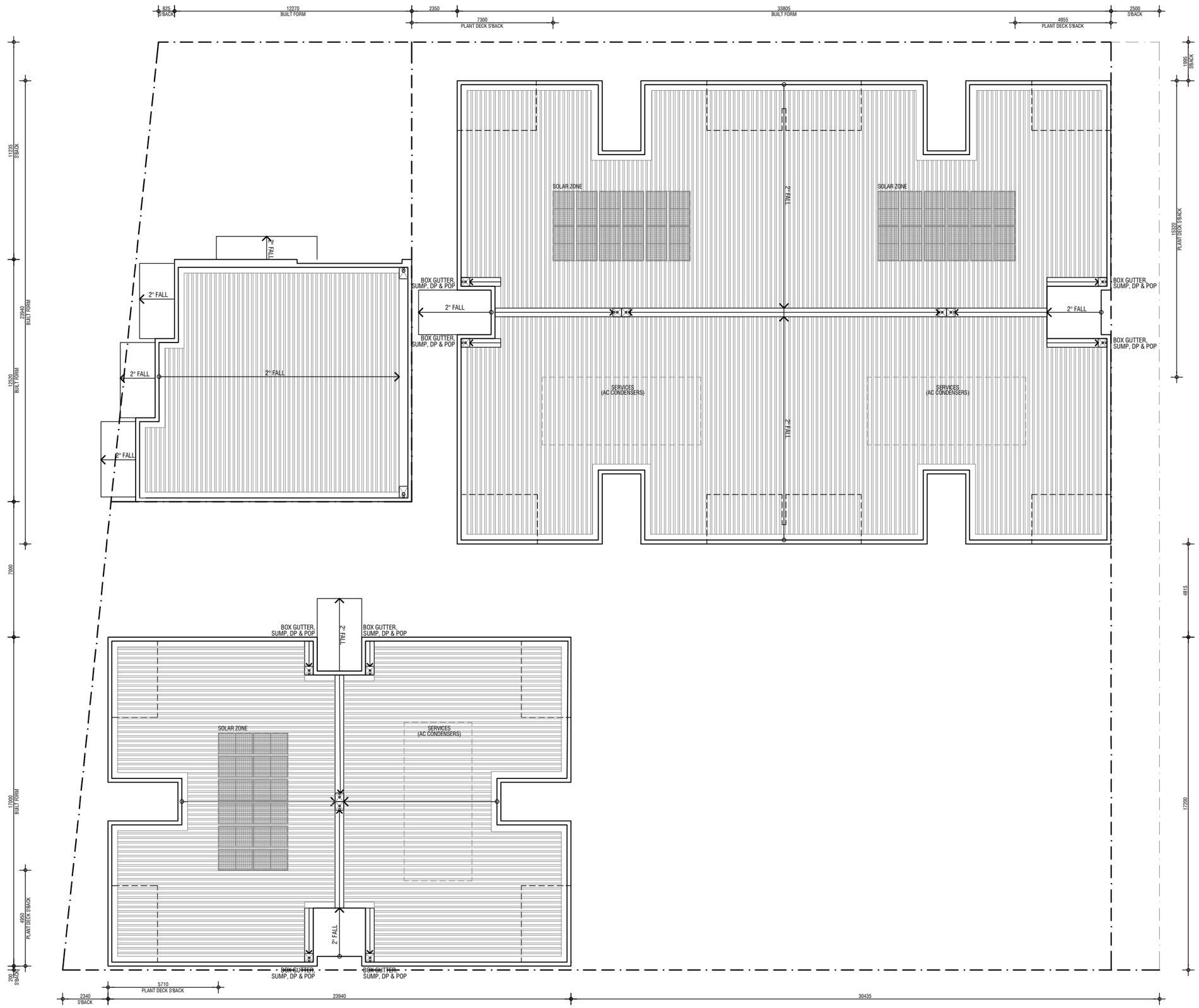
JOB #: 2422

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DWG: A105

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R	04-09-25	DESIGN UPDATE	

PROJECT: CLARA STREET RESIDENCES

CLIENT: SPINNAKER DEVELOPMENTS

ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

DWG: ROOF PLAN

STAGE: DEVELOPMENT APPLICATION

SCALE: 1:200

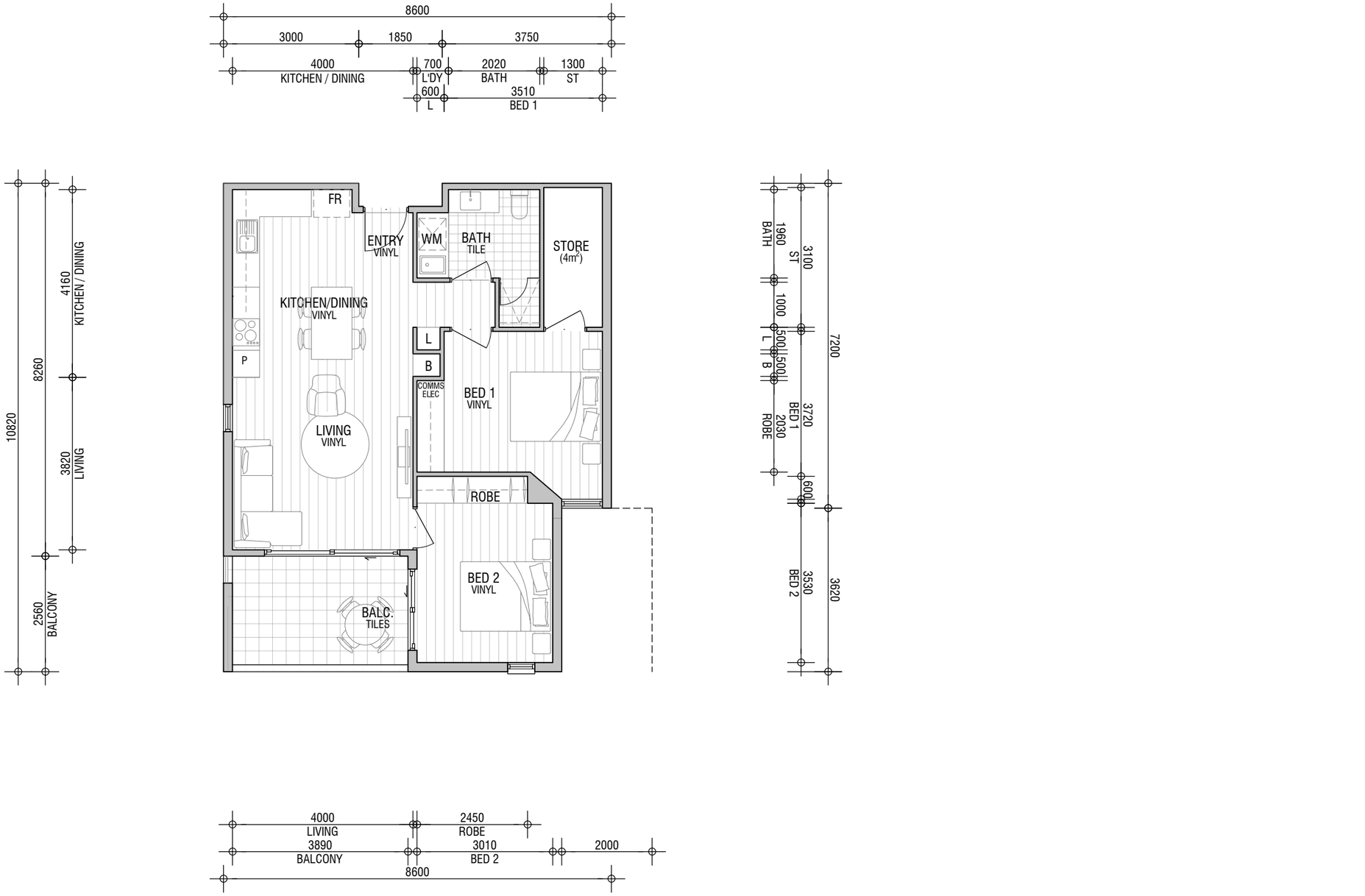
JOB #: 2422

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DWG: A106

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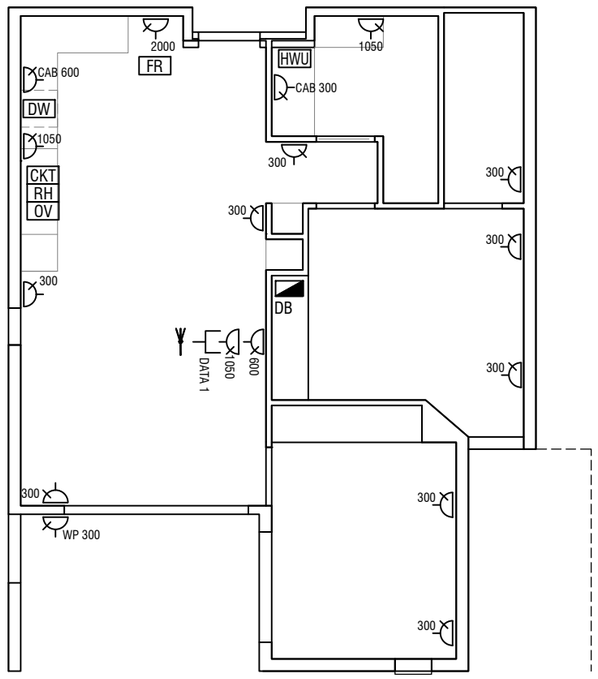
PROJECT: CLARA STREET RESIDENCES
CLIENT: SPINNAKER DEVELOPMENTS
ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

DWG: TYPE B1 PLAN
2 BED | 1 BATH
STAGE: DEVELOPMENT APPLICATION

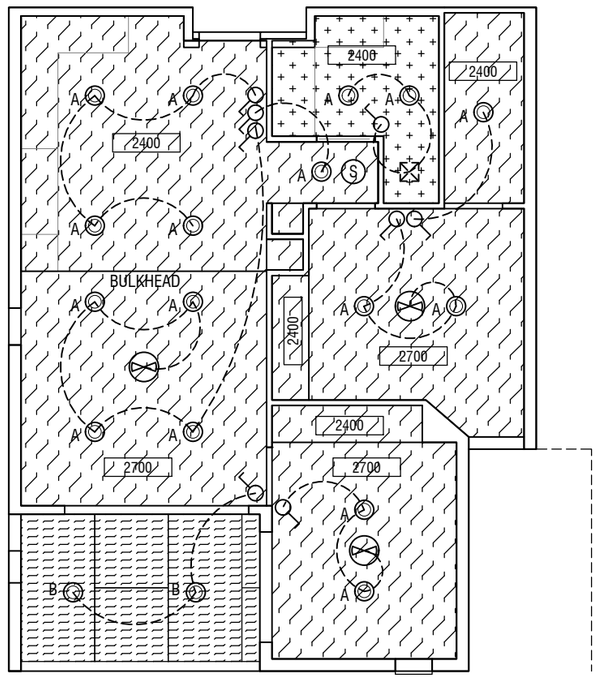
SCALE: 1:100
JOB #: 2422

NORTH
DWG: A107
ISSUE W

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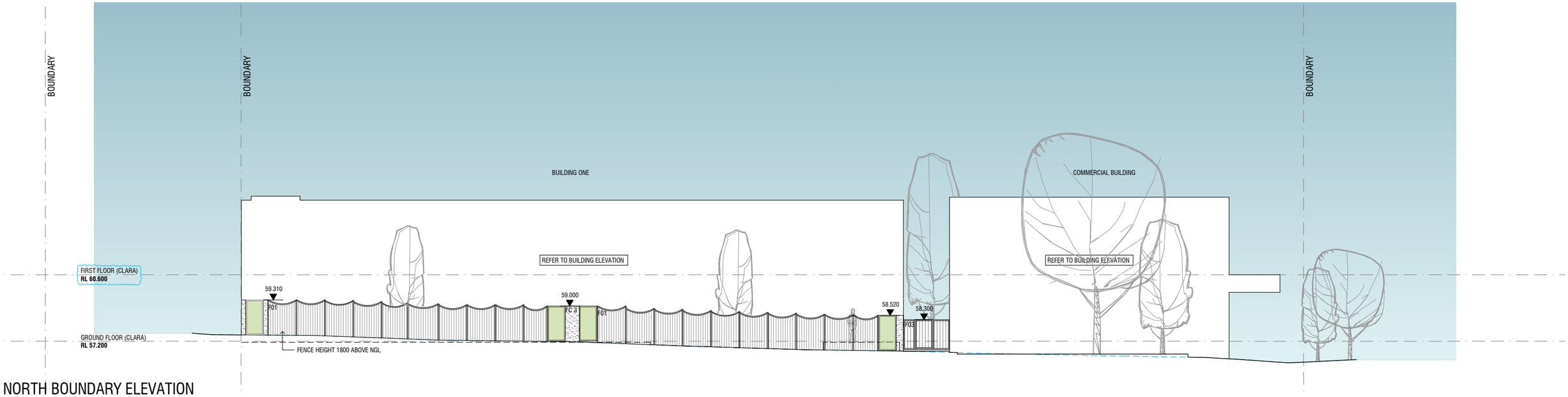


ELECTRICAL PLAN
1:100


2400
2400
2400
A
A
A



NORTH ELEVATION (CLARA STREET)



NORTH BOUNDARY ELEVATION

MATERIALS LEGEND

BC:	BRICK CLADDING (RED)
WB:	FIBRE CEMENT WEATHER BOARD PLANKS AS SPECIFIED
FC 1:	FIBRE CEMENT SHEET AS SPECIFIED
FC 2:	FIBRE CEMENT SHEET AS SPECIFIED
FC 3:	FIBRE CEMENT SHEET RENDERED PAINT FINISH 1 AS SPECIFIED
AG 1:	ALUMINIUM FRAMED GLAZING
MB:	METAL BALUSTRADE AS SPECIFIED (MONUMENT)
TL:	TILE FINISH AS SPECIFIED
F1:	'FENCEMAKERS' POWDERCOAT ALMINIUM FENCE
F2:	COLORBOND FENCING AS SPECIFIED
F3:	'FENCEMAKERS' POWDERCOAT ALMINIUM FENCE

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PROJECT: CLARA STREET RESIDENCES
CLIENT: SPINNAKER DEVELOPMENTS
ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

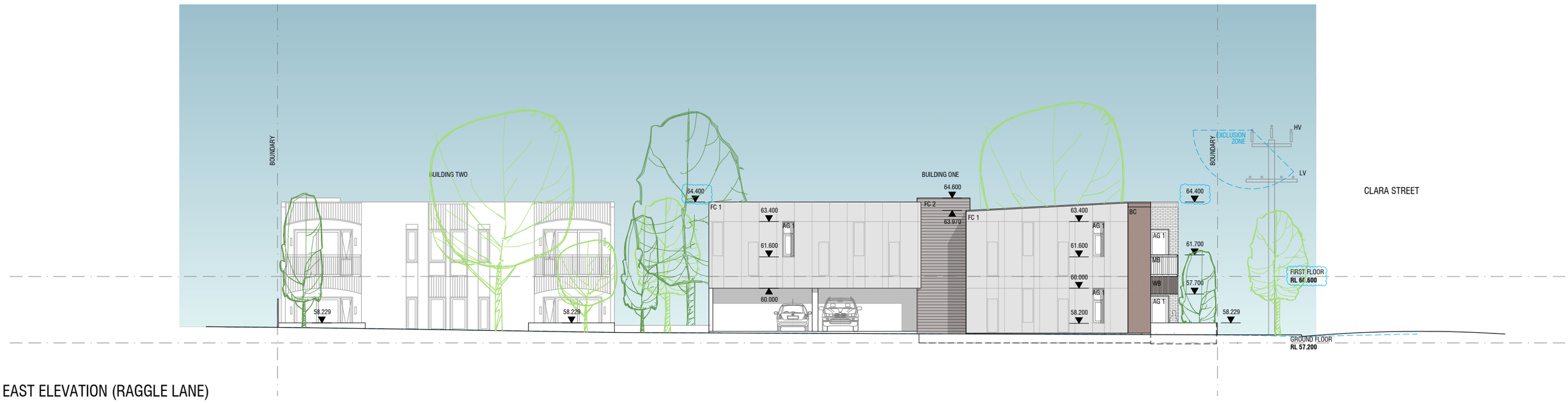
DWG: ELEVATIONS
STAGE: DEVELOPMENT APPLICATION

SCALE: 1:200
JOB #: 2422

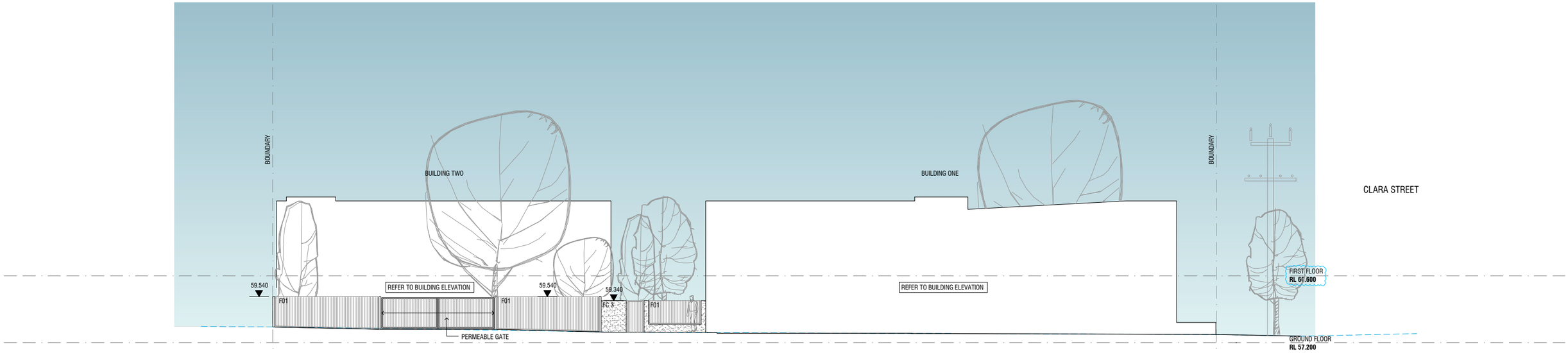
NORTH

DWG: A201
ISSUE W

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EAST ELEVATION (RAGGLE LANE)



EAST BOUNDARY ELEVATION

MATERIALS LEGEND

BC:	BRICK CLADDING (RED)
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FC 1:	FIBRE CEMENT SHEET AS SPECIFIED
FC 2:	FIBRE CEMENT SHEET AS SPECIFIED
FC 3:	FIBRE CEMENT SHEET RENDERED PAINT FINISH 1 AS SPECIFIED
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MB:	METAL BALUSTRADE AS SPECIFIED (MONUMENT)
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F2:	COLORBOND FENCING AS SPECIFIED
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PROJECT: CLARA STREET RESIDENCES
CLIENT: SPINNAKER DEVELOPMENTS
ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

DWG: ELEVATIONS
STAGE: DEVELOPMENT APPLICATION

SCALE: 1:200
JOB #: 2422

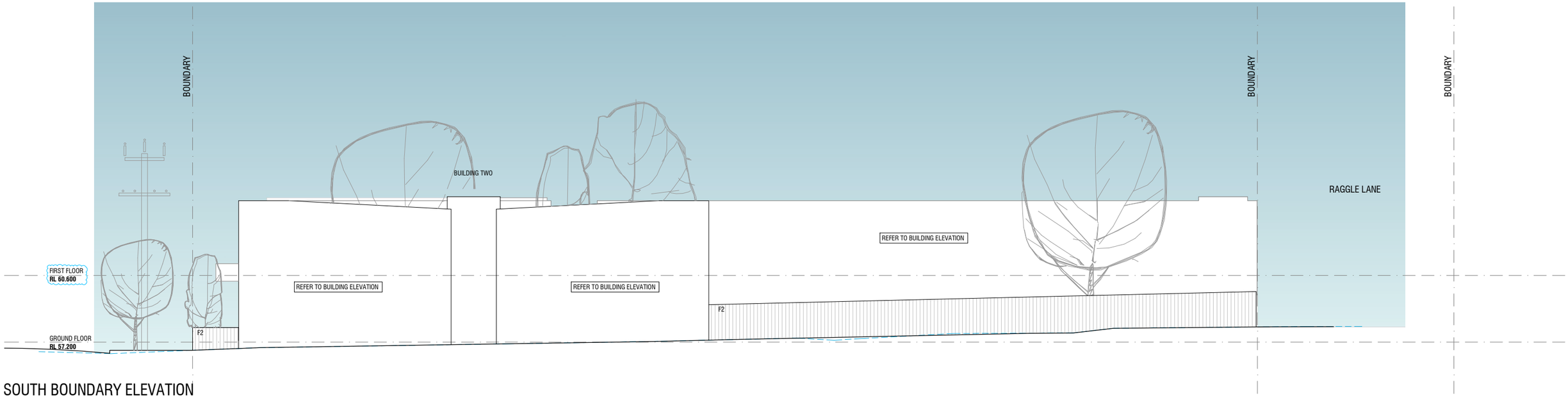
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DWG: A202
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SOUTH ELEVATION



SOUTH BOUNDARY ELEVATION

MATERIALS LEGEND

BC:	BRICK CLADDING (RED)
WB:	FIBRE CEMENT WEATHER BOARD PLANKS AS SPECIFIED
FC 1:	FIBRE CEMENT SHEET AS SPECIFIED
FC 2:	FIBRE CEMENT SHEET AS SPECIFIED
FC 3:	FIBRE CEMENT SHEET RENDERED PAINT FINISH 1 AS SPECIFIED
AG 1:	ALUMINIUM FRAMED GLAZING
MB:	METAL BALUSTRADE AS SPECIFIED (MONUMENT)
TL:	TILE FINISH AS SPECIFIED
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F2:	COLORBOND FENCING AS SPECIFIED
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PROJECT: CLARA STREET RESIDENCES
CLIENT: SPINNAKER DEVELOPMENTS
ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

DWG: ELEVATIONS
STAGE: DEVELOPMENT APPLICATION

SCALE: 1:200
JOB #: 2422

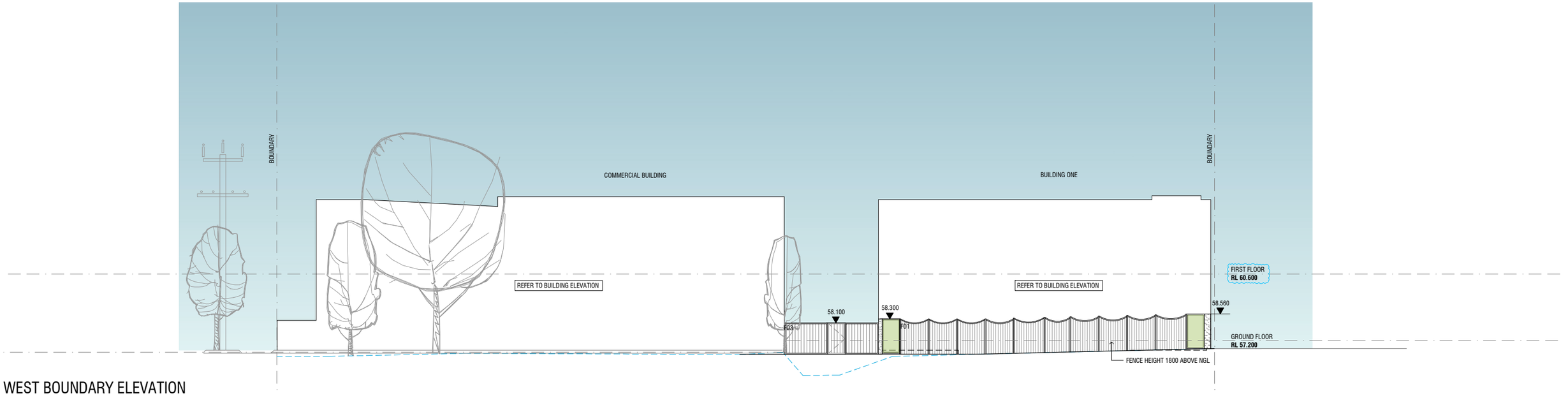
NORTH

DWG: A203
ISSUE W

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WEST ELEVATION (SOUTH WESTERN HWY)



WEST BOUNDARY ELEVATION

MATERIALS LEGEND

BC:	BRICK CLADDING (RED)
WB:	FIBRE CEMENT WEATHER BOARD PLANKS AS SPECIFIED
FC 1:	FIBRE CEMENT SHEET AS SPECIFIED
FC 2:	FIBRE CEMENT SHEET AS SPECIFIED
FC 3:	FIBRE CEMENT SHEET RENDERED PAINT FINISH 1 AS SPECIFIED
AG 1:	ALUMINIUM FRAMED GLAZING
MB:	METAL BALUSTRADE AS SPECIFIED (MONUMENT)
TL:	TILE FINISH AS SPECIFIED
F1:	'FENCEMAKERS' POWDERCOAT ALMINIUM FENCE
F2:	COLORBOND FENCING AS SPECIFIED
F3:	'FENCEMAKERS' POWDERCOAT ALMINIUM FENCE

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R	04-09-25	DESIGN UPDATE	

PROJECT: CLARA STREET RESIDENCES
CLIENT: SPINNAKER DEVELOPMENTS
ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

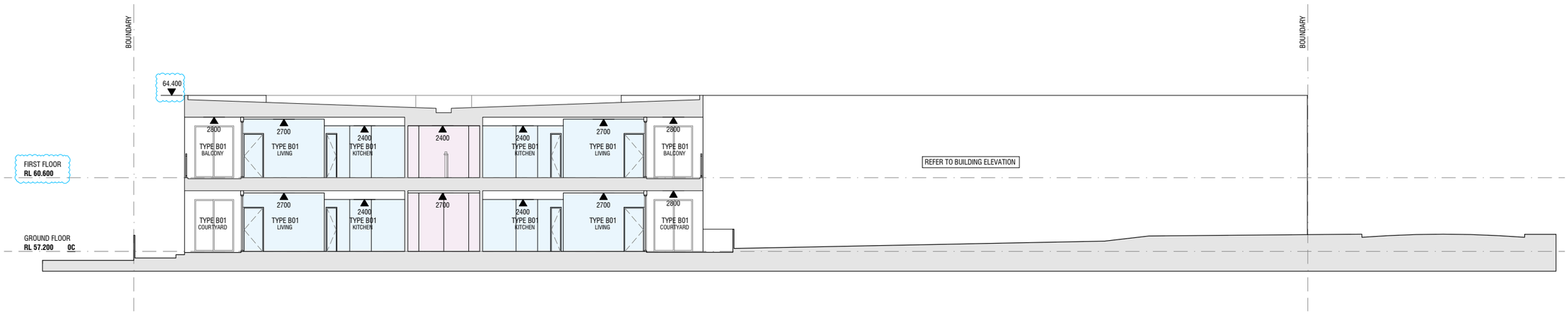
DWG: ELEVATIONS
STAGE: DEVELOPMENT APPLICATION

SCALE: 1:200 @ A3
JOB #: 2422

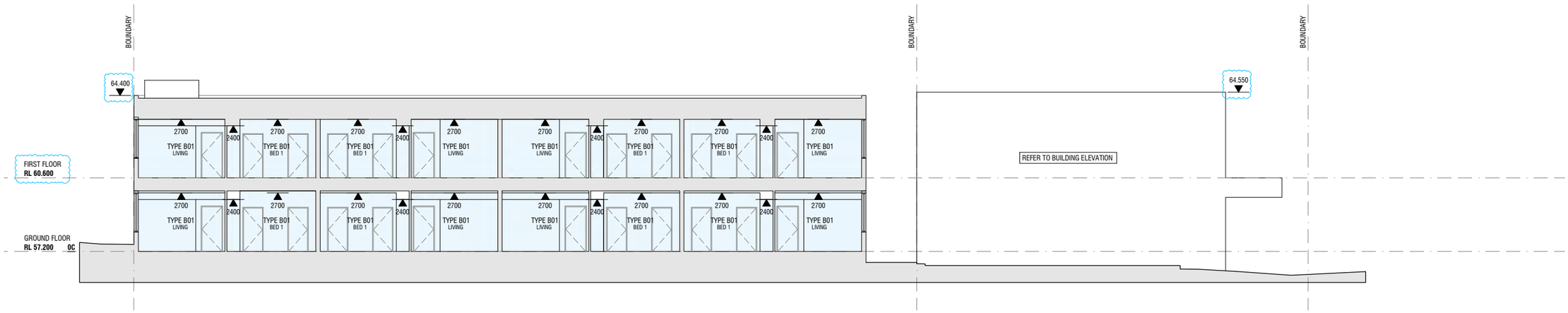
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DWG: A204
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BUILDING 2 SECTION



BUILDING 1 SECTION

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ISSUE NUMBER			
W	19-02-26	DA RFI RESPONSE	
V	02-12-25	DA ISSUE	

ISSUE NUMBER			
U	10-11-25	CLIENT ISSUE	
T	24-10-25	CLIENT ISSUE	
S	08-10-25	CONSULTANT ISSUE	
R	04-09-25	DESIGN UPDATE	

PROJECT: CLARA STREET RESIDENCES

CLIENT: SPINNAKER DEVELOPMENTS

ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

DWG: SECTIONS

STAGE: DEVELOPMENT APPLICATION

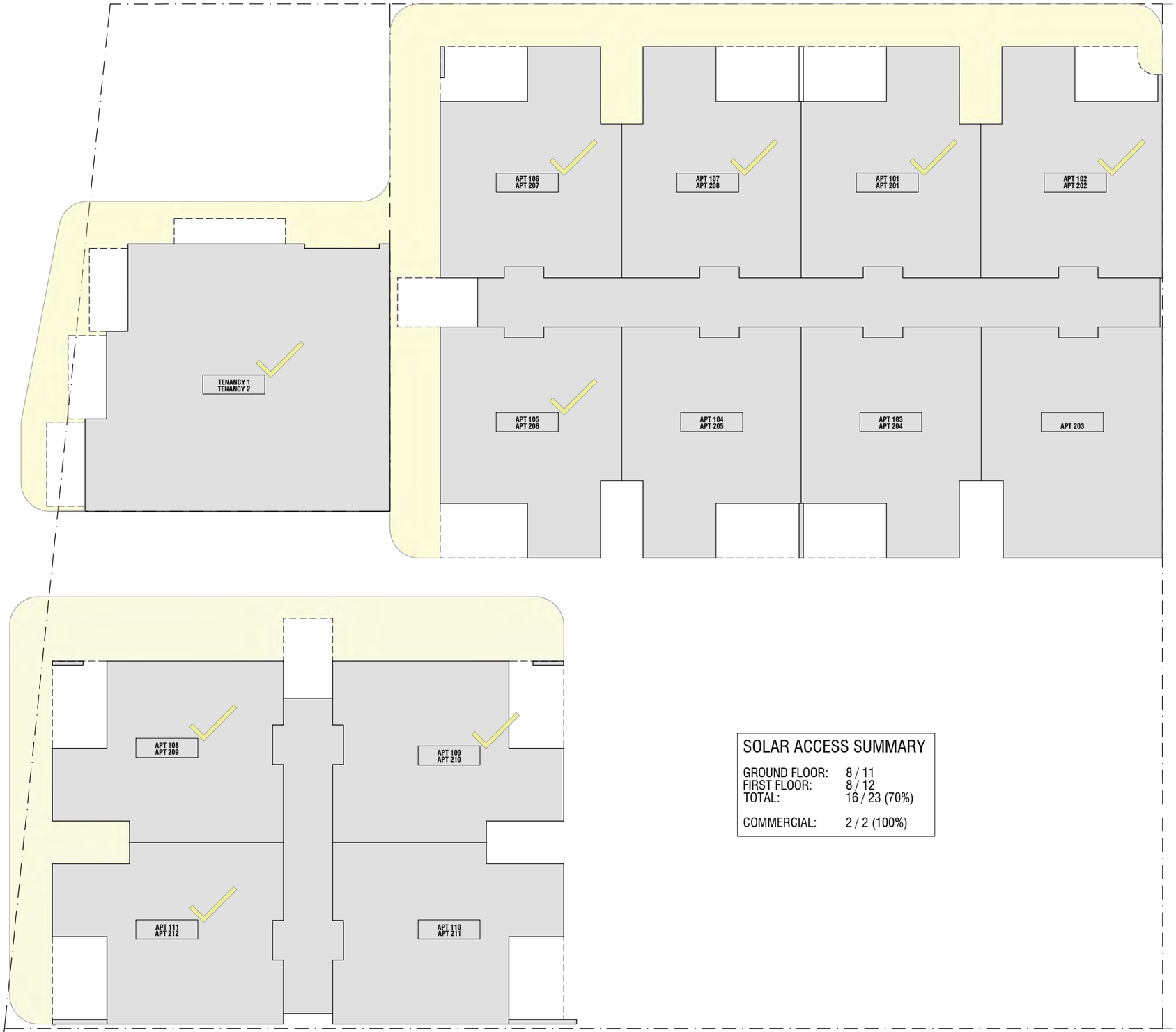
SCALE: 1:200

JOB #: 2422

NORTH

DWG: A301

ISSUE W



SOLAR ACCESS SUMMARY

GROUND FLOOR:	8 / 11
FIRST FLOOR:	8 / 12
TOTAL:	16 / 23 (70%)
COMMERCIAL:	2 / 2 (100%)

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PROJECT: CLARA STREET RESIDENCES

CLIENT: SPINNAKER DEVELOPMENTS

ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

DWG: SOLAR DIAGRAM

STAGE: DEVELOPMENT APPLICATION

SCALE: 1:200

JOB #: 2422

NORTH

DWG: A901

ISSUE W

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SCHEDULE OF SUBMISSIONS

PA25/157 – Lot 93 (834) and Lot 94 (830) South Western Highway, Byford – 23 Multiple Dwellings and Commercial Development & Associated Parking

Submitter	Submitter Comments
DWER	The Department has identified that the proposed development has the potential to impact upon environment and water resource values and management. In principle the Department does not object to the proposal however key issues, recommendations and advice are provided below and these matters should be addressed. **Issue** Stormwater Management **Advice** The proponent should manage stormwater in accordance with the '*Decision process for stormwater management in WA (DoW 2016)*' and the '*Stormwater Management Manual for Western Australia (DoW 2004–2007*)'. The Department recommends that the first 15 mm of stormwater runoff from the carpark hardstand area should be designed to undergo water quality treatment via biofiltration. This can be through vegetated swales, raingardens or bioretention basins set off-line from the general flood storage. Furthermore, the Department recommends the proponent prepare a Stormwater Management Plan (SMP) as part of the development approval process. The SMP should include, • design cross-sections of any infiltration basins (cross-sections should include basin inverts, maximum groundwater level (MGL), use of amended soils and vegetation and top water levels for each rainfall event. • required storage for each rainfall event (Stormwater runoff should be fully contained onsite for small and minor storm events). • permitted outflow of stormwater/floodwater runoff from the site (post development discharge off-site should be similar to predevelopment discharge) • stormwater quality management objectives and proposed treatment train In the event there are modifications to the proposal that may have implications on aspects of environment and/or water management, the Departr should be notified to enable the implications to be assessed.
MRWA	In response to correspondence received on 23 February 2026, pertaining to the submission of amended development plans, please be advised Main Roads supports the development proposal and recommends that if development approval is granted, the following conditions be imposed: <u>Conditions</u> 1. No permanent development is permitted within the land required for future road widening purposes, including the corner truncation, as detailed in the Land Protection Plan 201231-0007-1. <u>Justification for Condition</u>

Submitter	Submitter Comments
	This development must not compromise the ultimate road design of South Western Highway. No form of permanent development should encroach upon the identified land requirements. This includes, but is not limited to car parking, building anchors, retaining walls, acoustic fencing/walls and any associated infrastructure services. Removable awnings are permitted. 2. Prior to occupation of the development, the developer must construct the proposed modifications to the existing splitter island on Clara Street to the requirements of the Shire of Serpentine Jarrahdale. 3. This noise sensitive development adjacent to a major transport corridor must implement measures to ameliorate the impact of transport noise. The development is to comply and implement the Noise Management Plan prepared by Herring Storer Acoustics dated 24 October 2025, Revision 1 at all times. Justification for Condition To ensure the acoustic requirements are implemented in accordance with State Planning Policy 5.4 -Road and Rail Noise. 4. Prior to occupation of the development, certification from a qualified acoustic consultant being submitted, confirming that the recommendations of the approved Noise Management Plan prepared by Herring Storer Acoustics dated 24 October 2025, Revision 1, have been implemented is to be provided to the satisfaction of the Shire of Serpentine Jarrahdale. Justification for Condition To ensure the acoustic requirements are implemented in accordance with State Planning Policy 5.4 -Road and Rail Noise. 5. A notification, pursuant to Section 70A of the Transfer of Land Act 1893 is to be placed on the Certificate(s) of Title of the proposed development. The notification is to state: *"The tots are situated in the vicinity of a transport corridor and are currently affected, or may in the future be affected by transport noise."* Justification for Condition To ensure the acoustic requirements are implemented in accordance with State Planning Policy 5.4 -Road and Rail Noise. 6. Prior to occupation of the development, all lots shall be amalgamated and a new Certificate of Title obtained for the amalgamated lot. Justification for Condition To rationalise vehicular access arrangements. 7. Stormwater discharge shall not exceed pre-development discharge to South Western Highway Road Reserve. Justification for Condition

SCHEDULE OF SUBMISSIONS

PA25/157 – Lot 93 (834) and Lot 94 (830) South Western Highway, Byford – 23 Multiple Dwellings and Commercial Development & Associated Parking

Submitter	Submitter Comments
	To ensure there is sufficient capacity in the South Western Highway stormwater network to accommodate its requirements. This is a standard requirement for development adjacent to a State Road. 8. Prior to the issue of a Building Permit, the redundant vehicle crossovers are to be removed and kerbing, verge, and footpath (where relevant) reinstated with grass or landscaping to the satisfaction of the Shire of Serpentine Jarrahdale and to the specifications of the local government. Justification for Condition Public safety and protection of the Primary Regional Road Reservation. 9. No waste collection is permitted from South Western Highway. Justification for Condition Public safety. Condition confirms Main Roads requirements. Advice a) This property is affected by land reserved in the Metropolitan Region Scheme as shown on Land Protection Plan 201231-0007-1 and will be required for road purposes in the future. b) The upgrading/widening of South Western Highway is not in Main Roads current 4-year forward estimated construction program and all projects not listed are subject to change without notice, and Main Roads assumes no liability for the information provided. c) Prior to undertaking works within the South Western Highway Reserve, a Working on Roads Permit must be obtained from Main Roads. d) The 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. Main Roads encourages local government in liaising with applicants to promote and capitalise on our pre-lodgement consultation service, prior to lodgement of planning proposals, especially where development plans involve land adjacent to or have the potential to impact on the State road network. Further information on the pre-lodgement consultation process can be found on Main Roads website at mainroads.wa.gov.au > Technical & Commercial > Planning & Development
1	I am a local resident and i wish for the record to show i strongly object to the building application at Lot 94 (No. 830) & Lot 94 (No. 834) South Western Highway, Byford for the Proposed 23 Multiple Dwellings and Commercial Development with Associated. I feel this will have a negative effect on an already heavily congested area and suffer the same consequences of crime and disregard to others.

SCHEDULE OF SUBMISSIONS

PA25/157 – Lot 93 (834) and Lot 94 (830) South Western Highway, Byford – 23 Multiple Dwellings and Commercial Development & Associated Parking

Submitter	Submitter Comments
	I would like to also bring to light my disapproval of the timing in which you have presented this to the public, it's a busy time in which a lot of families are "distracted" and therefore this could possibly be overlooked and not given the time needed to see an application of this scale. I look forward to hearing from you.
2	I object to the above development above.
3	I object to the above development application
4	I object to the above development application
5	I write to formally object to the above development application for 23 multiple dwellings and associated commercial development at Lot 94 (No. 830) and Lot 93 (No. 834) South Western Highway, Byford. This objection is lodged on planning, amenity, traffic safety, and cumulative impact grounds, and I request that it be given full consideration under the applicable statutory framework. 1. Traffic Congestion and Road Safety Impacts The proposed development represents a substantial intensification of land use in an area that already experiences significant traffic congestion, particularly during peak periods. South Western Highway and the surrounding local road network are already under strain, and the introduction of 23 dwellings, in addition to a commercial component, will materially worsen traffic conditions. Of particular concern is the cumulative impact of this development during school peak times. Byford Primary School is already operating at or beyond capacity, and the surrounding streets experience severe congestion during afternoon pick-up periods. At approximately 3:00 pm, parents routinely park indiscriminately along verges and roadways, significantly reducing visibility, narrowing carriageways, and creating unsafe conditions. The addition of high-density residential development in this location will inevitably increase vehicle movements during these already critical times, compounding congestion and increasing conflict between vehicles, pedestrians, and cyclists. 2. Pedestrian and Child Safety The proposal fails to adequately address the safety of vulnerable road users, particularly children. The existing environment already presents challenges for young people walking or cycling home from school due to traffic volumes, poor sightlines, and ad hoc parking behaviour during peak periods.

SCHEDULE OF SUBMISSIONS

PA25/157 – Lot 93 (834) and Lot 94 (830) South Western Highway, Byford – 23 Multiple Dwellings and Commercial Development & Associated Parking

Submitter	Submitter Comments
	Further intensification of the site will increase the likelihood of vehicle-pedestrian conflict and create an environment that is demonstrably unsafe for children and young people. This outcome is contrary to orderly and proper planning principles and undermines the creation of a safe, legible, and walkable neighbourhood. 3. Inadequate Consideration of Cumulative Impacts While individual developments may appear acceptable in isolation, planning best practice requires consideration of cumulative impacts. In this case, the combined effect of residential density, commercial activity, existing traffic pressures, and school-related congestion has not been adequately addressed. There is insufficient evidence that the local road network can safely accommodate the additional demand generated by this proposal without unacceptable impacts on safety, accessibility, and residential amenity. 4. Amenity and Character Considerations The scale and intensity of the proposed development is inconsistent with the prevailing character of the area and represents an overdevelopment of the site. The resulting impacts on traffic, safety, and local amenity indicate that the proposal does not represent orderly or proper planning in its current form. Conclusion For the reasons set out above, the proposal should be **refused**. It would result in unacceptable impacts on traffic conditions and pedestrian safety, particularly during school drop-off and pick-up times, and fails to adequately address the cumulative effects of increased vehicle movements in an already constrained area. I request that this objection be recorded and considered in full as part of the assessment process.
6	We oppose the application for multiple dwellings and commercial development of Clara Street Byford and southwestern highway . We have strong concerns about this and do not want two storey dwelling built with a view to our privacy of our home being single storey and they will look into our pool area and back yard. We have a right to privacy these sort of buildings need be further down the highway away from suburban homes. We DO NOT WANT THIS APROOVED.
7	**Objection to Proposed Development – Multiple Dwellings – Parking and Traffic Impacts.** We are writing to formally object to the proposed development at Lot 94

SCHEDULE OF SUBMISSIONS

PA25/157 – Lot 93 (834) and Lot 94 (830) South Western Highway, Byford – 23 Multiple Dwellings and Commercial Development & Associated Parking

Submitter	Submitter Comments
	(No: 830) & Lot 93 (834) South Western Highway Byford. Upon reviewing the application, we have identified fundamental technical discrepancies and omissions that suggest the proposal has not been properly vetted for the 2 two storey buildings comprising of 23 multiple residential dwellings containing 15 two-bedroom and 8 four-bedroom apartments together with a two storey office building facilitating two tenancies. Our objection is based on the following: 1. Technical Discrepancies in Application Documentation 2. Under Provision of On-Site Parking 3. Traffic Flow & Access Constraints 4. Public Safety & Emergency Service Impact 5. Impact of Local Amenity & Character **1. Technical Discrepancies in Application Documentation.** There are a couple of major inconsistencies between the applicant's written claims and the provided architectural plans that preclude an accurate assessment. The written proposal claims a mix of 15 two-bedroom and 8 four-bedroom dwellings. However, the architectural plans show 23 two-bedroom apartments only. The application documents state that 28 car parking spaces are provided. However, the architectural site plan reveals only 26 parking bays. These are not minor clerical errors, they are fundamental to the assessment of building bulk, resident density and traffic impact. A four-bedroom dwelling inherently generates higher parking demand and traffic movements than a two-bedroom apartment. **2. Under Provision of On-Site Parking.** Even if the applicant provided the stated 28 parking bays, the provision would be inadequate. With only 26 physical parking bays shown tor 23 dwellings and a two storey office building the shortfall is critical. Residential & Visitor Demand: Realistically 23 households (especially those including four-bedroom apartments will exceed 40 vehicles. The current plan provides almost no capacity for visitor parking or multi-car households. Commercial Overlap: The office tenancies will generate staff and client parking demand that will overlap with residential peak times. Zero Overflow Capacity: South Western Highway is a major arterial road where stopping or parking is strictly prohibited. All overflow parking will be forced into Clara Street which is incapable of sustaining this burden. **3. Traffic Flow and Access Constraints.**

Submitter	Submitter Comments
	Restricted Egress: There is no right turn permitted out of Clara Street onto South Western Highway (except for emergency vehicles). This forces all traffic from the 23 units and offices to filter through the narrow local laneway network, creating significant congestion. Clara Street is approximately 170 meters long and already serves nine driveways and Raggle Lane. It is not designed to function as a high density transit corridor. **4. Public Safety and Emergency Service Impact.** Emergency Access: The Byford Volunteer Fire Station at 12 Clara Street requires an unobstructed road for rapid deployment. Any increase in traffic or on-street parking resulting from insufficient on-site parking would obstruct emergency access and pose a serious safety risk for children, parents and pedestrians. School Zone Safety: The proximity to Byford Primary School means Clara Street is a high pedestrian zone for children. Increased vehicle movements on a short, narrow street significantly elevate the risk of accidents. **5. Impact on Local Amenity and Character.** The proposed number of dwellings appears excessive for the area and is not keeping with the existing character of the neighbourhood. The surrounding area is predominantly low density residential and the introduction of 23 multiple dwellings represents a significant change that may negatively impact local amenity. This "packing" of units onto the lots without sufficient infrastructure will negatively impact the surrounding residents. While we acknowledge the importance of providing appropriate housing options with the community we have serious concerns regarding the scale, location and the potential impact of this particular development. We also seek clarification regarding the long term management, maintenance and support arrangements for the proposed dwellings as these factors are critical to ensuring safety, harmony and sustainability within the community. For the reasons outlined above, we respectfully request that the Serpentine Jarrahdale Shire refuse this application. Thank you for your time and for considering the safety and amenity of the Byford community.
8	Regarding the development application for Consultation and Referral – Lot 94 (No. 830) and Lot 94 (No. 834) South Western Highway, Byford, proposing 23 multiple dwellings and a commercial development with associated parking, we wish to object to the proposal progressing in its current form. Our primary concern is the road network surrounding the site. Clara Street allows only a left-hand exit onto South Western Highway, and with the volume of residents and commercial traffic associated with this development, we are concerned that this will create significant issues with safe and

Submitter	Submitter Comments
	efficient access and egress. The existing intersection layout is already challenging, and additional vehicle movements may worsen congestion, increase risk of collisions, and encourage unsafe manoeuvres by drivers attempting to access the highway. In addition to the above, we raise the following concerns: • The increased traffic load on Clara Street and the South Western Highway intersection may exceed what the current road design and traffic control can safely support. • The proposal may result in significant overflow parking into surrounding residential streets if on-site parking is insufficient for residents, visitors, and commercial customers. • Height, scale, and density of 23 dwellings may not be compatible with the surrounding area, potentially impacting the character and amenity of nearby properties. • Increased noise and activity from both residential and commercial components may impact surrounding residents, particularly during early morning and late evening hours. • The site's direct proximity to the South Western Highway may create additional safety risks for pedestrians and cyclists, especially if the development increases foot traffic without adequate pedestrian infrastructure upgrades. • Insufficient clarity on how the development will manage waste collection, service vehicle access, and deliveries, which may further obstruct traffic flow or create safety concerns. • Potential strain on local utilities and services if adequate infrastructure upgrades have not been demonstrated. For these reasons, we do not support the proposed development in its current form.
9	**Proposed 23 Multiple Dwellings and Commercial Development with Associated Parking** Although I am not within the specified radius of the Consultation's Development guidelines, I am writing to you as a resident of Byford with my comments on the proposed development application. First, I have spent my entire career as a public servant and have conducted public and industry consultations (proposed legislation) so I know how the process works. I would be grateful if you could let me know when and where the results (including submissions) of the consultation will be made public so can have a look at them myself. Second, I have no doubt that my letter/ views will not be included in your official consultation process because of this completely inappropriate radius' rule. I strongly believe that the consultation rules are a complete joke and need to be reviewed. I can fully understand the need for a 200m radius for potentially affected parties within the Perth Metro area. But, this is Byford, a small (currently) rural town where planning developments of this type will impact the whole town/area, not just the immediate residents (although obviously it will have the greatest impact on their immediate environment). The rampant developments currently being experienced in Byford are ruining the rural character of the town and I know there are more to come. There are already comments on social media about the new station and its anti-social impact on the town. Personally, I haven't experienced them but clearly others have. The fact that this development is for social housing, and to be located smack-bang in the middle of Byford is completely

Submitter	Submitter Comments
	inappropriate. There are regular reports on the Perth News channels about anti-social behaviour, including violent behaviour/assaults, by social housing residents. To have this proposed development in the middle of Byford, only 100m or so from the train station is a potential recipe for policing problems of the area, let alone the potential for social unrest in the town centre/affected residents. **Timing**: The timescale for the consultation, is itself highly questionable. have seen a copy of your consultation letter for this proposed development. It is dated 23rd December 2025, ie just two days before Christmas. The closing date for the consultation is 5pm on 13th January 2026. I am aware that this falls within the specified timescale set out in the consultation guidelines. Nevertheless, the consultation period covers Christmas Eve, Christmas Day, Boxing Day, the intervening week, New Year's Eve and New Year's Day, plus of course the fact that a substantial number of people from the town go away on their annual holidays in the Christmas week and in January. It is very easy to speculate that the timing of the application is deliberate on the part of the developer (and some might speculate also the Shire?) in the hope that a lot less negative responses will be received and the development will therefore (have to) be approved by the Shire. Finally, I have a couple of alternative suggestions for the proposed development. • With so much land available around Perth why not site the proposed development in an area where social housing would cause less impact to the local environment instead of putting it in the middle of a small, relatively peaceful rural town (the reason we moved here 10 years ago)? • How about finding out where the developer lives (and the Shire Planners and Councillors) and building right alongside their property? highly doubt they would allow that. I am copying this to others who may have a say, both on the development application and the current Development Proposal guidelines.
10	I wish to lodge this submission in objection to the above Development Application. My concerns relate to the scale, density, environmental impact, parking provision, and drainage in this flood-prone area, all of which make the proposal incompatible with the established character of Old Byford. 1. Incompatibility with Local Character The proposed development is not consistent with the character of Old Byford, which is predominantly low-density residential with a semi-rural streetscape. The scale, bulk, and intensity of 23 multiple dwellings with a commercial component represent overdevelopment of the site. This is contrary to Clause 67 of LPS No. 3 / Clause 70 of LPS No. 2, which require development to be compatible with surrounding land uses and protect residential amenity. The proposed built form will dominate the streetscape and reduce the amenity of surrounding properties. 2. Built Form and Environmental Concerns The proposal reduces open space and landscaping, increasing hardstand areas and limiting deep soil zones. This will impact the visual and environmental amenity of the site and surrounding area.

Submitter	Submitter Comments
	The R-Codes and City planning policies emphasise the need for meaningful landscaping, tree retention, and deep soil zones to maintain amenity and integrate development into its surroundings. These objectives are not adequately met by this proposal. 3. Drainage and Stormwater Management The site is located in a flood-prone area, and a stormwater "creek" runs between the two proposed lots. The increase in hardstand surfaces and high-density development will increase stormwater run-off, potentially affecting both the development site and neighbouring properties. The DA does not provide sufficient detail on how stormwater will be managed or mitigated, which is a critical concern given the site's flood risk. 4. Insufficient Parking Provision The DA specifies only 23 resident parking bays and 1 visitor bay for the 23 dwellings, which is a Shortfall of 28 bays (over double the number of bays proposed) based on the R-Codes Clause 5.3.3 and the City of Serpentine Jarrahdale Local Planning Policies. Based on the assumed mix of 15 two-bedroom and 8 four-bedroom dwellings, the minimum parking requirement would be 46 resident bays (2 per dwelling) and 6 visitor bays (1 per 4 dwellings), for a total of 52 bays. The proposed parking represents a significant shortfall of 28 bays i.e. they are proposing less than 50% of required parking, likely to result in on-street parking, congestion, and traffic safety issues on South Western Highway and nearby streets e.g. Clara St, negatively affecting residents and visitors. 5. Traffic and Amenity Impacts The combination of high-density residential development and commercial activity will generate additional traffic, noise, and on-street parking demand. These cumulative impacts will significantly reduce the liveability, safety, and amenity of Old Byford. **Conclusion** For these reasons, the proposal: • Is not compatible with the established character of Old Byford • Reduces landscaping and open space, increasing hardstand areas • Provides insufficient on-site parking for residents and visitors • Fails to adequately manage stormwater in a flood-prone location • Will negatively affect traffic, safety, and residential amenity

SCHEDULE OF SUBMISSIONS

PA25/157 – Lot 93 (834) and Lot 94 (830) South Western Highway, Byford – 23 Multiple Dwellings and Commercial Development & Associated Parking

Submitter	Submitter Comments
	I respectfully request that Council refuse DA PA25/157, or require a substantial redesign that reduces density, improves asing, provides sufficient on-site parking, and ensures effective stormwater management.
11	Firstly, I find it somewhat odd that a letter gets received by residents not even a week before consultation period finishes. Also the fact that this is submitted when many people are in a Christmas break is somewhat disgraceful. Having received the information letter regarding the proposed development I would hereby like to strongly object to this proceeding. My wife and I moved to our current address nearly 8 years ago on the junction of Clara and Edward Crescent to a somewhat quiet neighbourhood which since then has changed a lot with drug and alcohol fuelled disturbances increasing. Hoons travelling along Edward crescent at way over the speed limit, burnouts, unlicensed cars and motorbikes also contributing to antisocial behaviour. After having to put up with it for a long time before finally the police apprehending and moving out the culprits responsible, we do not need more of the same or similar of this issue which can come out of department of housing developments. I want to be clear, I do support providing safe and secure housing for people who need it. Everyone deserves that. My concerns are more about whether this particular proposal, in its current form and location, is the right planning outcome for the wider community. I am also concerned that this proposal may bring in pressures that the local area is not able to handle. These pressures often fall also on surrounding neighbours, local schools, policing (Armadale police already struggling to cope and response times are poor) and council services. In many cases, these impacts only become clear after the development is completed, when it is too late to address them properly or change things. Further to this the Clara / Southwest highway intersection medium strip is specially designed for emergency services (mainly the Byford Volunteer Fire Brigade located at the end of Clara St) to cross over. Having this development go through would mean a lot more cars parked on the street which would impact their time response, plus increase in traffic would encourage more use of the strip by the general population, which leads to dangerous situations. Another concern is that such a development will negatively impact our house value and believe council should seriously consider this. To sum up, I am firmly against this proposal, and also I ask the Council to reconsider it as it currently stands and to carefully assess: • Whether the scale and density of the project are appropriate for the area • How antisocial behaviour risks will be actively managed long term • What support services will be in place for residents • The broader impact on neighbourhood amenity and local infrastructure I believe it is possible to support social housing while also ensuring responsible planning decisions that protect the wellbeing of the whole community. I appreciate Council taking the time to consider these concerns.

SCHEDULE OF SUBMISSIONS

PA25/157 – Lot 93 (834) and Lot 94 (830) South Western Highway, Byford – 23 Multiple Dwellings and Commercial Development & Associated Parking

Submitter	Submitter Comments
12	In response to the letter we received on Tuesday the 6th of January 2026, we would like to contribute the following comments, observations and concerns and thank you for the opportunity to do so. We would like to preface these comments by saying we do not wish to be the preverbal "NIMBY" and we are not anti-development, however we wish for development to be well designed, equitable and fair to all, that being for the shire, developers and clients alike. To begin with it was somewhat disappointing to receive our letter on Tuesday the 6th of January only to see that the comment cut of date was the 13th of January being just 8 days as opposed to what I believe to be the standard 21 days. With all respect, once I flagged this to the shire planner, I was informed that shire would be extending the comment period which is duly accepted as fair. <u>Concerns</u> 1 – Parking We are not new to the process of development within the SJ Shire having seen many come and go and it is our observation that parking is always a serious concern for the shire, and rightly so. Many times, we have seen the projects finalised, and even though parking was 'satisfied' in the DA process, the result of vehicles with nowhere to park is evidence that contradicts this 'satisfaction'. This DA application is no exception with the applicant presenting a case to reduce the standard number of parking bays and we believe this 'case' will not be the reality. We have concerns of a completed development with tenants and visitors parking up and down the street or any place they can find when the projects car bays are full and it's overcrowded. We consider it appropriate for the shire to apply the standard parking requirement so that we don't become 'that street' with cars parked ad hoc. 2 – Rubbish/Waste Management/Collection It is noted that the DA application proposes that Facility Staff/Management will ferry the bins from the allocated bins enclosures to the verge of Clara St and return them. This presents a problem, as in the proposal we don't see any capacity, or area, allocated for these supposed staff/managers. Who are these staff/managers? Will someone come to site specifically to ferry bins? The proposal states that staff will promptly return the bins to the allocated bin enclosures to maintain clean and orderly premises. Again, this sounds great in theory, but will it be a reality. I have seen other developments on this nature in other suburbs with waste facilities similar to this proposal and the end result is not good and often presents a real health risk. Without having individually allocated bins that become the direct responsibility of the tenant, it tends to result in a situation where no-one takes responsibility and it leaves a mess, literally.

Submitter	Submitter Comments
	3 – Setbacks We note that the DA proposes a variation to building setbacks and in particular the building setback of "zero" to Raggle Lane. The proposal states that this variation 'will not negatively impact the character of the laneway'. We do not deem this variation to be acceptable. To have the wall of a habitable building directly on the boundary of a traffic road/lane is not deemed acceptable and it certainly will negatively impact the character of the laneway. Neither do we believe it is acceptable to have a garage directly onto the Lane with zero setback. Even the high-density developments with cottage lots with rear laneway have a setback for the buildings and garages and this should be of no exception. 4 – Storm water Management When looking at the report {included in the proposal} to deal with the stormwater, we note that it is solely dealing with the flow of water that currently runs through the property via the creek/drain. It is to be noted that this creek/drain has a catchment that begins kilometres away up in the hills and carries the storm water from a large catchment of Byford uphill from this development and will now have the added storm water/drainage from this development. To be open and transparent, the submitter has intimate knowledge of the development at 9 Clara St to the east of this site and specifically to do with stormwater, hence the concerns which are three-fold. A} On site rain water storage. On the proposed plans we cannot see any design allowance for the required first 15mm of rainfall on impermeable areas to retained before discharging into the open drain. This presents a problem. We also note the carpark, which has a large rainwater catchment area, has not been mentioned in this report and this also presents a problem. B} Upstream stormwater flow. For the development of 9 Clara St {particularly under Raggle Lane} the shire engineers required a minimum box culvert drain size of 1500W x 900H mm {being 1.35m3} which replaced the 1200mm pipe drain {only 1.13m3}. The suggested retention of the 1200mm pipe will certainly not have the desired flow capacity which was required for 9 Clara St. The proposed 2x 750mm pipes, with a total 0.883m3 capacity, is drastically less capacity again and will cause major drainage problems with large volumes of stormwater being funnelled from large capacity pipes to significantly less capacity pipes which will cause major stormwater 'back up' to potentially cause flooding during heavy rain events. This scenario is not acceptable. C} Flood zoning. The proposed development/site is in the flood zone 20% and 1% AEP. Previous developments were required by shire

Submitter	Submitter Comments
	engineers to contain the 20% AEP flood storage which adds up to a significant volume of water. We do not see any flood management included, nor even mentioned in this propose and that presents a significant flood risk. Should the same engineering requirements be consistently applied to this site as others it would translate into a considerable flood water storage capacity which has not been considered. 5 – Social Housing We are aware that the state government is pushing an agenda of more social housing, and in particular around train line/stations. As a concept we are not opposed to this. However, it is of concern to us to have an apartment complex that is solely social housing. From my understanding, over the years, successive governments have recognized this and have sort to integrate social housing among the general population and to avoid high density/sole social housing complexes. This proposal seems to present a situation that could quite quickly end up as a complex with an outcome of which the state government seems to be wanting to avoid. As a local with a home in close proximity to this proposed development, the idea of it being solely social housing brings about the honest reality that it will have a detrimental effect on the value of our property. While this is often the 'elephant in the room' it is without a doubt a reality. <u>Conclusion</u> As stated already, we are not anti-development nor opposed to a development on this site. However, we are opposed to this development in its current form based on the points raised above. We do believe these concerns can be adequately addressed with an alternative proposal that adequately addresses these issues. In particular we would like to see the storm and flood water concerns dealt with before a DA is given approval and we would like to see this development as a mixed private ownership/social housing arrangement.
13	I am writing to formally raise several concerns regarding the proposed development of 23 dwellings along the existing site on the older side of Byford. **Waste Management Capacity** The proposal allocates **16 waste bins for 23 dwellings**, which is clearly insufficient. This shortfall will inevitably lead to overflow, poor waste management outcomes, increased vermin risk, and negative impacts on surrounding residents. The current allocation does not appear to meet realistic household waste generation requirements for a development of this size. **On-Site Parking Deficiency**

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	Similarly, the proposal provides **only 16 on-site parking bays for 23 dwellings**, which is not adequate. This will almost certainly result in overflow parking onto surrounding streets and potentially onto or near the main road, increasing congestion and safety risks. Adequate parking provision is essential to prevent avoidable strain on local infrastructure. **Unsuitable Location Compared to Alternative Sites** Developments of this density would be far better suited to locations closer to the **new train station and the newer expansion areas of Byford**, where significant land parcels (including areas up to approximately 150 acres) are available and where higher-density housing aligns more appropriately with future transport and planning outcomes. Concentrating higher-density development in these newer areas would reduce pressure on established neighbourhoods. **Stormwater Drainage and Flooding Risks** Flooding already occurs regularly in the area, even with **existing open drainage systems**. The proposal indicates a reliance on **underground piping and soak wells**, which is concerning given that soak wells are widely known to be ineffective in Byford due to the high clay content in the soil. In addition, there are **further buildings and developments planned or already occurring in the surrounding area**, which will inevitably increase hard surfaces and runoff volumes. This cumulative impact significantly raises the risk that existing and proposed drainage infrastructure will be overwhelmed. I have also contacted Main Roads regarding drainage issues along the South Western Highway, and they have advised that drainage responsibilities fall to the developer. This further heightens concern that the proposed solution may be insufficient and could exacerbate existing flooding issues for both the development and neighbouring properties. **Pedestrian and Traffic Safety** The site's proximity to a major road/highway raises serious safety concerns. Pedestrian access being limited to a footpath immediately adjacent to a high-traffic roadway significantly increases the risk of vehicle-pedestrian incidents, particularly for families, children, and elderly residents. **Preserving the Character of Old Byford** Finally, I respectfully appeal to Council to consider the long-standing character of the older side of Byford. This area has traditionally been defined by **larger blocks, lower-density housing, and a country town feel**. Introducing high-density, modern developments in this location risks eroding the very character that existing residents value and have chosen to invest in. There are more appropriate areas within Byford for modern, higher-density construction without compromising the established identity and lifestyle of older neighbourhoods. In light of the above, I respectfully request that Council give serious consideration to these concerns when assessing this proposal and explore whether alternative locations or design changes would better serve the community as a whole. Thank you for your time and consideration.

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14	Just thought I would comment on the referred application. What a travesty of a project. With residential building applications being rejected in favour of commercial builds then this comes up. Social housing for no less than 23 individual dwellings. Not enough parking allowed for. Where will all the waste bins be stored or placed for collection? Where is the storm water going to go? Previous developments had to leave the drains (creek) open for heavy rains. Who will be responsible for any damages resulting from the closing in of the drains. Where is the guarantee that housing prices won't decrease in the area because of this poorly thought out development. The list can go on. Shame on the State Government and you the Council if this goes ahead. Take this as a no from me. A resounding no!
15	I write to oppose to the proposed housing development at 834 South Western Highway Byford. I am local to the area and do not believe this is a suitable position for such a development and have concerns about who it may attract to the suburb in one concentrated area. While there is a need for affordable social housing I do not believe it should be in the form of a multi story complex in the middle of our suburb.
16	I would like to voice my concerns and objections to the high density housing proposed in Byford. This will cause added crime, we already have issues inside Aldi and other good stores with low life's stealing and behaving negatively in the centre. We have a lot of properties being subdivided and added to the area and this is going to further add to congestion. We already have pot holes and poor roads from alot of truck traffic and more people are going to cause more damage and more delays This is not the shire we moved in to and the fast change is a cash cow for the shire and not looking after its residents in any way shape or form We are disappointed with the concrete factory and dust that has been able to be setup so close to our homes and now this? Our safety and that of all the people in the area should be paramount I would appreciate you reconsidering this eye sore in our town centre

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17	Regarding high density housing A VERY BIG NO from us . This shire cannot sustain or support the volume of people we have now !!!! . Look at the issues we currently experience every year with flooding , lack of drainage , inadequate roads, parking issues , unkempt verges , tip closure, feral kids on e-bikes causing mayhem and chaos and the police in Mundijong can't cope with that issue !!!! NO WAY this shire cannot sustain cope with or manage the issues high density housing will bring to this area !!!! A NO from this household
18	I would like to provide feedback on the subject Planning Application for high density social housing proposed for 834 South Western Hwy Byford. I oppose this development as it not suitable for the Byford township area and will have a negative impact on the amenity of the area.
19	I would like to express my objection to the proposal of the High Density Apartments Application at 834 Sth Western Hwy Byford. As a nearby resident, property owner, tax and rate payer I was not informed by council of the proposed development and wish to lodge a complaint and object to the development. The application does not take into consideration that this is a built up area. Residents are already struggling with accessing the Sth West Hwy, there is limited cross roads to access the main road, with poor visibility, road structures and high levels of traffic congestion with permanent residents, and increases with the nearby school and daycare traffic. The proposal is seeking closing access to the highway from Clara Street which is going to leave 2 exit points with accessibility to the highway for existing residents and visitors. Closing a road and adding even further motorists to already congested infrastructure in a fire hazardous area could be disastrous. The proposed site cannot accommodate the possible 100 extra residents, with 24 parking bays for 24 apartments . This is not addressing 2 car families or visitors, there is no street parking nearby or room to accommodate this influx on already dilapidated and unsurfaced laneways. Apart from the inadequacy of the site being on a busy highway I also note the lack of drainage, entry and exit points, the structure will cause increase in poor driver visibility in a highly populated area with a primary school and daycare centres nearby. Please consider relocating this project as ti urban planning. The Byford train station project I believe had planned for a development of housing and high density housing within the abundant vacant land west of the train station. This site with suitable access to public transport, shopping and roads that can be adjusted approximately to accommodate the increase of population into its designed development.

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	I urge you to note the 200 + objections from rate payers of The Byford Community and Surrounds Facebook page to this proposed location being inappropriate.
20	I wish to put it a submission against the High density housing proposal at 834 Sth West Hwy Byford, I believe that the proposal would degrade property values and increase transient bad behaviour that has been on the rise since the train station opened I also believe that there will be increased traffic congestion and parking issues to surrounding business's I do not believe that this should go ahead,
21	I am writing to express my serious concerns regarding the development application for 23 multiple dwellings and a commercial development at Lot 94 (No. 830) and Lot 93 (No. 834) South Western Highway, Byford. The proposed 23 dwellings will house more people than currently live in my entire street, creating extreme population density that will strain local services, schools, and community safety. Local schools are already struggling to support students with behavioural challenges, and children from Department of Housing properties often receive priority for limited services, leaving other children, including my own, without support. Where my family lives, already needs improvement. Sadly, my child is now exposed to bullying and physical harm due to lower-socio rental households moving into the school communities. We've also needed to install and upgrade cameras around our home, the environment is growing unsafe at a very fast pace, this massive development will worsen the situation. Placing people in such close proximity will inevitably create problems, and those who genuinely need housing may be subjected to the negative behaviours of others. From my own experience living in social housing as a child, I have first hand experience on the negative impact in can have on families and the community. Sadly, it's long life lasting negative impact. Poorly maintained homes, violent criminals and drug use, poor safety for residents within the social housing and community. Regular visits from the police to the dwellings early hours of the morning due to anti social behaviour. It's baffling to me we have not learnt from the past, and we are going to continue causing trauma to children and communities. The proposed buildings are large, two-storey, and high-density, out of character with Byford. Similar designs in other suburbs have become obsolete and, in many cases, demolished due to crime, anti-social behaviour, and poor functionality. It is unclear why this outdated design is now being added here. Elderly residents in the new nearby retirement village are also at risk, as they frequently use the train station and local businesses. Higher-density social housing, with a history of crime and anti-social behaviour, could endanger their safety and well-being.

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	Historical evidence from Perth suburbs shows that areas with a high percentage of Homes West or Department of Housing properties have experienced higher crime rates. Social housing near Armadale Train Station demonstrates that high-density developments do not automatically benefit the community. Finally, higher-density social housing can drive up rents, lower property values, and negatively affect small businesses, impacting homeowners and families who have worked hard to secure a safe, stable environment. Given these concerns, I urge the Shire to carefully consider the direct impact on families, elderly residents, community safety, schools, property values, and local businesses. If this development proceeds, robust strategies must be implemented to ensure public safety, culturally appropriate support, adequate policing, school support, and protection for homeowners, children, and seniors. Thank you for your attention to this urgent matter.
22	I am writing as a local resident of Byford to formally object to the proposed Homes West (public housing) development, particularly due to its close proximity to the local Byford train station and the associated community safety, service capacity, tenancy management, school capacity, drug-related, local business, and historical planning concerns. Train stations are recognised as high-traffic public spaces that already experience elevated levels of antisocial behaviour, including loitering, vandalism, theft, public disorder, and drug-related activity. Locating a high-density public housing development adjacent to a transport hub is likely to intensify these issues, particularly during evening and late-night hours. A further concern is that our local community already experiences a low police presence and limited access to support services, including mental health services, drug and alcohol outreach programs, and community safety initiatives. Emergency response times and visible policing are already stretched, and there has been no assurance that additional resources would be provided to support this development. Without increased services, the proposal risks placing further strain on already limited infrastructure. There are serious safety implications for vulnerable members of the community, particularly women and elderly residents, who already report feeling unsafe around transport hubs during certain hours. Increasing population density in a high-risk location without additional safeguards may further reduce perceptions of safety and discourage public transport use. Drug-related behaviour is a significant concern in areas surrounding train stations, including public drug use, discarded needles, and associated antisocial behaviour. These issues present clear risks to public health and safety, particularly for children, elderly residents, commuters, and local businesses. Introducing a large-scale public housing development in close proximity to the station without guaranteed drug and alcohol support services, increased policing, and harm-minimisation measures risks worsening these existing problems. The proposed development also raises concerns for nearby small businesses. Businesses located near train stations already face challenges such as vandalism, theft, property damage, shoplifting, loitering, and drug-related incidents. An increase in unmanaged antisocial behaviour can

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	negatively impact staff safety, operating hours, insurance costs, and customer confidence, placing additional pressure on small, locally owned businesses that are vital to the local economy. Local schools are already under significant pressure, with many supporting low- to middle-income students who require additional behavioural, learning, and wellbeing support. Class sizes, specialist services, and behaviour management resources are already stretched. The number of residents proposed under this development is likely to result in a sudden increase in enrolments, effectively overwhelming schools that do not have the capacity, staffing, or funding to manage this level of growth. Without guaranteed investment in education and student support services, this proposal risks negatively impacting educational outcomes for both existing and future students. It is also important to acknowledge Western Australia's historical experience with large-scale, concentrated public housing developments. In Perth, a number of past Homes West estates and high-density public housing complexes recorded persistently high rates of crime, antisocial behaviour, and community disruption over extended periods. In several cases, these developments were ultimately demolished or significantly redeveloped due to ongoing safety concerns and long-term planning failures. This history demonstrates the risks associated with concentrating public housing in poorly suited locations without strong management, services, and integration strategies. In addition, there is widespread community concern regarding the Department of Communities' enforcement of tenancy conditions. Residents and business owners frequently report that repeated antisocial behaviour, including drug-related disturbances, is not addressed in a timely or effective manner, even after multiple complaints. This lack of enforcement places an unfair burden on surrounding residents, schools, and businesses and undermines community safety and amenity. I wish to emphasise that my objection is not directed at individuals, but at poor planning outcomes that repeat past mistakes by concentrating public housing in high-risk locations without adequate safeguards, accountability, or service support. I respectfully request that the Shire: - Reconsider the suitability of this site due to its proximity to the train station - Avoid concentrating public housing in areas already experiencing safety and service capacity concerns - Take into account Perth's historical outcomes from similar developments - Require clear, enforceable tenancy management and behaviour standards - Guarantee funding for increased policing, security, drug and alcohol support services, education, and community support services - Consider the impacts on local schools, including enrolment pressure and behavioural support capacity - Consider the safety and economic impacts on local small businesses - Undertake meaningful and transparent community consultation prior to any approval

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	I urge the Shire to prioritise community safety, responsible planning, and long-term social and economic outcomes when assessing this proposal. Thank you for considering my submission.
23	I wish to provide feedback regarding the proposed development of 24 apartments at 834 South Western Highway, Byford within the Shire of Serpentine-Jarrahdale. If the intention of this project is to assist people experiencing housing stress or homelessness, I support the goal of helping those doing it tough. However, I strongly question whether this location and housing style are appropriate for that purpose. There is an existing facility at the Bullsbrook Immigration Detention Centre reportedly sitting unused at significant ongoing cost. Repurposing existing infrastructure like this for supported accommodation would be a more practical and better-located solution than introducing high-density housing into rural-fringe residential areas. High-density housing has a place — and that place is typically in inner-city locations where there is immediate access to public transport, services, employment opportunities, and support networks. Byford and similar outer-fringe suburbs exist for a different reason. Families move to these areas specifically for space, larger blocks, quieter streets, and a lifestyle suited to raising children. Reducing block sizes and introducing dense apartment-style housing changes the character of the community and undermines the very reasons residents chose to live here. In addition, this specific location on South Western Highway presents practical concerns: • Limited parking capacity for a development of this size • Traffic flow and safety implications on a major highway • Potential social impacts where support services and infrastructure are not immediately available Thoughtful planning should: • Use existing buildings and facilities where possible • Place higher density housing where infrastructure already supports it • Preserve the character and block sizes of rural-fringe communities We can assist vulnerable people and protect the integrity of established communities if planning decisions are made with location suitability in mind. Thank you for considering this feedback.

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24	I believe these high rise buildings will be a complete eye sore to the main highway, currently there is a great country feel to the main highway and any building more than one story will just look so silly and completely ruin the aesthetics. Not only this, I purchased a property in the old Byford section for the country feel with benefits of the local amenities. I reiterate that this will ruin the whole lifestyle that I moved to Byford for. Please don't put them there. Find a different spot in a less country type area away from the main highway.
25	Will ruin the aesthetics of the main highway and old Byford. The worst place that could have been proposed for multi story buildings and car parking. Consider elsewhere away from the highway and old Byford
26	I don’t believe this a good development for the area. It will bring more anti social behaviour, crime and drugs to the area. Will also negatively affect local property values. This development will tarnish the reputation of the Byford area. And it’s residents . The development is unwanted.
27	We do not want Byford to turn into Armadale, Byford was a nice quiet country town but is now overpopulated and the last thing we need is government housing de valuing our houses We DO NOT WANT THIS IN OUR TOWN!!! This will bring nothing but trouble
28	I am against the social housing being built in Byford. Our rates are way too high to be having to deal with the drugs crime and theft that it brings to our area.
29	We do not support the proposed apartment complex for 23 social housing units at this location. Concentrating a large number of units within a single complex raises concerns around community safety and the increased risk of antisocial behaviour, which research and past experience indicate can be more likely when social housing is highly concentrated rather than dispersed. A sporadic, integrated housing model better supports positive outcomes for both residents and the wider community. While we acknowledge that the site’s proximity to the main town area, including cafes, pubs, fast food outlets and the train station, may be beneficial for those requiring social housing, the needs of 23 households should not outweigh the wellbeing and safety of the broader community.

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	Any increase in antisocial behaviour in this central location would likely impact how safe young families and older residents feel when accessing these shared community spaces. Additionally, the two-storey apartment-style development does not align with the town's existing character or its valued farm and rural identity.
30	Housing of this type does not align with the physical environment or community atmosphere of Byford.
31	I think it's a terrible idea. Byford has by no means improved over the years and it's sad to watch the decline of what was once a lovely little community. Whilst social housing is an important topic, it will be the demise of Byford.
32	I am against the proposed "multiple dwellings" our poor city is already dealing with Armadale scum from train line
33	I understand that we are in a housing crisis bit can you please be careful with who goes into these subsidy units as we don't want our nice neighbourhood to go down hill
34	This kind of housing complex whether it is privately owned or not, is not in keeping with Byford's semi-rural lifestyle. It is not suitable for Byford and I feel it would ruin the country feel of the town.
35	Please don't, we have enough issues in Byford.
36	I'm 50 years old and have lived my whole life in Kelmscott. I do not believe this social housing building will help Kelmscott and the residents in anyway. If the building was further away from the main highway, then maybe it could be helpful to those that are desperate for a home. An area further away near the John Dunn Oval or heading closer to Gosnells would be much more appropriate. The disruption even with the traffic congestion will be enough to know this location will cause many problems too. It could bring more money being spent into the business within the area, but I believe a list of problems that may arise due to the location should be considered. The foreseeable problems should already have suggestions to how they will be dealt with and all residents should be made aware! No approval should go ahead, unless a petition with the approval by all residents in the local suburbs sign to agree.
37	This development is needed in order to support various people in the community.
38	Lack of privacy, noise and dangers traffic issues - entry and exit - and access to Highway - Lack of consultation

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39	I don't want social housing in Byford. Byford is now the last stop on the line and if you bring social housing into Byford, it'll be the new Armadale. We have enough issues in Byford with the hoodlum kids causing chaos and wrecking property- we don't need to invite more problem families and individuals and drug users. My property is very close to the proposed development I don't want it near my home.
40	It will be a game changer for Young single parents (if they end up living there) it's close to some shops and to public transport. I think it could be great if the type of people housed are well checked. It could cause a lot of issues if the wrong type of people are housed. There needs to be a strict protocol for any antisocial behaviour and not many chances should be given, as there's so many deserving people who need houses and it should go to people who will treat them well. Also, don't let the builders that build the one in Kelmscott build this one, as that now has exposed metals and doesn't look structurally sound.
41	No Comment
42	Not the area for public housing
43	I would like to express my concerns regarding the proposed social housing development in our area. Our community is currently well maintained and has a strong sense of pride and care; however, there is already limited funding to adequately maintain existing infrastructure, public spaces, and services. I am concerned that without guaranteed and ongoing funding for maintenance, support services, and community management, the development may place further strain on the area and negatively impact its condition and amenity for current residents. I respectfully request that council carefully consider the long-term funding, upkeep, and community impact before proceeding with this proposal. Thank you for considering my feedback.
44	Concerned, my sons play around Marri Grove primary school and regularly ride to the shops in the back streets behind chicken treat and dome. There has already been an influx of crime in Byford since the train line opened. This will increase significantly if this complex goes ahead. Byford is a nice family town, I've lived here 15 + years and raised a family here. Will consider selling up if this project proceeds
45	I do not support the build
46	Please no our community does not need this ..put your efforts into cleaning up the roads and sidewalks you already have

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47	I have lived around housing like this and I have nothing good to say about it. Crime went up, disrespect for the building and surrounding environment. I am worried about our nice new train station getting trashed. This is truly a horrible idea.
48	The community does not want this. It is brings lower social economies into a suburb that is already starting to be plagued with trouble people! Especially our youth! This here will only be a detriment to all home owners in the local area! And make the area around the new station a place I would not feel comfortable for my own Wife and children to be there by themselves. This area is better of bring more retail and providing jobs for the already struggling residents of the community.
49	I oppose the development of a house structure in Byford due to the following reasons: 1. Byford is the primary hub with the only significant shopping vicinity in the entire shire. Adding a housing complex further add's pressure on an already overstretched community facilities. 2. As is unfortunately seen in majority of social housing, the crime rate increases and we have already seen an increase in unfriendly people since the opening of the train station. 3. Infrastructure for the local population is already shocking. Too many roads need upgrades, we have flooding issues in many parts of the local area, we don't have commercial/light industrial to maintain local workers as is. Without adding more people to the area.
50	Thats not going to be good right near the shops to turn it into a rubbish tip we already have dumped trolleys along the cycle paths from the train station and problems with these electric motor bikes running people off the walk and cycle path it will just get worse in a multi store low cost housing unless its managed very well
51	Things not the right place for this type of housing It will bring more crime and drugs to the city centre
52	I do not support the building of social housing in Byford
53	I do not support 2 story social housing complex. While I am all for social housing mixed in amongst privately owned housing, the multi story blocks become very quickly known as low socioeconomic housing and there is a stigma that is then attached to it. I know as I started in 3 story social

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	housing. The building was poorly maintained, attracted rough characters, bad habits, zero pride in the surrounding area and not a good place to live in or live near to. This multi story social housing depreciated everything around it. I would hate to live in it or even near to it. I would be selling my house and moving out before it even got out of the ground. Much be to build individual homes between other private homes as the tenant is more likely to take some pride in the home they live in if all the other homes are looked after. Grouping low income/Centrelink income type homes in one area creates a visual as well as a mental impact on that area as poor, often unkempt and rough. Like I said, I grew up in this kind of housing and surrounding areas and hated it. I could not wait to move out as it is feral and invites clusters of drug use and violence. If that comes to Byford or anywhere near my home, then my property will be on the market before they even break ground.
54	I oppose the proposal for development of this complex. There are plenty of other residential spots to accommodate public housing tenants in Byford. Building on a main road across from a pub will encourage bad behaviour around the train station and local pubs and bottelos as they are in walking distance for residents. Please consider the social economy that this will encourage and will turn a beautiful family orientated community into a less desired place to live. This will be bad decision!!
55	I think this is a terrible idea!
56	I am proposing NO to this development. I feel it would compromise myself and my family's safety whilst out and about in the community.
57	I'm against the proposed development at that sight
58	It's not something I want in our community
59	All you're going to do is bring in people that dont care and will trash up the place. They will end up causing more trouble and damage then the housing is worth.
60	Living in Byford, many residents are concerned that the introduction of large-scale social housing could negatively affect the area's character and safety. People worry that if housing is added it will put pressure on local infrastructure and reduce the sense of security that Byford is known for. There are fears that increased population density could lead to higher rates of theft, vandalism, and property damage, which may impact local businesses and homeowners.

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	Additionally, some residents believe that poorly managed developments could lower property values and discourage investment, gradually degrading the overall appearance and reputation of the suburb. I do not support the proposed request for social housing.
61	Community housing grouped together is a disaster. It breeds nothing but anti social behaviour and unsociable people to the community. Do not build. Look at Armadale / Camillo / Gosnells. Prime examples of what grouped community housing evolves into.
62	I moved my family to Byford specifically to escape urban congestion and to enjoy the safety and "small-town feel" that this community offers. I am deeply concerned that this project, in its current form, fundamentally threatens that lifestyle. My objections are based on the following critical points: Inappropriate Bulk and Scale: The proposed building is an architectural mismatch for our Main Street. It creates a visual "eyesore" that is inconsistent with the rural-fringe character of Byford. We should be enhancing our town center, not overshadowing it with high-density designs that belong in a city. Infrastructure and Security Gaps: Byford currently lacks the essential infrastructure—most notably a local police station—to manage the increased demands of high-density or social housing. Adding this type of dwelling without first securing adequate law enforcement resources places an unfair burden on current residents and risks our children's safety. Social Impact and Precedent: There is significant community concern regarding the long-term social impact of this development. Without a clear management plan, we risk seeing the same decline in safety and property standards observed in neighboring Armadale. Our community deserves a proactive approach to planning that prevents such a decline. Preservation of Town Identity: The "village" atmosphere is Byford's greatest asset. This development prioritizes high-density housing over the preservation of the unique identity that attracts families to this Shire.
63	I don't believe this will be good for our community.
64	No! That many dwellings in that style and size of housing will only bring unsavoury behaviour that Byford doesn't need more of. Especially given we don't have a police station. Should be rejected.
65	No Comment
66	No Comment

SCHEDULE OF SUBMISSIONS

PA25/157 – Lot 93 (834) and Lot 94 (830) South Western Highway, Byford – 23 Multiple Dwellings and Commercial Development & Associated Parking

Submitter	Submitter Comments
67	I would like more information
68	I advise against it. Byford itself already has a lot of crime and disruption amongst the community with a lot of things getting trashed which then comes out of tax payers money and the rates we pay that don't seem to actually do much around the town. Byford is a bomb site most times with the shire not keeping parks and local things tidy. Adding that will make it even worse. We also don't have a local police station and police barley patrol
69	My concern is the lack of other services available. Shortage of Drs. No 24/7 police station. The traffic along South West Hwy is a nightmare to already get through. Its a great spot but my concern is the size of the development. Even where the 15 units are meant to park is a small laneway.
70	We do not need government housing in Byford. Meant to be a quiet country town and not a where you have to look over your shoulder
71	I am in support of building houses for those less fortunate than ourselves however, please don't bring anti social behaviour in the town, there aren't enough local police to support this.
72	Byford already has an over populated area with a lack of doctors schools dentists and viable bus routes. The roads are all falling apart and don't need even more traffic coming and going especially considering the trucks etc on south western highway and the impact it would have to traffic flow.
73	I am totally against this application. It's absolutely ridiculous to even entertain a Strata apartment complex in that location. Byford once had a semi rural feel to the suburb with plenty of open spaces and horse properties. The suburb has changed and grown over the years but let's try and keep it somewhat within the realms of what it should be. Think of all your current home owners and the ones who have lived in the Shire for 15+ years. The lack of parking spaces on new builds is already an issue with people parking on verges etc and the vandalism and crime is at an all time high without approving ludicrous applications like this.

Submitter	Submitter Comments
	It's 100% a NO NO from me.
74	I have lived in homes west housing many years ago and whilst I appreciate everyone needs somewhere to live and we have a homeless crisis, I also think nearby residents do not deserve the disgusting behaviour that it brings. Drug dealers, domestic violence, race violence, gang violence. Byford is already suffering from bad youth crime and needs facilities with activities to entertain and fix the issue not make things any worse with the project. To be clear, heavily against the project.
75	It's a two story building and would be over looking peoples yards. It will only bring crime and violence to our beautiful suburb.
76	When has it EVER been a good idea to house multiple social housing together in 1 place, look at Maryland's, inglewood and the trouble there with the government housing blocks, we don't need this in Byford its just going to lead to massive anti social problems, and crime
77	The area is already going downhill fast we don't need more crackheads and delinquents moving into the area.
78	I am writing to express my concerns regarding the proposed social housing development in this area. Our neighbourhood is primarily a family-focused community, with multiple children's parks, playgrounds, and shared open spaces that are used daily by young families. Safety, accessibility, and a strong sense of community are central to why many residents chose to live here. My concern is not with the concept of social housing itself, but rather with the suitability of this specific location. The proposed site is highly centralised and surrounded by areas where children regularly play and families gather. Introducing a high-density social housing development in this setting raises concerns about community safety, increased antisocial behaviour, and potential exposure to issues such as drug use, which would significantly impact families and children who use these spaces. Residents value feeling safe walking through the area, allowing children to play freely, and maintaining a peaceful environment. There is concern that this development may unintentionally place strain on local amenities and alter the character and safety of the neighbourhood. I respectfully ask that the council carefully consider whether this location is appropriate for such a development, and whether alternative sites with better access to support services, transport, and infrastructure could be explored instead — in a way that supports residents of social housing without compromising the safety and wellbeing of existing families. Thank you for taking the time to consider community feedback. I appreciate the opportunity to share my perspective.
79	Voting NO!!! Please NO! We moved here for community and family this will ruin our beautiful town and my children's future.

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Submitter	Submitter Comments
80	I believe parking is a major issue within this part of Byford and putting in a multi dwelling building as well as more small businesses is only going to intensify the issue.
81	Since the introduction of the train line, and large numbers of social housing in the new estates Byford has gone down hill. There are drug addicts walking in the middle of the road, theft at the shops has increased. Fights at the high school etc don't ruin our town by doing this! Please!
82	I do not think it is a good idea. Byford is a safe family place. Not somewhere to be overrun by small living spaces. Please dont let this building be approved
83	Absolutely not. You're attracting the wrong breed of people bringing in more theft, burglaries and pure nonsense. It'll devalue and turn into a rough unsafe area. Look at the crime rate in Cockburn… no need for this at all
84	Parking i would like to see the parking plan for this property, parking becoming problem in area with all the businesses
85	I do not agree with this at all.
86	It seems to open up the issues to increase crime. Will appropriate measures be put in place to ensure that both residents within and without this area are not negatively impacted.
87	While I am supportive of the proposed two-storey mixed-use development, I have reservations about its placement adjacent to the train station. Given the potential for increased issues in that area, I believe an alternative location would better align with community safety and family-friendly objectives.
88	This idea for development will unfortunately result in the same as every other housing commission two story structure and it will bring more crime, assaults and ferals into our community. I am opposed to this idea and do not support it. The tenants will also make less people use the train because of safety fears.
89	2story housing doesn't fit with the country feel Byford has, we are loosing this very quickly. I would like see the highway drive through stay with this look and feel. Starting with the main intersection.!

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PA25/157 – Lot 93 (834) and Lot 94 (830) South Western Highway, Byford – 23 Multiple Dwellings and Commercial Development & Associated Parking

Submitter	Submitter Comments
90	I don't believe this is a good idea. The area is tight and busy enough as it is with very little parking for nearby business
91	No one in Byford wants this housing to go ahead, all it will do is bring in poor sorts of folks. We want to keep byford a safe family suburb and that is already beginning to falter with the train line finishing and a rise in young kids and dodgy folk committing crimes in the area (see the byford FB group for reported incidents since train line opened)
92	To build homes in the proposed style of 2 story cramped on such a small block is just not the right fitting for Byford. Cheap housing attracts the type of people who also aren't the right fit for Byford. We have lived here in the Scarp, the somewhat better part of Byford, for almost 3 years and have seen the increase in violence, especially young juveniles. These proposed cheap homes will attract people with low standards.
93	I am definitely against social housing being permitted in Byford. We as a family have invested in our property in The Glades and love the life in Byford. As we have witnessed this area grow we have become very proud of where we live. With all due respect to Social Housing needs for the disadvantaged, it is known for bringing anti social activities with it. This community is developing into a major regional hub and now the train services are operational, this are will become a much sought after area to live. I strongly oppose the granting of a green light for this project as it will only be the start of expansion of the social housing presence in this region.
94	I strongly disagree with the proposal of this development, with the new train station right next to the site where proposed development is to happen screams bad idea and a disaster waiting to happen. I believe I do not need to outline the problems that come with social housing next to train stations, as who ever is reading this would be well aware of the problems. If not take a drive to Kelmscott and see for yourself the issues there. This silly idea will hurt our shire and the residents in it in one way or another. Once again strongly disagree with this proposal.
95	This is not a good idea and certainly not something we want for Byford. This development needs to be stopped. Considering the future of Byford should be the first thought here! This would be setting a tone for Byford that is not in keeping with what Byford was 10 years ago
96	We dont need more drama to be brought into Byford. We dont want to be on the news all the time
97	Byford is already growing quickly, and adding large amounts of social housing without enough schools, healthcare services, public transport, and employment opportunities could place extra pressure on systems that are already stretched. Poor planning may also lead to higher traffic congestion and reduced access to community services, affecting the quality of life for both existing and new residents. Critics often stress that development

Submitter	Submitter Comments
	should be balanced and gradual, with strong investment in infrastructure and support services first, rather than concentrating social housing in one area without adequate preparation.
98	No
99	I am a local resident writing to formally object to the proposed multi-dwelling social housing development located near the new railway line in Byford. While I support the provision of housing for vulnerable members of the community, I have serious concerns that this proposal, in its current form, is not appropriate for this location and may result in negative outcomes for both existing residents and future occupants. Key concerns are outlined below: 1. Concentration of Disadvantage Planning policy and past experience in Western Australia show that concentrating a high number of disadvantaged households in a single development can entrench social disadvantage, rather than alleviate it. Dispersed and mixed-income housing models generally achieve better long-term social outcomes. 2. Community Safety and Amenity The suburb already experiences pressure on public spaces and community resources. A large, concentrated development without guaranteed long-term management and on-site support services risks increased antisocial behaviour, reduced perceptions of safety, and impacts on the local ammenity. 3. Location Near a Railway Line Placing high-needs housing immediately adjacent to a busy railway line raises concerns regarding noise, safety, mental wellbeing, and suitability for residents with complex needs. This location may prioritise land availability over resident welfare and community integration. 4. Social Cohesion and Neighbourhood Character Large, uniform social housing developments can unintentionally create social isolation and stigma. This undermines community cohesion and contrasts with planning principles that promote diverse, inclusive and well-integrated neighbourhoods. 5. Pressure on Local Infrastructure Existing services such as policing, health, education and community support in the area are already stretched. This proposal does not clearly demonstrate how increased demand will be sustainably managed. Preferred Approach I respectfully encourage Council to consider: Smaller-scale, dispersed social housing across multiple locations Mixed-tenure developments that avoid clustering disadvantage Clear commitments to long-term management, support services, and community consultation Conclusion This objection is not to social housing itself, but to the scale, concentration and location of this proposal. A more balanced approach would better serve both vulnerable residents and the existing community, and align more closely with best-practice urban planning principles in Western Australia. Thank you for considering my submission.

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Submitter	Submitter Comments
100	We already have a lot of ruff raff in Byford that we cant control, we have people now coming in from the train line causing issues. Im not sure a government housing is a great idea, especially multiple stories with multiple families living there. It's a crap location being on the south west highway and will be an eye sore as we dont have apartment buildings or homes beyond 2 stories. So my vote is no, not there.
101	This development should be relocated, as the current parking situation in this area is already inadequate. We recommend considering an alternative site away from the southwestern highway to mitigate potential traffic congestion and parking issues.
102	I am against this.
103	Whilst I understand the need to provide housing close to public transport, shops and medical centres, I have concerns about the demographic of people it will bring to the area. I work with several clients in public housing blocks and there is alot of concerning behaviour from multiple other residents of the block of units as well as alot of regular police visitation. Of course I understand this doesn't apply to all residents of public housing however it is a common occurrence which as a mother of a young daughter who lives very close, it makes me concerned.
104	This type of housing DOES NOT WORK, it will actually bring the wrong attention to Byford and spoil our beautiful community spirit. I would hate to see this happen.
105	Do we really need to turn Byford into Armadale? I mean itll fit in well with all the liquor shops but this place will be trashed. I already had a crackhead eat some of my cheese that was placed in an online order at Woolies. Instead of housing, how about more opportunites for good paying jobs so we dont all need to cram in like sardines on a train. Housing is not a great answer out here. Our infrastructure is poorly planned by town planning as it is.
106	This is not the place for a multi storey dwelling, this should be used for building businesses/shopping centres and/or industrial areas; just because it is close to the train station does not mean you need to develop the area into residential/domestic dwellings. Byford used to be a small country town and it is losing its homey feel all together with all the road works and development going on Why take that away??
107	I'm not opposed to government housing in the area but do not agree with it being in a high density apartment building smack bang in the town centre. Unsocial behaviour is already on the rise in Byford and this will only be adding fuel to the fire. I hope the shire will consider rejecting the proposal and instead suggest to the WA government that individual housing is more suitable for the area.
108	We oppose the proposed Homes West Housing development in Byford. While I support the need for housing assistance, this project does not adequately address the impact it would have on the local community which are already under strain.

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Submitter	Submitter Comments
	There has also been insufficient consultation with the community regarding this development. Major planning decisions should involve transparency and genuine local input and impact. Until these concerns are properly addressed, I do not support this proposal.
109	I don't not support this. A two storey multi unit dwelling is not in keeping with current housing in Byford. I moved here to get away from social housing and all of the negativity it brings. Byford is full of working families who work hard for what they have and it a great area for families. It is safe and everyone is friendly and of the same socioeconomic status. We want it to stay that way. We pay a lot for our rates. Much more than neighbouring shires. We do not want this type of dwelling. It will ruin Byford as we know it and love it
110	So I am guessing these are going to be tiny homes, just like being built in Hilbert at the moment. Are they being sold privately? Are they being built for Department of Communities? Whilst appreciate that we need more houses, this seems like very condensed living. What will the parking be like? We have multiple complaints on the FB page for Byford of not enough room for families to park their cars safely - again the number of cars broken into because they can't fit into garages & parked out each night, another matter always on FB Byford groups I am guessing those residences are going to be bigger than what is being built in this area.
111	Building residential apartments near the train station in Byford raises serious concerns because the area is already busy and faces increasing community safety issues. Since the extension of the Armadale Line and the reopening of the new Byford train station in October 2025, local residents have reported rising crime trends, including increases in violent and property-related offences in the suburb. Recent data shows that violent crime and property crime rates have risen from 2023 to 2024, with assaults and theft being commonly reported offences. Byford's overall crime rate is considered average to moderately high compared with other Perth suburbs, and the likelihood of being a victim of violent or property crime remains significant. In addition, a major incident at an out-of-control Halloween party in Byford saw police officers assaulted while managing a large crowd — highlighting pressures on local law enforcement. Because the shire does not have a 24/7 police station, these safety challenges and any future increases in resident numbers could place even greater strain on the nearby Armadale Police Station, potentially reducing police responsiveness and community safety. Over the last four years living in Byford, the suburb has changed dramatically from a quiet semi-rural area into one of Perth's fastest-growing communities. The population has risen significantly, with estimates showing growth from around 20,000 people in recent years to over 26,000 by 2025 — an increase of more than 5,500 residents since the 2021 census as new estates and housing developments have been built at a rapid rate. This rapid growth has brought far more cars, heavy vehicles, and daily commuters on local streets, causing traffic congestion at all hours, including late at night when roads were once quiet. Despite some recent road upgrades and the extension of the train line to Byford to help with travel demand, many local roads have not kept pace with the number of people living here, leading to regular traffic backups and frustrated drivers. As a result, the sound of police sirens, emergency vehicles, and road-related incidents has become a daily occurrence, happening throughout both daytime and night, which was not the norm

Submitter	Submitter Comments
	previously. This increase in activity and strain on local services makes it difficult for emergency services to respond quickly, especially since the shire does not have a 24/7 police station, placing additional pressure on the nearby Armadale Police Station & Hospital.
112	Wholeheartedly disagree with this proposal. Not the place for it
113	A police station is required before a social housing complex is built in the area due to the lack of police resources. Police were not able to respond to an aggravated offence that occurred in byford recently due to lack of staff and resources. Crime rates and antisocial behaviour does increase with any social housing complex. Byford does not have adequate resources to maintain a safe community as such I am opposed to this submission for a social housing complex of this calibre
114	Not something we want here in this estate and close to home. We've seen the effect it has In other close by suburbs
115	Disagree with this plan
116	I feel government housing directly across from businesses will prove to be problematic. Especially that amount of properties/people in the one area, so close to public transport it'll be nothing but problematic. Unless there will be a police station (24/7) built in the suburb I don't think you'll be able to control the residents or. Stopping them committing crimes.
117	While I understand the need for housing, I have concerns about whether this development is suitable for the neighbourhood as proposed.
118	This proposal will bring in more unwanted trouble
119	Byford is a lovely community where people have worked hard to purchase homes. The town area is pleasant and reasonably safe. Unfortunately the type of people that move into social housing bring noise, mess, and crime. They do not lift themselves to match those living around them. Having social housing in the centre of town will degrade the area, make it unpleasant and safe. You may not like to hear this but it is reality. As a resident, I do not wish to live in such conditions and my house purchase here was for better not worse. Where should social housing go? I don't know, but not in a nice area that will be destroyed. I have flatted in rough areas of Maddington where such people would blend in. Placing social housing near to industry is also helpful if you are planning on people finding employment. Living in Byford means you have to travel for work. Social housing people are generally not organised to wake early for travel, and dont have the money for transport. Byford would add to this dilemma. Drs here don't bulk bill. People in social housing do not have income to pay in full for a GP and await rebate. Government needs to reconsider how people in social housing live, services they need, impact on those living in an area already and then determine

Submitter	Submitter Comments
	the best place for social housing. A multi-storey complex of no-hopers in a more isolated area will not stimulate change, only spoil a currently pleasant area. I against social housing in Byford
120	Social housing will bring more crime into our communities, I enjoy riding my bike and going for walks with my family around Byford at any point of day/night and I feel safe if this goes through I won't feel safe. Keep Byford away from social housing, if the shire approves this it will loose the thing that makes this community worth living in
121	This is concerning there is not enough transport in the area, parking, police presence (last time I called the police to Whitby I had to wait over an hour for police presence from Armadale even though we have a Mundijong police station) The plans do not align with the country feel we moved here for either.
122	The proposed lots are too small to accommodate such high density housing. Parking will be a huge issue. It already is. There isn't enough parking at the local library nearby that services the Shire. What about noise concerns for residents in the area? Will noise issues be policed promptly? Further investigation needed into the Dept of Communities criteria for Social Housing and eligible demographic. Is there sufficient screening of recipients? Old age or disability pensioners would be a good demographic for our community considering the lifestyle amenities in the area walkable from these units. We want a safe community that seeks to belong - how does Dept of Housing manage Social Housing - are there regular inspections so that hygiene standards are maintained inside/outside the units? How would verge collections be organised for residents of said high-density units? What happens if there are regular noise complaints from neighbours about a particular resident? How do does Dept of Housing manage this? How long does it take for real action to rectify any issues that arise? This is property fronting our major thoroughfare in an established quiet neighbourhood. Byford's reputation as a place to live and enjoy is involved. Our local Dome Byford is a pristine oasis for local residents & I always recommend it to visitors passing through. How can specific measures be taken by businesses in the area if issues do arise? Whose help could they seek? We need to see concrete answers to all these questions and for them to be published before anything can move forward
123	I believe the social housing will increase crime rates in our community and negatively affect our community. I am opposed to the idea.
124	No. The residents of byford have chosen to live away from the filth that gets put in public housing, we do not want that in our neighbourhood. We do not want the complications that come with the sections of people that require public housing. No public housing! We want less crime and less degenerates walking around our communities.
125	Do not support this.

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Submitter	Submitter Comments
126	We have enough problems in this area with lower social economic persons. This is going to create an influx of drugs, violence and other antisocial behaviour. I do not support this.
127	We all know what this causes nothing but trouble. Byford was an awesome safe place not anymore its a thing of the past, then homes west coming... ridiculous
128	I do not agree with the development in Byford, as a person who worked with the department there will be continuous trouble and complaints, I moved to Byford to get away from this and it will destroy the tranquility of the town.
129	I am concerned that concentrating a large number of people with complex social and economic needs into a single highdensity building—particularly in such a busy area adjacent to our main community hub, may create unintended negative outcomes both for residents of the development and for the wider community. Evidence from similar developments suggests that high concentrations of vulnerability in one location can place significant pressure on support services, create challenges for resident wellbeing, and increase the likelihood of antisocial behaviour. My concern is not only about potential impacts on surrounding businesses, families, and public spaces, but also about the wellbeing of the future residents themselves, who may be better supported through more integrated and mixed housing approaches. I would strongly encourage consideration of alternative uses for this site, such as housing for first-home buyers, essential workers, or low-income earners who are working but struggling to access the housing market. A mixed or affordable housing model could still address housing affordability while promoting social integration, community stability, and positive long-term outcomes. I ask that these concerns be carefully considered as part of the planning process, and that community feedback be meaningfully incorporated into final decisions.
130	I have concerns about the type of antisocial behaviours that can sometimes be present with social housing. What kind of reassurances can be giving to local homeowners this won't impact value of our properties? What about safety for public transport users if antisocial behaviour? The location is in close proximity to several bottle shops. Is it necessary to have to build social housing every time a train station is built.
131	I strongly disagree with this proposal.
132	Building this complex for the Dept of Housing is terrible idea, particularly the location. It will being more trouble to the area, more congestion, and of course, the type of people they put into these houses do not treat their homes with respect and will make the area look terrible. I work for a builder who builds multiple DOC homes a year, and when we visit them after 6 months of being completed, the homes are already trashed and are not looked after, bringing down the overall look to the street/suburb. DOC need to do better with who they place in these homes, and crack down on how the homes are being treated. Another thing to consider is the risk to the commercial units, the trouble that DOC tenants can bring will only cause risk to these businesses and not make it inviting for visitors of these businesses to attend.

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Submitter	Submitter Comments
133	No thank you, we do not want this in the community
134	I am writing to provide my feedback in support of the Development Application (MODAP) for the proposed 23 multiple dwellings and commercial development with associated parking and landscaping at Lot 94 (No. 830) and Lot 93 (No. 834) South Western Highway, Byford. I am strongly in favour of this proposal, as I believe it will provide much-needed housing and contribute positively to the revitalisation of the Byford area. Increased residential density in appropriate locations is essential to meeting current and future housing needs, and this development represents a sensible and timely response. The location of the proposal is particularly well suited, being close to the Byford rail stations and key transport connections. This proximity will support public transport use, reduce reliance on private vehicles, and improve accessibility for residents. I am also hopeful that this development will help address housing affordability. It is distressing to see homelessness in the Byford area, and I support developments that have the potential to provide more affordable and secure housing options for people in need, while also strengthening the local community. Overall, I believe this proposal will have a positive social and economic impact on Byford and encourage Council to support its approval. Thank you for the opportunity to provide feedback.
135	I do not support the proposed social housing towers in their current form due to concerns regarding scale, location, community safety, and the lack of supporting infrastructure and services. Concentrating high-density social housing in a single location, without clearly defined on-site support and management, places increased pressure on local policing and emergency services and has the potential to elevate levels of antisocial behaviour and crime in surrounding areas. The proposal does not demonstrate how additional policing resources, community safety measures, or long-term management strategies will be funded or implemented to mitigate these risks. The height and density of the development are inconsistent with the established character of the local area and would place further strain on already limited transport, health, and community services. While I support the need for social and affordable housing, a more dispersed, lower-density approach would better promote safety, liveability, and positive integration for both future residents and the existing community.
136	Byford has enough residential houses going up. Needs other entntertainment areas
137	This is a wonderful idea if you provide security patrols, full criminal history checks and if suitable for a second chance. I'd also recommend easy access for them to a social worker/therapist as it is a tough situation to be in.
138	Against.

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Submitter	Submitter Comments
139	Byford has long been a quiet, family-focused suburb and in recent years has attracted many young families who chose the area for its sense of community, safety, and lifestyle. The proposed social housing development at this site is much larger and more concentrated than what currently exists nearby and would significantly change the look and feel of the neighbourhood. Local residents are concerned about increased traffic, parking pressure, noise, and the added strain on already busy local schools, medical centres, and emergency services. There is also concern that the consultation period and overall turnaround time for this application appears very short, particularly given it was received shortly before the Christmas period, when many residents are unavailable or unaware. This compressed timeframe limits meaningful community input on a development of this scale and impact.
140	I'm concerned the proposed development is too large to fit into that small lot size. A double storey dwelling does not fit in with the style of existing establishments and will impact the old town feel of Byford. It is also likely to cause disruption to traffic in the area with so many apartments included in the plan and lack of parking, etc. I greatly oppose this development plan. I understand the need for social housing, but believe this is not an appropriate place to locate it.
141	I am sending this email in response to the Application for a housing complex planned for SW Hwy Byford PA25/157. While I understand the need for affordable housing and housing for people in need I am not sure that this type of complex is suitable for this area. Looking at problems that other areas have experienced from high density housing I do not feel that this is a good option for Byford. This complex could have up to and maybe more than 100 residents with apartments having 2 and 4 bedrooms. I feel this is far too many people with a high impact on the surrounding area.
142	I WOULD NOT LIKE TO SEE HOUSING COMMISION DEVELOPMENT TO BE BUILT IN BYORD I HAVE LIVED IN GOVERNMENT HOUSING NEARLY ALL MY LIFE AND IT DOES NOT MAKE FOR A BETTER SUBURB OR A SAFER ONE ALL IT DOES IS BRING TROUBLE FOR ALL THE LOCAL AREA!! THANK YOU . (PS)I HOPE THE COUNCIL CONSIDERING THIS APPLICATION THINK OF ALL THE LOCALS IN THE AREA.
143	To Whom it may concern, We are providing feedback to formally object the development application PA25/157. Whilst we support the providing of housing both government and social, we object to the location, scale and building form of this proposal in its current position at the end of our street and within the existing Byford Community. Our concerns are as follows 1. Visual Impact & prominence - due to its position at the end of the street and along a key highway frontage, the development would be highly visible from multiple vantage points. the height and bulk of the buildings would expressively alter the visual character of the area and create an intrusive built form that is out of proportion with surrounding properties. 2. Amenity impact on nearby residents - being an impacted resident the proposed development raises concerns regarding loss of visual amenity, potential overshadowing due to its size, increased noise and reduced sense of privacy for us neighbouring properties. these impacts are amplified by the developments scale relative to its surroundings.

Submitter	Submitter Comments
	3.Unsuitable siting for a higher density development - as mentioned previously whilst we encourage government housing as it has an important role to play, we suggest this proposal would be better suited in a location closer to existing commercial centres or a transport terminal? rather than positioned at the end of a predominately low-density residential street. With all these reasons being said, we respectfully request the Shire of Serpentine Jarrahdale refuse this application in its current form, or amend the built form to reduce height, scale and visual impact so it is more with keeping the character and amenity of Byford. Thank you for your time and we hope you take our submission/feedback into consideration.
144	Firstly, I'm very pleased to see some singles accommodation come to the shire. For far too long, development has been almost exclusively for large, family homes. I wish the shire would encourage more of these small units to be scattered throughout the shire, giving singles their own home and, giving those who choose to downsize, somewhere else to live. However, if they're all for social housing, it is not a good thing. Please encourage private investors to include smaller housing withing the large housing estates. As for this development on Clara St, Byford, my comments are as follows – 1. The proposed onsite parking is inadequate to cater for the residents and, for patrons of the commercial offices. The narrow streets and lanes in Byford cannot support overflow parking. 2. All the open drains in the area must be filled in. 3. Footpaths must be wide enough for those who depend on mobility scooters. 4. As parking will be accessible only from Raggle Lane, it must be sealed. 5. Access to/from Raggle Lane at the Blytheswood Ave end must be deterred. That intersection is on a tight bend and extremely dangerous.
145	Community Submission – Objection to DA PA25/157 Development Application: MODAP – Proposed 23 Multiple Dwellings and Commercial Development with Associated Parking and Landscaping Location: Lot 94 (No. 830) and Lot 93 (No. 834) South Western Highway, Byford Reference: PA25/157 I wish to lodge this submission in objection to the above Development Application. My concerns relate to the scale, density, environmental impact, parking provision, and drainage in this flood prone area, all of which make the proposal incompatible with the established character of Old Byford 1. Incompatibility with Local Character The proposed development is not consistent with the character of Old Byford, which is predominantly low-density residential with a semi-rural streetscape.

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PA25/157 – Lot 93 (834) and Lot 94 (830) South Western Highway, Byford – 23 Multiple Dwellings and Commercial Development & Associated Parking

Submitter	Submitter Comments
	The scale, bulk, and intensity of 23 multiple dwellings with a commercial component represent overdevelopment of the site. This is contrary to Clause 67 of LPS No. 3 / Clause 70 of LPS No. 2, which require development to be compatible with surrounding land uses and protect residential amenity. The proposed built form will dominate the streetscape and reduce the amenity of surrounding properties. 2. Built Form and Environmental Concerns The proposal reduces open space and landscaping, increasing hardstand areas and limiting deep soil zones. This will impact the visual and environmental amenity of the site and surrounding area. The R-Codes and City planning policies emphasise the need for meaningful landscaping, tree retention, and deep soil zones to maintain amenity and integrate development into its surroundings. These objectives are not adequately met by this proposal. 3. Drainage and Stormwater Management The site is located in a flood prone area, and a stormwater "creek" runs between the two proposed lots. The increase in hardstand surfaces and high density development will increase stormwater run-off, potentially affecting both the development site and neighbouring properties. The DA does not provide sufficient detail on how stormwater will be managed or mitigated, which is a critical concern given the site's flood risk. 4. Insufficient Parking Provision Parking provision is a significant concern. The DA specifies only 23 resident parking bays and 1 visitor bay for the 23 dwellings. Based on the assumed mix of 15 two-bedroom and 8 four-bedroom dwellings, the minimum parking requirement would be 46 resident bays (2 per dwelling) and 6 visitor bays (1 per 4 dwellings), for a total of 52 bays. [Parking requirements are based on R-Codes Clause 5.3.3 and the City of Serpentine Jarrahdale Local Planning Policies for residential and commercial development.] This represents a significant shortfall, likely to result in on-street parking, congestion, and traffic safety issues on South Western Highway and nearby streets e.g Clara St, negatively affecting residents and visitors. 5. Traffic and Amenity Impacts The combination of high-density residential development and commercial activity will generate additional traffic, noise, and on-street parking demand. These cumulative impacts will significantly reduce the liveability, safety, and amenity of Old Byford. Conclusion For these reasons, the proposal: • Is not compatible with the established character of Old Byford • Reduces landscaping and open space, increasing hardstand areas • Provides insufficient on-site parking for residents and visitors • Fails to adequately manage stormwater in a flood-prone location • Will negatively affect traffic, safety, and residential amenity I am happy to provide further evidence to the incompatibility and potential harm of this development. I respectfully request that Council REFUSE DA PA25/157, or require a substantial redesign that reduces density, improves landscaping, provides sufficient on-site parking, and ensures effective stormwater management.

SCHEDULE OF SUBMISSIONS

PA25/157 – Lot 93 (834) and Lot 94 (830) South Western Highway, Byford – 23 Multiple Dwellings and Commercial Development & Associated Parking

Submitter	Submitter Comments
146	I wish to object to this development. The proposed 23 multiple dwellings and commercial component are incompatible with the character of Old Byford, which is predominantly low-density residential with a semi-rural streetscape. The scale, bulk, and intensity constitute overdevelopment, contrary to Clause 67 of LPS No. 3 / Clause 70 of LPS No. 2 and the R-Codes. The reduction in open space and landscaping, combined with increased hardstand areas, will adversely affect visual and environmental amenity, while limiting deep soil zones and meaningful landscaping. Parking provision is a significant concern. The DA specifies only 23 resident parking bays and 1 visitor bay for the 23 dwellings. Based on the assumed mix of 15 two-bedroom and 8 four-bedroom dwellings, the minimum parking requirement would be 46 resident bays (2 per dwelling) and 6 visitor bays (1 per 4 dwellings), for a total of 52 bays. This leaves a shortfall of 28 bays, likely to result in on-street parking, congestion, and traffic safety issues on South Western Highway and nearby streets. Parking requirements are based on R-Codes Clause 5.3.3 and the City of Serpentine Jarrahdale Local Planning Policies for residential and commercial development. The site is also in a flood-prone area, with a stormwater “creek” running between the two proposed lots. Increased hardstand surfaces and high-density development will likely exacerbate stormwater run-off, potentially affecting neighbouring properties. Combined with additional traffic from the commercial component, the proposal will reduce the liveability, safety, and amenity of Old Byford. For these reasons, I respectfully request that Council refuse DA PA25/157, or require a redesign that reduces density, improves landscaping, provides adequate on-site resident and visitor parking, and ensures effective stormwater management.
147	reference number: PA25/157 Provide feedback | Your Say SJ Community Submission – Objection to DA PA25/157 Development Application: MODAP – Proposed 23 Multiple Dwellings and Commercial Development with Associated Parking and Landscaping Location: Lot 94 (No. 830) and Lot 93 (No. 834) South Western Highway, Byford Reference: PA25/157 I am concerned about this proposed development. The plan for 23 multiple dwellings and a commercial component is out of scale with the character of Old Byford, which is mainly low-density, semi-rural housing. The bulk and density of the project would dominate the streetscape, reduce open space, and diminish the semi-rural charm that defines this part of the community. This is inconsistent with Clause 67 of LPS No. 3 / Clause 70 of LPS No. 2 and the R-Codes, which emphasise compatibility with surrounding land uses and protection of residential amenity. Parking is another concerning issue. The DA proposes only 23 resident parking bays and 1 visitor bay for 23 dwellings. Based on the likely mix of 15 two-bedroom and 8 four-bedroom units, the site should provide 46 resident bays and 6 visitor bays—a total of 52 bays. This leaves a shortfall of 28 bays, which would almost certainly lead to on-street parking, congestion, and safety risks along South Western Highway and nearby streets. This is far below the requirements of R-Codes Clause 5.3.3 and the City’s Local Planning Policies for residential and mixed-use development. Finally, the site sits in a flood-prone area, with a stormwater creek running between the two lots. Increasing hard surfaces and density without proper stormwater management risks flooding on-site and to neighbouring properties. Combined with additional traffic from the commercial component, this development would compromise both safety and amenity for residents. For these reasons, I urge Council to refuse DA PA25/157, or require a redesign that reduces density, enhances landscaping, provides adequate on-site parking for residents, their visitors and the commercial venture, whilst it ensures effective stormwater management, and respects the established character of Old Byford.

SCHEDULE OF SUBMISSIONS

PA25/157 – Lot 93 (834) and Lot 94 (830) South Western Highway, Byford – 23 Multiple Dwellings and Commercial Development & Associated Parking

Submitter	Submitter Comments
148	I live 2 houses down from this proposal, and I disagree with the strongest conviction on this application being granted. Not only does it not match any aesthetics or feel of the old side of byford. The amount of people its asking to situate here would completely change my way of life and the surrounding areas. There is no other high density living within 10kms of this proposal. What are the safeguards for any existing residents in this area? Noise pollution parking arrangements? To send such a massive change to my front doorstep and only have 1 week to make sure I checked my mail is ridiculous. Letter was dated the 23rd of December i didnt recieve it until monday the 5th of January. I dont know any resident who would want this change. The only group that would benefit is a soulless developer. Once again I am stating I do not want this development approved
149	Although i am not opposed to the commercial part of this development i believe creating this kind of high density living arrangement so close to the train station will be of a negative affect on the area. Please refrain from turning our once nice suburb into a slum. Thankyou for your time
150	I do not want this project. It will bring too much traffic, it will bring crime, it will impact the community in a negative way. Having a two story building overlooking everyone's backyard feels like a violation of all of our privacy. I believe this project is terrible, I do not want it here in my nice community. I see too much of the nice land getting demolished and turned into the concrete jungle. I cannot stress this enough, we do not want this project. Please do not build this project, it will ruin the dynamics of our area, and I cannot think of a single positive outcome, all I see is negative impacts on everyone and everything near. We have a nice quiet little street, and this project will completely iraticate that atmosphere. No. Please do not go through with this project. Everyone I've spoken to about this, feels the same way, nobody here wants this. DO NOT BUILD.
151	This project will absolutely ruin the community. Nobody wants this project. Please do not build this horrible project. We do not want this in our quiet community.
152	I live in Clara street and am not happy that you are thinking of putting state housing and the end of our street my concerns are the traffic and if these apartments have balconies are we going to have washing hanging on the balconies not a pretty site when you are driving through byford on the main road I don’t think it fits in with the old part of byford I have lived here for 35 years never thought I would walk out my front door and look at 2 storey apartments at the end of the street also the traffic cars parked all up the street I am definitely against it I thought it was zoned commercial not apartments
153	No Comment

SCHEDULE OF SUBMISSIONS

PA25/157 – Lot 93 (834) and Lot 94 (830) South Western Highway, Byford – 23 Multiple Dwellings and Commercial Development & Associated Parking

Submitter	Submitter Comments
154	I hereby acknowledge receipt of your letter dated 23 December 2026 with regard to the PA25/157I development. I wish to state my concerns with regard to the said development and whilst I understand that there is a shortage of housing in this State, I feel that the following considerations ought to be taken into account for this particular proposal. 1 . Having multi dwelling units in already built-up suburbs largely center on the impact on infrastructure, neighborhood character, environmental concerns, and quality of life of nearby residents. 2. Increased Traffic and Parking Issues: More residents lead to a higher number of vehicles, which can clog narrow residential roads and strain existing, often limited, on-street parking. 3 . Strain on Public Services: A sudden increase in population, which has already happened in Byford, can overburden existing local infrastructure and services, including water, sewage, electricity, public transport, and waste collection. 4. School Overcrowding: There is concern that an influx of families could lead to overcrowded local schools and strain educational resources. 5. Neighborhood Character and Quality of Life Loss of Character and Streetscape: Multi-dwelling units can alter the existing architectural homogeneity and low-density, family-oriented environment of a neighborhood, leading to a perceived loss of local character and identity. 6 . Reduced Amenity and Privacy: Concerns include potential visual intrusion, overshadowing of neighboring properties, and a general loss of privacy due to increased building heights and proximity. 7. Noise and Overcrowding: Higher population density can lead to increased noise pollution and a perception of overcrowding in public spaces like local parks and recreational areas. 8. Social Dynamics: Rapid changes in population can strain the close-knit community feel and make it harder to maintain the familiar social dynamics of single-family zones. 9. Loss of Green Space and Trees: Development often requires the removal of existing trees and green spaces to accommodate new buildings and driveways, reducing the area's natural buffers, air quality, and biodiversity. 10. Impact on Property Values: The introduction of higher-density housing can create uncertainty and potentially affect the property values of existing single-family homes, particularly for owner-occupiers.
155	Dear SJ Shire planning team. The lack of sufficient parking in this development is of great concern to the landlord and tenants of 829 South Western Hwy, Byford, WA 6122 (Dome Byford) and 837 South Western Hwy, Byford, WA 6122 (Byford Centre). The deficiency of parking is greater than what the DA paperwork says, due to both: (1) poor methodology of counting the required bays for both the residential apartments and the commercial tenancies; and

SCHEDULE OF SUBMISSIONS

PA25/157 – Lot 93 (834) and Lot 94 (830) South Western Highway, Byford – 23 Multiple Dwellings and Commercial Development & Associated Parking

Submitter	Submitter Comments
	(2) miscounting of the bays in the plans (the paperwork and the plans do not agree). Even if the deficiency they say in their paperwork is correct, it is still not fair to the ratepayers nearby (both residential homes and commercial tenants across the highway with unrestricted carparks) for their to be an deficiency, as the inevitable overflow that comes from parking stress in this new development will flow onto those nearby ratepayers. The developers, Spinnaker Developments, should be required to reduce the number apartments and install additional parking. Parking in lieu would not be sufficient, as the proximity of parking to housing is incredibly important for residents as a safety matter. Sincerely, Declan White, Director, Universal Property Pty Ltd ATFT S & J White Family Trust (and additionally as an agent of Consolidated UT Pty Ltd ATFT Consolidated Unit Trust), 0439 093 300. P.S.: We did not receive notice letter of this DA in our PO Box until about the 7th of January. We own and operate the Byford Post Office. PO Box mail is sorted into PO Boxes every day, without delay. The shire has not allowed ratepayers sufficient time to prepare their responses. I asked that my comments be considered even though the advertised submission closure date has passed.

RESPONSES TO COMMUNITY SUBMISSIONS

PA25/157 – Lot 93 (834) and Lot 94 (830) South Western Highway, Byford – 23 Multiple Dwellings and Commercial Development & Associated Parking

Objection	Applicant Response	Shire Response
Objection to the development of social housing on the subject site (crime, antisocial behaviour, and community safety concerns / concerns about property management & maintenance)	The level of interest in the development appears to reflect the fact that the development was advertised as a social housing project. Most of the objections refer to matters which are not relevant planning considerations. Following the completion of advertising the Shire has been advised that whilst the intent for the development to become social housing, there is currently no binding agreement in place for this. An updated DA report has been submitted to the Shire removing any reference to social housing. The purpose of this is to demonstrate that the development meets the highest standards for residential housing, consistent with the design objectives of the R-Codes with any variations justified on sound planning grounds without reference to the future occupancy of the building, as this is not a relevant planning consideration.	The original development plans and planning report received on 15 December 2025 stated, *"the component of the development will be managed by the Department of Housing and Works for social housing purposes*." The application was advertised was subsequently advertised with this information. Following the completion of advertising, the Shire was advised that the intent is for the development to become social housing, there is currently no binding agreement in place for this. An updated planning report was received by the Shire on 21 January 2026 removing all referencing to social housing. Given that no material changes were proposed to the development itself, the readvertisement of the application was not warranted. Notwithstanding, concerns relating to the future occupancy of the building is not a relevant planning consideration under Clause 67(2) of the Deemed Provisions.

Onsite parking shortfall will result in overflow onto verges, neighbouring streets and surrounding businesses	A significant number of objectors appear to have misunderstood the amount of parking provided, assuming that inadequate parking will be provided for the building occupants. For clarity: resident parking complies with the R-Codes and all apartments have been provided with a parking bay. The only parking shortfall proposed is a shortfall in on-site visitor parking—which is justified on the basis that additional street parking bays will be provided along Clara Street.	In regards to the multiple dwellings, the proposed development seeks an onsite shortfall of four visitors parking bays. All However, two additional parking bays are proposed to be provided on Clara Street. The site is also located within a 400m walkable distance of the Byford train station, further supporting a slight shortfall in parking at the development site. The design of all car parking areas will be required to comply with the relevant Australian Standards.
Inadequate consultation and timing of notification	The applicant was not responsible for the timeframes associated with public advertising.	The application was advertised in accordance with LPP1.4 – Advertising Development Applications and Clause 64 of the Deemed Provisions. It was advertised for a period of 21 days to account for the Christmas holiday period. The Shire understands that several surrounding landowners received notification by mail less than one week before the conclusion of the advertisement period. Late submissions from surrounding landowners have been included within the schedule of submissions.

Impact on Property Values	Not a relevant planning consideration.	Property values are not a relevant planning consideration under Clause 67(2) of the Deemed Provisions.
Traffic generation will negatively impact the local street network and South Western Highway	The impact of the development on traffic flows and the function of the surrounding road network are addressed within the Traffic Impact Statement prepared in support of the development. It confirms that "given the low expected traffic generation, it is not expected that the proposed development will have a significant impact on road safety in the area". One objection is highlighted as follows— "*Of particular concern is the cumulative impact of this development during school peak times. Byford Primary School is already operating at or beyond capacity, and the surrounding streets experience severe congestion during afternoon pick-up periods. At approximately 3:00 pm, parents routinely park indiscriminately along verges and roadways, significantly reducing visibility, narrowing carriageways, and creating unsafe conditions*." The school's pick up and drop-off area is more than 350m from the subject site. We find it highly unlikely that parents would be parking along Clara Street waiting for their children. Furthermore, the project traffic consultant provides the following comment— "*School's peak periods do not coincide with typical office commuter peak hours and as a result*	The applicant has submitted a Traffic Impact Statement supporting that the traffic generated by the proposed development can be appropriately accommodated by the surrounding road network. The Shire notes that vehicles entering or exiting the Clara Street crossover may have the perception of unsafe movements. Due to the location of an existing median strip, vehicles turning right from Clara Street would be required to perform a turn exceeding 90 degrees. Vehicles exiting would these car parking bays would also have to do so in reverse gear given the absence of the turnaround bay. The minimal number of trips to which this applies (5 trips during the AM peak and 1 trip during the PM peak) would not introduce any material safety risks to the surrounding road network.

	majority of office-related vehicle trips will occur outside the school peak time. It is acknowledged that a small number of office-related trips may occur during the school peak hours and this overlap is expected to be minimal. Moreover, school peak hours will be for a short duration and outside of this brief timeframe the surrounding road network is expected to operate satisfactorily."	
Built design, scale and height is incompatible with and does not reflect the Byford Old Quarter	Building height, scale and density are all consistent with the local planning framework which locates the subject site within a precinct oriented towards South Western Highway. The proposed development is the same height and scale as other developments along South Western Highway.	The built form has been designed in accordance with LPP3.8 – Byford Town Centre Built Form Guidelines and the R-Codes Volume 2. The development includes design elements such as balconies, balustrades and façade insets to provide a high quality interface with the public domain.
Pressure on local infrastructure and public services (e.g. schools, healthcare, policing)	The development is consistent with the scale and intensity of residential development planned for the subject site.	Both the 'multiple dwelling' and 'office' land uses are permitted uses within the Mixed Use zone and may be considered expected development for this site. Further, the proposed development aligns with the objectives of the Byford Town Centre.
Loss of privacy / overlooking on neighbouring properties	The proposed development achieves the visual privacy acceptable outcomes of the R-Codes.	The proposed development achieves the acceptable outcomes and element objectives relating to visual privacy under the R-Codes.

No evidence that stormwater can be managed on site and will not cause upstream impacts	A stormwater management plan will be prepared by Premise addressing these concerns.	Stormwater management information was received on 18 February 2026 demonstrating that the site can accommodate like for like stormwater volume compensation via the culvert and retention tanks. The Shire recommends a condition requiring the submission of a detailed Stormwater Management Plan demonstrating that stormwater can be effectively retained on site and not cause upstream impacts.
Need for more and higher quality landscaping	The proposed development exceeds the acceptable outcomes for deep soil zones, and contains extensive tree planting and a central, landscaped spine through the site. The concept landscaping plan has been prepared by a suitably qualified landscape architect.	The proposed development meets the minimum landscaping requirements under Schedule 4.2 of LPS3. The Shire recommends a condition requiring the submission of a detailed Landscaping Plan.
Concerns regarding waste management operational practices	One submitter raises concerns with communal waste management by off-site operators. They note that unless tenants have individual bins no one will take responsibility and it will leave a mess. In response, we note that communal waste management is the standard practice of contemporary apartment developments. All bin storage and movement are the responsibility of the building management.	The applicant has submitted a Waste Management Plan prepared in accordance with the WALGA *Waste Management Plan Guidelines for New Multi Dwelling Developments*. A swept path analysis has also been undertaken to ensure that the bins can be securely picked up on collection day.

Deemed Provisions – Cl 67 Matters to be considered by Local Government

a) The aims and provisions of this Scheme and any other local planning scheme operating within the area	YES ☐	NO ☒	N/A ☐

The subject site is zoned 'Mixed Use' under Local Planning Scheme No.3 (LPS3). The following table provides the land use permissibility within the zone:

Proposed Land Use	Zoning Permissibility
Multiple Dwelling	"P" - means that the use is permitted if it complies with any relevant development standards and requirements of this Scheme
Office	

The report has been prepared to assess the application in accordance with LPS3.

On site car parking is currently non-compliant.

b) The requirements of orderly and proper planning including any proposed local planning scheme or amendment to this Scheme that has been advertised under the *Planning and Development (Local Planning Schemes) Regulations 2015* or any other proposed planning instrument that the local government is seriously considering adopting of approving	YES ☐	NO ☐	N/A ☒

No current scheme amendments are currently pending on site.

c) any approved State planning policy	YES ☒	NO ☐	N/A ☐

The following State Planning Policies are relevant to the proposed development:

- **State Planning Policy 5.4 – Road and Rail Noise**

  Refer to the Noise section under the report.

- **State Planning Policy 7.0 – Design of the Built Environment**

  The built form design is responsive to the site's location within the Byford Town Centre. The residential development component has been developed in accordance with the local planning framework to achieve high quality design.

d) any environmental protection policy approved under the *Environmental Protection Act 1986* section 31(d)	YES ☐	NO ☐	N/A ☒

No areas of environmental significance are noted on site.

e) any policy of the Commission	YES ☒	NO ☐	N/A ☐
'WA Planning Manual – Non-Residential Car Parking Rates in Perth and Peel' addressed within the car parking section under the report.			

f) any policy of the State	YES ☒	NO ☐	N/A ☐
See state planning policy sections under the report.			

g) any local planning policy for the Scheme area	YES ☒	NO ☐	N/A ☐

The application has been assessed against the following Local Planning Policies within the report.

- Local Planning Policy 1.6 – Public Art for Major Developments
- Local Planning Policy 2.4 – Water Sensitive Design
- Local Planning Policy 3.8 – Byford Town Centre Built Form Guidelines
- Local Planning Policy 3.9 – Subdivision and Development Fronting Historic Lanes Within the Byford Old Quarter
- Local Planning Policy 4.11 – Advertising Policy
- Local Planning Policy 4.16 – Tree Retention and Planting

h) any structure plan, activity centre plan or local development plan that relates to the development	YES ☒	NO ☐	N/A ☐

Byford Town Centre LSP

The Byford Town Centre designates the site as 'Town Centre Mixed Use' The LSP states that an R80 density may be applied to residential development within the mixed use core.

i) any report of the review of the local planning scheme that has been published under the P*lanning and Development (Local Planning Schemes) Regulations 2015*	YES ☐	NO ☐	N/A ☒
No Scheme Amendments currently exist on site.			

j) in the case of land reserved under this Scheme, the objectives for the reserve and the additional and permitted uses identified in this Scheme for the reserve	YES ☐	NO ☐	N/A ☒

Land is not reserved under the scheme.

k) the built heritage conservation of any place that is of cultural significance	**YES** ☒	**NO** ☐	**N/A** ☐
No heritage significance currently identified on the site.			

l) the effect of the proposal on the cultural heritage significance of the area in which the development is located	**YES** ☐	**NO** ☒	**N/A** ☐
No heritage significance currently identified on the site.			

m) the compatibility of the development with its setting including the relationship of the development to development on adjoining land or on other land in the locality including, but not limited to, the likely effect of the height, bulk, scale, orientation and appearance of the development	**YES** ☒	**NO** ☐	**N/A** ☐
Refer to R-Codes Volume 2 and LPP3.8 built form assessment under the report.			

n) the amenity of the locality including the following – I. Environmental impacts of the development II. The character of the locality III. Social impacts of the development	**YES** ☒	**NO** ☐	**N/A** ☐
The site is within the trigger distance of South Western Highway, which is classified as a strategic freight and major traffic route under SPP5.4. A Noise Management Plan has been submitted by the applicant assessing against the *Environmental Protection (Noise) Regulations 1997* and the policy. The reports confirm that compliance with the requirements of the NCC will require additional mitigation measures that will be identified at the detailed designs stage.			

o) the likely effect of the development on the natural environment or water resources and any means that are proposed to protect or to mitigate impacts on the natural environment or the water resource	**YES** ☐	**NO** ☐	**N/A** ☒
The site currently contains a section of the Oakland Drain, which currently functions as an open water feature. The development proposes to the install a covered culvert drain that will be retained as open space and circulation across the site. A condition is recommended to ensure that a 5m wide easement is placed over the drainage culvert in favour of the Shire.			

p) whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved	YES ☒	NO ☐	N/A ☐
Refer to the Landscaping section under the report.			

q) the suitability of the land for the development taking into account the possible risk of flooding, tidal inundation, subsidence, landslip, bushfire, soil erosion, land degradation or any other risk	YES ☒	NO ☐	N/A ☐
Stormwater management information has been received by the applicant demonstrating that the site can accommodate like for like stormwater volume compensation via the culvert and retention tanks. This effectively demonstrates that there will be no upstream impacts resulting from the development. A condition is recommended requiring the submission of a full Stormwater Management Plan to include detailed calculations relating to stormwater management.			

r) the suitability of the land for the development taking into account the possible risk to human health or safety	YES ☐	NO ☐	N/A ☒
No possible risks to human health or safety associated with the development.			

s) the adequacy of – I. The proposed means of access to and egress from the site; and II. Arrangements for the loading, unloading, manoeuvring and parking of vehicles	YES ☒	NO ☐	N/A ☐
Development on lots abutting a laneway is required to cede 2.5m to construct visitor car parking and plant two trees in accordance with LPP3.9 – Subdivision and Development Fronting Historic Lanes Within the Byford Old Quarter. This will provide appropriate vehicle access arrangements for the new internal carpark accessible from the laneway. A condition is recommended to ensure all internal roads, crossovers, and parking bays are designed in accordance with the relevant Australian Standards.			

t) the amount of traffic likely to be generated by the development, particularly in relation to the capacity off the road system in the locality and the probable effect on traffic flow and safety	YES ☒	NO ☐	N/A ☐
Refer to the Traffic section under the report.			

u) the availability and adequacy for the development of the following – I. Public transport services II. Public utility services III. Storage, management and collection of waste IV. Access for pedestrians and cyclists (including end of trip storage, toilet and shower facilities) V. Access by older people and people with disability	**YES** ☒	**NO** ☐	**N/A** ☐
The proposed development will be required to comply with any building requirements and other public health acts.			

v) the potential loss of any community service or benefit resulting from the development other than potential loss that may result from economic competition between new and existing businesses	**YES** ☐	**NO** ☐	**N/A** ☒
No potential loss of community services identified.			

w) the history of the site where the development is to be located	**YES** ☐	**NO** ☐	**N/A** ☒
No relevant history of the site noted.			

x) the impact of the development on the community as a whole notwithstanding the impact of the development on particular individuals	**YES** ☐	**NO** ☐	**N/A** ☒
No negative impacts on the wider community.			

R-CODE VOLUME 2 ASSESSMENT (Including LPP3.8 – Byford Town Centre Built Form Guidelines)

PA25/157 – Lot 93 (834) and Lot 94 (830) South Western Highway, Byford – 23 Multiple Dwellings and Commercial Development & Associated Parking

ELEMENT 2.2	BUILDING HEIGHT		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O2.2.1 – The height of development responds to the desired future scale and character of the street and local area, including existing buildings that are unlikely to change. **O2.2.2** – The height of buildings within a development responds to changes in topography. **O2.2.3** – Development incorporates articulated roof design and/or roof top communal open space where appropriate. **O2.2.4** – The height of development recognises the need for daylight and solar access to adjoining and nearby residential development, communal open space and in some cases, public spaces.	**A2.2.1 –** Development complies with the building height limit (storeys) set out in Table 2.1, except where modified by the local planning framework, in which case development complies with the building height limit set out in the applicable planning instrument. **R80 Maximum height**: 4 storeys – 15m	Building heights are a maximum of 7.8m, which is acceptable.	**Acceptable Outcome**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	**LPS3 Schedule 4.1 – Mixed Use Zone** The maximum external building wall height on street facades shall not exceed 10.5 metres.	The maximum building height to South Western Highway, Clara Street and Raggle Lane does not exceed 10.5m.	**Acceptable Outcome**
	LPP3.8 R.4.4.1 Building heights comply with the parameters detailed in the Precinct Specific Policy Requirements: • **5.3.1.2 (a)** – the preferred building height in the South Western Highway precinct is 1 – 2 storeys	The proposal incorporates two storey development consistent with the preferred building height for the precinct.	**Acceptable Outcome**

ELEMENT 2.3	STREET SETBACKS		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCECTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O2.3.1 – The setback of the development from the street reinforces and/or complements the existing or proposed landscape character of the street. **O2.3.2** – The street setback provides a clear transition between the public and private realm. **O2.3.3** – The street setback assists in achieving visual privacy to apartments from the street. **O2.3.4** – The setback of the development enables passive surveillance and outlook to the street.	**A2.3.1 –** Development complies with the street setback set out in Table 2.1, except where modified by the local planning framework, in which case development complies with the street setback set out in the applicable local planning instrument. **R80 Requirements** Clara Street – 2m Raggle Lane – 2m	Minimum setback of 2m from Clara Street (Building 2). Building 2 proposes a nil setback to Raggle Lane. This is the case for approximately half the length of the Raggle Lane boundary. The building frontage includes articulation and variation to materiality/colours to contribute positively to Raggle Lane.	**Alternative Design Solution**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	**LPP3.8 R4.5.1** Setbacks shall be in accordance with the relevant Precinct Specific Policy Requirements. • ***LPP3.8 5.3.1.3 (a)*** *– The maximum setback from the South Western Highway road reserve is 3.0 metres to achieve a village style atmosphere.*	Building 1 is setback distances between 0.85m and 4.4m from South Western Highway resulting from the alignment of the lot boundary. Building 1 achieves an average setback of 3m, which is consistent with the built form outcome of the provision.	**Variation**
	LPP3.8 – R4.5.2 Occupiable spaces such as balconies are not permitted to protrude beyond the property boundary.	All balconies are located behind the property boundary.	**Complies**
	LPP3.8 R4.5.3 Insets up to 3.0 metres deep and up to 10.0 metres long for facade walls may be permitted above Ground Floor. Any insets shall be framed on at least one side by a solid wall.	Building 1 fronting South Western Highway has one façade inset with a width of 2m and a depth of 3.6m, whilst Building 2 fronting Clara Street has two façade insets with a width of 2m and a depth of 3.6m.The minor variation in the depth of the insets is acceptable given that façade insets are framed by solid masonry walls on both sides which exceeds the minimum requirement.	**Variation**

ELEMENT 2.4	SIDE AND REAR SETBACKS		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O2.4.1 – Building boundary setbacks provide for adequate separation between neighbouring properties. **O2.4.2** – Building boundary setbacks are consistent with the existing streetscape pattern or the desired streetscape character**.** **O2.4.3** – The setback of development from side and rear boundaries enables retention of existing trees and provision of deep soil areas that reinforce the landscape character of the area, support tree canopy and assist with stormwater management. **O2.4.4** –The setback of development from side and rear boundaries provides a transition between sites with different land uses or intensity of development.	**A2.4.1** Development complies with the side and rear setbacks set out in Table 2.1, except where: (a) modified by the local planning framework, in which case development complies with the side and rear setbacks set out in the applicable local planning instrument **R80 -** Maximum boundary wall height of 2 storeys on one lot boundary (not exceeding two third of boundary lengths)	Building 1 is setback 0.2m – 0.7m from the southern boundary, which constitutes a boundary wall. The length of the boundary wall is 23.5m, which is 41% of the lot boundary length and consistent with the acceptable outcome.	**Acceptable Outcome**
	A2.4.2 Development is setback from the boundary in order to achieve the Objectives outlined in *2.7 Building separation, 3.3 Tree canopy and deep soil areas, 3.5 visual privacy and 4.1 Solar and daylight access*.	Refer to relevant elements for discussion.	**NA**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

ELEMENT 2.5	PLOT RATIO		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O2.5.1 – The overall bulk and scale of development is appropriate for the existing or planned character of the area.	**A2.5.1** – Development complies with the plot ratio requirements set out in Table 2.1, except where modified by the local planning framework, in which case development complies with the plot ratio set out in the applicable local planning instrument. **A2.5.1** – R80 maximum plot ratio – 1.0	Total residential floorspace is 1739m^2, equating to a plot ratio of 0.74.	**Acceptable Outcome**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

ELEMENT 2.6	BUILDING DEPTH		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O2.6.1 – Building depth supports apartment layouts that optimise daylight and solar access and natural ventilation. **O2.6.2** – Articulation of building form to allow adequate access to daylight and natural ventilation where greater building depths are proposed. **O2.6.3** – Room depths and/or ceiling heights optimise daylight and solar access and natural ventilation.	**A2.6.1** Developments that comprise single aspect apartments on each side of a central circulation corridor shall have a maximum building depth of 20m. All other proposals will be assessed on their merits with particular consideration to *4.1 Solar and daylight access* and *4.2 Natural ventilation*.	The proposed development does not include single aspect apartments.	**NA**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

ELEMENT 2.7	BUILDING SEPARATION		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O2.7.1 – New development supports the desired future streetscape character with spaces between buildings. **O2.7.2** – Building separation is in proportion to building height. **O2.7.3** – Buildings are separated sufficiently to provide for residential amenity including visual and acoustic privacy, natural ventilation, sunlight and daylight access and outlook. **O2.7.4** – Suitable areas are provided for communal and private open space, deep soil areas and landscaping between buildings	**A2.7.1** – Development complies with the separation requirements set out in Table 2.7. **Within site boundary** • Habitable rooms/balconies: 12m • Habitable and non-habitable rooms: 7.5m • Non-habitable rooms: 4.5m **To adjoining property boundaries** • Refer to 2.4 side and rear setbacks and 3.5 Visual privacy.	**Within site boundary** All dwellings comply with building separation requirements. **To adjoining property boundaries** The development does not exceed four storeys and additional building separation requirements are not applicable.	**Acceptable Outcome**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

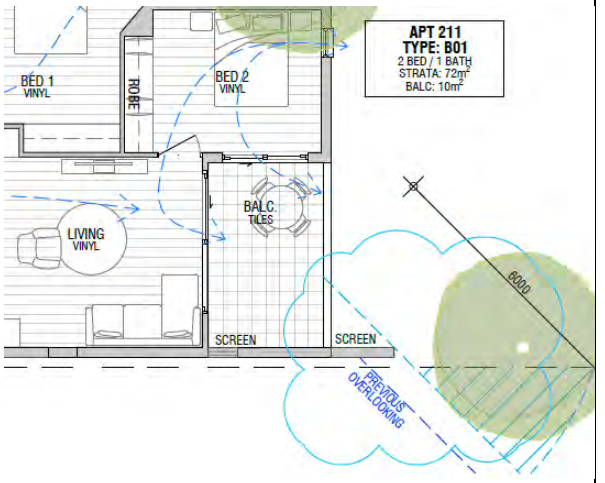
ELEMENT 3.2	ORIENTATION		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O3.2.1 – Building layouts respond to the streetscape, topography and site attributes while optimising solar and daylight access within the development. **O3.2.2** – Building form and orientation minimises overshadowing of the habitable rooms, open space and solar collectors of neighbouring properties during mid-winter.	**A3.2.1** – Buildings on street or public realm frontages are oriented to face the public realm and incorporate direct access from the street.	The buildings have their primary frontage to South Western Highway and Clara Street, receiving direct pedestrian access from the street. The design provides a positive interface between the private and public realms, while providing passive surveillance and activation at the street level.	**Acceptable Outcome**
	A3.2.2 – Buildings that do not have frontages to streets or public realm are oriented to maximise northern solar access to living areas.	All buildings have frontages to South Western Highway or Clara Street.	**NA**
	A3.2.3 – Development in climate zones 4, 5 and 6 shall be designed such that the shadow cast at midday on 21st June onto any adjoining property does not exceed: - **adjoining properties coded R25 and lower – 25% of the site area** - adjoining properties coded R30 – R40 - 35% of the site area - adjoining properties coded R50 – R60 – 50% of the site area - **adjoining properties coded R80 or higher – Nil requirements**	The lot to the south is zoned Mixed Use and subject to R80 requirements in accordance with the Byford Town Centre Local Structure Plan. Hence, no overshadowing requirements apply. The lots to the north and east of the development, by nature of their relative positioning, would experience minimal overshadowing from the development.	**Acceptable Outcome**
	A3.2.4– Where adjoining sites are coded R40 or less, buildings are oriented to maintain 4 hours per day solar access on 21 June for existing solar collectors on neighbouring sites.	The development maintains more than 4 hours of solar access per day for existing solar collectors on the lots to the east.	**Acceptable Outcome**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

ELEMENT 3.3	TREE CANOPY AND DEEP SOIL AREAS		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O3.3.1 – Site planning maximises retention of existing healthy and appropriate and protects the viability of adjoining trees. **O3.3.2** – Adequate measures are taken to improve tree canopy (long term) or to offset reduction of tree canopy from pre-development condition. **O3.3.3** – Development includes deep soil areas, or other infrastructure to support planting on structures, with sufficient area and volume to sustain healthy plant and tree growth.	**A3.3.1** – Retention of existing trees on the site that meet the following criteria: - healthy specimens with ongoing viability **AND** - species is not included on a State or local area weed register **AND** - height of at least 4m **AND/OR** - trunk diameter of at least 160mm, measured 1m from the ground **AND/OR** - average canopy diameter of at least 4m.	The received Tree Survey identified three trees with a medium retention value on the site. One of these trees (Tree 12) can be retained in its current position within the rear carpark. Refer to the Tree Survey Report for more details on existing onsite vegetation.	**Acceptable Outcome**
	A3.3.2 – The removal of existing trees that meet any of the criteria at A3.3.1 is supported by an arboriculture report.	Two of the medium retention value trees are proposed to be removed as they are within the building envelope of Building 1. Adequate offset planting has been proposed throughout planting to enhance the environmental amenity of the site.	**Acceptable Outcome**
	A3.3.3 – The development is sited and planned to have no detrimental impacts on, and to minimise canopy loss of adjoining trees.	There are no existing street trees within the verge, nor any significant trees close to the southern boundary on the adjoining Lot 92.	**Acceptable Outcome**
	A3.3.4 – Deep soil areas are provided in accordance with Table 3.3a. Deep soil areas are to be co-located with existing trees for retention and/or adjoining trees, or alternatively provided in a location that is conducive to tree growth and suitable for communal open space. **Deep Soil Areas –** 10% minimum	13.7% (354m^2) deep soil are provided excluding verge landscaping. Deep soil areas around large trees do not meet the minimum are and dimensions but have been supplemented by permeable paving, which is considered an acceptable design outcome supported by a Landscaping specialist.	**Alternative Design Solution**
	A3.3.5 – Landscaping includes existing and new trees with shade producing canopies in accordance with Tables 3.3a and 3.3b.	The development proposes to plant 3 x large trees (Corymbia calophylla), 3 x medium trees and 24 small trees.	**Acceptable Outcome**
	A3.3.6 – The extent of permeable paving or decking within a deep soil area does not exceed 20 per cent of its area and does not inhibit the planting and growth of trees.	13.1% (339m^2) of the site area is provided as permeable paving in addition to deep soil area.	**Acceptable Outcome**

	A3.3.7 – Where the required deep soil areas cannot be provided due to site restrictions, planting on structure with an area equivalent to two times the shortfall in deep soil area provision is provided.	Minimum deep soil areas have been provided in accordance with Table 3.3a.	NA
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

ELEMENT 3.4	COMMUNAL OPEN SPACE		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O3.4.1 – Provision of quality communal open space that enhances resident amenity and provides opportunities for landscaping, tree retention and deep soil areas. **O3.4.2** – Communal open space is safe, universally accessible and provides a high level of amenity for residents. **O3.4.3** – Communal open space is designed and oriented to minimise impacts on the habitable rooms and private open space within the site and of neighbouring properties.	**A3.4.1** – Developments include communal open space in accordance with Table 3.4. **More than 10 dwellings:** - Communal open space of 6m^2 per dwelling up to a maximum of 300m^2 - Minimum accessible/hard landscape area within overall requirement of 2m^2 per dwelling up to 100m^2 - Minimum open space dimension: **Total Requirement:** 138m^2 communal open space	220m^2 of communal open space is proposed for the development in the form of a landscaped walkway between the laneway and South Western Highway along the existing drainage alignments.	**Acceptable Outcome**
	A3.4.2 – Communal open space located on the ground floor or on floors serviced by lifts must be accessible from the primary street entry of the development.	Communal open space is located externally and accessibly between Building 1 and 2.	**Acceptable Outcome**
	A3.4.3 – There is 50 per cent direct sunlight to at least one communal open space area for a minimum of two hours between 9am and 3pm on 21 June.	The communal open space is suitably positioned to receive adequate sunlight throughout the year.	**Acceptable Outcome**
	A3.4.4– Communal open space is co-located with deep soil areas and/or planting on structure areas and/ or co-indoor communal spaces.	The communal open space provides informal seating, landscaping and deep soil opportunities that maximise tree planting within the site and enhance residential amenity.	**Acceptable Outcome**
	A3.4.5 – Communal open space is separated or screened from adverse amenity impacts such as bins, vents, condenser units, noise sources and vehicle circulation areas.	Bins and functional utilities are located appropriately as to not detract from the recreational use or enjoyment of the communal open space.	**Acceptable Outcome**
	A3.4.6 – Communal open space is well-lit, minimises places for concealment and is open to passive surveillance from adjoining dwellings and/or the public realm.	The communal open space benefits from passive surveillance from Building 1 and Building 2.	**Acceptable Outcome**
	A3.4.7 – Communal open space is designed and oriented to minimise the impacts of noise, odour, light-spill and overlooking on the habitable rooms and private open spaces within the site and of neighbouring properties.	Communal open space will not resulting in overlooking issues for fronting dwellings. Any noise and light emissions from dwellings are expected to be minimal and would not detract from the residential amenity of the communal open space.	**Acceptable Outcome**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		

Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.	

ELEMENT 3.5	VISUAL PRIVACY			
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**		**ASSESSMENT**	**COMPLIES**
O3.5.1 – The orientation and design of buildings, windows and balconies minimises direct overlooking of habitable rooms and private outdoor living areas within the site and of neighbouring properties, while maintaining daylight and solar access, ventilation and the external outlook of habitable rooms.	**A3.5.1** – Visual privacy setbacks to side and rear boundaries are provided in accordance with Table 3.5.			
	First four storeys (adjoining sites coded higher than R50) – Major opening to bedroom, study, and open access walkways	3m	All major openings exceed 3m separation.	**Acceptable Outcome**
	First four storeys (adjoining sites coded higher than R50) – Major opening to habitable rooms other than bedrooms	4.5m	All major openings to other rooms exceed 4.5m separation.	**Acceptable Outcome**
	First four storeys (adjoining sites coded higher than R50) – Unenclosed private outdoor spaces	6m	All balconies and ground floor courtyard (with the exception of A211) achieve a minimum 5m separation distance. Overlooking from the A2111 balcony is restricted with screening and tree planting along the lot boundary. 	**Alternative Design Solution**
	A3.5.2 – Balconies are unscreened for at least 25 per cent of their perimeter (including edges abutting a building).		Balconies are screened for less than 25% of their perimeter for all apartments, with the exception of A211.	**Alterative Design Solution**
	A3.5.3 - Living rooms have an external outlook from at least one major opening that is not obscured by a screen.		All living rooms have windows providing unscreened external outlooks.	**Acceptable Outcome**
	A3.5.4 – Windows and balconies are sited, oriented, offset or articulated to restrict direct overlooking, without excessive reliance on high sill levels or permanent screening of windows and balconies.		Windows and balconies utilise a combination of offsets, orientation and articulation together with landscaped planting along the site boundaries to avoid the use of highlight windows and extensive balcony screening.	**Acceptable Outcome**

LOCAL PLANNING FRAMEWORK	REQUIREMENT	
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.	NA

ELEMENT 3.6	PUBLIC DOMAIN INTERFACE		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O3.6.1 – The transition between the private and public domain enhances the privacy and safety of residents. **O3.6.2** – Street facing development and landscape design retains and enhances the amenity and safety of the adjoining public domain, including the provision of shade.	**A3.6.1** – The majority of ground floor dwellings fronting onto a street or public open space have direct access by way of a private terrace, balcony or courtyard.	All dwellings fronting the street have direct access to the street via private courtyards enhancing interaction with the public realm.	**Acceptable Outcome**
	A3.6.2 – Car-parking is not located within the primary street setback; and where car parking is located at ground level behind the street setback it is designed to integrate with landscaping and the building façade (where part of the building).	A dedicated on site car parking area for residents has been provided to the rear of the site accessible from Raggle Lane.	**Acceptable Outcome**
	A3.6.3 – Upper level balconies and/or windows overlook the street and public domain areas.	All upper level balconies and windows overlook the street and the public domain areas, particularly the communal open space.	**Acceptable Outcome**
	A3.6.4 – Balustrading includes a mix of visually opaque and visually permeable materials to provide residents with privacy while maintaining casual surveillance of adjoining public domain areas.	Balustrading designs have been proposed on for the first level balconies fronting the streets and public domain. The design of such features is visually permeable and encourages passive surveillance of public areas.	**Alternative Design Solution**
	A3.6.5 – Changes in level between private terraces, front gardens and the ground floor level of the building and the street level average less than 1m and do not exceed 1.2m.	Maximum change in levels between the street, private terraces and building GF level is 0.64m.	**Acceptable Outcome**
	A3.6.6 – Front fencing includes visually permeable materials above 1.2m and the average height of solid walls or fences to the street does not exceed 1.2m.	Replaced by relevant provisions under LPP3.8.	
	A3.6.7 – Fencing, landscaping and other elements on the frontage are designed to eliminate opportunities for concealment.	Replaced by relevant provisions under LPP3.8.	
	A3.6.8 – Bins are not located within the primary street setback or in locations visible from the primary street.	Bins are stored within a location that will not be visible from the primary street.	**Acceptable Outcome**
	A3.6.9 – Services and utilities that are located in the primary street setback are integrated into the design of the development and do not detract from the amenity and visual appearance of the street frontage.[1]	No services or utilities are located in the primary street setback area.	**Acceptable Outcome**

LOCAL PLANNING FRAMEWORK	REQUIREMENT		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	**LPP3.8 R4.10.2** **I**t is acknowledged that ground floor residential premises might require fencing to the street boundary and multiple use corridors. Where such fencing is required, it shall have a solid base not exceeding 0.5 metres in height and may have piers to a maximum height of 1.8 metres, with infill panels which are at least 50% visually permeable to allow facilitate passive surveillance. Green fencing is encouraged.	The proposed street boundary fencing on Clara Street has a maximum height of 1.8m metres. The fence will be constructed of aluminium material materials and will appear entirely visually permeable from the street, with the exception of a few solid panels which function as entry statements for the ground floor dwellings.	**Complies**
	LPP3.8 R4.10.4 Fences shall be constructed of masonry or stone. Building materials and colours should be compatible with the building and landscape design.	Fences along street boundary will be visually permeable powder coated aluminium with a curved profile. The variation is acceptable given that the fencing provides visibility of the building façade which has been well articulated and treated with varied colours and materiality.	**Variation**
	LPP3.8 R4.10.5 Fibrous cement fencing and profiled sheet metal are not to be used within the front setback area or where it can be seen from public areas.	Colourbond fencing is used in few instances where required to provide visual screening to private areas. However, such fencing is setback behind the street boundary and building line, and would not appear visually dominant from the street.	**Variation**
	LPP3.8 R4.10.6 Any boundary fencing must be constructed with durable materials which can easily be cleaned and are vandalism resistant.	Southern and eastern boundary fencing will be constructed with Colourbond, which is typical for a dividing fence.	**Complies**

ELEMENT 3.7	PEDESTRIAN ACCESS AND ENTRIES		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O3.7.1 – Entries and pathways are universally accessible, easy to identify and safe for residents and visitors. **O3.7.2** – Entries to the development connect to and address the public domain with an attractive street presence.	**A3.7.1** – Pedestrian entries are connected via a legible, well-defined, continuous path of travel to building access areas such as lift lobbies, stairs, accessways and individual dwelling entries.	Pedestrian entries are clearly visible from the public footpath on South Western Highway. Continuous path of travel between the public footpath and pedestrian entrance achieved with an access path. Continuous path of travel between entrance lobby and key building access areas, including lift lobby, stairwells, and individual dwelling entries.	**Acceptable Outcome**
	A3.7.2 – Pedestrian entries are protected from the weather.	Pedestrian entries to the lobby of Building 1 & 2 are protecting by an awning.	**Acceptable Outcome**
	A3.7.3 – Pedestrian entries are well-lit for safety and amenity, visible from the public domain without opportunity for concealment, and designed to enable casual surveillance of the entry from within the site.	Pedestrian entry gates from Clara Street and South Western Highway are visible from the public realm. A condition requiring a Lighting Plan is recommended to ensure that these entry points are well lit, minimise concealment, and enhance the amenity of site.	**Acceptable Outcome**
	A3.7.4 – Where pedestrian access is via a shared zone with vehicles, the pedestrian path is clearly delineated and/or measures are incorporated to prioritise the pedestrian and constrain vehicle speed.	Pedestrian access and vehicle access are segregated and clearly defined.	**Acceptable Outcome**
	A3.7.5 – Services and utilities that are located at the pedestrian entry are integrated into the design and do not detract from the amenity of the entry.	No services or utilities are located at the pedestrian entrances.	**Acceptable Outcome**
	A3.7.6 – Bins are not located at the primary pedestrian entry.	Bins are located away from the pedestrian entrances.	**Acceptable Outcome**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	**LPP3.8 R4.16.5** Building entrances shall be easily distinguishable, well lit and under passive surveillance from surrounding buildings where possible to enhance personal safety of occupants and visitors.	Building entrances are legible, accessible and afford passive surveillance from surrounding areas.	**Complies**

	LPP3.8 R4.16.6 Provide direct entry to ground floor residential premises from the street.	Ground floor dwellings have direct access to the street via their courtyards.	**Complies**

ELEMENT 3.8	VEHICLE ACCESS		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O3.8.1 – Vehicle access points are designed and located to provide safe access and egress for vehicles and to avoid conflict with pedestrians, cyclists and other vehicles. **O3.8.2** – Vehicle access points are designed and located to reduce visual impact on the streetscape.	**A3.8.1** – Vehicle access is limited to one opening per 20m street frontage that is visible from the street.	Vehicle access from two openings along a 47m wide frontage to Raggle Lane.	**Acceptable Outcome**
	A3.8.2 – Vehicle entries are identifiable from the street, while being integrated with the overall façade design and/ or located behind the primary building line.	Visitor parking is accessible from Raggle Lane and will be clearly identifiable with appropriate road markings.	**Acceptable Outcome**
	A3.8.3 – Vehicle entries have adequate separation from street intersections.	Vehicle entrance to Raggle Lane is more than 35m from the Clara Street intersection.	**Acceptable Outcome**
	A3.8.4 – Vehicle circulation areas avoid headlights shining into habitable rooms within the development and adjoining properties.	Car parking areas are designed and located appropriately to ensure that no headlights shining into habitable rooms.	**Acceptable Outcome**
	A3.8.5 – Driveway width is kept to a functional minimum, relative to the traffic volumes and entry/egress requirements.	Driveway width is 5.8m to achieve two way access. The final design and construction will be in accordance with the relevant Australian Standards.	**Acceptable Outcome**
	A3.8.6 – Driveways designed for two way access to allow for vehicles to enter the street in forward gear where the driveway serves more than 10 dwellings	The driveway is designed for two way access, ensuring vehicles can enter and exit in forward gear.	**Acceptable Outcome**
	A3.8.7 – Walls, fences and other structures truncated or reduced to no higher than 0.75m within 1.5m of where walls, fences, other structures adjoin vehicle access points where a driveway meets a public street and where two streets intersect (refer Figure 3.8a).	1.8m high fencing is located within the truncation, however these are entirely visually permeable and would not impact sightlines for exiting vehicles.	**Alternative Design Solution**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

ELEMENT 3.9	CAR AND BICYCLE PARKING		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O3.9.1 – Parking and facilities are provided for cyclists and other modes of transport. **O3.9.2** – Car parking provision is appropriate to the location, with reduced provision possible in areas that are highly walkable and/or have good public transport or cycle networks and/or are close to employment centres. **O3.9.3** – Car parking is designed to be safe and accessible. **O3.9.4** – The design and location of car parking minimises negative visual and environmental impacts on amenity and the streetscape.	**A3.9.1** – Secure, undercover bicycle parking is provided in accordance with Table 3.9 and accessed via a continuous path of travel from the vehicle or cycle entry point. **Bicycle parking** – 11 total required – 0.5 resident bays per dwelling – 1 visitor bay per 10 dwellings **Motorcycle parking** – 3 total required – 1 motorcycle bay for every 10 car bays	33 bicycle racks have been provided across the site to provide secure parking for residents and visitors. The number of bicycle parking bays are both surplus and located conveniently to building access points. No motorcycle bays have been provided; however, to accommodate the variety of transport modes expected at the development, it is recommended that motorcycle parking bays within the surrounding verge are installed to increase the overall parking supply associated with the development.	**Alternative Design Solution**
	A3.9.2 – Parking is provided for cars and motorcycles in accordance with Table 3.9. **Location A –** 28 bays required (23 resident bays and 5 visitor bays) – 0.75 bays per 1 bedroom dwelling – 1 bay per 2+ bedroom dwellings – 1 visitor bay per 4 dwellings (up to 12 dwellings) plus 1 visitor bay per 8 dwellings for dwellings above the 13th.	23 onsite resident parking bays have been provided which is satisfactory. One onsite visitor bay has been provided as well as two verge bays on Clara Street, proposed to be shared between the commercial development and visitors to the dwellings. A condition is recommended requiring the installation of eight additional verge bays on Clara Street and Raggle Lane to ensure that sufficient parking is provided accessible to the site. Further discussion under the **Car Parking** section of the report.	**Alternative Design Solution**
	A3.9.3 – Maximum parking provision does not exceed double the minimum number of bays specified in Table 3.9	Parking provision is less than double the minimum number of bays.	**Acceptable Outcome**
	A3.9.4 – Car parking and vehicle circulation areas are designed in accordance with AS2890.1 (as amended) or the requirements of applicable local planning instruments.	A condition is recommended to ensure that car parking areas, crossovers, and vehicle circulation areas are consistent with the relevant Australian Standards.	**Acceptable Outcome**
	A3.9.5 – Car parking areas are not located within the street setback and are not visually prominent from the street.	Car parking areas are located to the rear of the site and accessible from Raggle Lane.	**Acceptable Outcome**

	A3.9.6 – Car parking is designed, landscaped or screened to mitigate visual impacts when viewed from dwellings and private outdoor spaces.	The car parking area is adequately landscaped, including the retention of one significant tree with its associated deep soil area to provide visual amenity to this area.	**Acceptable Outcome**
	A3.9.7 – Visitor parking is clearly visible from the driveway, is signed 'Visitor Parking' and is accessible from the primary entry or entries.	Visitor parking will be appropriately marked and/or signposted to ensure visibility.	**Acceptable Outcome**
	A3.9.8 – Parking shade structures, where used, integrate with and complement the overall building design and site aesthetics and have a low reflectance to avoid glare into apartments.	No shade structures are proposed.	**NA**
	A3.9.9 – Uncovered at-grade parking is planted with trees at a minimum rate of one tree per four bays.	The car parking area is appropriately landscaped with proposed trees and abutting the communal open space to the north.	**Acceptable Outcome**
	A3.9.10 – Basement parking does not protrude more than 1m above ground, and where it protrudes above ground is designed or screened to prevent negative visual impact on the streetscape.	No basement parking is proposed.	**NA**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

ELEMENT 4.1	SOLAR AND DAYLIGHT ACCESS		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O4.1.1 – In climate zones 4, 5 and 6: the development is sited and designed to optimise the number of dwellings receiving winter sunlight to private open space and via windows to habitable rooms. **O4.1.2** – Windows are designed and positioned to optimise daylight access for habitable rooms. **O4.1.3** – The development incorporates shading and glare control to minimise heat gain and glare: - from mid-spring to autumn in climate zones 4, 5 and 6 **AND** - year-round in climate zones 1 and 3.	**A4.1.1** – In climate zones 4, 5 and 6 only: **a)** Dwellings with a northern aspect are maximised, with a minimum of 70 per cent of dwellings having living rooms and private open space that obtain at least 2 hours direct sunlight between 9am and 3pm on 21 June **AND** **b)** maximum of 15 per cent of dwellings in a building receiving no direct sunlight between 9am and 3pm on 21 June.	Acceptable solar access outcomes are achieved by 8 of 11 ground floor residencies and 8 of 12 first floor residencies. Only A104 and A103 do not receive any direct sunlight on 21 June.	**Acceptable Outcome**
	A4.1.2 – Every habitable room has at least one window in an external wall, visible from all parts of the room, with a glazed area not less than 10 per cent of the floor area and comprising a minimum of 50 per cent of clear glazing.	All habitable rooms have at least one window that meets the requirements.	**Acceptable Outcome**
	A4.1.3 – Lightwells and/or skylights do not form the primary source of daylight to any habitable room.	The use of skylights is restricted away from habitable room to ensure solar access can be achieved.	**Acceptable Outcome**
	A4.1.4 – The building is oriented and incorporates external shading devices in order to: - minimise direct sunlight to habitable rooms: ▪ between late September and early March in climate zones 4, 5 and 6 only **AND** ▪ in all seasons in climate zones 1 and 3 - permit winter sun to habitable rooms in accordance with A 4.1.1 (a).	First floor windows achieve shading via the roof eaves, whilst ground level windows achieve shading via landscaping and extensive tree planting.	**Acceptable Outcome**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		Nil

ELEMENT 4.2	NATURAL VENTILATION		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O4.2.1 – Development maximises the number of apartments with natural ventilation. **O4.2.2** – Individual dwellings are designed to optimise natural ventilation of habitable rooms. **O4.2.3** – Single aspect apartments are designed to maximise and benefit from natural ventilation.	**A4.2.1** – Habitable rooms have openings on at least two walls with a straight line distance between the centre of the openings of at least 2m.	All habitable rooms have at least two openings with a straight line distance of exceeds 2.1m.	**Acceptable Outcome**
	A4.2.2 – **(a)** A minimum 60 per cent of dwellings are, or are capable of, being naturally cross ventilated in the first nine storeys of the building	Floor plans demonstrate that all habitable rooms of all dwellings are capable of natural ventilation.	**Acceptable Outcome**
	A4.2.3 – The depth of cross-over and cross-through apartments with openings at either end and no openings on side walls does not exceed 20m.	The depth of cross-over and cross-through apartments with openings at either end and no openings on side walls does not exceed 20m.	**Acceptable Outcome**
	A4.2.4 – No habitable room relies on lightwells as the primary source of fresh-air.	No habitable rooms rely on lightwells as the primary source of fresh air.	**Acceptable Outcome**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		Nil

ELEMENT 4.3 SIZE AND LAYOUT OF DWELLINGS

ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	ACCEPTABLE OUTCOMES	ASSESSMENT	COMPLIES
O4.3.1 – The internal size and layout of dwellings is functional with the ability to flexibly accommodate furniture settings and personal goods, appropriate to the expected household size. **O4.3.2** – Ceiling heights and room dimensions provide for well-proportioned spaces that facilitate good natural ventilation and daylight access.	**A4.3.1** – Dwellings have a minimum internal floor area in accordance with Table 4.3a. - **2 bed x 1 bath –** 67m^2 minimum floor area	All two bedroom apartments have an internal floor space greater than 67m^2.	**Acceptable Outcome**
	A4.3.2 – Habitable rooms have minimum floor areas and dimensions in accordance with Table 4.3b.		

Habitable Room Type	Min. Internal Floor Area	Min. Internal Width		
Master Bedroom	10m^2	3m	Minimums achieved by all master bedrooms	**Acceptable Outcome**
Other Bedrooms	9m^2	3m	Minimums achieved by all second bedrooms	
Living room	NA	4m	Minimum internal achieved by all living rooms	

A4.3.3 – Measured from the finished floor level to finished ceiling level, minimum ceiling heights are: - Habitable rooms – 2.7m - Non-habitable rooms – 2.4m All other ceilings meet or exceed the requirements of the NCC.	Finish floor level to finished ceiling level for habitable rooms is 2.7m, which is acceptable. Finished floor level to finishing ceiling for non-habitable rooms is 2.4m, which is acceptable.	**Acceptable Outcome**
A4.3.4 – The length of a single aspect open plan living area is equal to or less than 3 x the ceiling height. An additional 1.8m length may be provided for a kitchen, where the kitchen is the furthest point from the window in an open plan living area provided that the maximum length does not exceed 9m.	No living area exceeds 3 x the ceiling height.	**NA**

LOCAL PLANNING FRAMEWORK	REQUIREMENT	
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.	NA

ELEMENT 4.4	PRIVATE OPEN SPACE AND BALCONIES		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O4.4.1 – Dwellings have good access to appropriately sized private open space that enhances residential amenity. **O4.4.2** – Private open space is sited, oriented and designed to enhance liveability for residents. **O4.4.3** – Private open space and balconies are integrated into the overall architectural form and detail of the building.	**A4.4.1** – Each dwelling has private open space accessed directly from a habitable room with dimensions in accordance with Table 4.4.		
	Each ground floor 2-bedroom apartment has a private open space directly accessible from a habitable room with minimum dimensions of 3m and a minimum area of 15m^2	A106, A101 and A107 have a ground level courtyard with an area of 17m^2 and minimum dimensions of 3m. A102, A103, A104, A105, A108, A109, A110, A111 have private open spaces with an area of less than 15m^2. However these areas are located within larger private open space area that all exceed 15m^2, notwithstanding the minimum dimensions being less than 3m.	**Alternative Design Solution**
	Each first floor 2-bedroom apartment has a private open space accessed directly from a habitable room with minimum dimensions of 2.4m and a minimum area of 10m^2.	All first-floor apartments with the exception of A202 have balconies that meet the minimum dimensions and area. A202 has a balcony with a total area of 8.2m2, and a minimum dimension of 1.2m. The balcony exceeds the 8m^2 the R-Codes considers the minimum for a functional balcony, and is directly adjacent to a living room allowing for a larger, functional space. It is noted that communal opens space is also externally accessible to supplement the shortfall of private open space.	**Alternative Design Solution**
	A4.4.2 – Where private open space requires screening to achieve visual privacy requirements, the entire open space is not screened and any screening is designed such that it does not obscure the outlook from adjacent living rooms.	Only A211 requires screening of the balcony to achieve visual privacy outcomes, however the entirety of the balcony has not been screened with the living room capable of achieving an eastern outlook.	**Acceptable Outcome**
	A4.4.3 – Design detailing, materiality and landscaping of the private open space is integrated with or complements the overall building design.	Refer to the **Landscaping** section of the report.	**Acceptable Outcome**
	A4.4.4 – Services and fixtures located within private open space, including but not limited to air-conditioner units and clothes drying, are not visible from the street and/or are integrated into the building design.	Services and fixtures are not located within private open spaces.	**Acceptable Outcome**

LOCAL PLANNING FRAMEWORK	REQUIREMENT	
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.	NA

ELEMENT 4.5	CIRCULATION AND COMMON SPACES		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O4.5.1 – Circulation spaces have adequate size and capacity to provide safe and convenient access for all residents and visitors. **O4.5.2** – Circulation and common spaces are attractive, have good amenity and support opportunities for social interaction between residents.	**A4.5.1** – Circulation corridors are a minimum 1.5m in width.	Minimum width of 1.5m achieved.	**Acceptable Outcome**
	A4.5.2 – Circulation and common spaces are designed for universal access.	Lobby and circulation corners designed for universal access.	**Acceptable Outcome**
	A4.5.3 – Circulation and common spaces are capable of passive surveillance, include good sightlines and avoid opportunities for concealment.	Circulation corridors are straight with a full length of corridor visible from both ends and the central staircase.	**Acceptable Outcome**
	A4.5.4 – Circulation and common spaces can be illuminated at night without creating light spill into the habitable rooms of adjacent dwellings.	Bedroom windows do not open into circulation spaces.	**Acceptable Outcome**
	A4.5.5 – Bedroom windows and major openings to living rooms do not open directly onto circulation or common spaces and are designed to ensure visual privacy and manage noise intrusion.	Three bedroom windows (A103, A104, A105) open onto the communal open space, however the windows are small, screened and separated by landscaping and fences to avoid direct visibility.	**Alternative Design Solution**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		Nil.

ELEMENT 4.6	STORAGE		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O4.6.1 – Well-designed, functional and conveniently located storage is provided for each dwelling.	**A4.6.1** – Each dwelling has exclusive use of a separate, ventilated, weatherproof, bulky goods storage area. This can be located either internally or externally to the dwelling with dimensions in accordance with Table 4.6.	Each dwelling has an internal storage space with a total area of 4m^2 and a minimum dimension of 1.3m^2. The variation to the minimum dimension is minor and does not detrimentally affect the functionality of the storage spaces.	**Alternative Design Solution**
	A4.6.2 – Bulky good stores that are not directly accessible from the dwelling/private open space are located in areas that are convenient, safe, well-lit, secure and subject to passive surveillance.	No bulky good stores have been provided.	**NA**
	A4.6.3 – Storage provided separately from dwellings or within or adjacent to private open space, is integrated into the design of the building or open space and is not readily visible from the public domain.	All storage spaces are appropriately integrated into the dwelling design.	**NA**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

ELEMENT 4.7	MANAGING THE IMPACT OF NOISE		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O4.7.1 – The siting and layout of development minimises the impact of external noise sources and provides appropriate acoustic privacy to dwellings and on-site open space. **O4.7.2** – Acoustic treatments are used to reduce sound transfer within and between dwellings and to reduce noise transmission from external noise sources.	**A4.7.1** – Dwellings exceed the minimum requirements of the NCC, such as a rating under the AAAC Guideline for Apartment and Townhouse Acoustic Rating (or equivalent).	Acoustic assessments of external noise arising from South Western Highway, the commercial tenancies and internal noises arising from the mechanical plant servicing the apartments. The reports confirm that compliance with the requirements of the NCC will require additional mitigation measures that will be identified at the detailed designs stage.	**Alternative Design Solution**
	A4.7.2 – Potential noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open space and refuse bins are not located adjacent to the external wall of habitable rooms or within 3m of a window to a bedroom.	Bedroom 2 from apartments 109, 110, 210 and 211 are less than 3m setback from car parking area. Noise arising from residential parking is expected to be limited during the nighttime noise period, it has been mitigated by locating the main bedroom further away and minimising the size of the bedroom 2 windows directly facing the parking area.	**Alternative Design Solution**
	A4.7.3 – Major openings to habitable rooms are oriented away or shielded from external noise sources.	Habitable rooms fronting South Western Highway will be subject to the highest levels of road noise. A final acoustic assessment will be prepared at the detailed design stage recommending noise mitigation measures (i.e. quiet house design packages) for all dwellings impacted by road noise to ensure compliance with the noise regulations.	**Alternative Design Solution**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

ELEMENT 4.8	DWELLING MIX		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O4.8.1 – A range of dwelling types, sizes and configurations is provided that caters for diverse household types and changing community demographics.	**A4.8.1** – **a)** Dwelling mix is provided in accordance with the objectives, proportions or targets specified in a local housing strategy or relevant local planning instrument **OR** **b)** Where there is no local housing strategy, developments of greater than 10 dwellings include at least 20 per cent of apartments of differing bedroom numbers.	All proposed dwellings are two-bedroom apartment units, diversifying both the housing typology and density within the Byford Town Centre. The proposed dwellings respond to community need for housing of this type.	**Alternative Design Outcome**
	A4.8.2 – Different dwelling types are well distributed throughout the development, including a mix of dwelling types on each floor.	All dwellings are two bed-bedroom apartment units.	**Alternative Design Outcome**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

ELEMENT 4.9	UNIVERSAL DESIGN		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O4.9.1 – Development includes dwellings with universal design features providing dwelling options for people living with disabilities or limited mobility and/or to facilitate ageing in place.	**A4.9.1 –** **a)** 20 per cent of all dwellings, across a range of dwelling sizes, meet Silver Level requirements as defined in the Liveable Housing Design Guidelines (Liveable Housing Australia) **OR** 5 per cent of dwellings are designed to Platinum Level as defined in the Liveable Housing Design Guidelines (Liveable Housing Australia).	All dwellings will meet minimum Silver Line requirements.	**Acceptable Outcome**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

ELEMENT 4.10	FAÇADE DESIGN		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O4.10.1 – Building façades incorporate proportions, materials and design elements that respect and reference the character of the local area. **O4.10.2** – Building façades express internal functions and provide visual interest when viewed from the public realm.	**A4.10.1** – Façade design includes: - scaling, articulation, materiality and detailing at lower levels that reflect the scale, character and function of the public realm rhythm and visual interest achieved by a combination of building articulation, the composition of different elements and changes in texture, material and colour.	Replaced by relevant provisions under LPP3.8.	
	A4.10.2 – In buildings with height greater than four storeys, façades include a defined base, middle and top for the building.	Replaced by relevant provisions under LPP3.8.	
	A4.10.3 – The façade includes design elements that relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights.	Replaced by relevant provisions under LPP3.8.	
	A4.10.4 – Building services fixtures are integrated in the design of the façade and are not visually intrusive from the public realm.	Building services are well integrated and screened within the development.	**Acceptable Outcome**
	A4.10.5 – Development with a primary setback of 1m or less to the street includes awnings that: - define and provide weather protection to entries - are integrated into the façade design are consistent with the streetscape character.	Replaced by relevant provisions under LPP3.8.	
	A4.10.6 – Where provided, signage is integrated into the façade design and is consistent with the desired streetscape character.	No signage is proposed on the residential buildings – commercial signage considered separately.	**NA**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	**LPP3.8 R4.1.1** The architectural style of new buildings should reinforce the contemporary rural town feel. Styling shall be simple and contemporary, referencing on the simple forms and styling of traditional rural architecture. Developers shall demonstrate an understanding and interpretation of this context (refer to Design Source).	The plans show variation in the materiality, colours and textures to the façade treatment to contribute positively to the street and broader Byford locality. A condition requiring the submission of a detailed schedule of materials that constitute natural and earthy tones and recycled facebrick and/or stacked stone façade elements is recommended to ensure that the façade design is within character of the area.	**Variation**

	LPP3.8 R4.1.2 The contemporary rural architectural character should: • Emphasise the local identity through the appropriate use of built form, building materials, articulation and colour (refer to Design Source); • Respond to the local climatic conditions providing protection against the strong easterly winds whilst taking advantage of the views toward foothills.	As above, a condition will ensure that the construction materials and finishes are consistent with the local character of Byford.	**Complies**
	LPP3.8 R4.1.3 Inconsistent architectural styles with the theming of the LSP area, such as Tudor, Mediterranean, Santa Fe and Tuscan are not supported.	The proposed architectural style does not resemble these themes.	**Complies**
	LPP3.8 R4.3.6 Exterior walls of buildings are required to feature a composite of construction materials. Face brickworks, stucco trim or rendered masonry shall be the dominant materials and are to be complimented by detail elements of alternative materials such as: • Face and rendered/painted brick work/block work of contrasting colour; • Stone cladding; • Clear glazing; • Limestone block; • Timberwork (including recycled) and/or; • Corrugated sheet metal cladding.	There is an opportunity for better integration of these façade treatments into the building design through a condition of approval. This will ensure that the external appearance of the building incorporates these design elements and materials.	**Variation**
	LPP3.8 R4.3.7 Light coloured (including limestone) bricks shall not be used as dominant cladding material. Some light colours may be allowed where they are considered to complement the local landscape.	The moderation of colours and materials is considered integral to the design of the façade considering the site's location at the edge of the Byford Town Centre and abutting the old Byford town site to the east. Light colours such as earthy and natural tones are considered acceptable in the design of the façade.	**Complies**
	LPP3.8 R4.3.8 Materials should be selected to: • Achieve simplicity and strength of design; • Avoid busy compositions and; • Assist in providing comfortable thermal conditions; • Avoid high levels of reflectivity.	All selected materials will ensure durability whilst allowing for interest, simplicity and avoiding significant reflectivity.	**Complies**

	LPP3.8 R4.3.1 Extensive expanses of blank and flat facades facing the public realm must be avoided. As a guide, facades at street level should articulate at intervals of 6.0 to 10.0 metres	A range of material changes, colour changes as well as built form features such as balconies and windows allow for the minimisation of blank and flat walls.	**Complies**
	LPP3.8 R4.3.5 Building facades shall be articulated and detailed with an emphasis on vertical form to create a perception of complimentary bulk and height.	Building facades show the appropriate level of detail to provoke visual interest from the streetscape.	**Complies**

ELEMENT 4.11	ROOF DESIGN		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O4.11.1 – Roof forms are well integrated into the building design and respond positively to the street. **O4.11.2** – Where possible, roof spaces are utilised to add open space, amenity, solar energy generation or other benefits to the development.	**A4.11.1** – The roof form or top of building complements the façade design and desired streetscape character.	Replaced by relevant provisions under LPP3.8.	
	A4.11.2 – Building services located on the roof are not visually obtrusive when viewed from the street.	Replaced by relevant provisions under LPP3.8.	
	A4.11.3 – Useable roof space is safe for users and minimises overlooking and noise impacts on private open space and habitable rooms within the development and on adjoining sites.	Replaced by relevant provisions under LPP3.8.	
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	**LPP3.8 R4.6.1** Rooflines require to be of a suitable vernacular and innovative but non-intrusive; contribute to the rural identity of the area; and reflect the range of uses and development types in the precincts.	The proposed roofline is typical for apartment buildings and seeks to allow adequate space to house and screen plant and solar panels. The proposed rood design is considered appropriate within the Town Centre context.	**Complies**
	LPP3.8 R4.6.4 Roofs should generally be expressed in a way which compliments the architectural style of the building, which provides clear silhouettes and minimises visual clutter. Appropriately proportioned dormer windows and skylights can add interest to the external appearance of a roof and break up its volume.	The proposed roof does not detract from the façade design or result in unnecessary bulk. Slight variations to roof pitch and overall height are proposed to compliment overall appearance of the building.	**Complies**
	LPP3.8 R4.6.5 Roof design should minimise bulk and overshadowing of neighbouring properties.	The proposed roof design will not provide any additional bulk to the building, having minimal impact to the solar access of adjoining properties.	**Complies**
	LPP3.8 R4.6.7 The permissible roof materials include metal roofing, clay tiles and light grey (timber) shingles. Roofing materials made from cement tiles or composite materials are not permitted. Zincalume finish may be permitted but shall be treated to reduce its reflective qualities and impact upon neighbouring lots.	The proposed roof materiality is metal roofing allowing for efficiency and functionality.	**Complies**
	LPP3.8 R4.6.8 Roof colours to be predominantly neutral and have a low visual impact. No dark colour roof materials and roofs	The roof material will not be visible from the street.	**Complies**

	with poor thermal properties shall be permitted. Only clay tiles in traditional terracotta colours will be permitted.		
	LPP3.8 R4.6.9 Minimise the visual intrusiveness of service elements by integrating these into the design of the roof.	Roof services will be integrated into the roof design allowing adequate screening.	**Complies**
	LPP3.8 R4.6.6 Where the roof form permits, the roof or loft spaces shall be designed to be used. Rooms located in the roof cavity should have a minimum head height of 2.4 metres over two thirds of the floor area. Flat roof spaces shall be used as outdoor recreational areas, taking advantage of access to sunlight and views towards the scarp.	No usable roof or loft space is proposed. Noting the flat roof design, the spaces will not be usable by residents and will only be used for the purposes of housing plant.	**Complies**

ELEMENT 4.12	LANDSCAPE DESIGN		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O4.12.1 – Landscape design enhances streetscape and pedestrian amenity; improves the visual appeal and comfort of open space areas; and provides an attractive outlook for habitable rooms. **O4.12.2** – Plant selection is appropriate to the orientation, exposure and site conditions and is suitable for the adjoining uses. **O4.12.3** – Landscape design includes water efficient irrigation systems and where appropriate incorporates water harvesting or water re-use technologies. **O4.12.4** – Landscape design is integrated with the design intent of the architecture including its built form, materiality, key functional areas and sustainability strategies.	**A4.12.1** – Submission of a landscape plan prepared by a competent landscape designer. This is to include a species list and irrigation plan demonstrating achievement of Waterwise design principles.	A Landscaping Plan has been prepared showing the appropriate distribution of vegetation across the site to improve the amenity of public and private spaces. A condition requiring the prioritised selection of native plant species and irrigation management is recommended.	**Acceptable Outcome**
	A4.12.2 – Landscaped areas are located and designed to support mature, shade-providing trees to open space and the public realm, and to improve the outlook and amenity to habitable rooms and open space areas.	The location of trees is prominent within the communal open space to provide environmental amenity by way of shade, visual appeal, and screening where required.	**Acceptable Outcome**
	A4.12.3 – Planting on building structures meets the requirements of Table 4.12.	No planting on structures is proposed.	**NA**
	A4.12.4 – Building services fixtures are integrated in the design of the landscaping and are not visually intrusive.	Building services will be located on the roof, integrating into the development to have minimal visual impacts.	**NA**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

ELEMENT 4.13	ADAPTIVE REUSE		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O4.13.1 – New additions to existing buildings are contemporary and complementary and do not detract from the character and scale of the existing building.	**A4.13.1** – New additions to buildings that have heritage value do not mimic the existing form and are clearly identifiable from the original building.	Not applicable – proposed development involves the demolition of existing buildings and construction of three new buildings.	**NA**
O4.13.2 – Residential dwellings within an adapted building provide good amenity for residents, generally in accordance with the requirements of this policy.	**A4.13.2** – New additions complement the existing building by referencing and interpreting the scale, rhythm and materiality of the building.		
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

ELEMENT 4.14	MIXED USE		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O4.14.1 – Mixed use development enhances the streetscape and activates the street. **O4.14.2** – A safe and secure living environment for residents is maintained through the design and management of the impacts of non-residential uses such as noise, light, odour, traffic and waste.	**A4.14.1** – Where development is located within a mixed use area designated within the local planning framework, ground floor units are designed for future adaption to non-residential uses.	Provisions for the adaptive reuse of the ground floor of the residential buildings to provide mixed use is not warranted in this instance given the site's accessibility to nearby commercial buildings within the Byford Town Centre.	**Alternative Design Solution**
	A4.14.2 – Ground floor uses including non-commercial uses, such as communal open space, habitable rooms, verandahs and courtyards associated with ground floor dwellings, address, enhance and activate the street.	All ground floor dwellings directly front the street provide landscaping opportunities and casual surveillance.	**Acceptable Outcome**
	A4.14.3 – Non-residential space in mixed use development is accessed via the street frontage and/or primary entry as applicable.	Buildings are solely residential, which is acceptable in the context of the site.	**NA**
	A4.14.4 – Non-residential floor areas provided in mixed use development has sufficient provision for parking, waste management, and amenities to accommodate a range of retail and commercial uses in accordance with the requirements	Buildings are solely residential, which is acceptable in the context of the site.	**NA**
	A4.14.5 – Mixed use development is designed to mitigate the impacts of non-residential uses on residential dwellings, and to maintain a secure environment for residents.	The proposed development has been designed to completely segregate the residential and non-residential components allowing them to function independently with regard to parking, access and waste collection.	**Acceptable Outcome**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

ELEMENT 4.15	ENERGY EFFICIENCY		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O4.15.1 – Reduce energy consumption and greenhouse gas emissions from the development.	**A4.15.1 –** **a)** Incorporate at least one significant energy efficiency initiative within the development that exceeds minimum practice (refer Design Guidance) **OR** **b)** All dwellings exceed the minimum NATHERS requirement for apartments by 0.5 stars	The proposed development incorporates solar panels on the roof.	**Acceptable Outcome**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

ELEMENT 4.16	WATER MANAGEMENT AND CONSERVATION		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O4.16.1 – Minimise potable water consumption throughout the development.	**A4.16.1** – Dwellings are individually metered for water usage.	Individual metering is capable of being provided for the dwellings.	**Acceptable Outcome**
O4.16.2 – Stormwater runoff from small rainfall events is managed on-site, wherever practical.	**A4.16.2** – Stormwater runoff generated from small rainfall events is managed on-site.	A basic stormwater strategy has been prepared to detail methods of stormwater management. Submission of a detailed plan is recommended as a condition of the approval.	**Acceptable Outcome**
O4.16.3 – Reduce the risk of flooding so that the likely impacts of major rainfall events will be minimal.	**A4.16.3** – Provision of an overland flow path for safe conveyance of runoff from major rainfall events to the local stormwater drainage system.	These matters will be addressed through the submission of a full stormwater management plan provided as a condition of approval.	**Acceptable Outcome**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

ELEMENT 4.17	WASTE MANAGEMENT		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O4.17.1 – Waste storage facilities minimise negative impacts on the streetscape, building entries and the amenity of residents. **O4.17.2** – Waste to landfill is minimised by providing safe and convenient bins and information for the separation and recycling of waste.	**A4.17.1** – Waste storage facilities are provided in accordance with the Better Practice considerations of the *WALGA Multiple Dwelling Waste Management Plan Guidelines* (or local government requirements where applicable).	A Waste Management Plan has been provided in accordance with the WALGA guidelines.	**Acceptable Outcome**
	A4.17.2 – A Level 1 Waste Management Plan (Design Phase) is provided in accordance with the *WALGA Multiple Dwelling Waste Management Plan Guidelines* - Appendix 4A (or equivalent local government requirements).	A Waste Management Plan has been provided in accordance with the WALGA guidelines.	**Acceptable Outcome**
	A4.17.3 – Sufficient area is provided to accommodate the required number of bins for the separate storage of green waste, recycling and general waste in accordance with the *WALGA Multiple Dwelling Waste Management Plan Guidelines* - Level 1 Waste Management Plan (Design Phase) (or local government requirements where applicable).	The Waste Management Plan confirms that sufficient area has been allocated for commercial and residential waste storage.	**Acceptable Outcome**
	A4.17.4 – Communal waste storage is sited and designed to be screened from view from the street, open space and private dwellings.	Dedicated bin stores are proposed at the ground level, with convenient access for residents and to the street frontage for collection. The storage area will be enclosed within the building and not visible from the street.	**Acceptable Outcome**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

ELEMENT 4.18	UTILITIES OBJECTIVES		
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**ACCEPTABLE OUTCOMES**	**ASSESSMENT**	**COMPLIES**
O4.18.1 –The site is serviced with power, water, gas (where available), wastewater, fire services and telecommunications/broadband services that are fit for purpose and meet current performance and access requirements of service providers.	**A4.18.1** – Utilities that must be located within the front setback, adjacent to the building entry or on visible parts of the roof are integrated into the design of the building, landscape and/or fencing such that they are accessible for servicing requirements but not visually obtrusive.	The site is serviced with all necessary urban services, fit for purpose and capable of meeting the needs of residents. This includes power, water, telecommunications, and fire services.	**Acceptable Outcome**
O4.18.2 – All utilities are located such that they are accessible for maintenance and do not restrict safe movement of vehicles or pedestrians.	**A4.18.2** – Developments are fibre-to-premises ready, including provision for installation of fibre throughout the site and to every dwelling.	The subject site presents a number of options for locating the utilities and will be resolved at detailed design stage. This can be addressed with a condition of approval.	**Acceptable Outcome**
O4.18.3 – Utilities, such as distribution boxes, power and water meters are integrated into design of buildings and landscape so that they are not visually obtrusive from the street or open space within the development.	**A4.18.3** – Hot water units, air-conditioning condenser units and clotheslines are located such that they can be safely maintained, are not visually obtrusive from the street and do not impact on functionality of outdoor living areas or internal storage.	Hot water units will be located internally within the dwellings and not visible from the public realm. Air conditioning condensers will be located on the roof and appropriately setback/ screened from view.	**Acceptable Outcome**
O4.18.4 – Utilities within individual dwellings are of a functional size and layout and located to minimise noise or air quality impacts on habitable rooms and balconies.	**A4.18.4** – Laundries are designed and located to be convenient to use, secure, weather-protected and well-vented; and are of an overall size and dimension that is appropriate to the size of the dwelling.	Separate laundry rooms are not proposed as part of the development, but appropriately sized laundry areas accommodating washing machines have been incorporated into the bathrooms which are capable of mechanical ventilation.	**Acceptable Outcome**
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Nil applicable.		NA

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LOCATION SKETCH
NOT TO SCALE

AREA SCHEDULE

N° of original lots = 2
Lot 94 = 1262m²
Lot 93 = 1325m²

N° of proposed lots = 2
Lot 800 = 340m²
Lot 801 = 2247m²
TOTAL = 2587m²

ALL BUILDINGS & STRUCTURES ARE TO BE REMOVED

LEGEND

FEATURE	DESCRIPTION
	CADASTRAL BOUNDARY
	PROPOSED BOUNDARY
58.00	CONTOUR 0.2m INTERVAL
	FENCE
	SURVEY CONTROL
	VEGETATION - TREE
	VEGETATION - PALM
	ELECTRICAL - DOME
	ELECTRICAL - POWER POLE
	ELECTRICAL - SERVICE
WMtr	WATER - METER
MH	SEWERAGE - MANHOLE
TP	COMMUNNICATIONS - TELSTRA PIT
	GAS - METER
	DRAINAGE - GULLY
	SIGN
	PRAM RAMP
	STRUCTURE - POST/POLE
	STRUCTURE - BUILDING
	STRUCTURE - ROOF LINE ABOVE
	STRUCTURE - OPENING
RRL: x.xx	STRUCTURE - ROOF/RIDGE LEVEL
GUTTER: x.xx	STRUCTURE - GUTTER LEVEL
	STRUCTURE - WALL/RETAINING WALL
TW X.XX	STRUCTURE - TOP OF WALL LEVEL
	BANK TOP
	BANK BOTTOM
	STORMWATER DRAINAGE
S	DBYD SEWER
W	DBYD WATER
OHE	OVERHEAD ELECTRICAL

DEPARTMENT OF PLANNING, LANDS AND HERITAGE
DATE 05-Feb-2026
FILE 202866

Notes:
1. Feature data as supplied by KR Surveys 08.01.2026.
2. Boundary plotted from Landgate SCDB digital data only.
3. Boundary for WAPC Application purposes only.
4. True position of Boundary is subject to a re-establishment survey.
5. Dimensions, Areas and Offsets subject to re-establishment survey.
6. Sewer & water data plotted from Dial Before You Dig only.
7. Refer to Certificate of Title for limitations, Interests, Encumbrances and Notifications.

Scale @A3 1:250
0 1 2 3 4 5 10 15 20

26002-APS01-1.0.dwg

VER.	DATE	BY	AMENDMENTS	FILE SOURCE
1.0	12.01.2026	RMM	Issued for Information	26002-1.0-12012026-PCG94-F.mjo
2.0	19.01.2026	RMM	Dimensions Clarified	26002-1.0-12012026-PCG94-F.mjo

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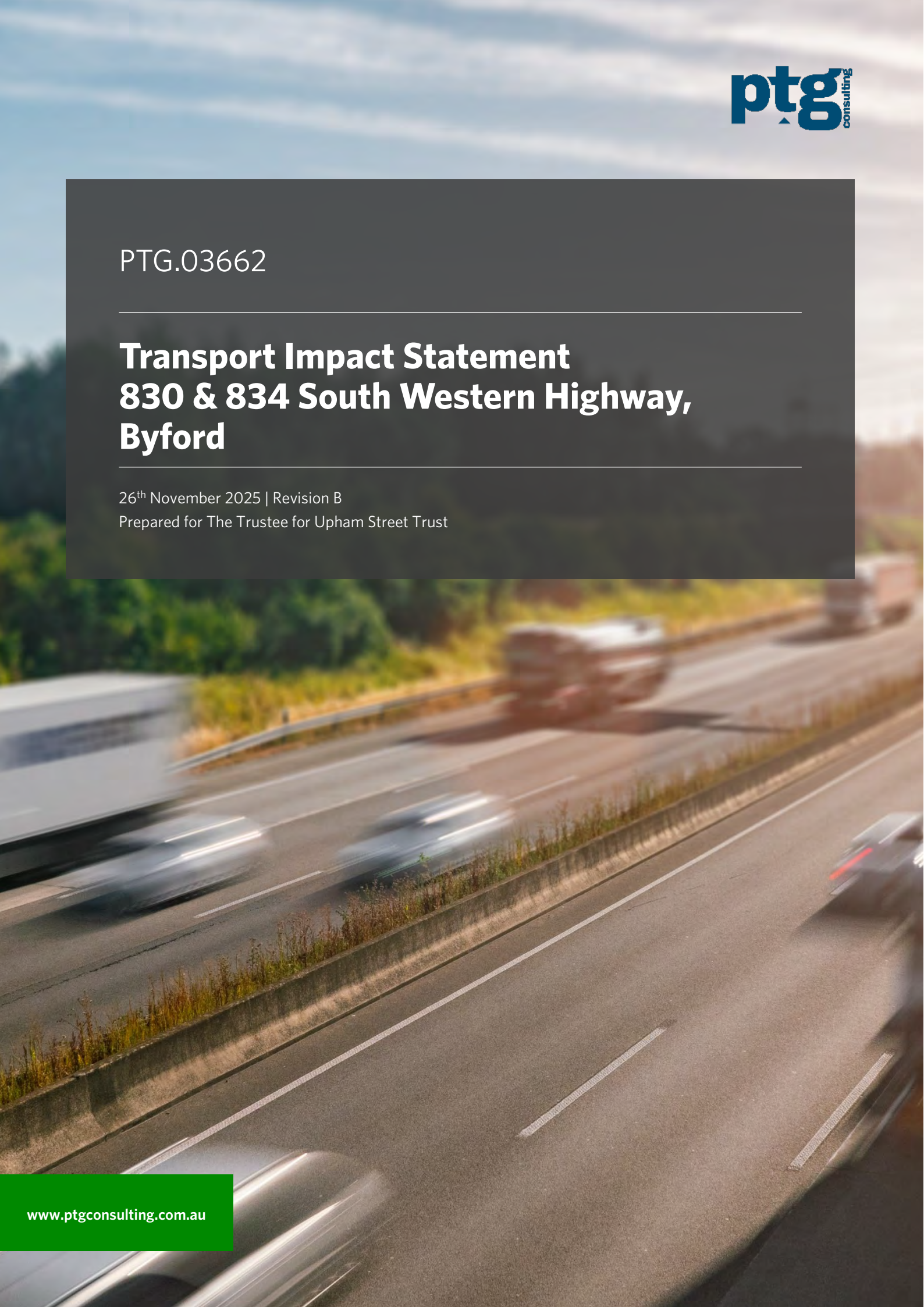
CLIENT: SPINNAKER DEVELOPMENTS

JOB NO: 26002
TITLE: PROPOSED SUBDIVISION
PROJECT:
LOTS 93 & 94 ON P3644
Nº 830 & 834 SOUTH WESTERN HIGHWAY
BYFORD WA 6122
C/T's 1970-195 & 1970-194

DATUM
VERT: AHD
HORIZ: PCG94
SCALE: 1:250
DWG NO: 26002-APS01 VER: 2.0
SHEET NO: 1 OF 1 A3

SURVEYOR: KRS | DATE OF SURVEY: 22.08.2024 | DRAWN BY: RMM | APPROVED BY: NRW

Document Set ID: 889805
Version: 1, Version Date: 11/02/2026



PTG.03662

Transport Impact Statement
830 & 834 South Western Highway, Byford

26th November 2025 | Revision B

Prepared for The Trustee for Upham Street Trust

www.ptgconsulting.com.au

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REPORT DETAILS

Unique Document Identification

	Information
Document Title	Transport Impact Statement – 830 & 834 South Western Highway, Byford
Project Number	PTG.03662
Document ID	TR-R001-B
Client	The Trustee for Upham Street Trust

PTG Consulting Office Details

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Revision Details

Revision No.	Date	Comments	Author	Approved by
Rev A	25/11/2025	For Issue	NA/LL	SJL
Rev B	26/11/2025	Minor Update	LL	SJL

1 INTRODUCTION

1.1 Background

PTG Consulting Pty Ltd (PTG) has been commissioned by The Trustee for Upham Street Trust ('the Client') to prepare a Traffic Impact Statement (TIS) for the proposed mixed-use development located at No. 830 & 834 South Western Highway, Byford ('the Site') within the Shire of Serpentine-Jarrahdale.

This report has been prepared in accordance with the Western Australian Planning Commission (WAPC) Transport Assessment Guidelines for Developments: Volume 4– Individual Developments (2016) and the Transport Impact Statement (TIS) Checklist is included at Appendix A.

Specifically, this report aims to assess the operations of the proposed development internally and its connections to the adjacent road network, with a focus on traffic volumes, access and accessibility.

This report also outlines the requirements and opportunities associated with traffic and transport within the development, referencing relevant Council and WAPC policies and guidelines as well as best practice planning within Western Australia.

2 PROPOSED DEVELOPMENT

2.1 Site Location

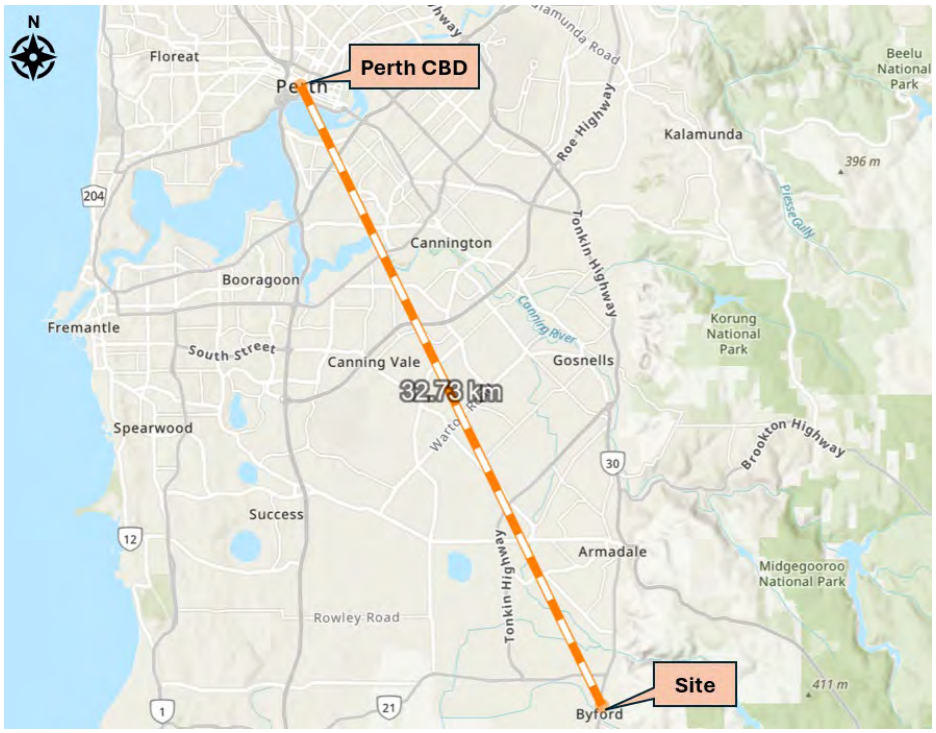
The Site is located at 830 and 834 (Lots 93 & 94) Southwestern Highway, Byford within the Shire of Serpentine-Jarrahdale as shown in **Figure 1**. The proposed development is bounded by Clara Street to the north, Southwestern Highway to the west and Raggle Lane to the east. It is situated approximately 33 kilometres southeast of Perth CBD as illustrated in **Figure 2**.

Figure 1 Site Location



Source: Metromap (2025)

Figure 2 Regional Context



Source: Main Roads WA Road Information Mapping System

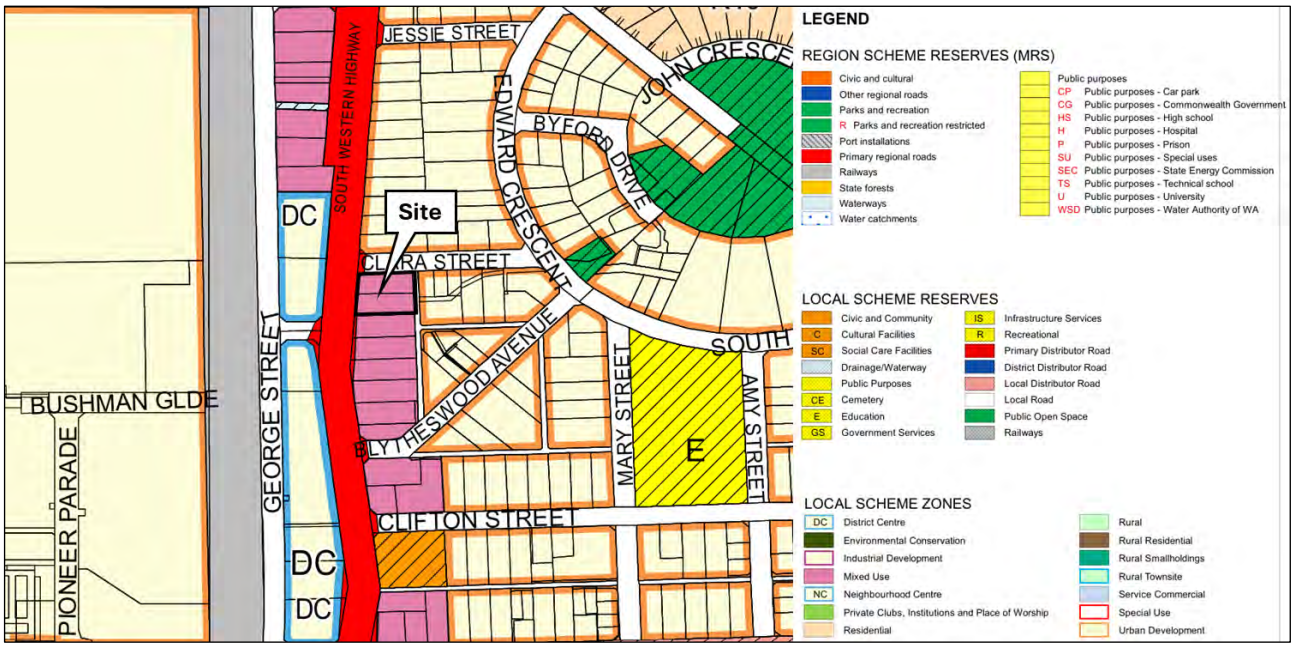
2.2 Existing Land Uses

The Site is zoned as 'Mixed Use' as per the Shire of Serpentine-Jarrahdale Local Planning Scheme No. 3. The lots currently house two (2) single storey buildings.

2.3 Context with Surrounds

The Shire of Serpentine-Jarrahdale Local Planning Scheme No. 3 characterises the Site as 'Mixed Use' as shown in **Figure 3**. Under this scheme, the surrounding land uses consist of urban development, district centres and other mixed uses.

Figure 3 Context with Surroundings



Source: Shire of Serpentine-Jarrahdale Local Planning Scheme No. 3

2.4 Proposed Land Uses

The proposed mixed-use development will consist of the following site-specific design components:

- Residential apartments
  - 23 x 2-bedroom dwellings
- Commercial building
  - 2 x 167 m^2 Offices

The ground floor plan of the proposed development is shown in **Figure 4**. Larger version is included in **Appendix B.**

Figure 4 Ground Floor Plan



Source: Klopper & Davis Architects (2025)

2.5 Major Attractors and Generators

Among the major attractors and generators within the surrounding area of the Site are the following:

- Byford Centre
- Byford train station
- ALDI grocery store
- Byford Medical Centre
- Byford Veterinary Hospital
- Byford Primary School
- Woolworths Byford Town

Figure 5 illustrates the major attractors/generators near the surrounding area of the Site.

Figure 5 Key Attractors and Generators



Source: Metromap (2025)

3 TRAFFIC VOLUMES

3.1 Development - Peak Traffic Volumes

The trip generation rates used to calculate the traffic generated by the proposed development were obtained from Transport for NSW (TfNSW) Guide to Transport Impact Assessment - Technical Guidance for Transportation Practitioners. Trip distribution percentages were taken from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition.

The trip generation rates are presented in **Table 1** and the trip distribution percentages are summarised in **Table 2**. The total estimated trips generated by the site are detailed in **Table 3**. For robustness, we have assumed low density traffic generation for the site.

Table 1 Trip Generation Rates

Land Use	Source	Yield	Unit	AM Peak	PM Peak	Daily
Residential (Low-density)	TfNSW	23 dwellings	veh. trip/ dwelling	0.68	0.77	8.12
Commercial (Office)	TfNSW	334 m^2 (GFA)	veh. trip/ 100 m^2 GFA	1.69	1.2	11.29

Table 2 Trip Distribution

Land Use	Source	AM Peak		PM Peak		Daily	
		IN	OUT	IN	OUT	IN	OUT
Residential (Low-density)	ITE 220	24%	76%	63%	37%	50%	50%
Commercial (Office)	ITE 710	88%	12%	17%	83%	50%	50%

Table 3 Total Generated Trips

Land Use	AM Peak		PM Peak		Daily	
	IN	OUT	IN	OUT	IN	OUT
Residential (Low-density)	4	12	12	7	94	94
Commercial (Office)	5	1	1	3	19	19
Total	22		23		226	

A total of 22 vehicle trips is expected to be generated in the AM peak, 23 vehicle trips during PM peak and 226 daily trips.

According to the WAPC Transport Impact Assessment Guidelines, developments generating 10-100 trips during peak periods fall under the 'moderate impact' category. Therefore, the estimated trip generation is anticipated to have only a low to moderate impact on the surrounding road network.

3.2 Types of Vehicles

Based on the proposed land use, the main types of vehicles expected to access the development will be light vehicles.

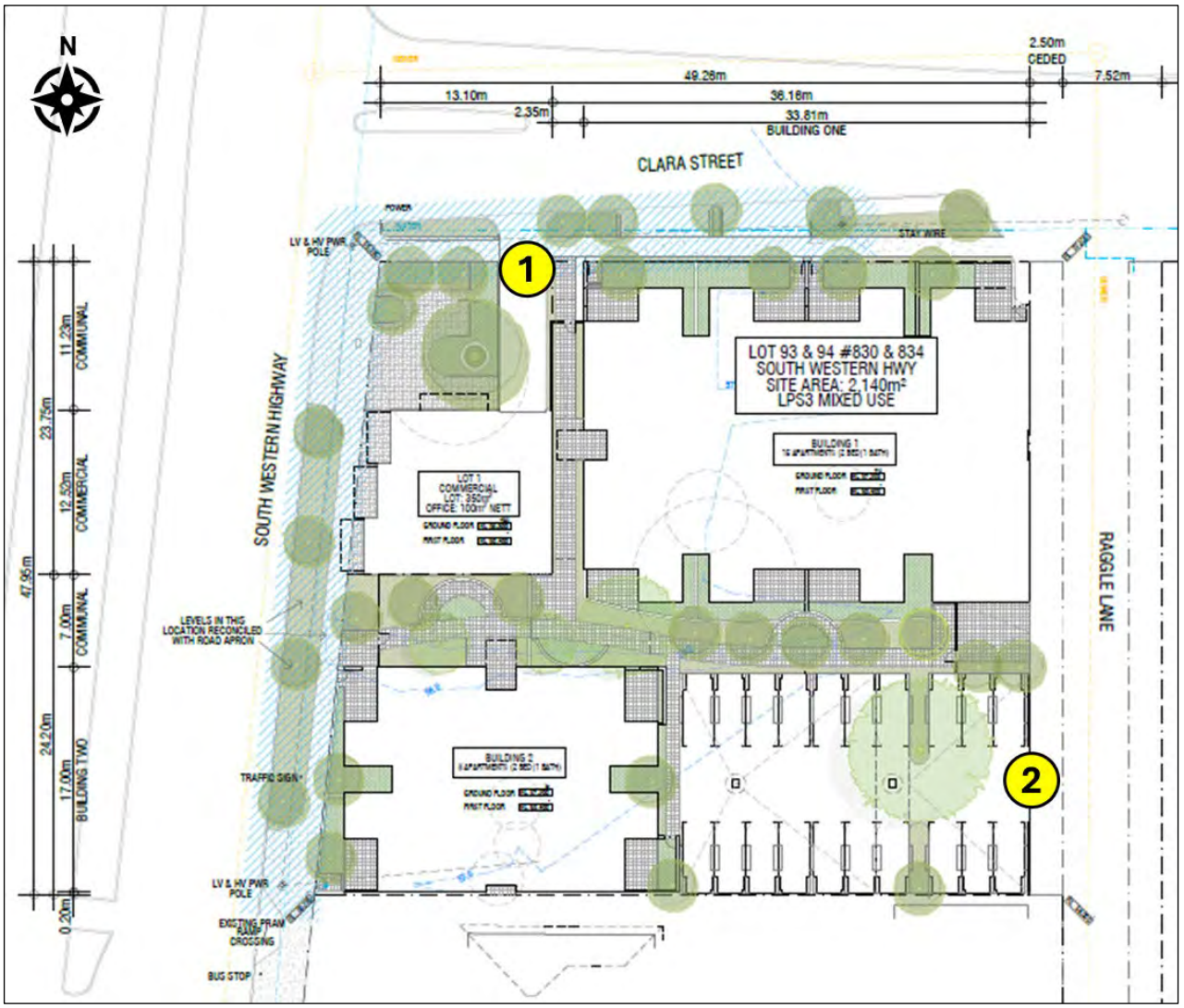
4 VEHICULAR ACCESS AND PARKING

4.1 Access Arrangements

Vehicle access to/from the Site is provided via the following locations shown in **Figure 6**:

- Access 1 – along Clara Street
- Access 2 - along Raggle Lane

Figure 6 Access Arrangements



Source: Klopper & Davis Architects (2025)

4.2 Car Parking Provision

The statutory car parking requirements for the residential component are set out in the State Planning Policy 7.3 Residential Design Codes Volume 2 – Apartments and the car parking requirements specified in the Shire of Serpentine-Jarrahdale Local Planning Scheme No. 3 were considered in the assessment of the car parking allocation for the proposed development.

The parking requirements and provisions are summarised in **Table 4**.

Table 4 Car Parking Requirements and Provisions

Land Use	Yield	Requirements	Parking Required	Parking Provision	Surplus / Shortfall
Residential	23 dwellings	1 bay per dwelling for 2+ bedroom dwellings	23	23	0
	Visitor Parking	1 bay per four dwellings up to 12 dwellings	4	3	-2
		1 bay per eight dwellings up to 13th dwelling and above	1		
Commercial (Office)	177 m^2 NLA	1 bay per 40 m^2 NLA	5	2	-3
Total			**33**	**28**	**-5**

Source: SPP 7.3 R Codes Volume 2 – Apartments and Shire of Serpentine-Jarrahdale LPS 3

A total of 28 car parking bays are proposed for the mixed-use development, consisting of 26 bays allocated to the residential component and 2 bays allocated to the commercial tenancies. Based on the applicable parking requirements, this results in a shortfall of 2 residential visitor bays and 3 commercial bays.

Despite this shortfall, the overall parking provision is not expected to present any significant issues. The Site is located in a highly accessible area with public transport services including the Byford train station situated nearby, offering convenient travel options for both residents and visitors. The Site is also within comfortable walking distance of several local shopping centres and services, reducing the need for private vehicle use. These factors collectively support the reduced parking demand and help mitigate the identified shortfall.

4.3 Bicycle Parking Provision

The required bicycle parking spaces specified in the State Planning Policy 7.3 Residential Design Codes Volume 2 – Apartments and Shire of Serpentine-Jarrahdale Local Planning Scheme No. 3 are detailed in **Table 5.**

Table 5 Bicycle Parking Requirements and Provisions

Land Use	Yield	Requirements	Parking Required	Parking Provision	Surplus / Shortfall
Residential	23 dwellings	0.5 bay per dwelling	12	36	19
	Visitor Parking	1 bay per 10 dwellings	3		
Commercial (Office)	177 m^2 NLA	Staff: 1 bay per 200 m^2 NLA Visitors: 1 bay per 750 m^2 NLA	1		
Total			17	36	19

Source: SPP 7.3 R Codes Volume 2 – Apartments and Shire of Serpentine-Jarrahdale LPS 3

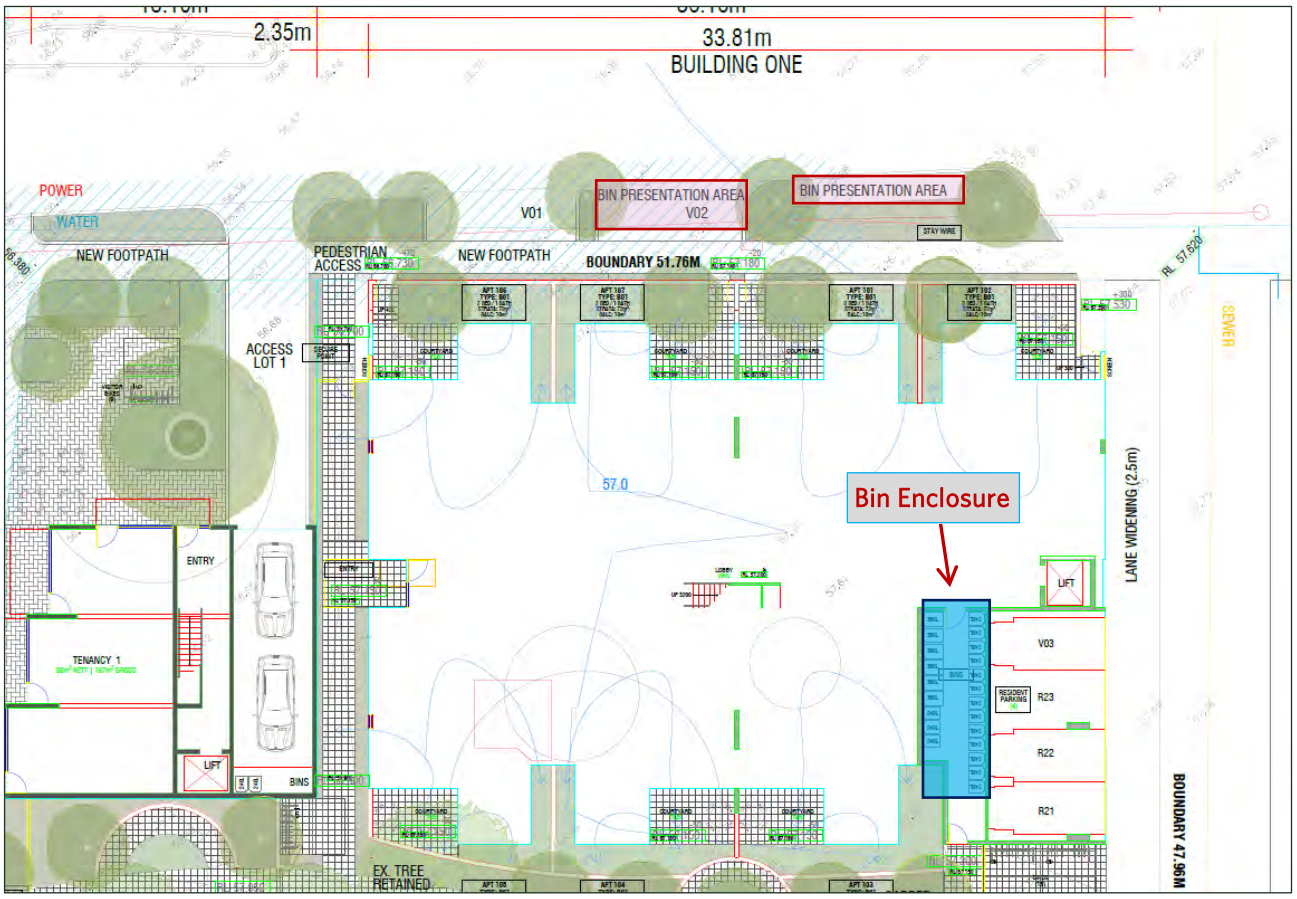
Results of the bicycle parking assessment show that the proposed development will provide more bicycle parking spaces than the minimum required.

5 SWEPT PATHS

5.1 Waste Collection

Waste collection is proposed to be undertaken along the verge of Clara Street as illustrated in **Figure 7**. The Facility Manager/staff will ferry the bins from the allocated bin enclosures and position it on the bin presentation area located beside the visitor parking bays. Once the waste has been collected, staff will promptly return the bins to the bin enclosures to maintain clean and orderly premises.

Figure 7 Bin Enclosure and Presentation Area



5.2 On/Off-Site Loading Facilities

No loading and unloading activity are expected in the proposed development.

5.3 Vehicle Swept Paths

A swept path analysis was undertaken for the proposed residential development using the B85 & B99 design vehicle entering and exiting the parking bays as shown in **Figure 8**. Larger version is provided in Appendix C.

Figure 8 Swept Path – B85 Parking (around retained tree)

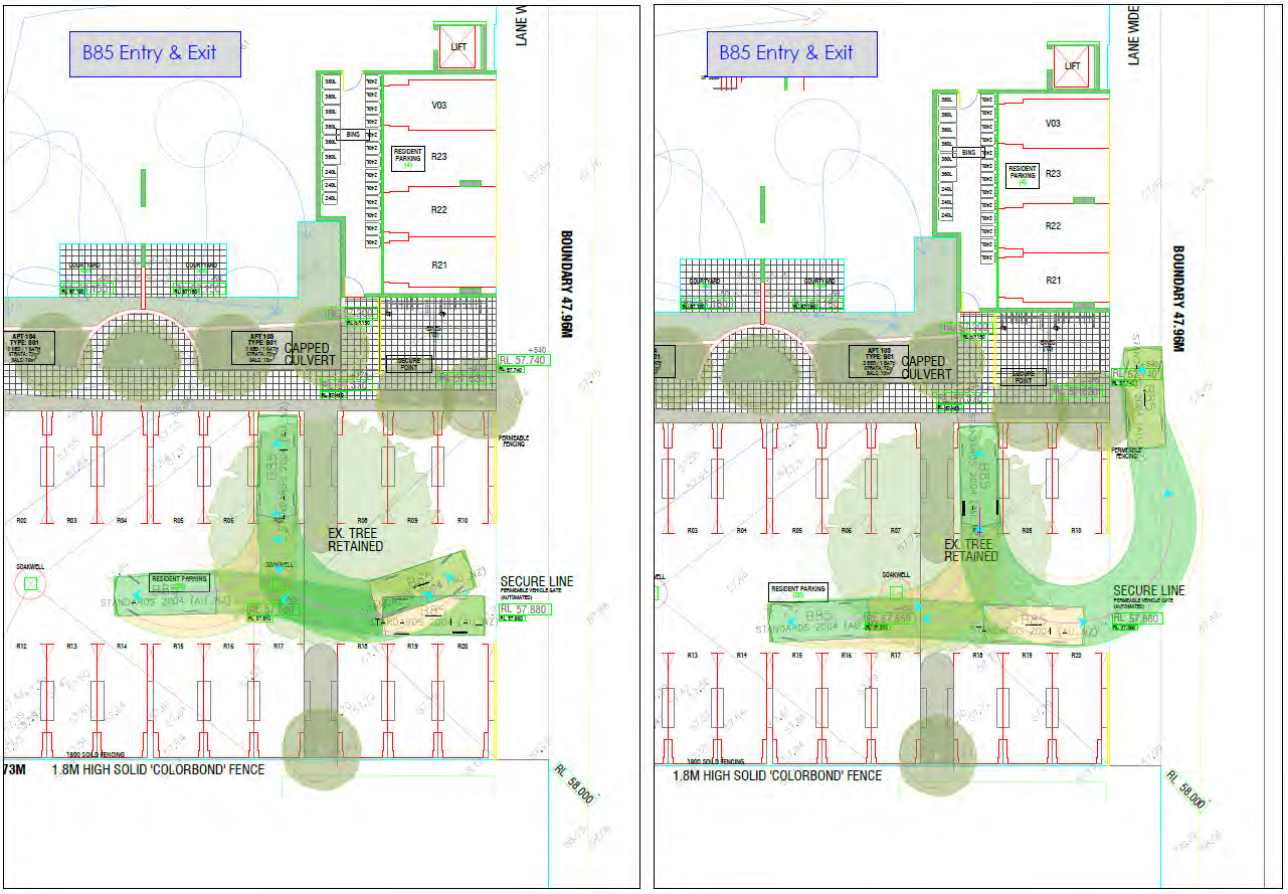


Figure 9 Swept Path – B85 Parking (Raggle lane)

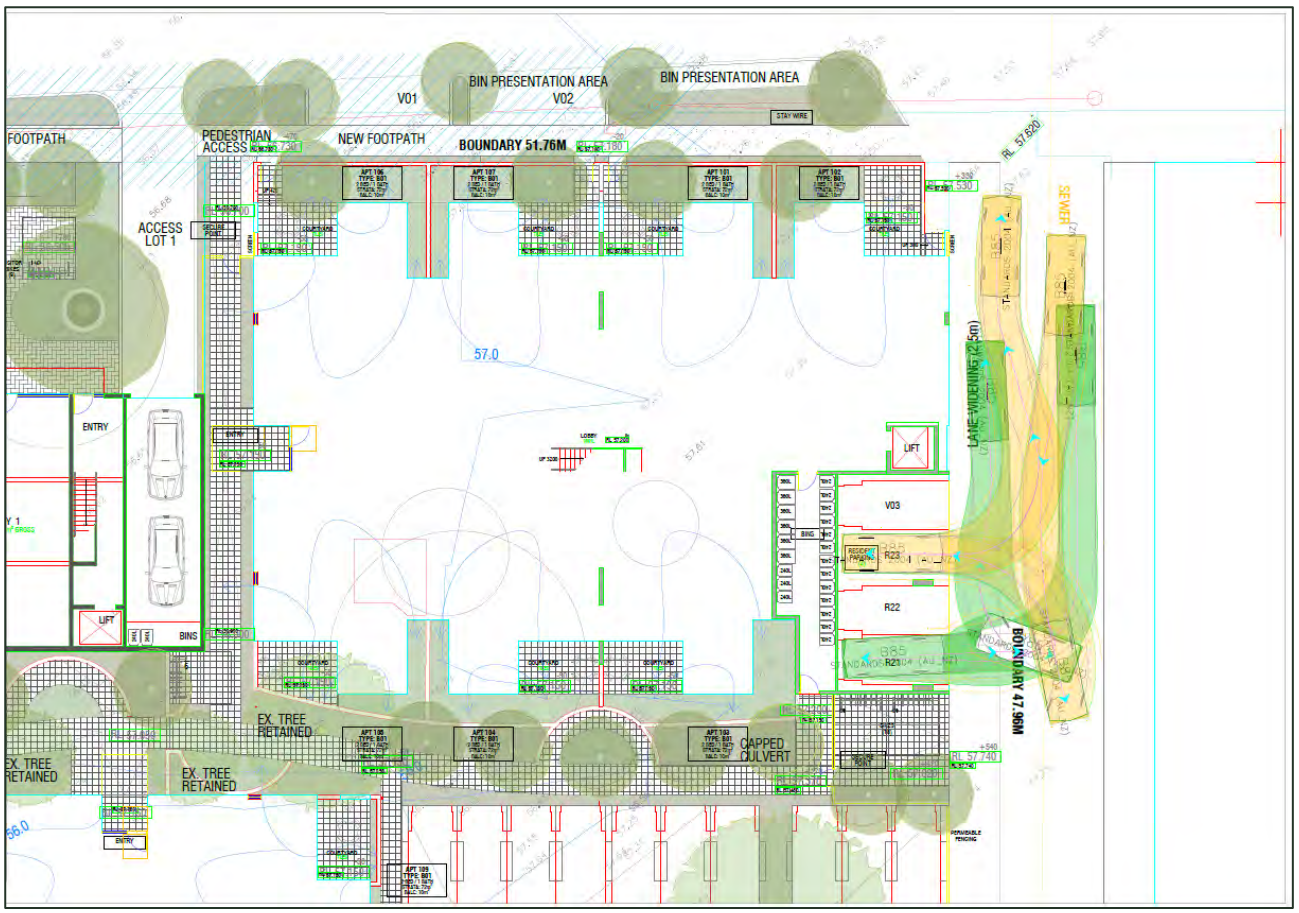


Figure 10 Swept Path – B85 Parking (End bays)

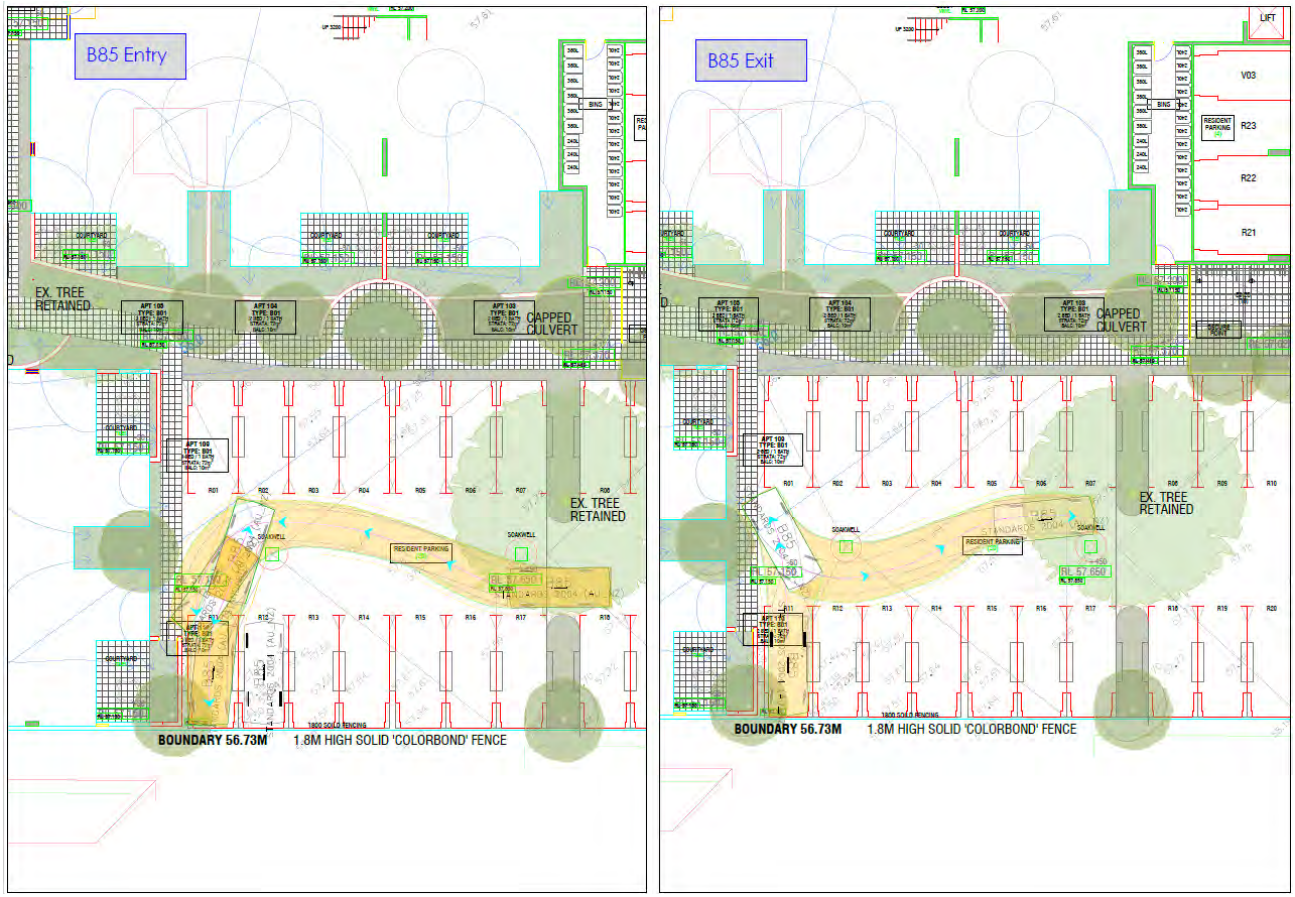
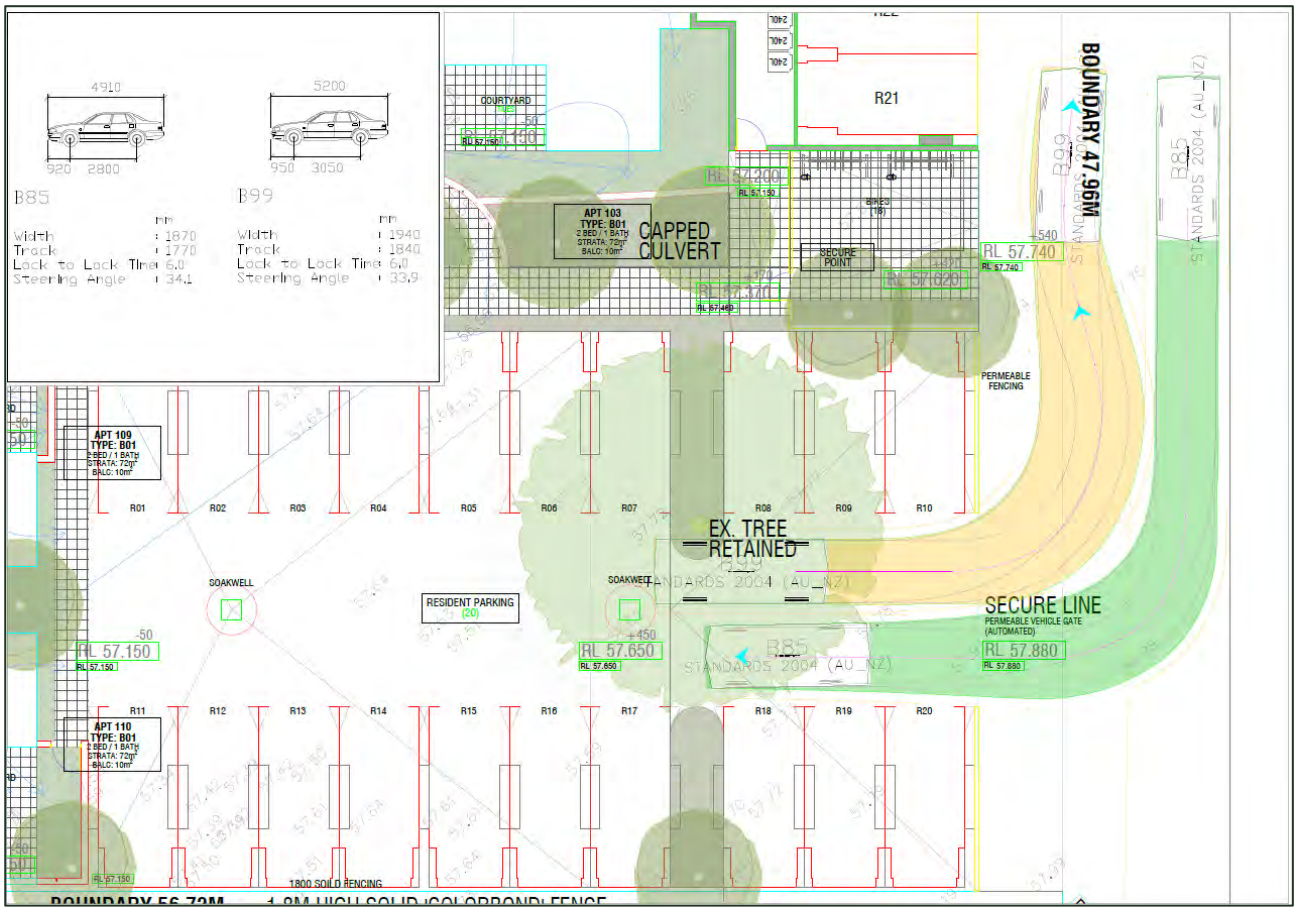


Figure 11 Swept Path - B85 & B99 Circulation



6 TRAFFIC MANAGEMENT ON FRONTAGE STREETS

6.1 Existing Road Network and Traffic Management

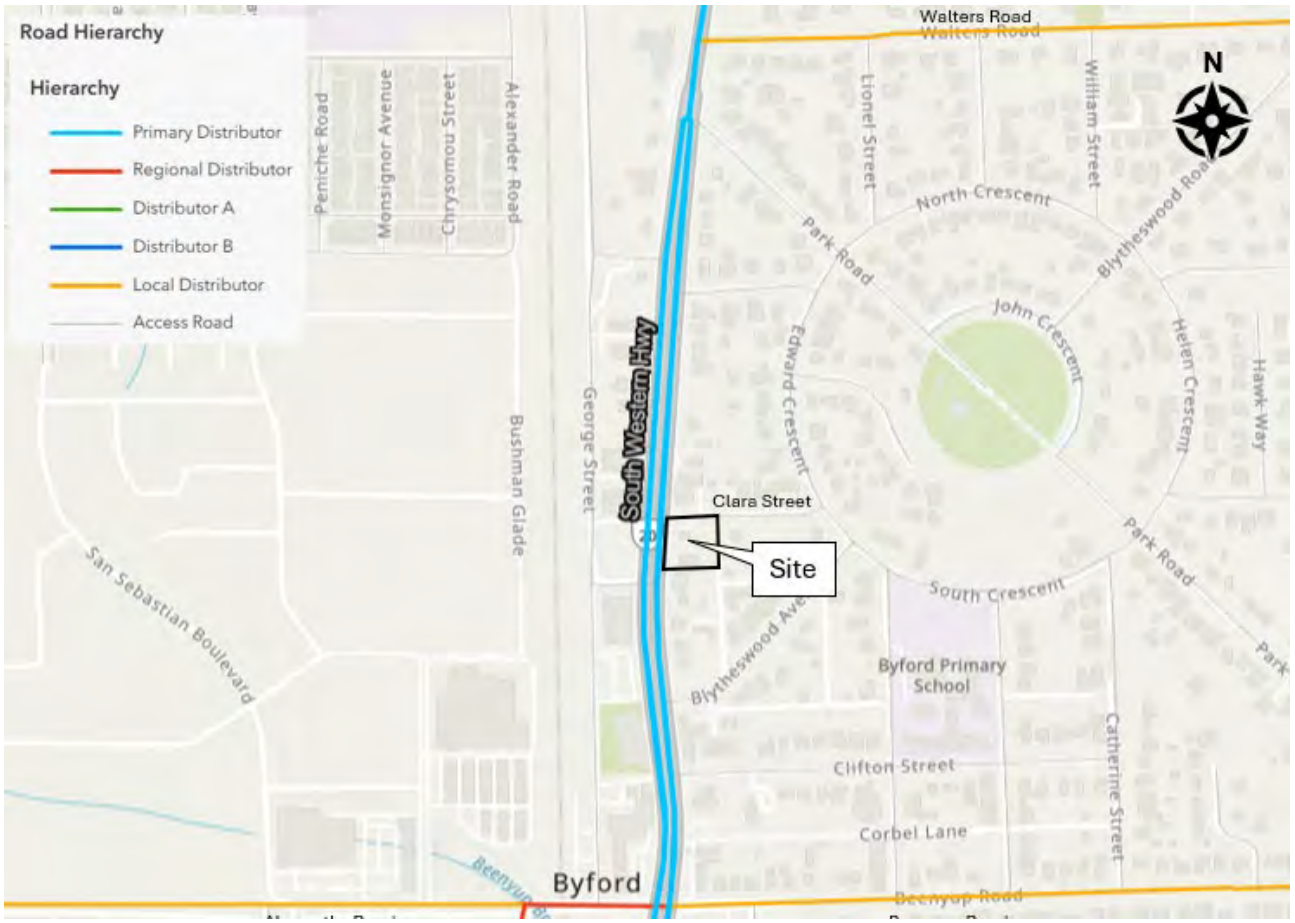
The road network within Western Australia is defined by Main Roads WA Road Hierarchy which describes the function, characteristic and management of each type of road. A description of each road type as per Main Roads WA Road Hierarchy criteria is summarised in **Table 6** below.

Table 6 Road Hierarchy Description

Road Type	Description
Primary Distributors	Provide for major regional and inter-regional traffic movement and carry large volumes of generally fast-moving traffic. Some are strategic freight routes and all are State Roads. They are managed by Main Roads Western Australia.
District Distributor A	Carry traffic between industrial, commercial and residential areas and generally connect to Primary Distributors. These are likely to be truck routes and provide only limited access to adjoining property. They are managed by local government.
District Distributor B	Perform a similar function to type A District Distributors but with reduced capacity due to flow restrictions from access to and roadside parking alongside adjoining property. These are often older roads with a traffic demand in excess of that originally intended. District Distributor A and B roads run between land-use cells and generally not through them, forming a grid which would ideally space them around 1.5 kilometres apart. They are managed by local government.
Regional Distributor	Roads that are not Primary Distributors but which link significant destinations and are designed for efficient movement of people and goods within and beyond regional areas. They are managed by local government.
Local Distributor (Urban)	Roads that carry traffic within a cell and link District Distributors or Regional Distributors at the boundary, to access roads. The route of Local Distributors should discourage through traffic so that the cell formed by the grid of District Distributors only carries traffic belonging to or serving the area. These roads should accommodate buses but discourage trucks. Urban Local Distributor roads are managed by local government.
Local Distributor (Rural)	Connect to other Rural Distributors and to Rural Access Roads. Not Regional Distributors, but which are designed for efficient movement of people and goods within regional areas. Rural Local Distributor roads are managed by local government.
Access Roads	Provide access to abutting properties with amenity, safety and aesthetic aspects having priority over the vehicle movement function. These roads are bicycle and pedestrian friendly. They are managed by local government.

Figure 12 shows the road hierarchy network and **Table 7** provides a summary of the road characteristics of the surrounding road network.

Figure 12 Road Hierarchy



Source: Main Roads WA Road Information Mapping System

Table 7 Surrounding Network Road Hierarchy

Road Name	Road Hierarchy	Jurisdiction	No. of footpaths	No. of Lanes	Road Pavement Approximate Width (m)	Speed Limit (km/hr)
South Western Highway	Primary Distributor	MRWA	2 (until north of Beenyup Road)	4	19.6 (including 4.5m median)	60
Walters Road	Local Distributor	Local Government	1	2	7.0	50
Beenyup Road	Local Distributor	Local Government	1	2	6.7	50
Clara Street	Access Road	Local Government	1	2	6.8	50
Blytheswood Avenue	Access Road	Local Government	1	2	7.5	50
Raggle Lane	Laneway	Local Government	-	2	9.1	50

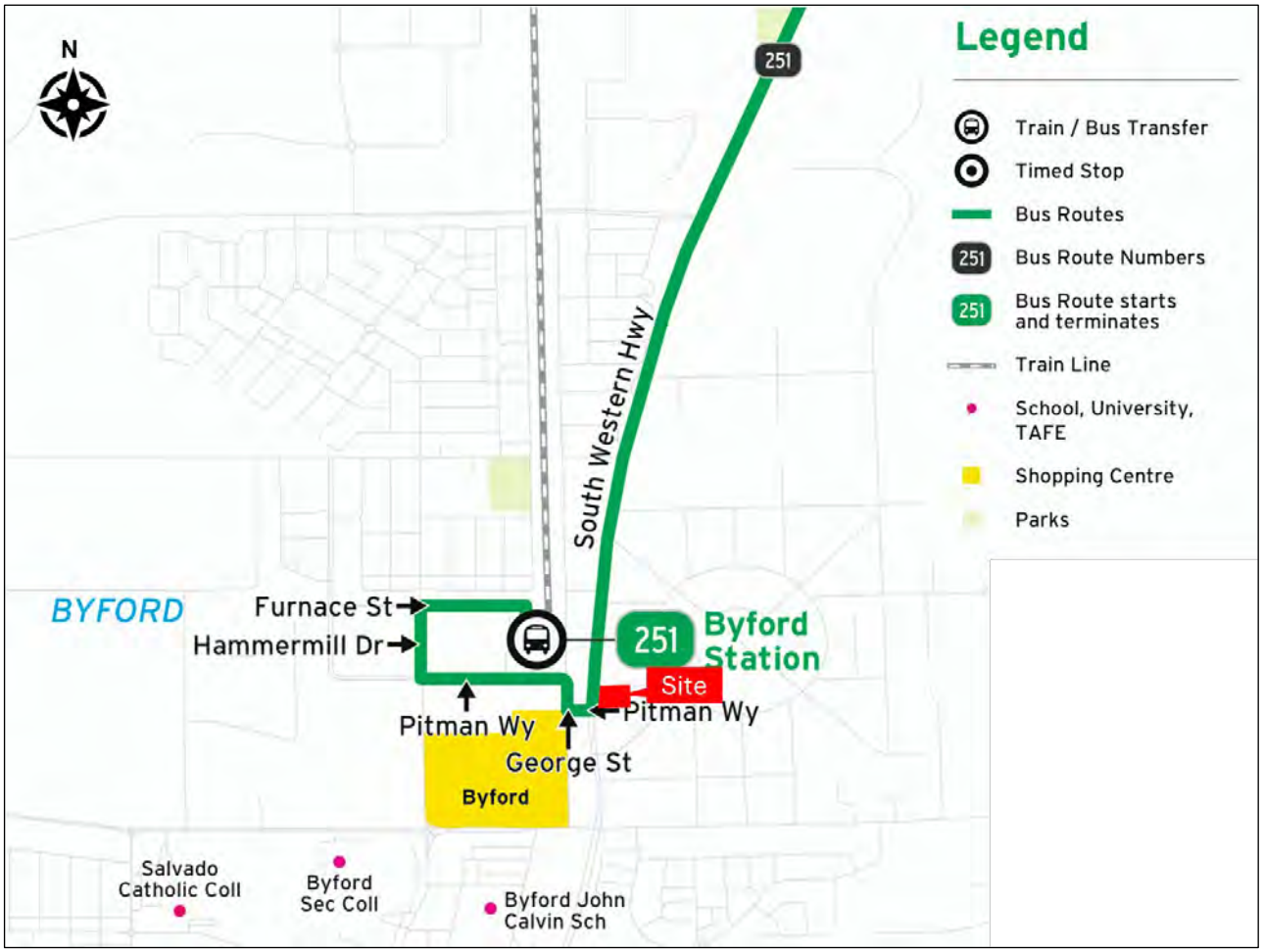
Source: Main Roads WA Road Information Mapping System & Metromap

7 PUBLIC TRANSPORT ACCESS

7.1 Existing Public Transport Services

Transperth's bus route 251 is the closest service from the Site, which operates between Armadale Station and Byford Station via South Western Highway. **Figure 13** shows the bus route and **Table 8** details the service frequency.

Figure 13 Existing Bus Route



Source: Transperth

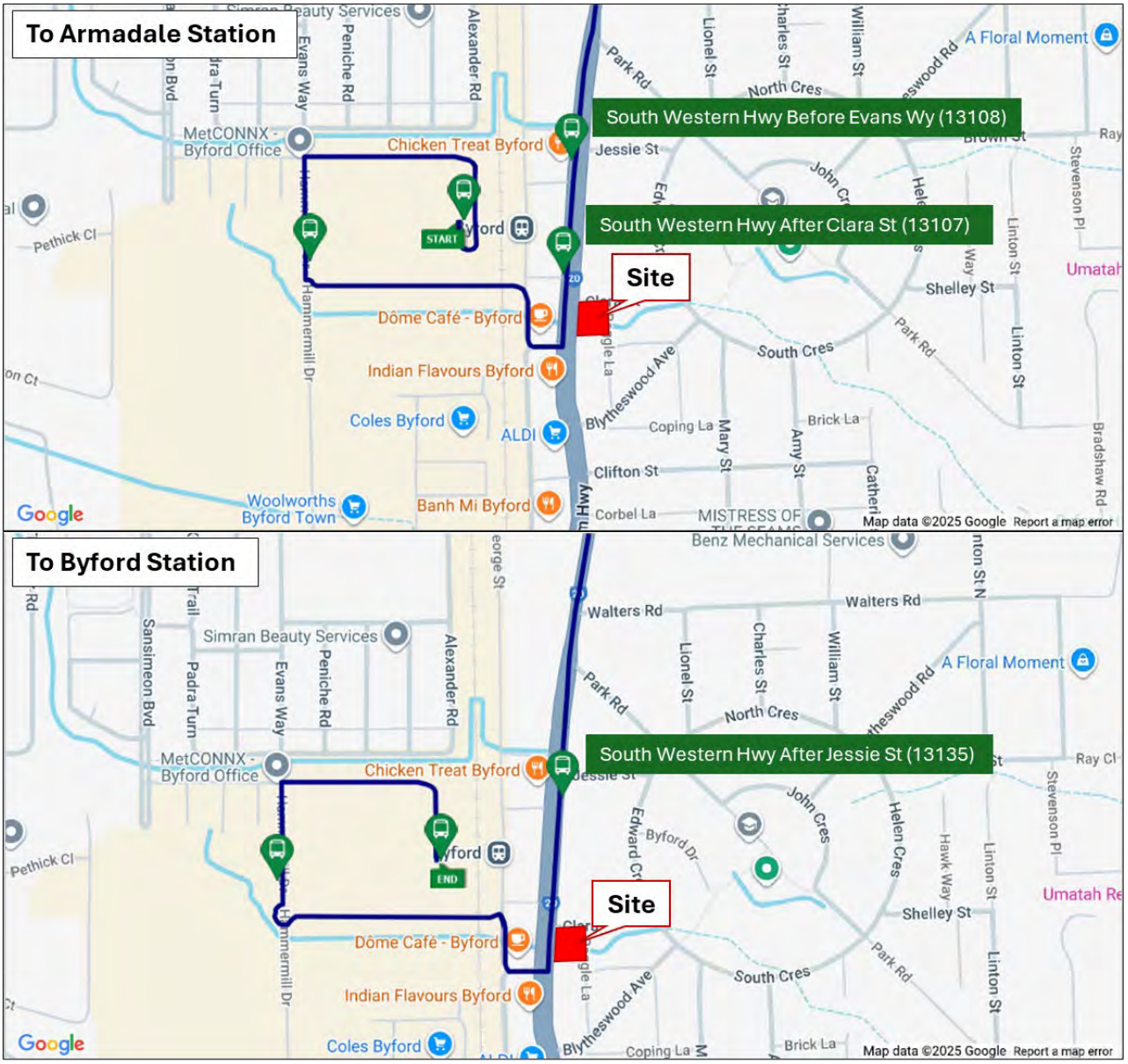
Table 8 Bus Service Route and Frequencies

Bus Route	Route Description	Service Frequencies		
		Weekdays	Saturdays	Sundays & Public Holidays
251	Armadale Station - Byford Station via South Western Highway	every 30 minutes during peak hour	every 60 minutes	

7.2 Nearest Bus Stops/Train Stations

The nearest train station from the Site is the Byford Station located approximately 120m to the west of the edge of the Site. Transperth's bus route 251 operates through Byford Station. The nearest bus stops from the Site are found along Southwestern Highway located 90m to the north of site as shown in **Figure 14**.

Figure 14 Location of Nearest Bus Stops Train Station



Source: Transperth/ Google maps

7.3 Pedestrian/Cycle Links to Bus Stops/Train Stations

The bus stops along South Western Highway is accessible via existing footpaths on both sides of the road. A pedestrian crossing is also conveniently located at the South Western Highway / Pitman Way to reach the Byford train station.

7.4 Future Public Transport Facilities

PTG contacted the Public Transport Authority and was informed that there are no short to medium-term public transport changes proposed to the surrounding area within the vicinity of the Site. According to Transperth, the Byford area routes recently underwent changes to coincide with the opening of the Byford rail extension. No plans have been proposed to substantially change the frequency or operating hours of the route as it is operating largely along a low density/ low activity route.

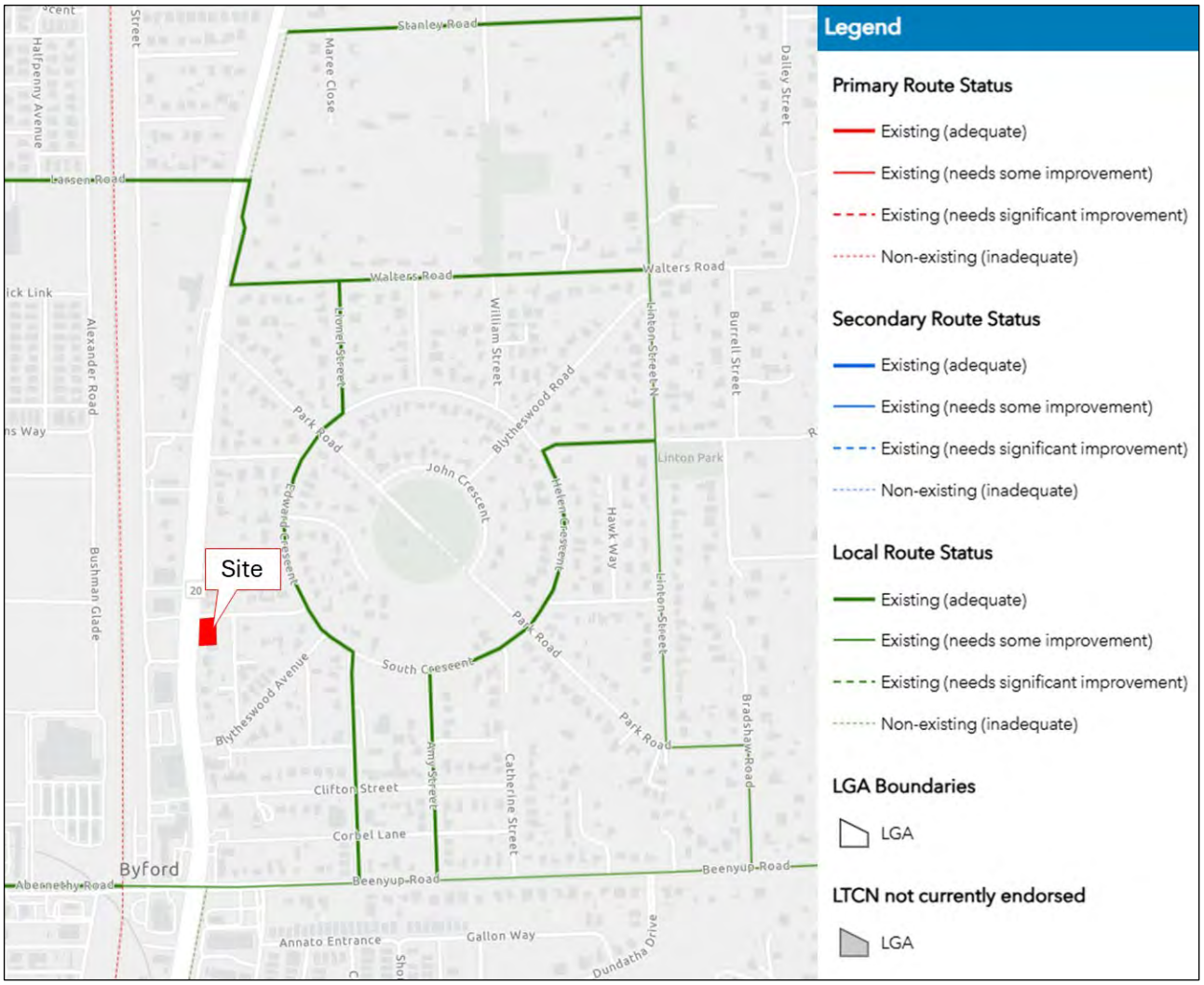
8 PEDESTRIAN AND CYCLE ACCESS/FACILITIES

8.1 Existing Pedestrian/Cycle Facilities on Surrounding Roads

Pedestrian footpaths are provided along South Western Highway.

Figure 15 shows existing status of the Perth and Peel Long-Term Cycle Network. Cycling facilities at the east of Alexander Road and Bushman Glade (primary route) is currently non-existing (inadequate) and the section of South Western Highway from Stanley Road to Larsen Road (local route) is also currently marked as non-existing (inadequate).

Figure 15 Existing Pedestrian and Cycle Facilities

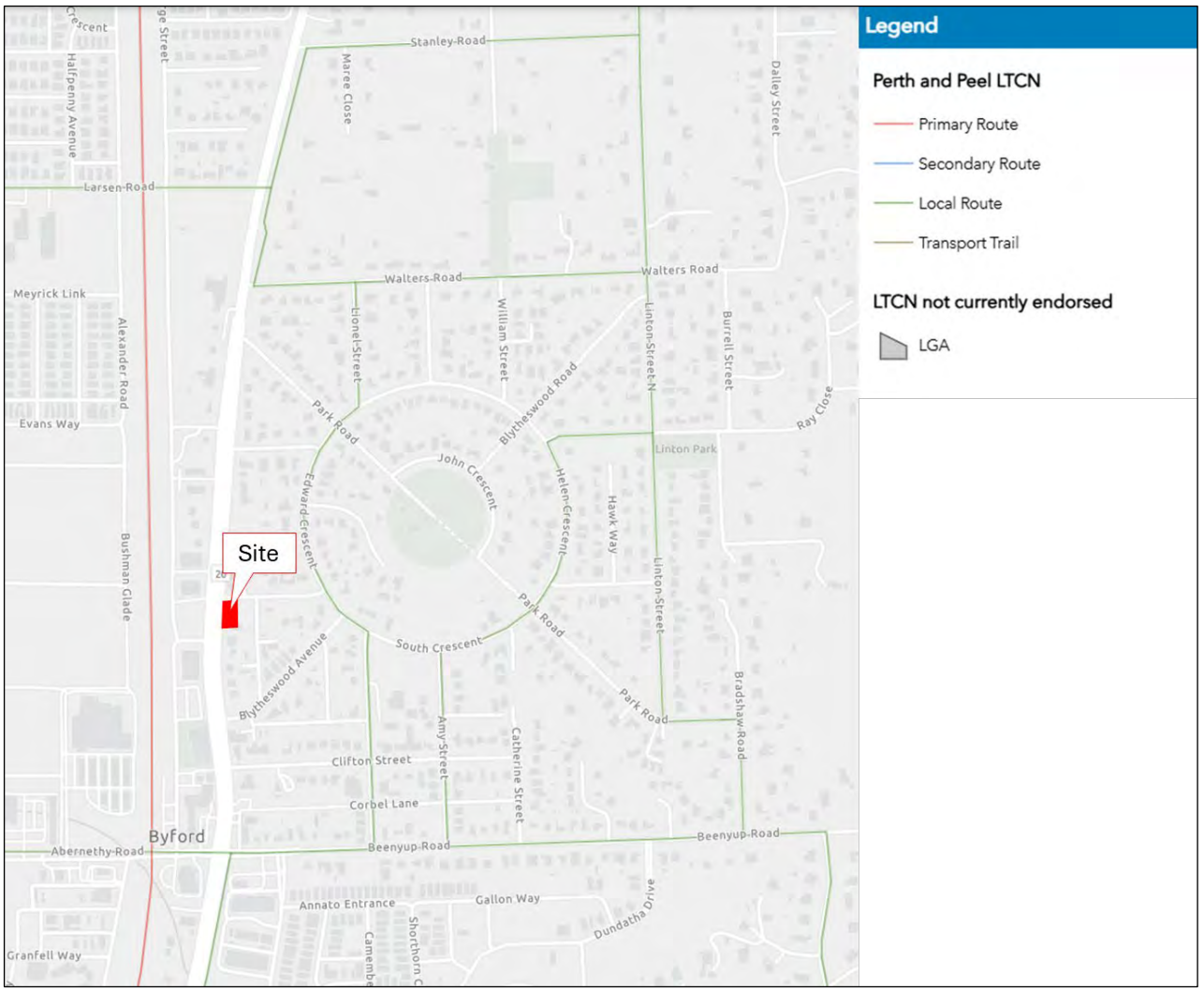


Source: Perth and Peel Long-Term Cycle Network

8.2 Proposals to Improve Pedestrian/Cycle Access

Figure 16 shows the ultimate pedestrian and cycle paths as observed in the LTCN Map. The road at the east of Alexander Road and Bushman Glade is classified as a primary route and the section of South Western Highway from Stanley Road to Larsen Road is classified as a local route.

Figure 16 Long-Term Cycle Network Map



Source: Perth and Peel Long-Term Cycle Network

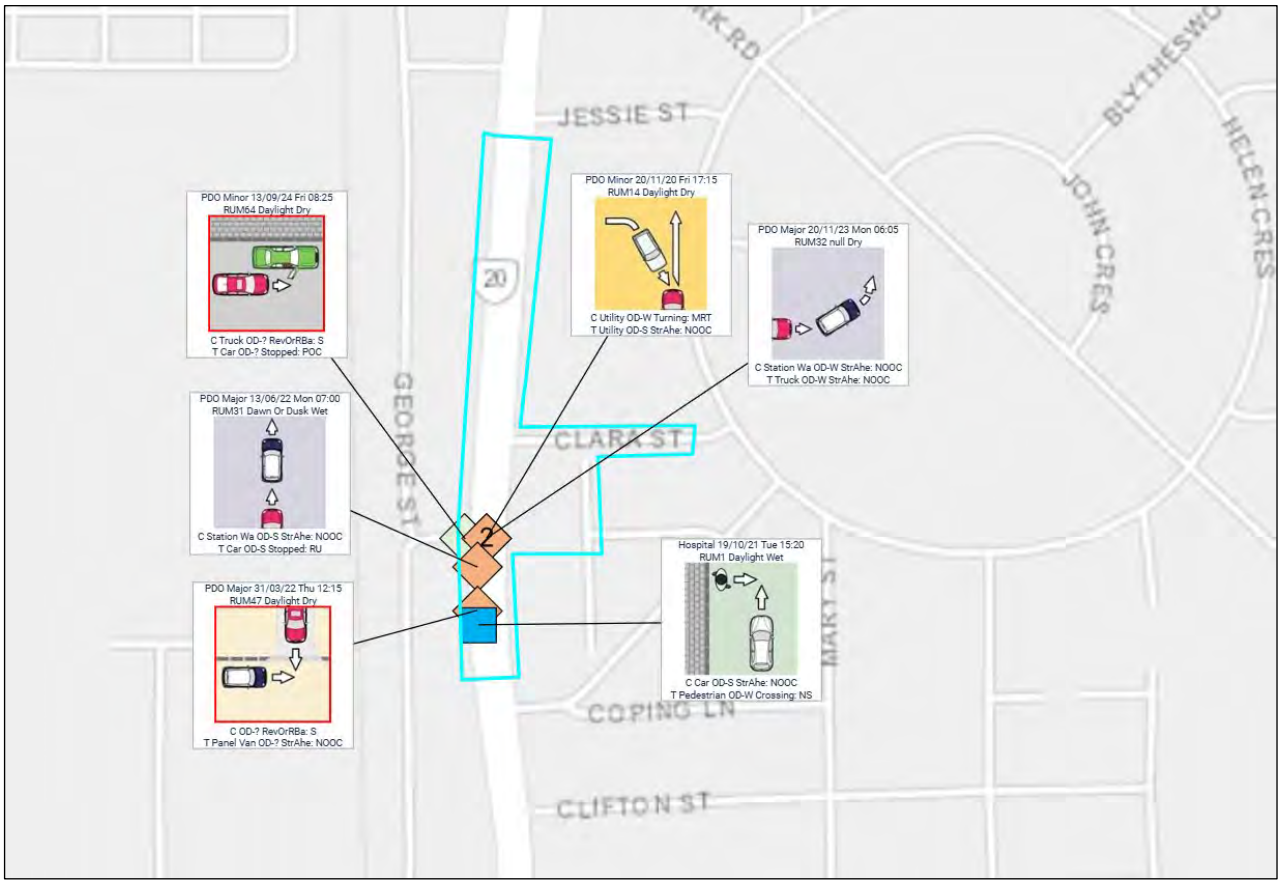
9 SITE SPECIFIC ISSUES

9.1 Crash Assessment

A crash assessment for the surrounding road network of the Site has been completed using Main Roads WA Reporting Centre. The assessment covers all the recorded crashes for the 5-year period between 1 January 2020 to 31 December 2024.

The crash locations and severity of these crashes are illustrated in **Figure 17**. A summary of all crashes that occurred within the vicinity of the Site is provided in **Table 9**.

Figure 17 Crash Locations



Source: Main Roads WA Reporting Centre

Table 9 Total Crashes

Crash Nature	Fatal	Hospital	Medical	PDO Major	PDO Minor	Total Crashes
South Western Highway / Pitman Way Intersection						
Rear End	-	-	-	1	-	1
Right Angle	-	-	-	-	1	1
Sub-total	**-**	**-**	**-**	**1**	**1**	**2**
South Western Highway Midblock						
Hit Pedestrian	-	1	-	-	-	1
Rear End	-	-	-	1	-	1
Right Angle	-	-	-	1	-	1
Sub-total	-	**1**	-	**2**	-	**3**
Pitman Way Midblock						
Sideswipe Same Direction	-	-	-	-	1	1
Sub-total	-	-	-	-	**1**	**1**
Total	-	**1**	-	**3**	**2**	**6**

Crash data is summarised as follows:

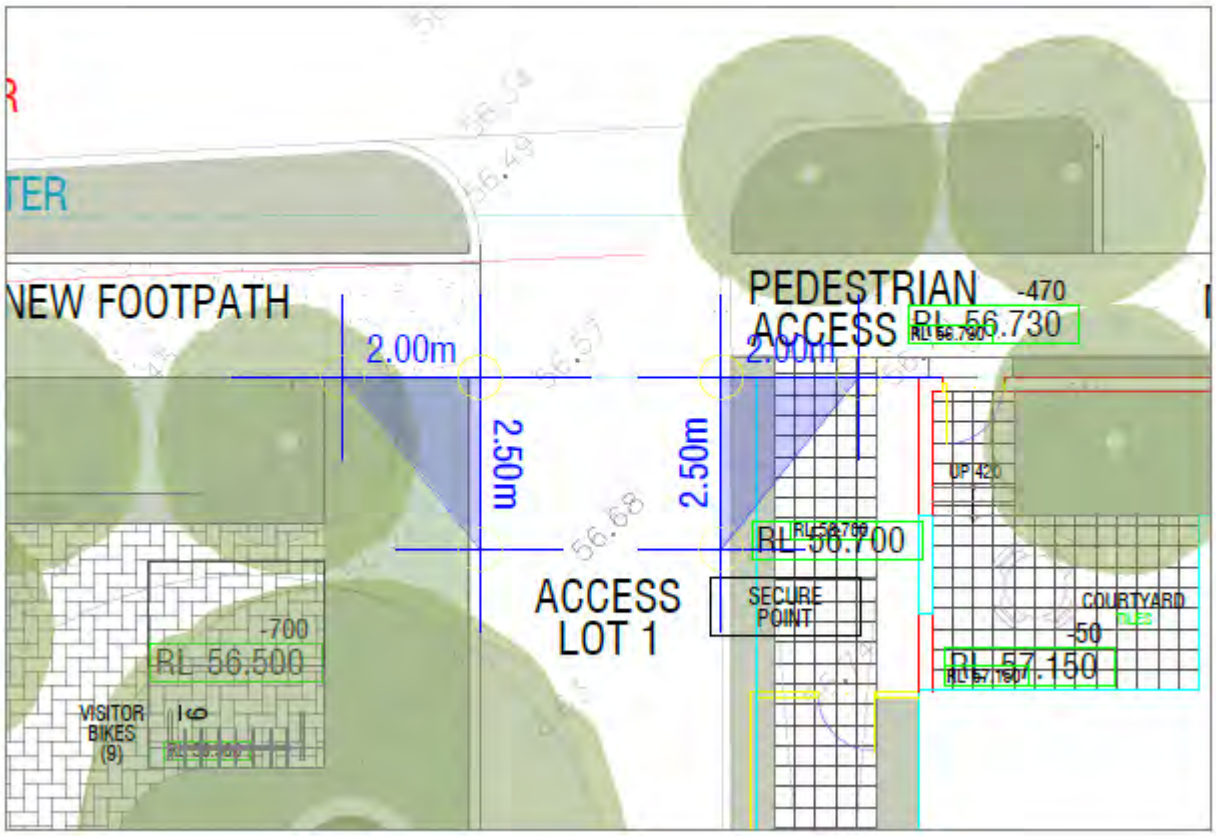
- A total of six (6) crashes were recorded within the vicinity of the Site, with no fatal crashes recorded.
- Most of the road crashes (83%) resulted to major and minor property damages.
- One (1) recorded crash along South Western Highway involving a pedestrian resulted to hospitalisation.
- Two (2) crashes were reported at the South Western Highway / Pitman Way intersection, with each crash resulting to major and minor property damages.
- Three (3) crashes were recorded at the South Western Highway midblock, and one (1) crash was reported at the Pitman Way midblock.
- Primary causes of the crashes were identified to be rear end and right angle collisions.

Overall, given the low expected traffic generation, it is not expected that the proposed development will have a significant impact on road safety in the area.

9.2 Pedestrian Sightline

An assessment of pedestrian sightlines along the frontage of the proposed site on Clara Street was undertaken in accordance with AS2890.1:2004 Parking Facilities: Off-street Car Parking. **Figure 18** shows the sightline assessments near the proposed crossover. Clear sight lines shall be provided at the property line to ensure adequate visibility between vehicles leaving the commercial tenancies carpark driveway and pedestrians on the frontage road footpath. A sight triangle of 2.5 x 2m should be provided at the property boundary and the area should be kept clear of obstructions.

Figure 18 Pedestrian Sightline



10 SUMMARY AND CONCLUSIONS

This report has been prepared in accordance with the Western Australian Planning Commission (WAPC) Transport Assessment Guidelines for Developments: Volume 4 – Individual Developments (2016); the checklist is included in Appendix A.

The following conclusions can be drawn from this TIS:

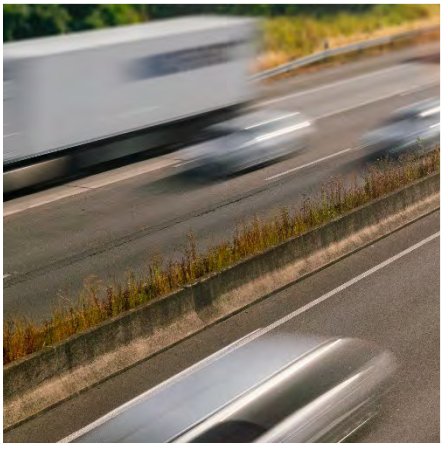
- The Site is located at 830 and 834 (Lots 93 & 94) Southwestern Highway, Byford within the Shire of Serpentine-Jarrahdale, approximately 33km southeast of the Perth CBD.
- The proposed development consists of 23 residential apartments and a commercial building with two tenancies.
- The proposed development is expected to generate approximately 22 vehicle trips during the AM peak, 23 vehicle trips in the PM peak and 226 daily trips.
- Based on the applicable parking requirements, the development has a shortfall of 2 residential visitor bays and 3 commercial bays.
- Bus Route 251 which operates between Armadale Station and Byford Station via Southwestern Highway and the nearest stop is located 90m north of the Site. Byford Station is also located approximately 120m to the west of the edge of the Site.
- A swept path analysis confirmed that the on-site layout can accommodate B85 and B99 design vehicles entering and exiting parking areas with no adverse operational impacts anticipated.
- A total of six (6) crashes were recorded within the vicinity of the Site over the past five years with rear end and right-angle collisions being the primary cause of crashes at intersections and midblock.

Overall, it is not expected that the proposed development will have an adverse impact on road safety or traffic operations in the surrounding area.



Appendix A

WAPC CHECKLIST





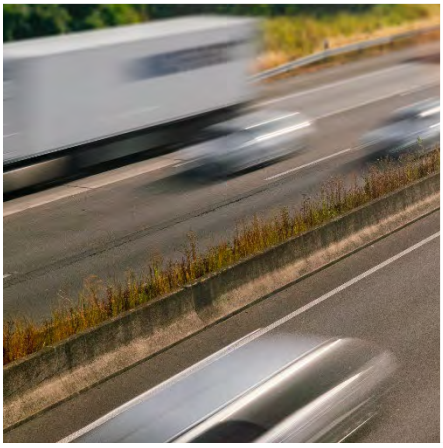
APPENDIX A

Item	Status	Comments/Proposal
Proposed Development	**Section 2**	
existing land uses	Section 2.2	
proposed land uses	Section 2.3	
context with surrounds	Section 2.4	
Traffic volumes	**Section 3**	
daily or peak traffic volumes	Section 3.1	
type of vehicles (eg cars, trucks)	Section 3.2	
Vehicular access and parking	**Section 4**	
access arrangements	Section 4.1	
public, private, disabled parking set down/pick up	Section 4	
Swept Paths	**Section 5**	
waste collection	Section 5.1	
on/off-site loading facilities	Section 5.2	
swept path analysis	Section 5.3	
Traffic management on frontage streets	**Section 6**	
Public transport access	**Section 7**	
existing public transport services	Section 7.1	
nearest bus stops/train stations	Section 7.2	
pedestrian/cycle links to bus stops/ train station	Section 7.3	
future public transport facilities	Section 7.4	
Pedestrian and Cycle access/facilities	**Section 8**	
existing pedestrian and cycle networks	Section 8.1	
proposed pedestrian and cycle facilities within the development	Section 8.2	
existing pedestrian and cycle facilities on surrounding roads	Section 8.3	
proposals to improve pedestrian and cycle access	Section 8.4	
Site specific issues	**Section 9**	
Summary	**Section 10**	



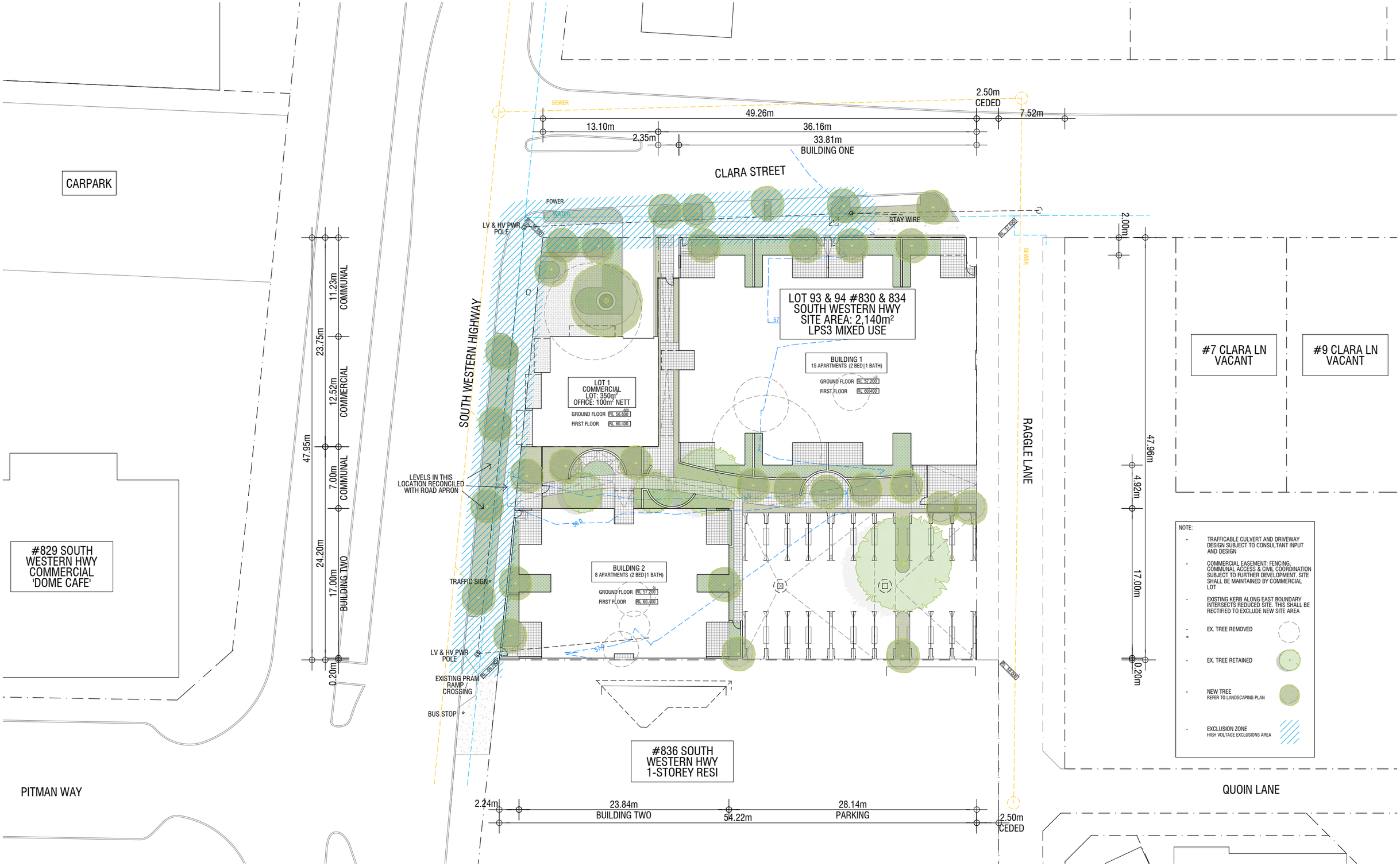
Appendix B

SITE PLAN





APPENDIX B



KLOPPER & DAVIS ARCHITECTS

KLOPPER & DAVIS ARCHITECTS

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ISSUE NUMBER				ISSUE NUMBER			
				U	10-11-25	CLIENT ISSUE
				T	24-10-25	CLIENT ISSUE
				S	08-10-25	CONSULTANT ISSUE
				R	04-09-25	DESIGN UPDATE

PROJECT: CLARA STREET RESIDENCES

CLIENT: SPINNAKER DEVELOPMENTS

ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

DWG: LOCATION PLAN

STAGE: DEVELOPMENT APPLICATION

SCALE: 1:400

JOB #: 2422

DWG: A101

ISSUE U

NOTE:

- TRAFFICABLE CULVERT AND DRIVEWAY DESIGN SUBJECT TO CONSULTANT INPUT AND DESIGN
- COMMERCIAL EASEMENT: FENCING, COMMUNAL ACCESS & CIVIL COORDINATION SUBJECT TO FURTHER DEVELOPMENT. SITE SHALL BE MAINTAINED BY COMMERCIAL LOT
- EXISTING KERB ALONG EAST BOUNDARY INTERSECTS REDUCED SITE. THIS SHALL BE RECTIFIED TO EXCLUDE NEW SITE AREA
- EX. TREE REMOVED
- EX. TREE RETAINED
- NEW TREE
  REFER TO LANDSCAPING PLAN
- EXCLUSION ZONE
  HIGH VOLTAGE EXCLUSIONS AREA

NEW FOOTPATH
PEDESTRIAN ACCESS RL 56.730
NEW FOOTPATH
BOUNDARY 51.76M
STAY WIRE
LV & HV PWR POLE
RL 56.380
EXISTING FOOTPATH
ACCESS LOT 1
RL 56.700
SECURE POINT
RL 56.500
VISITOR BIKES (3)
RL 57.530
RL 57.620
SEWER
LANE WIDENING (2.5m)
COURTYARD TILES
RL 57.150
UP 430
UP 380
RL 57.180
RL 57.150
57.0
ENTRY
GROUND FLOOR RL 57.200
FIRST FLOOR RL 60.400
GROUND FLOOR RL 56.600
FIRST FLOOR RL 60.400
RL 56.900
RL 57.050
EX. TREE RETAINED
EX. TREE RETAINED
EX. TREE RETAINED
CAPPED CULVERT
RL 57.200
BIKES (18)
RL 57.740
RL 57.370
RL 57.620
BOUNDARY 47.96M
PERMEABLE FENCING
RL 56.390
SURVEY NAIL RL 56.420
BOUNDARY 48.22M
56.0
R01 R02 R03 R04 R05 R06 R07 R08 R09 R10
R11 R12 R13 R14 R15 R16 R17 R18 R19 R20
SOAKWELL
RESIDENT PARKING (20)
SOAKWELL
RL 57.650
SECURE LINE
PERMEABLE VEHICLE GATE (AUTOMATED)
RL 57.880
TRAFFIC SIGN
BUS STOP
LV & HV PWR POLE
RL 56.790
GROUND FLOOR RL 57.200
FIRST FLOOR RL 60.400
57.0
BOUNDARY 56.73M
1.8M HIGH SOLID 'COLORBOND' FENCE
1800 SOLID FENCING
RL 58.000

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ISSUE NUMBER			
U	10-11-25	CLIENT ISSUE	
T	24-10-25	CLIENT ISSUE	
S	08-10-25	CONSULTANT ISSUE	
R	04-09-25	DESIGN UPDATE	

PROJECT: CLARA STREET RESIDENCES
CLIENT: SPINNAKER DEVELOPMENTS
ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

DWG: SITE PLAN
STAGE: DEVELOPMENT APPLICATION

SCALE: 1:200
JOB #: 2422

NORTH

DWG: A103
ISSUE U

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ISSUE NUMBER			

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U	10-11-25	CLIENT ISSUE	
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S	08-10-25	CONSULTANT ISSUE	
R	04-09-25	DESIGN UPDATE	

PROJECT: CLARA STREET RESIDENCES

CLIENT: SPINNAKER DEVELOPMENTS

ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

DWG: GROUND FLOOR PLAN

STAGE: DEVELOPMENT APPLICATION

SCALE: 1:200

JOB #: 2422

NORTH

DWG: A104

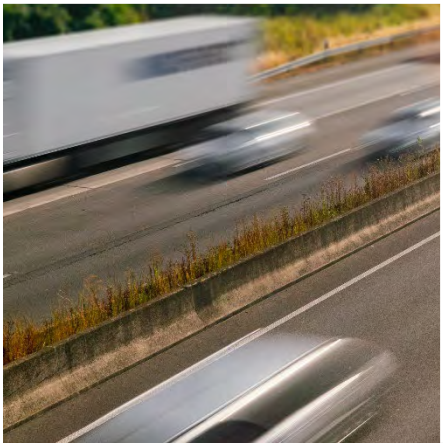
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Appendix C

SWEPT PATHS





APPENDIX C

B85 Entry & Exit

LIFT

360L
360L
360L
360L
360L
360L
360L
240L
240L
240L

BINS

V03

RESIDENT PARKING (4)

R23

R22

R21

LANE W

BOUNDARY 47.96M

COURTYARD TILES -50 RL 57.150

COURTYARD TILES -50 RL 57.150

APT 104
TYPE: B01
2 BED / 1 BATH
STRATA: 72m²
BALC: 10m²

APT 103
TYPE: B01
2 BED / 1 BATH
STRATA: 72m²
BALC: 10m²

CAPPED CULVERT

RL 57.200
RL 57.150

BIKES (18)

SECURE POINT

+540
RL 57.740

+420
RL 57.620

+120
RL 57.370
RL 57.460

PERMEABLE FENCING

B85 STANDARDS 2004 (AU_NZ)

EX. TREE RETAINED

SOAKWELL

RESIDENT PARKING (20)

RL 57.650

SECURE LINE
PERMEABLE VEHICLE GATE (AUTOMATED)
RL 57.880

R02 R03 R04 R05 R06 R07 R08 R09 R10

R12 R13 R14 R15 R16 R17 R18 R19 R20

1800 SOILD FENCING

1.8M HIGH SOLID 'COLORBOND' FENCE

RL 58.000

57.20 57.69 57.76 57.26 57.75 57.88 57.99 58.19 58.03 58.06

B85 Entry & Exit

LIFT

LANE WIDE

BOUNDARY 47.96M

UP 3200

360L
360L
360L
360L
360L
360L
360L
240L
240L
240L

BINS

V03

RESIDENT PARKING (4)

R23

R22

R21

COURTYARD TILES -50 RL 57.150

COURTYARD TILES -50 RL 57.150

APT 103
TYPE: B01
2 BED / 1 BATH
STRATA: 72m²
BALC: 10m²

CAPPED CULVERT

RL 57.200
RL 57.150

BIKES (18)

SECURE POINT

+540
RL 57.740

+420
RL 57.620

+120
RL 57.370
RL 57.460

STANDARDS 2004 (AU_NZ)

PERMEABLE FENCING

B85 STANDARDS 2004 (AU_NZ)

EX. TREE RETAINED

SOAKWELL

RESIDENT PARKING (20)

RL 57.650

SECURE LINE
PERMEABLE VEHICLE GATE (AUTOMATED)
RL 57.880

R03 R04 R05 R06 R07 R09 R10

R13 R14 R15 R16 R17 R18 R19 R20

1800 SOILD FENCING

1.8M HIGH SOLID 'COLORBOND' FENCE

RL 58.000

57.20 57.69 57.76 57.26 57.75 57.88 57.99 58.19 58.03 58.06

B85 Entry & Exit

BIN

6

COURTYARD
TILES
-50
RL 57.150

EX. TREE RETAINED

EX. TREE RETAINED

APT 105
TYPE: B01
2 BED / 1 BATH
STRATA: 72m²
BALC: 10m²

APT 104
TYPE: B01
2 BED / 1 BATH
STRATA: 72m²
BALC: 10m²

APT 103
TYPE: B01
2 BED / 1 BATH
STRATA: 72m²
BALC: 10m²

CAPPED CULVERT

RL 57.200
RL 57.150

+170
RL 57.370
RL 57.460

+420
RL 57.620

SECURE POINT

BIKES (18)

R22

R21

240L

56.0

B85 STANDARDS 2004 (AU_NZ)

APT 109
TYPE: B01
2 BED / 1 BATH
STRATA: 72m²
BALC: 10m²

R01 R02 R03 R04 R05 R06 R07 R08 R09 R10

SOAKWELL

RESIDENT PARKING
(20)

+450
RL 57.650

EX. TREE RETAINED

R11 R12 R13 R14 R15 R16 R17 R18 R19 R20

APT 110
TYPE: B01
2 BED / 1 BATH
STRATA: 72m²
BALC: 10m²

1800 SOILD FENCING

B85 Entry

EX. TREE RETAINED

APT 105 TYPE: B01 2 BED / 1 BATH STRATA: 72m² BALC: 10m²

APT 104 TYPE: B01 2 BED / 1 BATH STRATA: 72m² BALC: 10m²

APT 103 TYPE: B01 2 BED / 1 BATH STRATA: 72m² BALC: 10m²

CAPPED CULVERT

APT 109 TYPE: B01 2 BED / 1 BATH STRATA: 72m² BALC: 10m²

COURTYARD TILES

BINS 360L 240L

RESIDENT PARKING (20)

SOAKWELL

B85 STANDARDS 2004 (AU_NZ)

EX. TREE RETAINED

1800 SOLID FENCING

BOUNDARY 56.73M 1.8M HIGH SOLID 'COLORBOND' FENCE

B85 Exit

LIFT

V03

R23

R22

R21

RESIDENT PARKING (4)

BIKES (18)

SECURE POINT

EX. TREE RETAINED

APT 105 TYPE: B01 2 BED / 1 BATH STRATA: 72m² BALC: 10m²

APT 104 TYPE: B01 2 BED / 1 BATH STRATA: 72m² BALC: 10m²

APT 103 TYPE: B01 2 BED / 1 BATH STRATA: 72m² BALC: 10m²

CAPPED CULVERT

APT 109 TYPE: B01 2 BED / 1 BATH STRATA: 72m² BALC: 10m²

COURTYARD TILES

BINS 360L 240L

RESIDENT PARKING (20)

SOAKWELL

B85 STANDARDS 2004 (AU_NZ)

EX. TREE RETAINED

1800 SOLID FENCING

BOUNDARY 56.73M 1.8M HIGH SOLID 'COLORBOND' FENCE

FOOTPATH

PEDESTRIAN ACCESS

NEW FOOTPATH

BIN PRESENTATION AREA

V01

BIN PRESENTATION AREA

V02

STAY WIRE

BOUNDARY 51.76M

RL 57.620

SEWER

ACCESS LOT 1

SECURE POINT

APT 106
TYPE: B01
2 BED / 1 BATH
STRATA: 72m²
BALC: 10m²

APT 107
TYPE: B01
2 BED / 1 BATH
STRATA: 72m²
BALC: 10m²

APT 101
TYPE: B01
2 BED / 1 BATH
STRATA: 72m²
BALC: 10m²

APT 102
TYPE: B01
2 BED / 1 BATH
STRATA: 72m²
BALC: 10m²

COURTYARD
TILES

SCREEN

RL 57.530

RL 57.150

UP 420

UP 380

UP 340

RL 56.700

RL 56.730

RL 57.180

RL 56.500

SITOR IKES (9)

ENTRY

LIFT

BINS

240L

360L

LOBBY
VINYL
RL 57.200

UP 3200

RL 57.050

EX. TREE RETAINED

APT 105
TYPE: B01
2 BED / 1 BATH
STRATA: 72m²
BALC: 10m²

APT 104
TYPE: B01
2 BED / 1 BATH
STRATA: 72m²
BALC: 10m²

APT 103
TYPE: B01
2 BED / 1 BATH
STRATA: 72m²
BALC: 10m²

CAPPED CULVERT

RL 57.200

RL 57.370

RL 57.460

RL 57.620

RL 57.740

BIKES (18)

V03

R22

R21

RESIDENT PARKING (4)

B85 STANDARDS 2004 (AU_NZ)

LANE WIDENING (2.5m)

BOUNDARY 47.96M

PERMEABLE FENCING

APT 109
TYPE: B01
2 BED / 1 BATH
STRATA: 72m²
BALC: 10m²

57.0

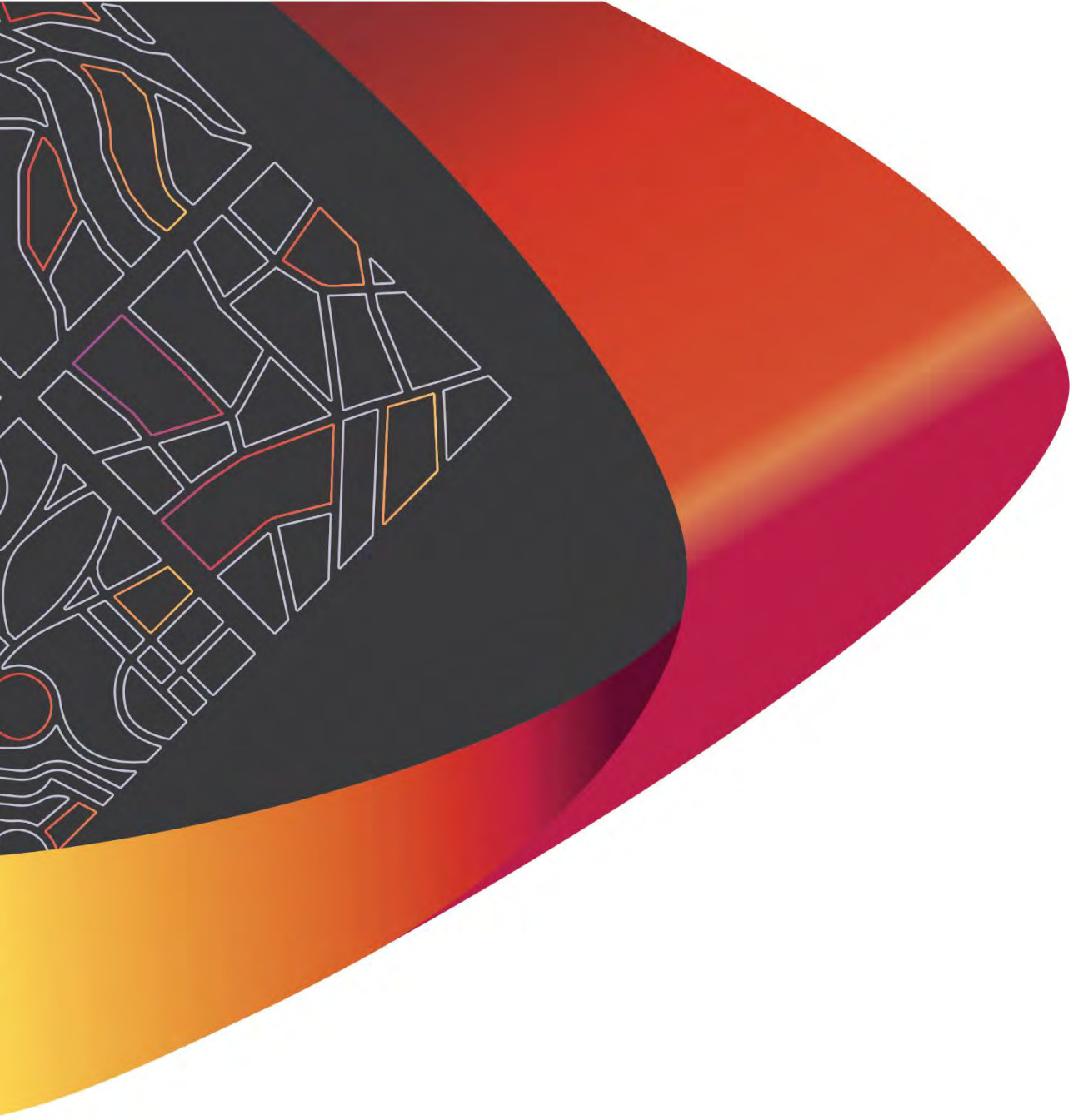
56.0

51.20





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STORMWATER DRANAGE CONSULTANT ADVICE NOTE

Spinnaker Developments No.4

P004472

18 February 2026

Premise

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Project Manager / Project Director	Jan Dvorak
Project	830 & 834 South Western Highway Byford
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Document Version	A

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FIGURES

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Figure 2 Drainage Section 9

EXECUTIVE SUMMARY

This Advice Note has been prepared to accompany the appended concept drawings, which demonstrate how the proposed development can accommodate sufficient on-site stormwater detention to address both the replacement of storage lost through infilling of the existing open channel ("creek") traversing the site, and the development's standard on-site detention requirements.

The purpose of this note is to confirm that, in principle, the proposed approach can achieve compliance with the Shire's requirements for like-for-like storage replacement, while also satisfying the applicable on-site detention criteria for the development.

A detailed hydraulic assessment of the culvert system, hydraulic grade line, and any potential upstream impacts is not applicable at this stage and will form part of subsequent design phase once the detention strategy has been confirmed in principle.

1. EXISTING SITE DESCRIPTION

The development site is located at 830 & 834 South Western Highway, Byford. It comprises two existing residential lots, each containing a single dwelling, with the balance of the land occupied by typical suburban-scale vegetation. The total site area is approximately 2,587 m² and is bounded by South Western Highway to the west, Clara Street to the north, and Raggle Lane along the eastern boundary.

1.1 Topography

Topographically, the site falls gently from the south-east to the north-west, with surface levels ranging from approximately RL 57.8 m down to RL 56.5 m. A key constraint is the presence of an open stormwater drainage channel ("creek") that bisects the site, conveying overland flow from an upstream single-barrel culvert at the eastern boundary to a downstream double-barrel culvert at the western boundary. This open drain will require backfilling and replacement with a suitably designed piped stormwater system as part of the subdivision works.

1.2 Geotechnical Conditions

A site investigation has been undertaken by Structerre Consulting confirming the following:

1.2.1 SUBSURFACE CONDITIONS

Ground conditions encountered during the investigation consist of topsoil underlain by clayey sands and cemented gravels.

1.2.2 GROUNDWATER

Groundwater was not encountered within the investigation boreholes at the time of testing. However, the report notes that groundwater levels may vary seasonally, with potential for perched water conditions above cohesive layers and localised surface ponding during wetter months.

1.2.3 DRAINAGE

The site is not considered suitable for on-site stormwater disposal via soak wells/infiltration systems. The presence of clayey sand and potential perched groundwater limits reliable infiltration performance. On-site detention with controlled discharge is therefore recommended in lieu of soakage.

2. PROPOSED DEVELOPMENT

The proposed development involves subdividing two existing lots into a mixed-use development with commercial and medium density residential components. (herein referred to as Lot 1 and Lot 2). Lot 1 will front the South Western Highway and is planned to contain a commercial building, while Lot 2 will form the balance of the site, supporting a residential strata development (the Clara Street Residences). The residential development comprises of two apartment buildings with a total of 23 dwellings, associated parking and common areas. This subdivision and development layout is illustrated in the figure below:

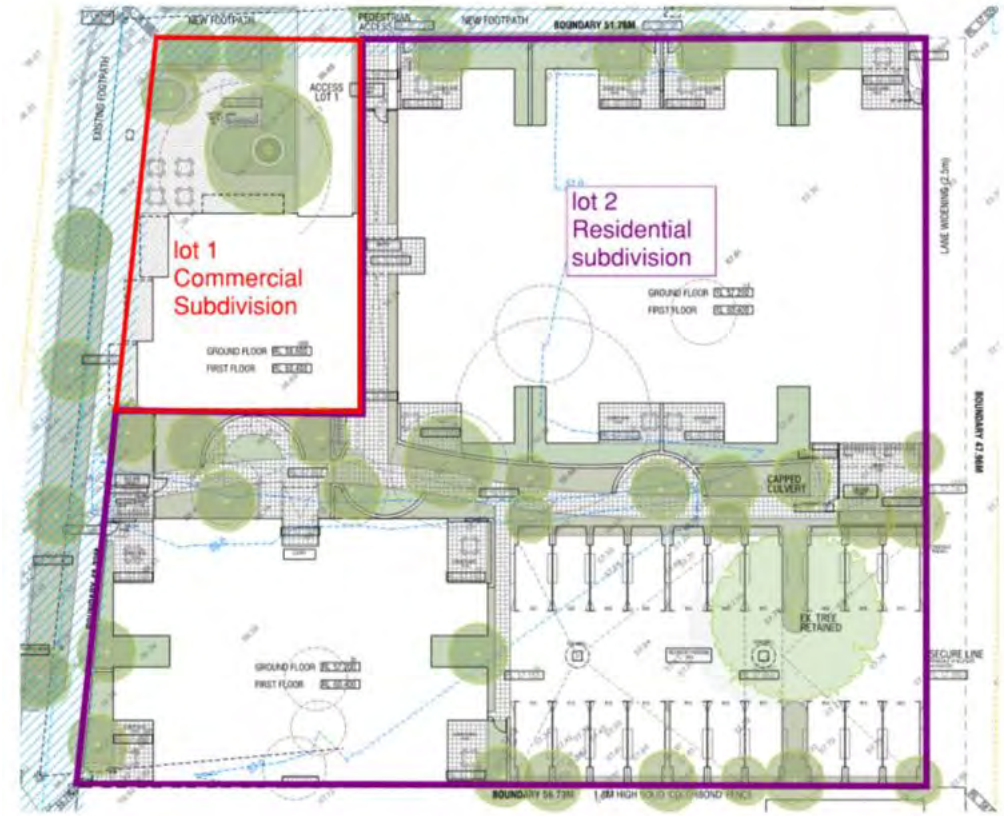


Figure 1 Site Plan (Klopper & Davis Architects, Rev V, 02-12-25)

3. STORMWATER MANAGEMENT

3.1 Compliance Guidelines

The following guidelines are applicable to the site:

> Stormwater Requirements for the Shire of Serpentine Jarrahdale – Guideline Document

The Shire identifies several stormwater management scenarios, with the appropriate scenario determined by the engineering consultant based on the nature of the development.

This development falls under Scenario 5B – **Commercial lots including grouped residential dwellings within area not suitable for on-site drainage.**

Lots within this category shall meet the following criteria:

1. Similar to Scenario 5A, First 15mm from car parking and road circulation areas are to be treated.

2. In excess of the first 15mm storage requirement, On Site Detention (OSD) devices to be sized to manage stormwater on site for up to 1%AEP, no runoff is allowed to discharge/overflow onto neighbouring property for up to this event.

a. A permissible discharge rate of no more than 20%AEP predevelopment flow rate may be discharged into the Shire's drainage system with the flow rate controlled by an orifice.

i. PSD shall use predevelopment runoff coefficient of 0.15 to 0.35 depending on conditions of predevelopment land.

ii. PSD calculation shall use a minimum time of concentration of 6minutes.

iii. Discharge point to any waterways shall be approved by relevant authority i.e. Water Corporation or Department of Water and Environmental Regulation.

iv. If there is no existing drainage system, overflow pit may be permitted to be installed within driveway.

v. Connection to the Shire's asset will need to be at the most perpendicular alignment to road alignment (i.e. straight line from property).

b. For 10% AEP, stormwater to be contained underground and not to flood the carpark/road circulation

c. For rainfall event above 10% AEP, car parking area can be used as above ground storage

> Meeting Outcomes – Shire of Serpentine Jarrahdale

- The existing open channel is classified as a "creek".
- Any proposal to infill the creek must provide a like-for-like replacement of the storage volume lost
- Replacement storage is to be provided via on-site detention within available parking and landscaped areas.
- This requirement is additional to the standard post-development detention required to address increased impervious areas.

- At this stage, the Shire's primary consideration is confirmation that sufficient detention capacity can be accommodated within the site layout.

> Western Australian Planning Commission Better Urban Water Management
> Department of Water Stormwater Management Manual for WA

3.2 Basis of Assessment

The Stormwater assessment has been prepared using:

> Existing feature survey
> Architectural site layouts
> Preliminary finished surface design levels
> Creek geometry derived from existing survey data
> Geotechnical site investigation report

3.3 Stormwater Quality

The guidelines require that the first 15 mm of runoff from car parking and road circulation areas be treated. This requirement can be met through the use of bioretention systems, raingardens, or similar treatment measures incorporated within available landscaped areas as indicated on drawing C352 in **Appendix A**.

3.4 Stormwater Quantity

3.4.1 OPEN CHANNEL REPLACEMENT DETENTION VOLUME

The storage volume associated with the section of creek proposed to be infilled has been calculated to a defined reference level based on existing survey data. The reference level has been adopted at the top of the headwall above the existing culverts at South Western Highway (RL 56.3). A longitudinal profile through the site, between the upstream and downstream culverts along the open channel, is provided below for reference:

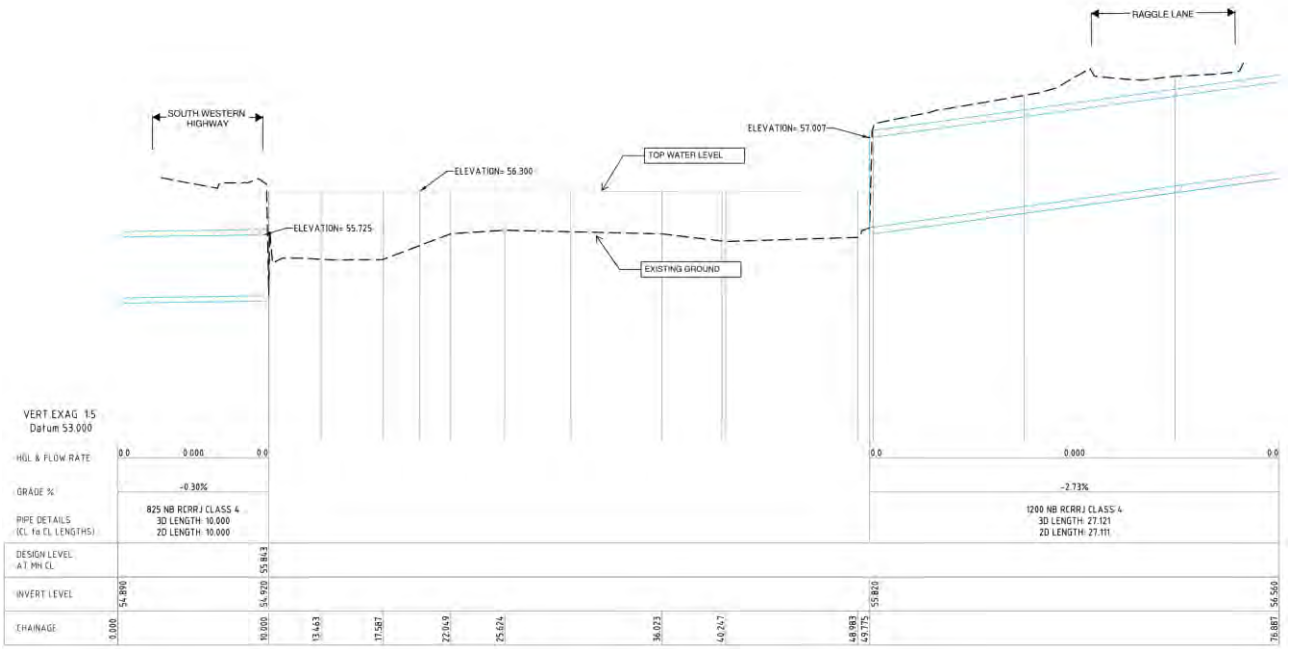


Figure 2 Drainage Section

The "creek" storage volume has been quantified using a TIN-to-TIN volumetric assessment, comparing the existing feature survey surface to the nominated reference water level (top water level). Based on this assessment, the storage volume associated with the creek section proposed to be infilled is approximately 56 m³, which represents the required like-for-like replacement volume. The required storage volume will be provided through a combination of above-ground depression storage within car parking areas and underground storage tanks, with discharge limited to the pre-development 20% AEP flow rate. The detention storage concept is shown on Drawing C352 (**Appendix A**), which demonstrates in principle that the required detention volume can be accommodated on site. Detailed design will be undertaken at a later stage to confirm the final storage devices, configurations, and dimensions.

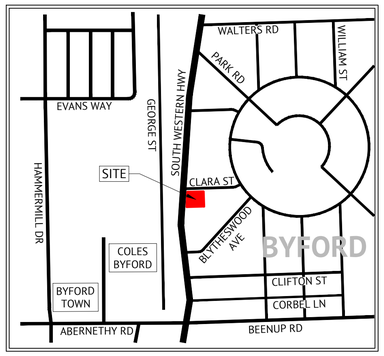
3.4.2 PROPOSED DEVELOPMENT DETENTION REQUIREMENTS

In accordance with the guidelines, on-site detention for the proposed post-development condition has been sized to accommodate the 1% AEP event, with a volume of approximately 70m^3. Detention will be provided through a combination of above-ground depression storage within car parking areas and underground storage tanks, with discharge limited to the pre-development 20% AEP flow rate. The detention storage concept is illustrated on Drawing C352 (**Appendix A**), which demonstrates in principle that the required detention volume can be accommodated on site. Detailed design will be undertaken at a later stage to confirm the final storage devices, configurations, and dimensions.

4. CONCLUSION

This report demonstrates that the proposed development will be capable of meeting the stormwater design requirements of the Shire of Serpentine Jarrahdale. The stormwater management approach will address both quality and quantity objectives, protect downstream waterways, and manage flood risk, with detailed design to be undertaken at a later stage in accordance with relevant standards.

APPENDIX A
DRAWINGS



LOCALITY PLAN

SCALE 1:10000

CLARA STREET

SOUTH WESTERN HIGHWAY

RAGGLE LANE

LOT 94

LOT 93

LOT 92

LOT 971

LOT 976

TOP WATER LEVEL (TOW) CONTOUR (RL 56.3)

SURVEYED TOP OF BANK

EXISTING DN1200 CULVERT

INDICATIVE DRAINAGE EASEMENT

TR01 TR02 TR03 TR04 TR05 TR06 TR07 TR08 TR09 TR10 TR11 TR12 TR13 TR14 TR15

PLAM09 PLAM10 PLAM11

PRELIMINARY - NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION		
18/02/2026	A	ISSUED FOR APPROVAL	AA	JD

REVISIONS

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CHECKED	J. DVORAK
PROJECT MANAGER	A. BALL
ENGINEERING CERTIFICATION	ENTER CERTIFIER DETAILS

SCALE

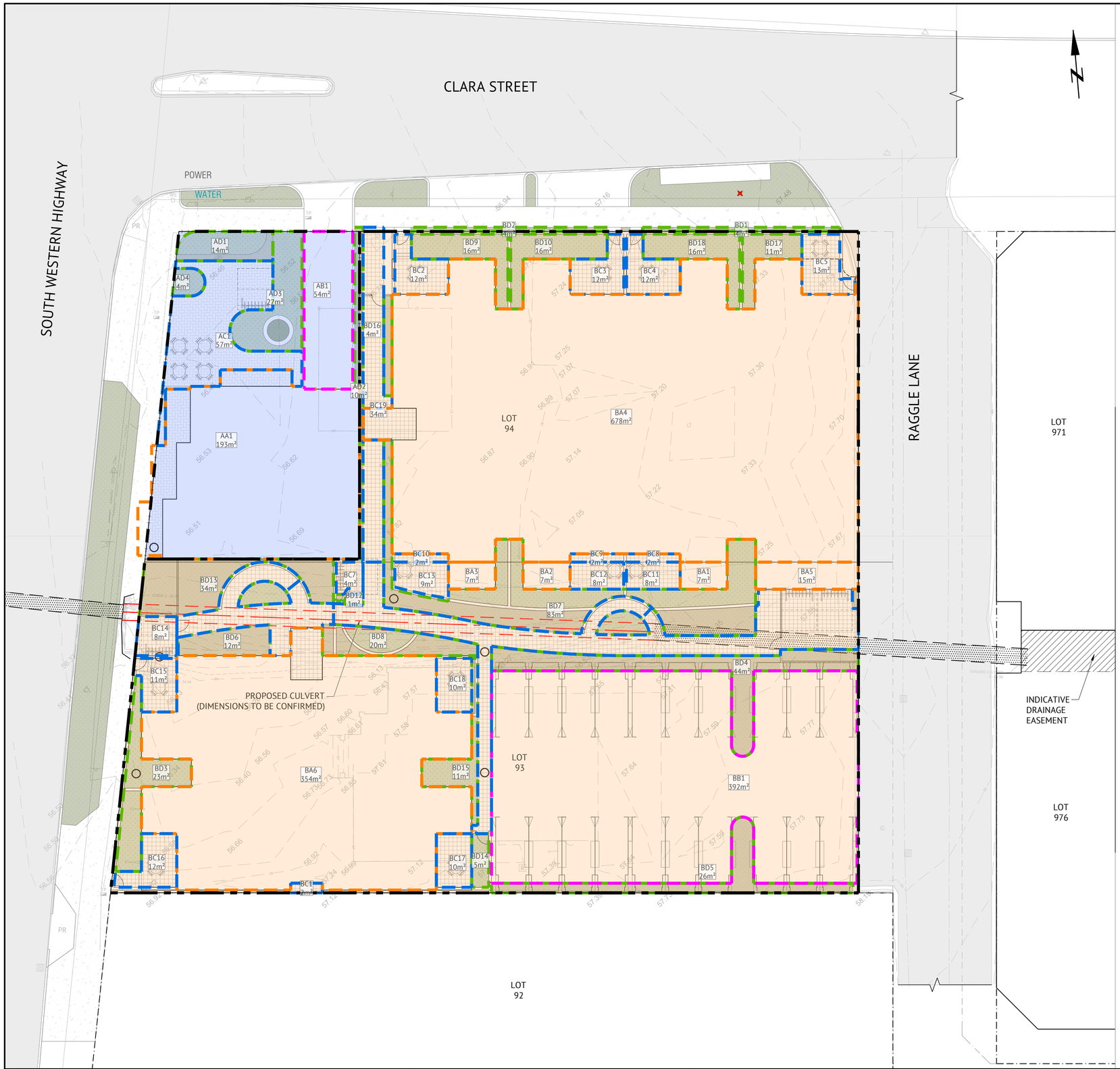
0 3 6 9m

SCALE 1:150 (A1)

ORIGINAL SHEET SIZE A1

CLIENT	SPINNAKER DEVELOPMENTS NO. 4
PROJECT	CLARA STREET RESIDENCES
LOCATION	830 & 834 SOUTH WESTERN HWY , BYFORD, WA 6122
SHEET TITLE	DRAINAGE PLAN - EXISTING DRAINAGE

JOB CODE	
P004472	
SHEET NUMBER	REV
C350	A



STORMWATER STORAGE CALCULATION - PROPOSED DEVELOPMENT (1:100 ARI)						
CATCHMENT	ROOF AREA	VEHICLE PAVEMENT	PEDESTRIAN PAVEMENT	LANDSCAPE	TOTAL	STORAGE PROVIDED
AREAS (m^2)						
A	194.0	42.0	57.0	56.0	349.0	10.9M^3
B	1067.0	392.0	343.0	330.0	2132	57.7m^3

STORMWATER STORAGE CALCULATION - EXISTING CHANNEL (LIKE FOR LIKE VOLUME REPLACEMENT)						
CATCHMENT	INVERT	TWL	TWL AREA (m^2)	MEAN DEPTH (m)	VOLUME (m^3)	STORAGE PROVIDED
EXISTING CHANNEL	VARIES	RL 56.3	193	0.3	56	56

LEGEND

- CATCHMENT A
- CATCHMENT B

SUB-CATCHMENTS

- A- ROOF
- B- VEHICLE PAVEMENT
- C- PEDESTRIAN PAVEMENT
- D- LANDSCAPE
- EXISTING CULVERT
- EXISTING ROAD
- EXISTING GROUND CONTOURS

NOTE:
REFER TO DRAWING C352 FOR PROPOSED STORMWATER STRATEGY

PRELIMINARY - NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION	REC	APP
18/02/2026	A	ISSUED FOR APPROVAL	AA	JD

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PROJECT MANAGER: A. BALL
ENGINEERING CERTIFICATION: ENTER CERTIFIER DETAILS

SCALE: 0 3 6 9m
SCALE 1:150 (A1)
ORIGINAL SHEET SIZE A1

CLIENT: SPINNAKER DEVELOPMENTS NO. 4
PROJECT: CLARA STREET RESIDENCES
LOCATION: 830 & 834 SOUTH WESTERN HWY , BYFORD, WA 6122
SHEET TITLE: DRAINAGE PLAN - PROPOSED STORMWATER CATCHMENT PLAN

JOB CODE: P004472
SHEET NUMBER: C351
REV: A

CLARA STREET

SOUTH WESTERN HIGHWAY

RAGGLE LANE

POWER

PROPOSED STORAGE 10.9m³

PROPOSED STORAGE 30.7m³

PROPOSED STORAGE 13m³

PROPOSED STORAGE 14m³

PROPOSED CULVERT
DIMENSIONS TO BE CONFIRMED

AVAILABLE BIORETENTION
FOR FIRST FLUSH

AVAILABLE BIORETENTION
FOR FIRST FLUSH

INDICATIVE
DRAINAGE
EASEMENT

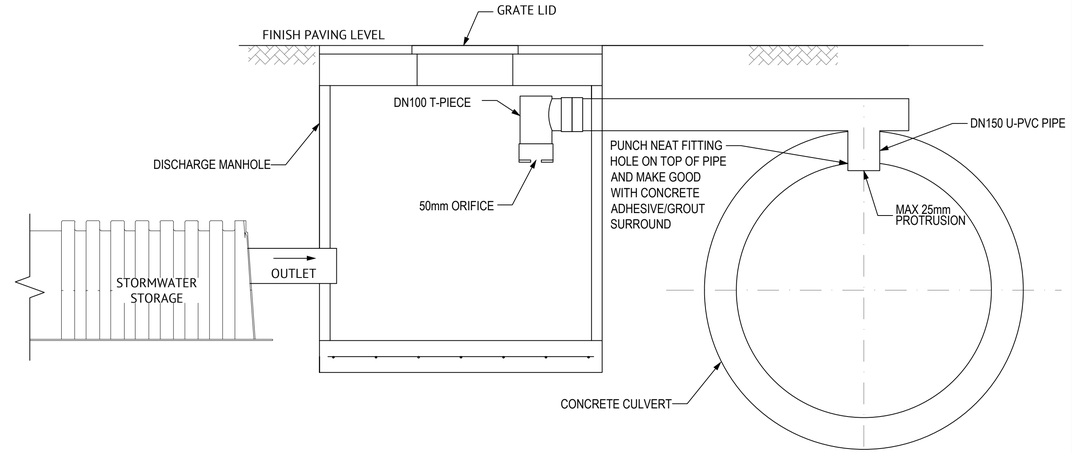
LOT
94

LOT
93

LOT
92

LOT
971

LOT
976



TYPICAL STORMWATER STORAGE CONNECTION

N.T.S.

LEGEND

- INDICATIVE STORAGE
- EXISTING CULVERT
- EXISTING ROAD
- EXISTING GROUND CONTOURS

NOTE:
REFER TO DRAWING C351 FOR CATCHMENT

PRELIMINARY - NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION	REC	APP
18/02/2026	A	ISSUED FOR APPROVAL	AA	JD

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SCALE
0 3 6 9m
SCALE 1:150 (A1)
ORIGINAL SHEET SIZE A1

CLIENT	SPINNAKER DEVELOPMENTS NO. 4
PROJECT	CLARA STREET RESIDENCES
LOCATION	830 & 834 SOUTH WESTERN HWY , BYFORD, WA 6122
SHEET TITLE	DRAINAGE PLAN - PROPOSED STORMWATER STRATEGY

JOB CODE	
P004472	
SHEET NUMBER	REV
C352	A

APPENDIX B
DESIGN CALCULATION

Table 1

Runoff Coefficients	Connected Paved Areas	Un-connected paved & pervious areas
Cn = Northern Australia runoff coefficient (choose value from Table 1 in "***Runoff Coefficient***")	0.9	0.7
Cs = Southern Australia runoff coefficient (choose value from Table 1 in "***Runoff Coefficient***")	0.9	0.1

Table 2

ARI (YEARS)	1	2	5	10	20	50	100
Frequency Factor Fy	0.8	0.85	0.95	1	1.05	1.15	1.2

$$F_y = \frac{C_{ARI}}{C_{10}}$$

Table 3

T_c	6	10	15	30	60
Intensity (mm/hr)	111.2	87.1	70	45.9	28.8

Table 4

Typical Hydraulic Conductivity Values

	k_h min	k_h max	factor U	k_h av
Sand	0.00005	<	0.5	0.00008
Sandy Clay	0.00001	0.00005	1	0.000025
Med Clay	0.000001	0.00001	2	0.000005
Heavy Clay	0.00000001	0.000001	2	0.0000001

Table 5

U	k_h	soil type	
2	5.78704E-07	Sandy Clay	0.05m/day
1.15	6.94444E-06	Clayey Sand	0.6m/day
0.7	5.78704E-05	Sand	5m/day

The silty and clayey materials encountered across the site should be generally considered to be impervious for drainage purposes

Table 6

Soakwell Sizes	
900	900
1050	1050
1200	1200
1500	1500
1800	1800
2100	2100
2400	2400

TABLE 7

Storm Event ARI	YR	1	2	5	10	20	50	100
MAX EMPTYING TIME	DAYS	0.5	1	1.5	2	2.5	3	3.5

From Geotech

DRAINAGE STORAGE CALCULATIONS

POST DEV ROOF AREA (IMPERVIOUS)	194
POST DEV PAVED AREA (IMPERVIOUS)	99
POST DEV PERVIOUS AREA	56

STORAGE VOLUME REQUIRED	**8.39**

Orifice Sizing calculation

$$A_0 = \frac{Q_{design}}{BC_d\sqrt{2gH}}$$ (source: Brisbane City Council)

Discharge coefficient C_d	0.62
Head - H	0.3
Blockage factor - B	0.50
Orifice area - A_0	0.0016899 m2
Orifice diameter	46.4 mm

Required Orifice Diameter	**50.0**

IMPERVIOUS AREA 84%

Design storm event (ARI)	Y	100 years
Time of concentration	t_c	10 min
Moderation Factor	U	1.15
Proposed Storage Depth	H	1.05 m
Hydraulic Conductivity	k_h	6.94444E-06 m/s
Storage Required Diameter		1.05 m
Number of Storage		9.2 No.
Runoff Coefficient (Impervious Areas)	C_Y	1.000
Runoff Coefficient (Pervious Areas)	C_Y	0.180
Runoff Coefficient (Overflow)		0.143
Critical Storm Duration		60 min
Design Runoff Volume	V	8.93 m3
Empyting Time (Infiltration Only)	T	33.76 hours
Empyting Time (Outflow Through Orifice)		2.95 hours
Overflow to Road Drainage		1.27 l/sec
Max emptying time Required		3.5 days

i_y = 10-year 1-hour Average rainfall intensity Perth 28.8 mm/hr from Table 3

Formula for C_x (ARI 10 yrs)

$$C_x = C_s + 0.022(i_x - 25)(C_N - C_S)$$

For connected paved areas	C_x	0.9
For unconnected paved & pervious areas	C_x	0.150
Y = Design Storm Event (ARI)		100 yr
F_y = Coversion Factor		1.2
C_y = Runoff coefficient at Design Storm Event	Cy	1 For connected paved areas
	Cy	0.180 For unconnected paved & pervious areas

	Total	CA	CB
PRE DEV ROOF AREA (IMPERVIOUS)	403	66	337
PRE DEV PAVED AREA (IMPERVIOUS)	202	33	169
PRE DEV PERVIOUS AREA	1982	325	1657

Pre-development flow calculation

Note: properties can discharge a flow equivalent to a 5 year pre-development flow from the property

Kinematic Wave Equation to find time of concentration for a typical lot

$t_c = 6.94(L^*n)^{0.6} / I^{0.4} * S^{0.3}$

Predevelopment flow event (in 5 yr)

maximum flow can be considered at a rainfall duration equivalent to t_c (time of concentration)

t_c iteration until assumed and calculated tc are almost equal

assume t_c	10.00	(select exact time periods from the IFD table)
L	60.00	(typical length to furthest point)
n	0.07	(roughness) (moderate Vegetation/shrubs)
I	75.60	(rainfall mm/hr in duration of tc)
S	0.0180	(slope)
t_c	9.71	(calculated t_c against assumed t_c)

pre-development peak flow comes out of the property when **t_c = storm duration**

Q_{predev} 1.27 pre development flow l/sec

IFD Table

Clara Street, Shire of Serpentine Jarrahdale IFD — ARI / Time	1	2	5	10	20	50	100
1	110.00	122.00	160.00	187.00	215.00	254.00	285.00
2	97.20	106.00	136.00	158.00	181.00	212.00	238.00
3	86.70	95.00	123.00	143.00	163.00	192.00	215.00
4	78.40	86.20	112.00	130.00	150.00	176.00	198.00
5	71.70	79.00	103.00	121.00	138.00	163.00	183.00
10	51.80	57.30	75.60	88.60	102.00	121.00	135.00
15	41.60	46.10	60.70	71.30	82.00	96.90	109.00
20	35.20	39.00	51.40	60.20	69.30	81.80	91.90
25	30.90	34.20	44.90	52.60	60.40	71.40	80.20
30	27.70	30.60	40.10	46.90	53.90	63.70	71.60
45	21.60	23.80	31.00	36.20	41.60	49.20	55.30
60	18.10	19.80	25.70	30.00	34.50	40.90	46.10
90	14.00	15.30	19.80	23.10	26.60	31.60	35.80
120	11.70	12.80	16.40	19.20	22.10	26.40	30.00
180	9.11	9.91	12.70	14.80	17.10	20.50	23.40
270	7.06	7.67	9.81	11.50	13.30	16.00	18.40
360	5.89	6.39	8.18	9.58	11.10	13.40	15.50
540	4.54	4.93	6.31	7.40	8.60	10.40	12.00
720	3.76	4.09	5.24	6.15	7.14	8.66	9.97
1080	2.87	3.12	4.01	4.69	5.43	6.57	7.54
1440	2.35	2.57	3.29	3.85	4.44	5.34	6.10
1800	2.02	2.20	2.82	3.29	3.78	4.51	5.13
2160	1.77	1.94	2.48	2.88	3.30	3.92	4.43
2880	1.45	1.58	2.02	2.34	2.66	3.12	3.50
4320	1.10	1.20	1.52	1.74	1.95	2.26	2.51
5760	0.91	0.99	1.25	1.42	1.59	1.82	2.00
7200	0.79	0.86	1.08	1.23	1.36	1.56	1.71
8640	0.71	0.78	0.98	1.10	1.22	1.39	1.53
10080	0.66	0.72	0.90	1.02	1.12	1.29	1.41

Row	storm duration (min) t_s	I mm/hr	Q_1 Q inflow from roof + connected paved areas m3/sec	Q_2 Q inflow from pervious + unconnected paved areas m3/sec (not flowing into soakwells)	q allowable Q overflow into road l/sec	$(Q_1;q) \times t_s$ Design runoff volume m3	storm duration (min) t_s	Infiltration volume per soakwell	No of soakwells	Design runoff volume m3	allowable Q overflow into road l/sec	Q x t_s x 60 Runoff volume from roof + connected paved areas (m3)
1	1	285	0.023195833	0.000798851	1.27	1.32	1	0.009129228	1.432	1.32	1.27	1.39
2	2	238	0.019370556	0.000667111	1.27	2.17	2	0.009959158	2.363	2.17	1.27	2.32
3	3	215	0.017498611	0.000602642	1.27	2.92	3	0.010789088	3.175	2.92	1.27	3.15
4	4	198	0.016115	0.000554991	1.27	3.56	4	0.011619018	3.868	3.56	1.27	3.87
5	5	183	0.014894167	0.000512947	1.27	4.09	5	0.012448948	4.434	4.09	1.27	4.47
6	10	135	0.0109875	0.000378403	1.27	5.83	10	0.016598597	6.296	5.83	1.27	6.59
7	15	109	0.008871389	0.000305526	1.27	6.84	15	0.020748246	7.355	6.84	1.27	7.98
8	20	91.9	0.007479639	0.000257594	1.27	7.45	20	0.024897895	7.975	7.45	1.27	8.98
9	25	80.2	0.006527389	0.0002248	1.27	7.88	25	0.029047545	8.403	7.88	1.27	9.79
10	30	71.6	0.005827444	0.000200694	1.27	8.20	30	0.033197194	8.702	8.20	1.27	10.49
11	45	55.3	0.004500806	0.000155005	1.27	8.72	45	0.045646141	9.132	8.72	1.27	12.15
12	60	46.1	0.003752028	0.000129218	1.27	8.93	60	0.058095089	9.233	8.93	1.27	13.51
13	90	35.8	0.002913722	0.000100347	1.27	8.87	90	0.082992984	8.940	8.87	1.27	15.73
14	120	30	0.002441667	8.40896E-05	1.27	8.43	120	0.10789088	8.286	8.43	1.27	17.58
15	180	23.4	0.0019045	6.55899E-05	1.27	6.84	180	0.15768667	6.412	6.84	1.27	20.57
16	270	18.4	0.001497556	5.1575E-05	1.27	3.67	270	0.232380356	3.215	3.67	1.27	24.26
17	360	15.5	0.001261528	4.34463E-05	1.27	-0.20	360	0.307074042	-0.168	-0.20	1.27	27.25
18	540	12	0.000976667	3.36358E-05	1.27	-9.54	540	0.456461414	-6.982	-9.54	1.27	31.64
19	720	9.97	0.000811447	2.79458E-05	1.27	-19.85	720	0.605848786	-13.102	-19.85	1.27	35.05
20	1080	7.54	0.000613672	2.11345E-05	1.27	-42.59	1080	0.90462353	-23.481	-42.59	1.27	39.77
21	1440	6.1	0.000496472	1.70982E-05	1.27	-66.92	1440	1.203398273	-31.674	-66.92	1.27	42.90
22	1800	5.13	0.000417525	1.43793E-05	1.27	-92.17	1800	1.502173017	-38.222	-92.17	1.27	45.09
23	2160	4.43	0.000360553	1.24172E-05	1.27	-117.99	2160	1.800947761	-43.535	-117.99	1.27	46.73
24	2880	3.5	0.000284861	9.81045E-06	1.27	-170.40	2880	2.398497248	-51.515	-170.40	1.27	49.22
25	4320	2.51	0.000204286	7.0355E-06	1.27	-276.49	4320	3.593596223	-61.402	-276.49	1.27	52.95
26	5760	2	0.000162778	5.60597E-06	1.27	-382.99	5760	4.788695198	-67.215	-382.99	1.27	56.26
27	7200	1.71	0.000139175	4.79311E-06	1.27	-488.94	7200	5.983794173	-70.931	-488.94	1.27	60.12
28	8640	1.53	0.000124525	4.28857E-06	1.27	-594.32	8640	7.178893148	-73.480	-594.32	1.27	64.55
29	10080	1.41	0.000114758	3.95221E-06	1.27	-699.28	10080	8.373992123	-75.327	-699.28	1.27	69.41
30	0	0	0	0	1.27	0.00	420	0.008299298	0.000	0.00	1.27	0.00
31	0	0	0	0	1.27	0.00	480	0.008299298	0.000	0.00	1.27	0.00
32	0	0	0	0	1.27	0.00	540	0.008299298	0.000	0.00	1.27	0.00
33	0	0	0	0	1.27	0.00	600	0.008299298	0.000	0.00	1.27	0.00
34	0	0	0	0	1.27	0.00	660	0.008299298	0.000	0.00	1.27	0.00
35	0	0	0	0	1.27	0.00	720	0.008299298	0.000	0.00	1.27	0.00
36	0	0	0	0	1.27	0.00	840	0.008299298	0.000	0.00	1.27	0.00
37	0	0	0	0	1.27	0.00	960	0.008299298	0.000	0.00	1.27	0.00
38	0	0	0	0	1.27	0.00	1080	0.008299298	0.000	0.00	1.27	0.00
39	0	0	0	0	1.27	0.00	1200	0.008299298	0.000	0.00	1.27	0.00
40	0	0	0	0	1.27	0.00	1440	0.008299298	0.000	0.00	1.27	0.00
41	0	0	0	0	1.27	0.00	2160	0.008299298	0.000	0.00	1.27	0.00
42	0	0	0	0	1.27	0.00	2880	0.008299298	0.000	0.00	1.27	0.00
43	0	0	0	0	1.27	0.00	3600	0.008299298	0.000	0.00	1.27	0.00
44	0	0	0	0	1.27	0.00	4320	0.008299298	0.000	0.00	1.27	0.00

Design Rainfall Data System (2016)

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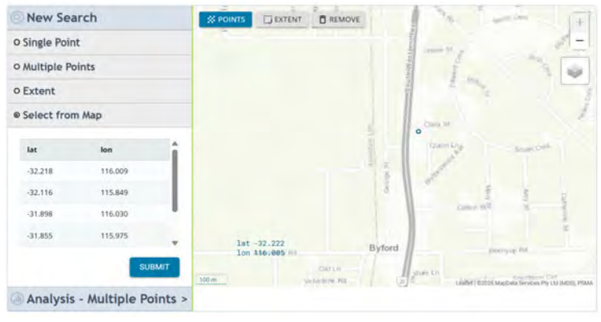


Table 1

Runoff Coefficients	Connected Paved Areas	Un-connected paved & pervious areas
Cn = Northern Australia runoff coefficient (choose value from Table 1 in "***Runoff Coefficient***")	0.9	0.7
Cs = Southern Australia runoff coefficient (choose value from Table 1 in "***Runoff Coefficient***")	0.9	0.1

Table 2

ARI (YEARS)	1	2	5	10	20	50	100
Frequency Factor Fy	0.8	0.85	0.95	1	1.05	1.15	1.2

$$F_y = \frac{C_{ARI}}{C_{10}}$$

Table 3

T_c	6	10	15	30	60
Intensity (mm/hr)	111.2	87.1	70	45.9	28.8

Table 4

Typical Hydraulic Conductivity Values

	k_h min	k_h max	factor U	k_h av
Sand	0.00005	<	0.5	0.00008
Sandy Clay	0.00001	0.00005	1	0.000025
Med Clay	0.000001	0.00001	2	0.000005
Heavy Clay	0.00000001	0.000001	2	0.0000001

Table 5

U	k_h	soil type	
2	5.78704E-07	Sandy Clay	0.05m/day
1.15	6.94444E-06	Clayey Sand	0.6m/day
0.7	5.78704E-05	Sand	5m/day

The silty and clayey materials encountered across the site should be generally considered to be impervious for drainage purposes

Table 6

Soakwell Sizes	
900	900
1050	1050
1200	1200
1500	1500
1800	1800
2100	2100
2400	2400

TABLE 7

Storm Event ARI	YR	1	2	5	10	20	50	100
MAX EMPTYING TIME	DAYS	0.5	1	1.5	2	2.5	3	3.5

From Geotech

DRAINAGE STORAGE CALCULATIONS

POST DEV ROOF AREA (IMPERVIOUS)	1067
POST DEV PAVED AREA (IMPERVIOUS)	735
POST DEV PERVIOUS AREA	330

STORAGE VOLUME REQUIRED	**56.58**

Orifice Sizing calculation

$$A_0 = \frac{Q_{design}}{BC_d\sqrt{2gH}}$$ (source: Brisbane City Council)

Discharge coefficient C_d	0.62
Head - H	0.3
Blockage factor - B	0.50
Orifice area - A_0	0.0086145 m2
Orifice diameter	104.7 mm
Required Orifice Diameter	**100.0**

IMPERVIOUS AREA 85%

Design storm event (ARI)	Y	100 years
Time of concentration	t_c	10 min
Moderation Factor	U	1.15
Proposed Storage Depth	H	1.05 m
Hydraulic Conductivity	k_h	6.94444E-06 m/s
Storage Required Diameter		1.05 m
Number of Storage		62.3 No.
Runoff Coefficient (Impervious Areas)	C_y	1.000
Runoff Coefficient (Pervious Areas)	C_y	0.180
Runoff Coefficient (Overflow)		0.143
Critical Storm Duration		90 min
Design Runoff Volume	V	61.78 m3
Empyting Time (Infiltration Only)	T	33.76 hours
Empyting Time (Outflow Through Orifice)		4.15 hours
Overflow to Road Drainage		6.48 l/sec
Max emptying time Required		3.5 days

i_x = 10-year 1-hour Average rainfall intensity Perth 28.8 mm/hr from Table 3

Formula for C_x (ARI 10 yrs)

$$C_x = C_s + 0.022(i_x - 25)(C_N - C_S)$$

For connected paved areas	C_x	0.9
For unconnected paved & pervious areas	C_x	0.150
Y = Design Storm Event (ARI)		100 yr
F_y = Coversion Factor		1.2
C_y = Runoff coefficient at Design Storm Event	Cy	1 For connected paved areas
	Cy	0.180 For unconnected paved & pervious areas

	Total	CA	CB
PRE DEV ROOF AREA (IMPERVIOUS)	403	66	337
PRE DEV PAVED AREA (IMPERVIOUS)	202	33	169
PRE DEV PERVIOUS AREA	1982	325	1657

Pre-development flow calculation

Note: properties can discharge a flow equivalent to a 5 year pre-development flow from the property

Kinematic Wave Equation to find time of concentration for a typical lot

$t_c = 6.94(L^*n)^{0.6} / I^{0.4*}S^{0.3}$

Predevelopment flow event (in 5 yr)

maximum flow can be considered at a rainfall duration equivalent to t_c (time of concentration)

t_c iteration until assumed and calculated tc are almost equal

assume t_c	10.00	(select exact time periods from the IFD table)
L	60.00	(typical length to furthest point)
n	0.07	(roughness) (moderate Vegetation/shrubs)
I	75.60	(rainfall mm/hr in duration of tc)
S	0.0180	(slope)
t_c	9.71	(calculated t_c against assumed t_c)

pre-development peak flow comes out of the property when **t_c = storm duration**

Q_{predev} 6.48 pre development flow l/sec

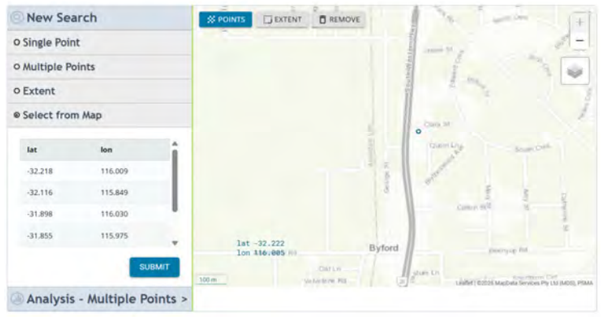
IFD Table

Clara Street, Shire of Serpentine Jarrahdale IFD — ARI / Time	1	2	5	10	20	50	100
1	110.00	122.00	160.00	187.00	215.00	254.00	285.00
2	97.20	106.00	136.00	158.00	181.00	212.00	238.00
3	86.70	95.00	123.00	143.00	163.00	192.00	215.00
4	78.40	86.20	112.00	130.00	150.00	176.00	198.00
5	71.70	79.00	103.00	121.00	138.00	163.00	183.00
10	51.80	57.30	75.60	88.60	102.00	121.00	135.00
15	41.60	46.10	60.70	71.30	82.00	96.90	109.00
20	35.20	39.00	51.40	60.20	69.30	81.80	91.90
25	30.90	34.20	44.90	52.60	60.40	71.40	80.20
30	27.70	30.60	40.10	46.90	53.90	63.70	71.60
45	21.60	23.80	31.00	36.20	41.60	49.20	55.30
60	18.10	19.80	25.70	30.00	34.50	40.90	46.10
90	14.00	15.30	19.80	23.10	26.60	31.60	35.80
120	11.70	12.80	16.40	19.20	22.10	26.40	30.00
180	9.11	9.91	12.70	14.80	17.10	20.50	23.40
270	7.06	7.67	9.81	11.50	13.30	16.00	18.40
360	5.89	6.39	8.18	9.58	11.10	13.40	15.50
540	4.54	4.93	6.31	7.40	8.60	10.40	12.00
720	3.76	4.09	5.24	6.15	7.14	8.66	9.97
1080	2.87	3.12	4.01	4.69	5.43	6.57	7.54
1440	2.35	2.57	3.29	3.85	4.44	5.34	6.10
1800	2.02	2.20	2.82	3.29	3.78	4.51	5.13
2160	1.77	1.94	2.48	2.88	3.30	3.92	4.43
2880	1.45	1.58	2.02	2.34	2.66	3.12	3.50
4320	1.10	1.20	1.52	1.74	1.95	2.26	2.51
5760	0.91	0.99	1.25	1.42	1.59	1.82	2.00
7200	0.79	0.86	1.08	1.23	1.36	1.56	1.71
8640	0.71	0.78	0.98	1.10	1.22	1.39	1.53
10080	0.66	0.72	0.90	1.02	1.12	1.29	1.41

Row	storm duration (min) t_s	I mm/hr	Q_1 Q inflow from roof + connected paved areas m3/sec	Q_2 Q inflow from pervious + unconnected paved areas m3/sec (not flowing into soakwells)	q allowable Q overflow into road l/sec	$(Q_1;q) \times t_s$ Design runoff volume m3	storm duration (min) t_s	Infiltration volume per soakwell	No of soakwells	Design runoff volume m3	allowable Q overflow into road l/sec	Q x t_s x 60 Runoff volume from roof + connected paved areas (m3)
1	1	285	0.142658333	0.004707516	6.48	8.17	1	0.009129228	8.896	8.17	6.48	8.56
2	2	238	0.119132222	0.003931189	6.48	13.52	2	0.009959158	14.706	13.52	6.48	14.30
3	3	215	0.107619444	0.003551284	6.48	18.21	3	0.010789088	19.786	18.21	6.48	19.37
4	4	198	0.09911	0.003270485	6.48	22.23	4	0.011619018	24.140	22.23	6.48	23.79
5	5	183	0.091601667	0.003022721	6.48	25.54	5	0.012448948	27.704	25.54	6.48	27.48
6	10	135	0.067575	0.002229876	6.48	36.66	10	0.016598597	39.591	36.66	6.48	40.55
7	15	109	0.054560556	0.001800418	6.48	43.27	15	0.020748246	46.528	43.27	6.48	49.10
8	20	91.9	0.046001056	0.001517967	6.48	47.43	20	0.024897895	50.766	47.43	6.48	55.20
9	25	80.2	0.040144556	0.001324712	6.48	50.50	25	0.029047545	53.816	50.50	6.48	60.22
10	30	71.6	0.035839778	0.00118266	6.48	52.85	30	0.033197194	56.073	52.85	6.48	64.51
11	45	55.3	0.027680722	0.000913423	6.48	57.24	45	0.045646141	59.945	57.24	6.48	74.74
12	60	46.1	0.023075611	0.000761461	6.48	59.75	60	0.058095089	61.761	59.75	6.48	83.07
13	90	35.8	0.017919889	0.00059133	6.48	61.78	90	0.082992984	62.260	61.78	6.48	96.77
14	120	30	0.015016667	0.000495528	6.48	61.47	120	0.10789088	60.432	61.47	6.48	108.12
15	180	23.4	0.011713	0.000386512	6.48	56.53	180	0.15768667	52.979	56.53	6.48	126.50
16	270	18.4	0.009210222	0.000303924	6.48	44.25	270	0.232380356	38.756	44.25	6.48	149.21
17	360	15.5	0.007758611	0.000256023	6.48	27.64	360	0.307074042	22.725	27.64	6.48	167.59
18	540	12	0.006006667	0.000198211	6.48	-15.30	540	0.456461414	-11.202	-15.30	6.48	194.62
19	720	9.97	0.004990539	0.00016468	6.48	-64.30	720	0.605848786	-42.435	-64.30	6.48	215.59
20	1080	7.54	0.003774189	0.000124543	6.48	-175.26	1080	0.90462353	-96.621	-175.26	6.48	244.57
21	1440	6.1	0.003053389	0.000100757	6.48	-295.96	1440	1.203398273	-140.086	-295.96	6.48	263.81
22	1800	5.13	0.00256785	8.47353E-05	6.48	-422.39	1800	1.502173017	-175.158	-422.39	6.48	277.33
23	2160	4.43	0.002217461	7.3173E-05	6.48	-552.28	2160	1.800947761	-203.774	-552.28	6.48	287.38
24	2880	3.5	0.001751944	5.78116E-05	6.48	-816.81	2880	2.398497248	-246.935	-816.81	6.48	302.74
25	4320	2.51	0.001256394	4.14592E-05	6.48	-1353.67	4320	3.593596223	-300.621	-1353.67	6.48	325.66
26	5760	2	0.001001111	3.30352E-05	6.48	-1893.12	5760	4.788695198	-332.242	-1893.12	6.48	345.98
27	7200	1.71	0.00085585	2.82451E-05	6.48	-2429.11	7200	5.983794173	-352.396	-2429.11	6.48	369.77
28	8640	1.53	0.00076585	2.52719E-05	6.48	-2961.63	8640	7.178893148	-366.167	-2961.63	6.48	397.02
29	10080	1.41	0.000705783	2.32898E-05	6.48	-3491.57	10080	8.373992123	-376.113	-3491.57	6.48	426.86
30	0	0	0	0	6.48	0.00	420	0.008299298	0.000	0.00	6.48	0.00
31	0	0	0	0	6.48	0.00	480	0.008299298	0.000	0.00	6.48	0.00
32	0	0	0	0	6.48	0.00	540	0.008299298	0.000	0.00	6.48	0.00
33	0	0	0	0	6.48	0.00	600	0.008299298	0.000	0.00	6.48	0.00
34	0	0	0	0	6.48	0.00	660	0.008299298	0.000	0.00	6.48	0.00
35	0	0	0	0	6.48	0.00	720	0.008299298	0.000	0.00	6.48	0.00
36	0	0	0	0	6.48	0.00	840	0.008299298	0.000	0.00	6.48	0.00
37	0	0	0	0	6.48	0.00	960	0.008299298	0.000	0.00	6.48	0.00
38	0	0	0	0	6.48	0.00	1080	0.008299298	0.000	0.00	6.48	0.00
39	0	0	0	0	6.48	0.00	1200	0.008299298	0.000	0.00	6.48	0.00
40	0	0	0	0	6.48	0.00	1440	0.008299298	0.000	0.00	6.48	0.00
41	0	0	0	0	6.48	0.00	2160	0.008299298	0.000	0.00	6.48	0.00
42	0	0	0	0	6.48	0.00	2880	0.008299298	0.000	0.00	6.48	0.00
43	0	0	0	0	6.48	0.00	3600	0.008299298	0.000	0.00	6.48	0.00
44	0	0	0	0	6.48	0.00	4320	0.008299298	0.000	0.00	6.48	0.00

Design Rainfall Data System (2016)

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APPENDIX C
GEOTECHNICAL REPORT

STRUCterre consulting

Geotechnical Investigation Report



Job No: J501934

Spinnaker Developments Pty Ltd

Lot 93 & 94 #830 &834 South Western Highway, Byford, WA.

Friday 23 January 2026

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Appendix B – Site Photos
Appendix C – Borelogs & Terminology
Appendix D – Laboratory Test Results

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1. Project Details

1.1 Introduction

At the request of Spinnaker Developments Pty Ltd (The Client), Structerre Consulting (Structerre) have conducted a Geotechnical Investigation at Lot 93 & 94 #830 & 834 South Western Highway, Byford, WA. The purpose of the investigation was to provide the following for a proposed Mix Used Development:

- desktop study summarising the geology, groundwater, site history (obtained from historical photographs) and potential presence of Acid Sulphate Soils (ASS)
- summary of encountered ground and groundwater conditions
- site classification in accordance with AS2870
- recommendations for stormwater drainage design
- site preparation requirements for earthworks, including site traffic, excavation, reuse of materials and batter slopes
- ground bearing capacity and estimated settlements for pad and strip footings founded at 0.5 m and 1.0 m
- soil design parameters for structural design
- preliminary pavement design parameter, indicative California Bearing Ratio (CBR) values determined from penetrometer results and ground conditions encountered.

Structerre were provided with drawing references: 2422-ARCH-A3-A1-01 to 08 and 2422-ARCH-A3-A2-01 to 04 prepared by Klopper & Davis Architect from The Client showing surface contours, dimensions of the proposed developments, the existing building, and the location in relation to the site boundaries.

Terms of reference for this investigation were presented in a Structerre Consulting proposal reference Q117606 (dated 26 November 2025), which was submitted to and accepted by The Client.

1.2 Site Description

The site is located at Lot 93 & 94 #830 & 834 South Western Highway, Byford, within Shire of Serpentine Jarrahdale, WA. The site is located south of Clara Street between South Western Highway (on the western boundary) and Raggle Lane (on the eastern boundary). The southern site is a residence.

The site is generally flat and level with its surrounding topography. At the time of the field investigation an existing vacant house occupied the site. The property was covered in thick grass vegetation with small to medium sized trees scattered over the site.

1.3 Field Investigation – Scope of Works

The field investigation was carried out on 5 January 2026 and comprised of the following field work:

- three (3) Sample Retrieval Probes (SRP) to a maximum refusal depth of 0.9 m over the site for material assessment and soil profiling
- three (3) Hand auger boreholes to a maximum refusal depth of 0.3m over the site for material assessment and soil profiling
- two (2) In situ percolation tests to determine the permeability of the materials within the upper 1.0 m
- six (6) Perth Sand Penetrometer (PSP) tests in accordance with AS 1289.6.3.3-1997 to a depth of 1.0 m for evaluation of relative densities of the upper layers.

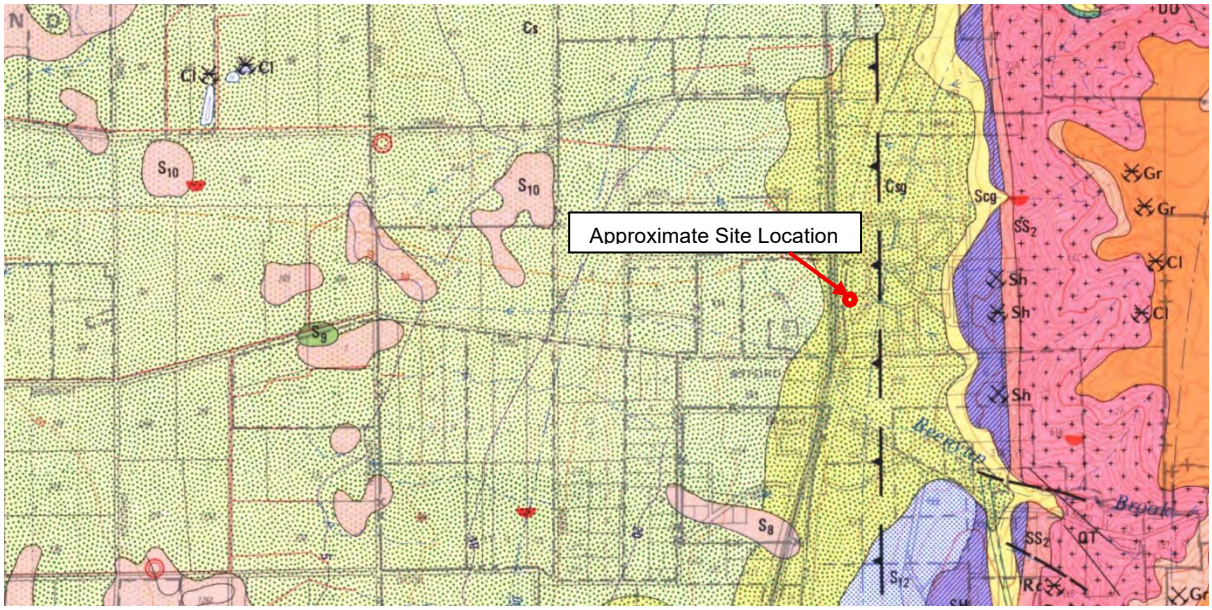
The test locations are shown on the attached site plan included in Appendix A of this report.

A geotechnical representative from Structerre supervised all the fieldwork, interpretation and terminology used in this report are in accordance with the guidelines presented in AS1726-2017, "Geotechnical Site Investigations".

2. Desk Study

2.1 Geological Setting

The Armadale sheet 1: 50,000 Environmental Geology Series (Part Sheets 2033 I and 2133 IV, 1986) prepared by the Geological Survey of Western Australia indicates that the following geological layers underlie the site:



Csg — Gravelly Sandy CLAY (Csg) – variable, with lenses of silt and gravel, quartz sand, subangular with eolian rounded component: heavy minerals common; gravel rounded, of colluvium origin, Qc.

2.2 Ground Surface and Groundwater Level

There is no publicly available information regarding historic ground surface and groundwater levels for the site. It should be noted that the groundwater levels can vary significantly due to seasonal variation, and any published data should be used only as a guide.

2.3 Acid Sulphate Soils

Information from publicly available Landgate website indicates that the site lies within a zone of no risk of ASS occurring within the natural surface.

2.4 Site History

Historical aerial photographs dating back to 1953 are publicly available through Landgate Map Viewer were assessed and a summary is presented in Table 1.

Table 1 - Historical Site Information

Date	Description
1953	A residence is already developed onsite
1965	Residential houses built to the north, east and south of the site
2025	The site remains unchanged till this present day

3. Results of the Investigation

3.1 Subsurface Soil Profile

The subsurface soil profile presented below was determined from the ground conditions encountered during the investigation and laboratory test results:

Table 2 - Subsurface Soil Profile

Depth to Base of Strata (m)	Geological Setting	Material Description
0.2	SURFICIAL	TOPSOIL / PAVER
Not Penetrated (>0.9)	NATURAL	Clayey SAND: fine to medium grained, poorly graded, low plasticity clay, with fine to medium sized gravel, brown, dense to very dense, dry. (Refusal on cemented gravels, laterite, at between 0.3m and 0.9m)

The soils encountered are consistent with the expected site conditions as predicted from the Environmental Geology Map.

It is important to note that there may be pockets of fill on site that are deeper than that encountered by the investigation boreholes. The subsurface soil conditions encountered are presented in the bore logs, within Appendix C.

3.2 Groundwater

Groundwater was not encountered within the boreholes at the time of the investigation.

It should be noted the material encountered on site; water levels may be recorded just above the cohesive material which suggest that the water may be perched. Groundwater levels can vary significantly due to seasonal variation, and any published data should be used only as a guide.

3.3 Percolation Testing

Percolation testing of the in-situ soils was undertaken in two locations. Results of the testing are summarised below:

Table 3 - In Situ Percolation Test Results

Test Location	Testing Depth (m)	Soil Type	Permeability (m/day)
BH04	0.0 - 0.90	Clayey SAND	0.6
BH05	0.0 - 0.80		0.7

3.4 Laboratory Test Results

Samples were tested by Structerre's in-house NATA accredited laboratory for Particle Size Distribution as per AS1289.3.6.1, Plasticity Index / Linear Shrinkage as per AS1289.3.1.2 – 3.4.1.

3.4.1 Particle Size Distribution

Results of the testing are summarised below:

Table 4 - Particle Size Distribution Test Results

Test Hole	Depth (m)	Soil Description	Gravel Component (%)	Sand Component (%)	Clay & Silt Component (%)
BH02	0.3 - 0.9	Clayey SAND with gravel	21	51	28

Test results indicate that the samples tested are classified as Clayey SAND with gravel.

3.4.2 Atterberg Limits

Results of the testing are summarised below:

Table 5 - Atterberg Limit Results

Sample Identification	BH02 @ 0.3 m – 0.9 m
Liquid Limit (%)	31
Plastic Limit (%)	12
Plasticity Index (%)	19
Linear Shrinkage (%)	7

Test results indicate that the natural clayey SAND with gravel and has low shrink swell capacity or degree of expansion.

4. Geotechnical Construction Considerations

4.1 Site Classification

AS 2870-2011 Residential Slabs and Footings provides guidance on site classification for residential slabs and footing design based on the expected ground surface movement and depth of expected moisture changes.

Although the proposed development falls outside the scope of AS 2870, site classification can be used to assist in the design of foundations. The foundation design should be undertaken by a Structural Engineer, taking into consideration ground bearing capacity and the acceptable total and differential settlements of the proposed foundation system.

Based on results of this investigation the site can be classified as Class “S” provided that all unsuitable materials are removed and replaced with engineer-controlled sand fill materials in accordance with earthwork recommendations outlined in Section 4.3 in this report. The site in its current (undeveloped) condition is classified as Class “P”.

Footings suitable for this site should be adopted to accommodate expected ground surface movements of approximately characteristic surface movement, ys <20 mm associated with the presence of low to moderate reactive clayey SAND deposits within the building site.

In accordance with AS3798-2007 Guidelines on Earthworks for Commercial and Residential Developments, the site could be improved as follows:

- A minimum of 0.8 m sand cover is to be placed / maintained above the reactive material to achieve a Class “S” site with characteristic surface movement, ys < 10 mm.

4.2 Drainage

The existing ground conditions are not considered suitable for on-site disposal of stormwater runoff using shallow soak wells. It is recommended that all stormwater from roofed, paved and driveway areas be collected and detained to reduce peak flow rates prior to discharging off site as per council requirements.

Alternative (onsite) options may include the design and installation of detention basins and or compensating swales, however these will be required to be designed and constructed in accordance with local council requirements for onsite stormwater drainage management.

4.3 Earthworks

All earthworks shall be undertaken in accordance with AS 3798-2007 Guidelines on earthworks for commercial and residential developments and are to include the following:

- All unsuitable material is to be stripped and removed from the site. Unsuitable materials include vegetation, topsoils, any uncontrolled filling, and any deleterious and organic materials.
- Post demolition it is considered that the near surface materials will require improvement. Therefore, it is proposed to excavate and stockpile the materials for reuse, provided it is dry, free from clay/silt (i.e., <5%), organic and deleterious materials. The depth of excavation may vary depending on conditions encountered and is subject to assessment. However, it is envisaged that an average depth of excavation would be approximately 0.3 m, subject to finished design levels.
- A minimum of 0.8 m sand cover is to be placed and compacted above the stripped and proof compacted profile to achieve an equivalent Class "S" site with characteristic surface movement, ys < 10 mm.
- Excavations should not exceed 1.2 m without adequate temporary shoring and/or safe excavation practices (e.g., benching, and / or batters) or undermine any surrounding structures. A 1V:2H slope should be maintained for temporary excavations. If excavation is required closer than the 1V:2H slope would allow, it is recommended that this office be contacted for retaining design.
- Proof compact the exposed base. The compaction requirements are set out in the extract below, as per AS 3798-2007:

Minimum Relative Compaction Extracted from AS 3798 – 2007 Table 5.1

Item	Application	Minimum relative compaction %	
		Minimum density ratio (at Standard Compaction Effort) (Cohesive soils)	Minimum density index (Cohesionless soils)
1	Residential - lot, fill, house, sites	95	70
2	Commercial – fills to support minor loadings, including floor loading of up to 20kPa and isolated pad or strip footings to 100 kPa	98	75
3	Fill to support pavements General Fill Subgrade (to a depth of 0.3 m)	 95 98	 70 75

- After excavation and proof compaction, it is recommended the exposed base is to be assessed and approved by an authorised representative from this office prior to backfilling. At this stage it can be assessed whether any further materials need to be removed or whether further compaction of the base is required.
- The ground level should be built up to design levels with any suitable stockpiled sand materials and imported fill. The imported fill should consist of free draining sand with not more than 5% passing a 75 µm sieve and be free of organic matter and other deleterious materials.
- The fill sand materials should be placed in layers not exceeding 300 mm loose thickness and compacted to achieve the values stated in the table above. As a guide a minimum of 8 PSP blows over the interval 150 – 450 mm, 9 PSP blows over the interval 450 – 750 mm and 11 PSP blows over the interval 750 – 1050 mm should be achieved, however it is recommended that this be verified with appropriate laboratory testing.
- For design loadings above 100 kPa additional compactive effort may be required over the base. Bearing capacities as outlined in Section 0 of this report can be achieved with compaction of the base of foundation to a minimum of 95% modified maximum dry density as determined by AS1289 5.2.1 and 5.4.1, to a minimum depth of 0.5 m below the base of foundation.
- After remedial earthworks have been completed, it is recommended the earthworks be assessed and approved by an authorised qualified representative from this office.

It is considered that standard small to medium sized earthmoving equipment would be appropriate for the proposed earthworks. The near surface ground is competent and should not pose an issue to site traffic movements.

The surface soil materials encountered on site can be deemed as ‘easy’ to excavate with medium sized earthwork equipment (i.e., a 20t excavator), however deeper excavations beyond 0.6m may require hard digging techniques including rock ripping or rock breaking through the cemented gravel / lateritic crust material encountered over the site.

Although groundwater was not encountered during the investigation, the general area is known for spring feed from east to west and water perching on the upper lateritic layer during the wetter months of the year, which should be accounted for if earthworks are conducted in winter months or soon after.

Should excavations encounter groundwater, dewatering will be required.

4.4 Geotechnical Design Parameters

Based on the field investigation and test results, the interpreted geotechnical soil parameters of the encountered materials are presented in the below table.

Table 6 - Geotechnical Design Parameters

Soil Type	Depths (m)	Friction Angle Ø (°)	Cohesion C (kPa)	Density Y (t/m³)	Elastic Modulus E (MPa)
FILL: SAND	0 – 0.8	33	0	1.80	20
Clayey SAND with gravel	0.8 +	33	5	1.90	60

4.5 Shallow Footings – Allowable Soil Bearing Capacities

Based on the findings of the current preliminary geotechnical investigation, shallow pad and strip footings may be considered appropriate for the proposed development by limiting the bearing capacity to 250 kPa. Allowable bearing capacities for shallow footings at the site have been calculated under the following assumptions:

- the site preparation procedures specified in Section 4.3 have been carried out
- the specified level of compaction has been achieved below the base of each footing
- loads are vertical and not eccentric
- isolated footings (i.e., interaction of foundations has not been considered)
- the foundations are flexible
- a factor of safety (FoS) of 3.0 against bearing capacity failure
- maximum characteristic surface movement, ys < 20 mm
- embedment depth between 0.5 m and 1.0 m

The recommended allowable bearing capacities are dependent on the site being dry and well drained, so that the foundation material does not become saturated.

The actual allowable bearing capacity of a particular foundation will be dependent on its location, geometry and founding depth, as well as the founding horizon. Therefore, once specific foundation geometries have been determined and the earthworks completed, it is recommended that the allowable bearing capacity and associated settlements be verified.

Additionally, should undermining issue prevent the excavation of the near surface loose materials, it is recommended that the allowable bearing capacity be reviewed. However, this will likely result in lower allowable bearing capacities.

4.6 Indicative California Bearing Ratio (CBR)

The indicative California Bearing Ratio (CBR) value of the subgrade material, following earthworks can be estimated from the site investigation results and would be appropriate for preliminary design purposes based on the proposed earthworks.

The indicative design CBR value is shown in the below table:

Table 7: Indicative CBR Values

Material	Indicative CBR (%)	Compaction
SAND (Imported Fill)	12	95% of MMDD*

** Implies the maximum dry density ratio using Modified compaction in accordance with AS 1289 5.2.1-2003.*

For detailed design and construction of the pavements, it is recommended that the CBR values be verified with laboratory Soaked CBR testing on the anticipated subgrade material.

5. Conclusions

A site investigation was carried out at the proposed mix used development site to assess the geotechnical conditions. Parameter and design recommendations are incorporated in the body of the report. The following conclusions have been drawn from the site investigation:

- The subsurface soil profile encountered comprised topsoils from the surface to 0.2 m, overlying dense to very dense clayey sand with gravel refusing on cemented gravels, (lateritic crust) to the investigated depth of 0.9 m.
- The water table was not encountered during the investigation, however localised, spring feeding, surface ponding and water perching on the cohesive soils may occur in the wetter months of the year.
- The undeveloped site classification is Class “P” due the presence of vegetation and topsoils over the site, however can be upgraded to and equivalent Class “S” in accordance with AS 2870-2011 provided the recommended earthworks are undertaken provided in section 4.3, subjected to placement and compaction of non-reactive (sand) cover above the natural cohesive materials encountered onsite.
- It is considered that the site is not suitable for on-site drainage via the use of shallow soakwells in its current condition.
- The bearing capacity for pad footings and strip footings shall be limited to 250 kPa due to the uncontrolled fill encountered on site. The estimation of settlement of the footings is limited to 20 mm.

6. Limitation of Field Investigations

This report has been prepared in accordance with general accepted consulting practice for The Client using information supplied at the time and for the project specific requirements as understood by Structerre. To the best of our knowledge the information contained in this report is accurate at the date of issue, however it should be emphasised that any changes to ground conditions and/or the proposed structures may invalidate the recommendations given herein.

The conclusions and recommendations in this report are based on the site conditions revealed through selective point sampling, representing the conditions of the site in total, although the area investigated represents only a small portion of the site. The actual characteristics may vary significantly between successive test locations and sample intervals other than where observations, explorations and investigations have been made.

The materials and their geotechnical properties presented in this report may not represent the full range of materials and strengths that exist on this site, and the recommendations should be regarded as preliminary in nature. Allowances should be made for variability in ground conditions and any consequent impact on the development. Structerre accepts no responsibility and shall not be liable for any consequence of variations in ground conditions. If ground conditions encountered during construction are different to that described in this report, this office should be notified immediately.

Should you require further information or clarification of any of the recommendations provided within this report, please contact the undersigned.

For and on behalf of Structerre Consulting.

Eddie Ng
Senior Geotechnical Engineer

Luke Young
Geotechnical Assistant Manager

(08) 9205 4500
wageotechengineering@structerre.com.au

23 January 2026

Job #	Revision	Authored	Checked	Authorised
J501934	0	ENG	LYG	MEC

7. References

Department of Water – Perth Groundwater Map

Landgate Map Viewer

The Armadale sheet 1: 50,000 Environmental Geology Series (Part Sheets 2033 I and 2133 IV, 1986) prepared by the Geological Survey of Western Australia

AS 1726-2017 Geotechnical Site Investigation

AS 2870-2011 Residential Slabs and Footings

AS 3798-2007 Guidelines on Earthworks for Commercial and Residential Developments

AS 1289.6.7.2-2016 In-situ Percolation Test (Falling Head)

AS 1289.6.3.3-1997 Methods of testing soils for engineering purposes – Soil strength and consolidation tests – Determination of the penetration resistance of a soil – Perth sand penetrometer test

AS 1289.3.6.1-2009 Soil classification tests – Determination of the particle size distribution of a soil – Standard method of analysis by sieving

AS 1289.3.1.2-2009 Methods of testing soils for engineering purposes – Soil classification tests – Determination of the liquid limit of a soil

AS 1289.3.2.1-2009 Methods of testing soils for engineering purposes – Soil classification tests – Determination of the plastic limit of a soil

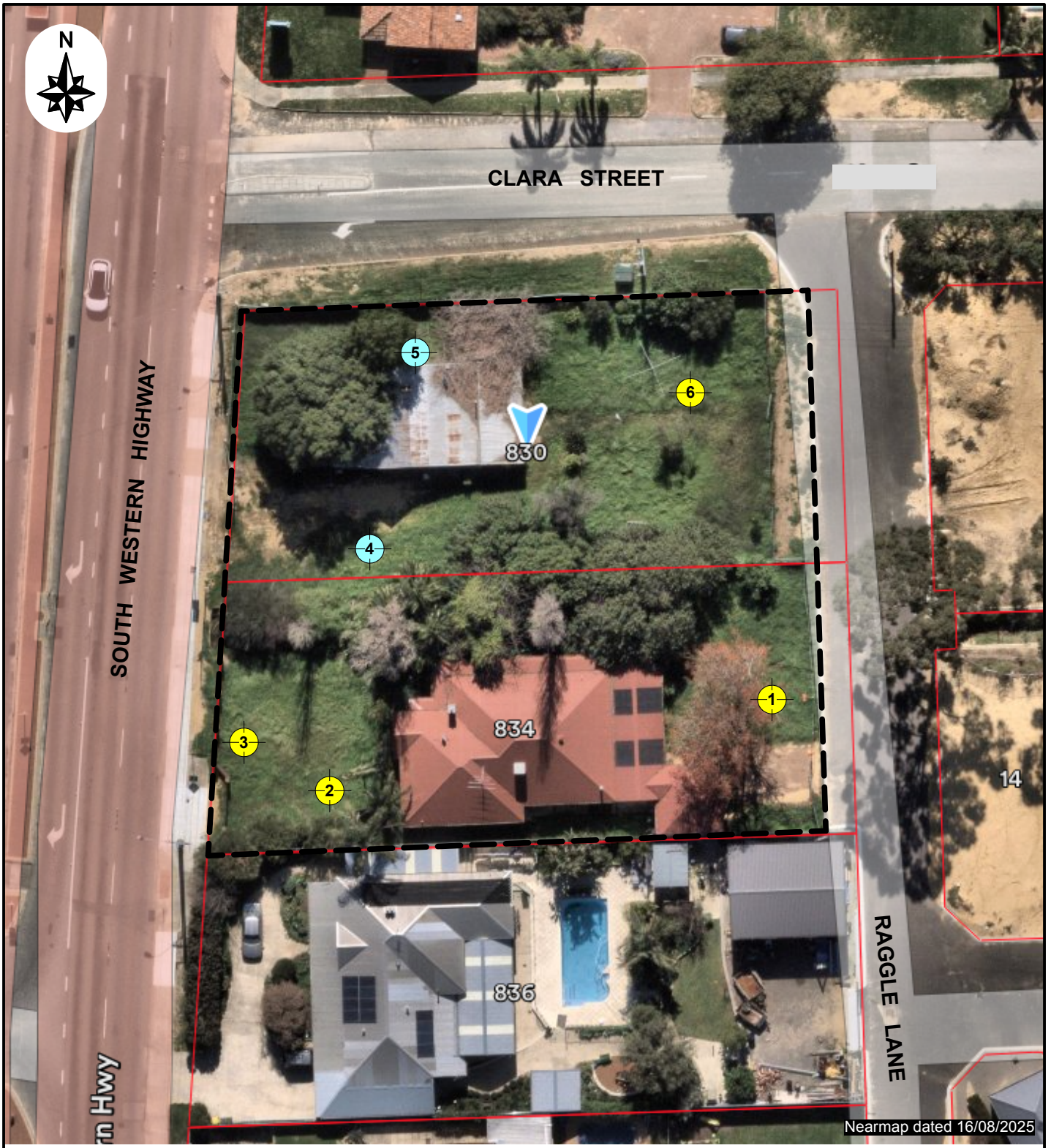
AS 1289.3.3.1-2009 Methods of testing soils for engineering purposes – Soil classification tests – Calculation of the plasticity index of a soil

AS 1289.3.4.1-2009 Methods of testing soils for engineering purposes – Soil classification tests – Determination of the linear shrinkage of a soil

AS 1289.5.2.1- 2017 Methods of testing soils for engineering purposes – Soil compaction and density tests – Determination of the dry density / moisture content relation of a soil using modified compactive effort.

AS 1289.6.1.1-2014 Methods of testing soils for engineering purposes – Soil strength and consolidation tests – Determination of the California Bearing Ratio of a soil – Standard laboratory method for a remoulded specimen

Appendix A – Site Plan



Note: Showing approximate test locations only

LEGEND

- Borehole
- Borehole and Percolation Test

STRUCterre consulting

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PROJECT:	Lot 93 & 94 #830 & 834 South Western Highway, Byford
PROJECT #:	D380362
JOB #:	J501934
CLIENT:	**Spinnaker Developments Pty Ltd**
SCALE:	NTS
TITLE:	Geotechnical Investigation Site Plan
DATE:	5 Jan '26
DRAWN BY:	MM
CHECKED BY:	EN

DOC: GE:3.001

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Appendix B – Site Photos



PHOTO 1 - Facing northeast from BH5 location



PHOTO 2 - Rear section, Lot #834

STRUCterre consulting

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PROJECT #:	D380362
JOB #:	J501934
CLIENT:	**Spinnaker Developments Pty Ltd**
SCALE:	NTS
TITLE:	Site Photographs
DATE:	5 Jan '26
DRAWN BY:	MM
CHECKED BY:	EN

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PHOTO 3 - Facing southwest fromBH1 location



PHOTO 4 - Facing northeast from South Western Highway

STRUCterre consulting

PROJECT: Lot 93 & 94 #830 & 834 South Western Highway, Byford

PROJECT #: D380362

JOB #: J501934

CLIENT: **Spinnaker Developments Pty Ltd**

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SCALE: NTS

TITLE: Site Photographs

DATE: 5 Jan '26

DRAWN BY: MM

CHECKED BY: EN

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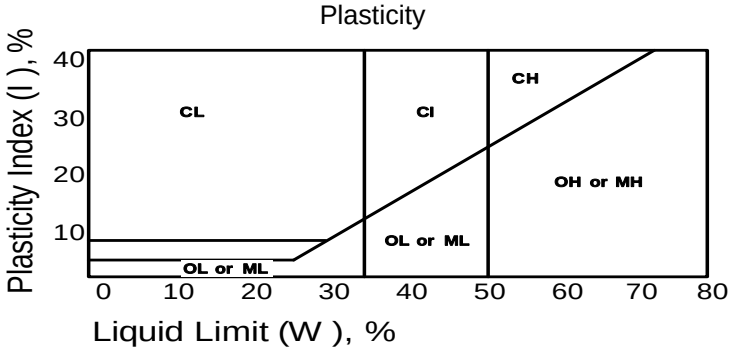
Appendix C – Borelogs & Terminology

BORELOG TERMINOLOGY

Particle Size Distribution

Major Division	Subdivision	Size
Boulders		>200mm
Cobbles		200 - 63mm
Gravel	Coarse	63 - 20mm
	Medium	20- 6mm
	Fine	6 - 2.36mm
Sand	Coarse	2.36 - 0.6mm
	Medium	0.6 - 0.2mm
	Fine	0.2 - 0.075mm

Plasticity



Consistency of Cohesive Soils

Term	Undrained Strength Su (kPa)	Field Guide
Very Soft	< 12	Exudes between the fingers when squeezed in hand
Soft	12 - 25	Can be moulded by light finger pressure
Firm	25 - 50	Can be moulded by strong finger pressure
Stiff	50 - 100	Cannot be moulded by Fingers. Can be indented by thumb.
Very Stiff	100 - 200	Can be indented by thumb nail
Hard	> 200	Can be indented with difficulty by thumb nail.
Friable	-	Crumbles or powders when scraped by thumbnail

Consistency/Density of Non-Cohesive Soils

Term	Density Index (%)	SPT "N" Value Comparison
Very Loose	< 15	0 - 4
Loose	15 - 35	4 - 10
Medium Dense	35 - 65	10 - 30
Dense	65 - 85	30 - 50
Very Dense	> 85	> 50

Moisture Content

D	Dry
M	Moist
W	Wet
S	Saturated

Minor Components

Term	Assessment'Guide	Proportion'of'Minor'Component'In:
Trace	Presence just detectable by feel or eye, but soil properties little or no different to general properties of primary component	Coarse grained soils: < 5 % Fine grained soils: <15%
With	Presence easily detected by feel or eye, soil properties little different to general properties of primary component	Coarse grained soils: 5 - 12 % Fine grained soils: 15 - 30%

Soil Legend

FILL	CLAY	GRAVEL	CONCRETE
TOPSOIL	SILT	LIMESTONE	COMBINATIONS
PEAT	SAND	BEDROCK	eg: Clay, Silty, Sandy

USCS

GW	Well graded gravel	SC	Clayey sand	OL	Organic low plasticity silt	CL	Low plasticity clay
GP	Poorly graded gravel	SM	Silty sand	ML	Low plasticity silt	CI	Intermediate plasticity clay
SW	Well graded sand			MH	High plasticity silt	CH	High plasticity clay
SP	Poorly graded sand			OH	Organic high plasticity silt	PT	Peat

DOC:GE:3.003

WA | QLD | NSW | VIC

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ABN 71 349 772 837 Zemla Pty Ltd ACN 008 966 283 as trustee for the Young Purich and Higham Unit Trust trading as Structerre Consulting Engineers

Borehole Record: BH01

Project: Proposed Commercial Development	**Position:** Easting: 406646.18	**Date Drilled:** 05/01/2026
Location: 830 & 834 S Western Hwy, Byford WA 6122, Australia	Northing: 6434948.31	**Drill Rig** SRP - 1IAY
Loc Comment:	**Elevation:** 50.69(m)	**Drill Supplier** Structerre Consulting
Job No: D380362 J501934	**Inclination:**	**Logged/Checked:** EN/TB

Water	Depth (m)	Soil Origin	Graphic Log	USCS	Material Description	Moisture	Consistency	PSP	Percolation (m/day)	Samples
		Non-soil		TS	Topsoil.					
				PAV	Pavers.					
		Natural		SC	Clayey Sand (SC): dense to very dense, poorly graded, fine to medium grained, with fine to medium sized gravel, low plasticity clay, brown, dry.	D	D-VD			
					BH01 Refusal at 0.9 m					



Depth: 0.9 m

This report must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

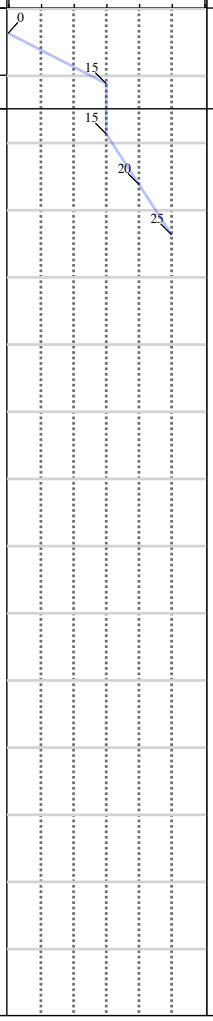
Borehole Record: BH02

Project: Proposed Commercial Development
Location: 830 & 834 S Western Hwy, Byford WA 6122, Australia
Loc Comment:
Job No: D380362 J501934

Position: Easting: 406614.10
Northing: 6434942.25
Elevation: Not Surveyed
Inclination:

Date Drilled: 05/01/2026
Drill Rig Hand-Auger
Drill Supplier Structerre Consulting
Logged/Checked: EN/TB

Water	Depth (m)	Soil Origin	Graphic Log	USCS	Material Description	Moisture	Consistency	PSP	Percolation (m/day)	Samples
		Non-soil		TS	Topsoil.					
		Natural		SC	Clayey Sand (SC): dense to very dense, poorly graded, fine to medium grained, with fine to medium sized gravel, low plasticity clay, brown, dry.	D	D-VD			
					BH02 Refusal at 0.3 m					



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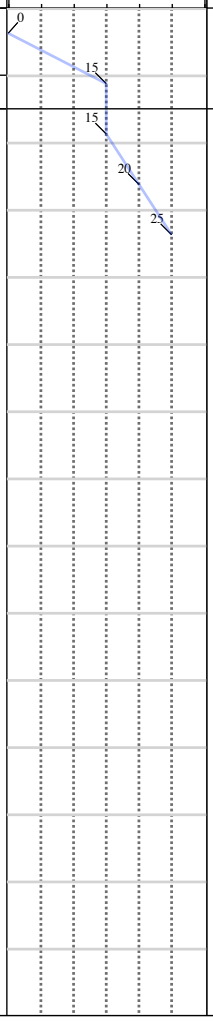
Borehole Record: BH03

Project: Proposed Commercial Development
Location: 830 & 834 S Western Hwy, Byford WA 6122, Australia
Loc Comment:
Job No: D380362 J501934

Position: Easting: 406612.73
Northing: 6434957.09
Elevation: Not Surveyed
Inclination:

Date Drilled: 05/01/2026
Drill Rig Hand-Auger
Drill Supplier Structerre Consulting
Logged/Checked: EN/TB

Water	Depth (m)	Soil Origin	Graphic Log	USCS	Material Description	Moisture	Consistency	PSP	Percolation (m/day)	Samples
		Non-soil		TS	Topsoil.					
		Natural		SC	Clayey Sand (SC): dense to very dense, poorly graded, fine to medium grained, with fine to medium sized gravel, low plasticity clay, brown, dry.	D	D-VD			
					BH03 Refusal at 0.3 m					



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Borehole Record: BH04

Project: Proposed Commercial Development
Location: 830 & 834 S Western Hwy, Byford WA 6122, Australia
Loc Comment:
Job No: D380362 J501934

Position: Easting: 406622.99
Northing: 6434969.16
Elevation: 50.69(m)
Inclination:

Date Drilled: 05/01/2026
Drill Rig SRP - 1IAY
Drill Supplier Structerre Consulting
Logged/Checked: EN/TB

Water	Depth (m)	Soil Origin	Graphic Log	USCS	Material Description	Moisture	Consistency	PSP	Percolation (m/day)	Samples
		Non-soil		TS	Topsoil.					
		Natural		SC	Clayey Sand (SC): dense to very dense, poorly graded, fine to medium grained, with fine to medium sized gravel, low plasticity clay, brown, dry.	D	D-VD			
					BH04 Refusal at 0.9 m					

PSP: 0 5 10 15 20 25 30; 0, 15, 20, 20, 25



Depth: 0.9 m

This report must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

Borehole Record: BH05

Project: Proposed Commercial Development	**Position:** Easting: 406622.99	**Date Drilled:** 05/01/2026
Location: 830 & 834 S Western Hwy, Byford WA 6122, Australia	Northing: 6434969.16	**Drill Rig** SRP - 1IAY
Loc Comment:	**Elevation:** 50.69(m)	**Drill Supplier** Structerre Consulting
Job No: D380362 J501934	**Inclination:**	**Logged/Checked:** EN/TB

Water	Depth (m)	Soil Origin	Graphic Log	USCS	Material Description	Moisture	Consistency	PSP	Percolation (m/day)	Samples
		Non-soil		TS	Topsoil.					
		Natural		SC	Clayey Sand (SC): dense to very dense, poorly graded, fine to medium grained, with fine to medium sized gravel, low plasticity clay, brown, dry.	D	D-VD			
					BH05 Refusal at 0.8 m					

PSP: 0 5 10 15 20 25 30; 0, 15, 20, 20, 25



Depth: 0.8 m

This report must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

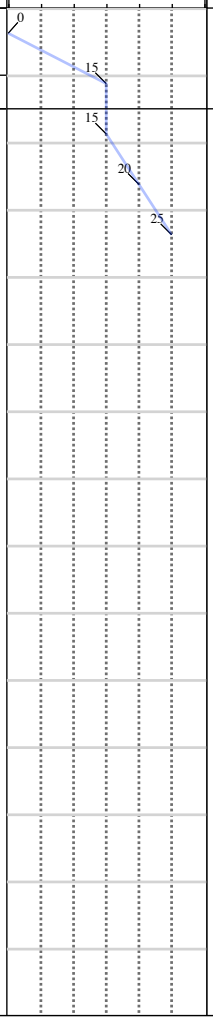
Borehole Record: BH06

Project: Proposed Commercial Development
Location: 830 & 834 S Western Hwy, Byford WA 6122, Australia
Loc Comment:
Job No: D380362 J501934

Position: Easting: 406641.58
Northing: 6434976.65
Elevation: Not Surveyed
Inclination:

Date Drilled: 05/01/2026
Drill Rig Hand-Auger
Drill Supplier Structerre Consulting
Logged/Checked: EN/TB

Water	Depth (m)	Soil Origin	Graphic Log	USCS	Material Description	Moisture	Consistency	PSP	Percolation (m/day)	Samples
		Non-soil		TS	Topsoil.					
		Natural		SC	Clayey Sand (SC): dense to very dense, poorly graded, fine to medium grained, with fine to medium sized gravel, low plasticity clay, brown, dry.	D	D-VD			
					BH06 Refusal at 0.3 m					



This report must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

Appendix D – Laboratory Test Results

Sample No.	**41654**	**Client**	Geotechnical
Job No.	J501934	**Project**	Lot 93&94, #834 South Western Hwy, Byford

Laboratory testing carried out at Malaga Laboratory 44 Crocker Dr Malaga WA 6090

SAMPLE DETAILS

BH No. / Depth	BH2 0.3-0.9m	Sampling Method	Client
Sample History	50°C Oven Dried	Sample Preparation	AS 1289 1.1

ATTERBERG LIMITS

Description	Method	Result (%)
Liquid Limit	AS 1289.3.1.2	31
Plastic Limit	AS 1289.3.2.1	12
Plasticity Index	AS 1289.3.3.1	19
Linear Shrinkage	AS 1289.3.4.1	7
Nature of Shrinkage		Cracking

PARTICLE SIZE DISTRIBUTION

Method: AS 1289.3.6.1
Description: Particle size distribution by sieve analysis

Sieve Size (mm)	% Passing
19.0	100
2.36	79
0.425	54
0.075	28

AS 1726:2017 Clause 6.1
Material Description: Clayey SAND with gravel
AS Group Symbol: SC

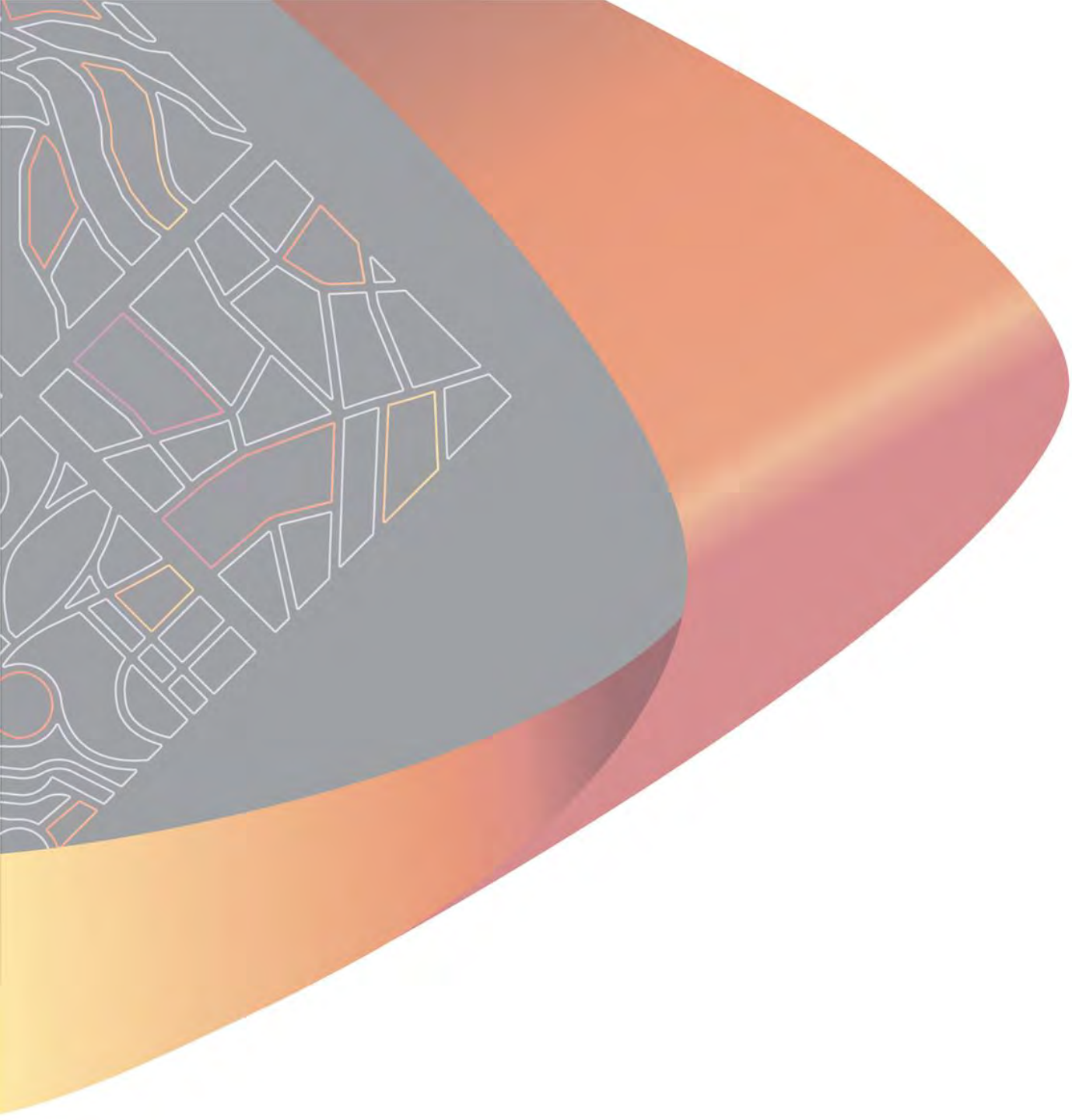
NATA WORLD RECOGNISED ACCREDITATION

Accreditation Number 18742

Jonty Sargent
Authorized Signatory Laboratory Supervisor

Date: 14-Jan-26

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Premise

KLOPPER AND DAVIS ARCHITECTS

MIXED-USE DEVELOPMENT
LOT 93 AND 94 SOUTH WESTERN HIGHWAY
BYFORD

SPP 5.4 NOISE MANAGEMENT PLAN

OCTOBER 2025

OUR REFERENCE: 35462-2-25408

Rochdale Holdings Pty Ltd A.B.N. 85 009 049 067 trading as:
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SPP 5.4 NOISE MANAGEMENT PLAN
MIXED-USE DEVELOPMENT
LOTS 93 AND 94 SOUTH WESTERN HIGHWAY, BYFORD

Job No: 25408

Document Reference: 35462-2-25408

FOR

KLOPPER AND DAVIS ARCHITECTS

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5.	TRAFFIC NOISE ASSESSMENT	5
6.	CONCLUSION	6

APPENDICES

A	SITE LAYOUT – PLANS
B	CALCULATED NOISE LEVELS AND REQUIRED $R_W + C_{TR}$ RATINGS
C	MAIN ROADS TRAFFIC FLOW DATA

1. INTRODUCTION

Herring Storer Acoustics were commissioned to carry out an acoustic study with regards to road traffic noise for the proposed hotel development at Lots 93 and 94 South Western Highway, Byford.

The purpose of the study was to:

- Assess the noise that would be received within the development area from vehicles travelling on South Western Highway for future traffic volumes.
- Compare the results with accepted criteria and if exceedances exist, develop the framework for the management of noise.

A plan is attached in Appendix A.

2. ACOUSTIC CRITERIA

2.1 STATE PLANNING POLICY 5.4

The Western Australian Planning Commission (WAPC) released on 6th September 2019 State Planning Policy 5.4 *"Road and Rail Noise".* The requirements of State Planning Policy 5.4 are outlined below.

POLICY APPLICATION (Section 4)

When and where it applies (Section 4.1)

SPP 5.4 applies to the preparation and assessment of planning instruments, including region and local planning schemes; planning strategies, structure plans; subdivision and development proposals in Western Australia, where there is proposed:

a) *noise-sensitive land-use within the policy's trigger distance of a transport corridor as specified in* ***Table 1****;*
b) *New or major upgrades of roads as specified in* ***Table 1*** *and maps* ***(Schedule 1,2 and 3);*** *or*
c) *New railways or major upgrades of railways as specified in maps (****Schedule 1, 2 and 3);*** *or any other works that increase capacity for rail vehicle storage or movement and will result in an increased level of noise.*

Policy trigger distances (Section 4.1.2)

Table 1 *identifies the State's transport corridors and the trigger distances to which the policy applies.*

The designation of land within the trigger distances outlined in ***Table 1*** *should not be interpreted to imply that land is affected by noise and/or that areas outside the trigger distances are un-affected by noise.*

*Where any part of the lot is within the specified trigger distance, an assessment against the policy is required to determine the likely level of transport noise and management/ mitigation required. An initial screening assessment (****guidelines: Table 2: noise exposure forecast****) will determine if the lot is affected and to what extent."*

TABLE 1: TRANSPORT CORRIDOR CLASSIFICATION AND TRIGGER DISTANCES

Transport corridor classification	*Trigger distance*	*Distance measured from*
Roads		
Strategic freight and major traffic routes *Roads as defined by Perth and Peel Planning Frameworks and/or roads with either 500 or more Class 7 to 12 Austroads vehicles per day, and/or 50,000 per day traffic volume*	*300 metres*	*Road carriageway edge*
Other significant freight/traffic routes *These are generally any State administered road and/or local government road identified as being a future State administered road (red road) and other roads that meet the criteria of either >=23,000 daily traffic count (averaged equivalent to 25,000 vehicles passenger car units under region schemes)*	*200 metres*	*Road carriageway edge*
Passenger railways		
	100 metres	*Centreline of the closest track*
Freight railways		
	200 metres	*Centreline of the closest track*

Proponents are advised to consult with the decision making authority as site specific conditions (significant differences in ground levels, extreme noise levels) may influence the noise mitigation measures required, that may extend beyond the trigger distance.

POLICY MEASURES (Section 6)

The policy applies a performance-based approach to the management and mitigation of transport noise. The policy measures and resultant noise mitigation will be influenced by the function of the transport corridor and the type and intensity of the land-use proposed. Where there is risk of future land-use conflict in close proximity to strategic freight routes, a precautionary approach should be applied. Planning should also consider other broader planning policies. This is to ensure a balanced approach takes into consideration reasonable and practical considerations.

Noise Targets (Section 6.1)

***Table 2** sets out noise targets that are to be achieved by proposals under which the policy applies. Where exceeded, an assessment is required to determine the likely level of transport noise and management/mitigation required.*

In the application of the noise targets the objective is to achieve:

- *indoor noise levels as specified in **Table 2** in noise sensitive areas (for example, bedrooms and living rooms of houses, and school classrooms); and*
- *a reasonable degree of acoustic amenity for outdoor living areas on each residential lot. For non-residential noise-sensitive developments, for example schools and child care centres the design of outdoor areas should take into consideration the noise target.*

It is recognised that in some instances, it may not be reasonable and/or practicable to meet the outdoor noise targets. Where transport noise is above the noise targets, measures are expected to be implemented that balance reasonable and practicable considerations with the need to achieve acceptable noise protection outcomes.

TABLE 2: NOISE TARGETS

Proposals	***New/Upgrade***	***Noise Targets***		
		Outdoor		***Indoor***
		Day (L_{Aeq}(Day) dB) (6 am-10 pm)	***Night (L_{Aeq}(Night)dB) (10 pm-6 am)***	***(L_{Aeq} dB)***
Noise-sensitive land-use and/or development	*New noise sensitive land use and/or development within the trigger distance of an existing/proposed transport corridor*	*55*	*50*	*L_{Aeq} (Day) 40(Living and work areas) L_{Aeq} (Night) 35 (bedrooms)*
Roads	*New*	*55*	*50*	*N/A*
	Upgrade	*60*	*55*	*N/A*
Railways	*New*	*55*	*50*	*N/A*
	Upgrade	*60*	*55*	*N/A*

Notes:

- *The noise target is to be measured at one metre from the most exposed, habitable façade of the proposed building, which has the greatest exposure to the noise-source. A habitable room has the same meaning as defined in State Planning Policy 3.1 Residential Design Codes.*
- *For all noise-sensitive land-use and/or development, indoor noise targets for other room usages may be reasonably drawn from Table 1 of Australian Standard/New Zealand Standard AS/NZS 2107:2016 Acoustics – Recommended design sound levels and reverberation times for building interiors (as amended) for each relevant time period.*
- *The 5dB difference in the criteria between new and upgrade infrastructure proposals acknowledges the challenges in achieving noise level reduction where existing infrastructure is surrounded by existing noise-sensitive development.*
- *Outdoor targets are to be met at all outdoor areas as far as is reasonable and practical to do so using the various noise mitigation measures outlined in the guidelines. For example, it is likely unreasonable for a transport infrastructure provider to achieve the outdoor targets at more than 1 or 2 floors of an adjacent development with direct line of sight to the traffic.*

<u>Noise Exposure Forecast (Section 6.2)</u>

*When it is determined that SPP 5.4 applies to a planning proposal as outlined in Section 4, proponents and/or decision makers are required to undertake a preliminary assessment using **Table 2**: noise exposure forecast in the guidelines. This will provide an estimate of the potential noise impacts on noise-sensitive land-use and/ or development within the trigger distance of a specified transport corridor. The outcomes of the initial assessment will determine whether:*

- *no further measures is required;*
- *noise-sensitive land-use and/or development is acceptable subject to deemed-to- comply mitigation measures; or*
- *noise-sensitive land-use and/or development is not recommended. Any noise-sensitive land-use and/ or development is subject to mitigation measures outlined in a noise management plan."*

2.2 AS 2017:2016

Australian Standard AS2107:2016 sets out recommended design noise levels for buildings interiors. As the types of commercial tenancies are not yet known the following indicative criteria are assessed.

TABLE 2.1 – RECOMMENDED DESIGN NOISE LEVELS

Commercial Use	Criteria dB(A)
Office	40-45
Café	40-50
Small retail stores (general)	<50

3. NOISE LEVEL MEASUREMENT

The road noise monitoring was conducted over the period from 8th October to the 11th October 2024 on the lot to determine traffic noise levels. Traffic volume details for this road section are included in Appendix C.

TABLE 3.1 - SUMMARY OF MEASURED ROAD NOISE LEVELS

Measurement Location	Measured/Calculated Noise Level, dB(A)		
	L_{A10}	$L_{Aeq,\ day\ (6am\ to\ 10pm)}$	$L_{Aeq,\ night\ (10pm\ to\ 6am)}$
South Western Highway	66.6	64.8	56.9

4. NOISE MODELLING

To determine the noise levels from traffic from South Western Highway, acoustic modelling was carried out using SoundPlan, using the Calculation of Road Traffic Noise (CoRTN)[1] algorithms.

The input data for the model included:

- Topographical data, with the ground level within the development based on natural ground levels as per Google Earth.
- Architectural Plans (Shown in Appendix A).
- Road Traffic data as per Table 4.1.
- A -1.8 dB conversion from $L_{A10,18h}$ to $L_{Aeq,16h}$, based on measurements in Table 3.1.
- A 2.5 dB correction for façade reflection.

Traffic modelling from Mainroads (ref: 43064) attached in Appendix C, was utilised to determine traffic volumes.

1 *Calculation of Road Traffic Noise* UK Department of Transport 1987

TABLE 4.1 - NOISE MODELLING INPUT DATA – BLAIR STREET

Parameter	Blair Street (Current) 2025*	Blair Street (Future) 2045*
Traffic Volumes	18,620 vpd	32,790 vpd
Percentage traffic 0600 – 2400 hours (Assumed)	94%	94%
Heavy Vehicles (%) (Assumed)	7.3%	7.3%
Speed (km/hr)	50 km/hr	50 km/hr
Road Surface	Dense Grade Asphalt	Dense Grade Asphalt

* Based on an assumed 2% increase per year from most recent traffic counts

Based on the measured noise levels, the difference between the $L_{Aeq,(16hr)}$ and $L_{Aeq,(8hr)}$ is 7.9 dB, hence, the day period is the critical period for compliance. Achieving compliance with the day period criteria would also result in compliance with the night period criteria.

5. TRAFFIC NOISE ASSESSMENT

Using the data contained in Table 4.1, noise modelling was conducted and the requirements of the development are detailed in Table 5.1. Appendix A contains plans and Appendix B contains a table of requirements.

It is noted that all requirements pertain to only acoustic advice in regard to *State Planning Policy 5.4* and may be superseded by other requirements (BAL, Thermal, etc).

TABLE 5.1 – QUIET HOUSE DESIGN REQUIREMENTS

Quiet House Design Requirements	
Item	**Requirements**
Walls	$R_w + C_{tr}$ 50 dB
External Doors	Individual glazing requirements to meet specifications listed in the table of Appendix B.
Windows	Individual glazing requirements to meet specifications listed in the table of Appendix B.
Roofs and Ceilings of Highest Floors	$R_w + C_{tr}$ 45 dB
Mechanical Ventilation	Mechanical ventilation to not compromise the performance of any of the façade elements.
Notification on Title	Required

The noise levels received at the outdoor living areas vary across the development with levels up to 70 dB(A) at the most exposed balconies. A shared outdoor space exists between building 2 and the commercial building protected from the road by a fence. This fence can be upgraded to a 2.4m high solid and continuous barrier to improve the amenity of this space, with noise levels received in this configuration of 58 dB(A).

6. CONCLUSION

In accordance with the WAPC Planning Policy 5.4, an assessment of the noise that would be received within the development at Lots 93 and 94 South Western Highway from road traffic. The following would be the acoustic criteria applicable to this project:

External

Day	55 dB(A) L_{Aeq}
Night	50 dB(A) L_{Aeq}

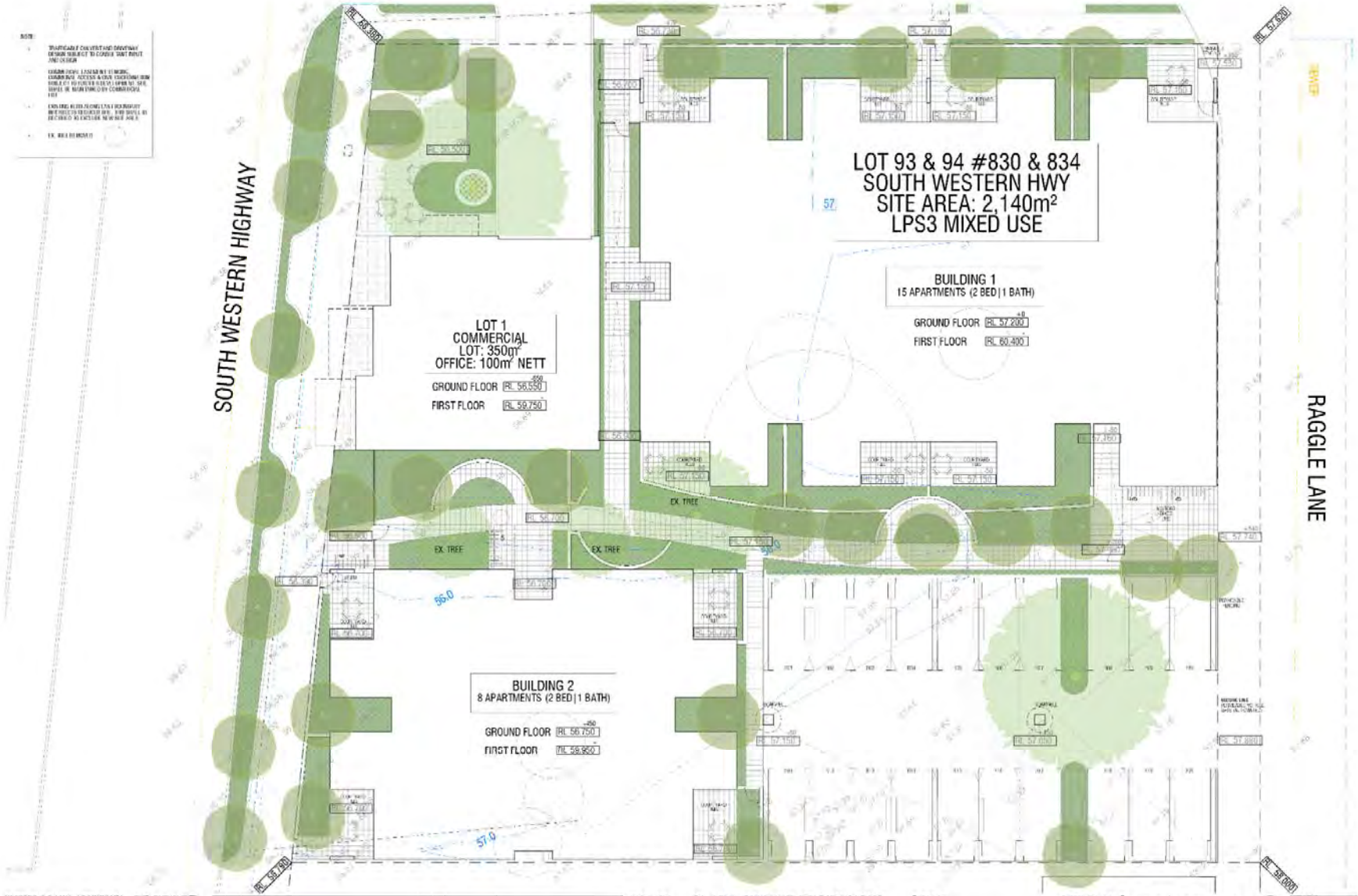
Internal

Sleeping Areas	35 dB(A) $L_{Aeq(night)}$
Living Areas	40 dB(A) $L_{Aeq(day)}$

The results of the acoustic assessment indicate that noise received at the development from future traffic will exceed external noise level criteria. Indicative construction requirements to meet the internal criteria are listed in Table 5.1 and Appendix B. It is recommended that these requirements are reassessed for detailed design.

APPENDIX A

Plans



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ISSUE NUMBER			ISSUE NUMBER			
			S	08-10-25	CONSULTANT ISSUE
			R	04-09-25	DESIGN UPDATE

PROJECT: CLARA STREET RESIDENCES
CLIENT: SPINNAKER DEVELOPMENTS
ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

DWG: SITE PLAN
STAGE: DEVELOPMENT APPLICATION

SCALE: 1:200 @ A3
JOB #: 2422

NORTH

DWG: A103
ISSUE S

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ISSUE NUMBER				
S	08-10-25	CONSULTANT ISSUE
R	04-09-25	DESIGN UPDATE

PROJECT: CLARA STREET RESIDENCES
CLIENT: SPINNAKER DEVELOPMENTS
ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

DWG: GROUND FLOOR PLAN
STAGE: DEVELOPMENT APPLICATION

SCALE: 1:200 @ A3
JOB #: 2422

NORTH

DWG: A104
ISSUE S

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ISSUE NUMBER			
S	08-10-25	CONSULTANT ISSUE	
R	04-09-25	DESIGN UPDATE	

PROJECT: CLARA STREET RESIDENCES
CLIENT: SPINNAKER DEVELOPMENTS
ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

DWG: FIRST FLOOR PLAN
STAGE: DEVELOPMENT APPLICATION

SCALE: 1:200 @ A3
JOB #: 2422

NORTH

DWG: A105
ISSUE S

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APPENDIX B

Calculated Noise Levels and Required $R_w + C_{tr}$ Ratings

1. DWELLINGS

1.1 BUILDING 1

Facing	Window	Ground Floor		First Floor	
		Noise Level dB(A)	R_w+C_{tr}	Noise Level dB(A)	R_w+C_{tr}
North	Bed 1	46	23	51	23
	Bed 2 Balcony	64	29	65	34
	Bed 2 Street	63	27	65	31
	Living Sliding Door	63	24	65	28
	Living Side	66	23	67	26
South	Bed 1	45	23	49	23
	Bed 2 Balcony	50	23	53	23
	Bed 2 Street	56	23	58	24
	Living Sliding Door	57	23	59	23
	Living Side	54	23	57	23

1.2 BUILDING 2

Facing	Window	Ground Floor		First Floor	
		Noise Level dB(A)	R_w+C_{tr}	Noise Level dB(A)	R_w+C_{tr}
West	Bed 1	63	28	65	33
	Bed 2 Balcony	68	33	70	38
	Bed 2 Street	73	36	74	40
	Living Sliding Door	69	29	70	33
	Living Side	67	23	68	27
East	Bed 1	46	23	51	23
	Bed 2 Balcony	46	23	53	23
	Bed 2 Street	46	23	51	23
	Living Sliding Door	46	23	52	23
	Living Side	60	23	63	23

2. COMMERCIAL

Floor	Criteria*	Noise Level dB(A)	R_w+C_{tr}
Ground	40	73	35
	45	73	28
	50	73	23
First	40	74	34
	45	74	28
	50	74	23

*See table 2.3

APPENDIX C

MRWA TRAFFIC FLOW DATA

2021 ROM24 Scenario - Validation for Plot South Western Hwy, Byford Noise Assessment
All Day
Land Use Scenario: DAEDS Version 3.1

MODEL ASSUMPTIONS
NETWORK: 2021 ROM24 Network (20-Year Road Network Development Plan)
LAND USE: 2021 DAEDS V3.1 Land Use

ROM24 Multi-Modal Model V4.40
24-Hour Traffic Volumes & Observed Counts

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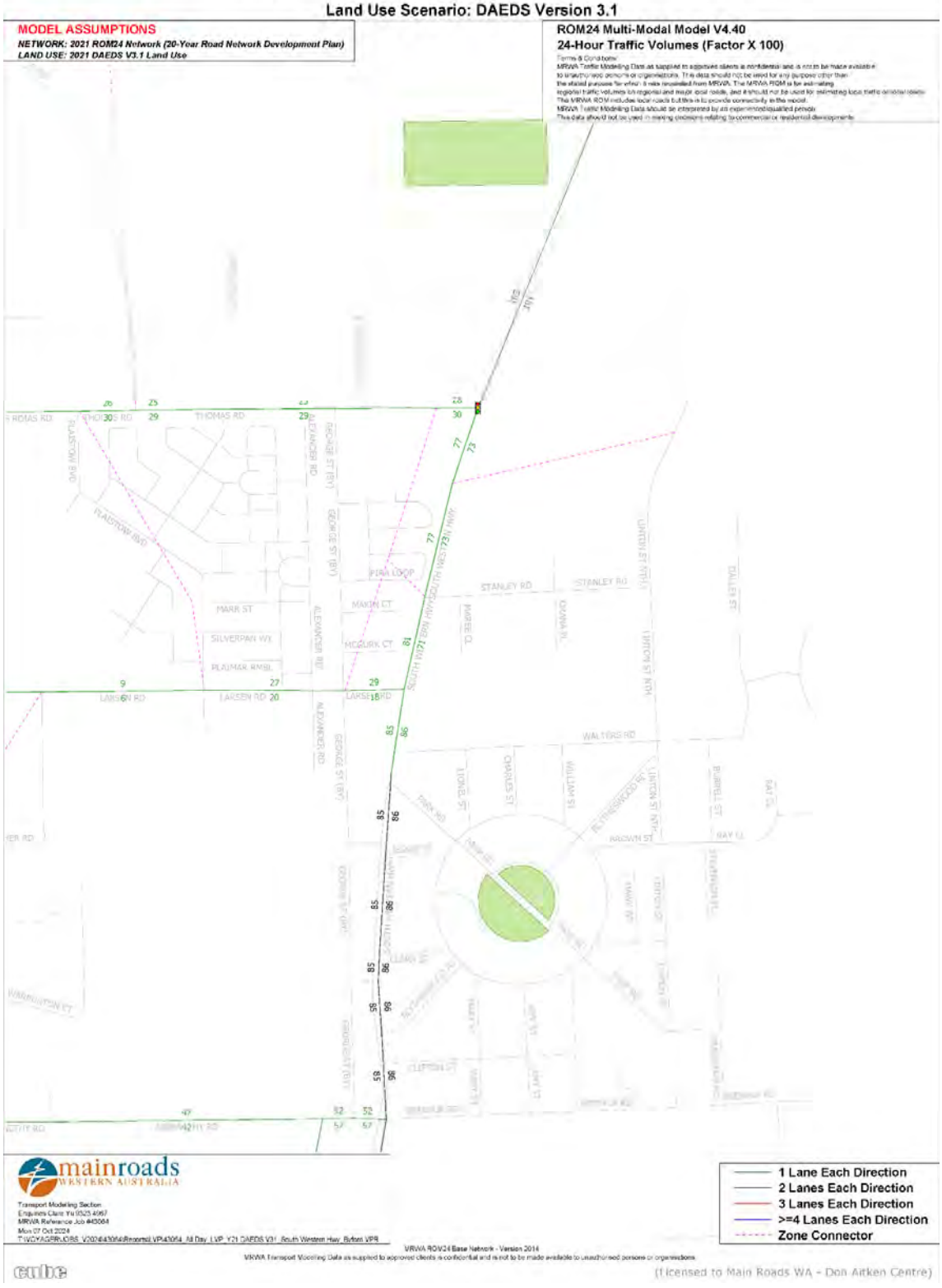
Transport Modelling Section
Enquiries Clare Yu 9323 4967
MRWA Reference Job #43064
Mon 07 Oct 2024
T:\HOY\AGFR\JOBS_V2024\43064\Report\Validations\43064_Validation_V31 DAEDS V31_South Western Hwy_Byford VMR

MRWA ROM24 Base Network - Version 2024
MRWA Transport Modelling Data as supplied to approved clients is confidential and is not to be made available to unauthorised persons or organisations.

aurecon

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2021 ROM24 Scenario - Link Volume Plot South Western Hwy, Byford Noise Assessment
All Day
Land Use Scenario: DAEDS Version 3.1



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Transport Modelling Section
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MRWA Reference Job 445064
Mon 07 Oct 2024
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VRWA ROM24 Base Network - Version 2014

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aimsun

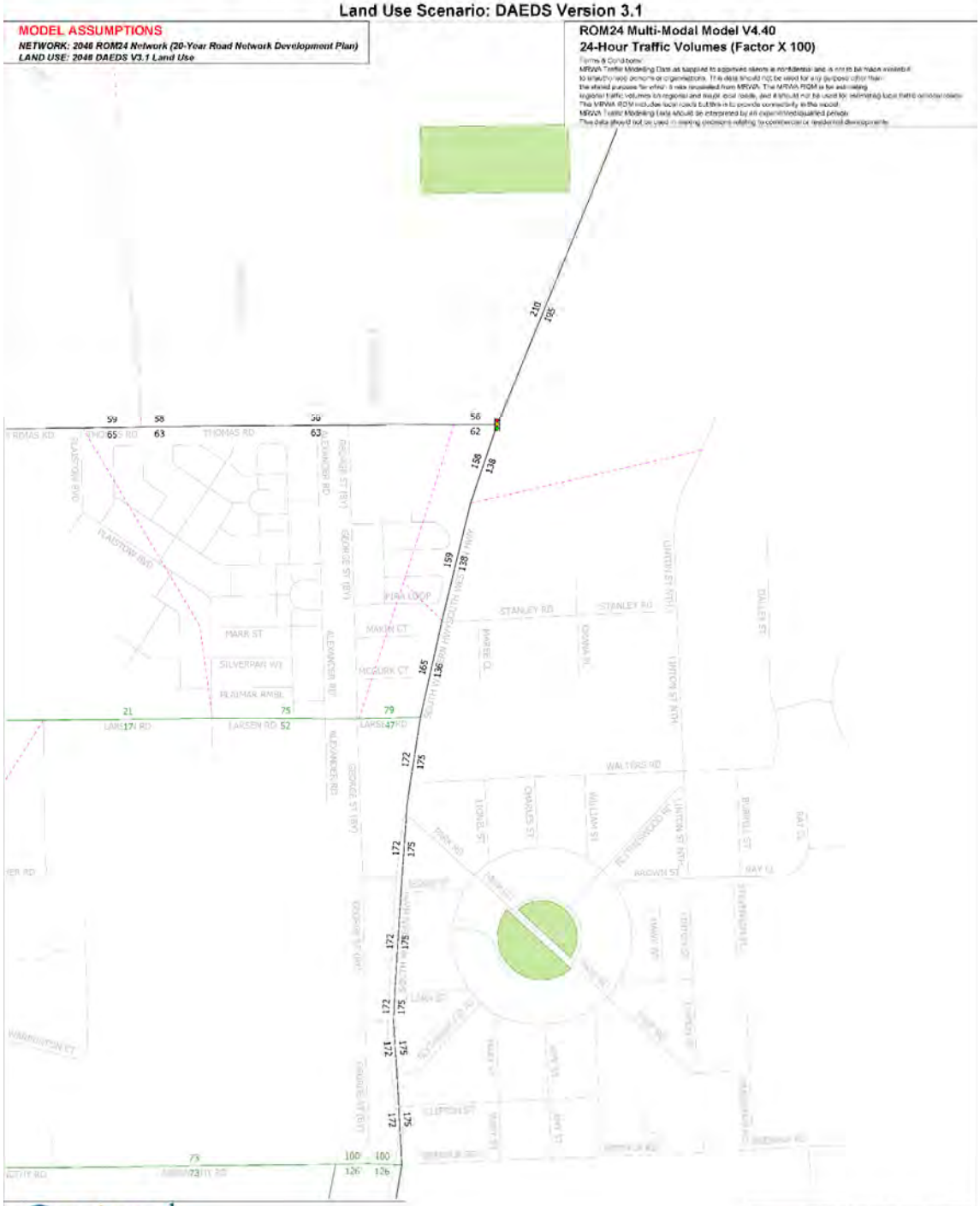
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2046 ROM24 Scenario - Link Volume Plot for South Western Hwy, Byford Noise Assessment
All Day
Land Use Scenario: DAEDS Version 3.1

MODEL ASSUMPTIONS
NETWORK: 2046 ROM24 Network (20-Year Road Network Development Plan)
LAND USE: 2046 DAEDS V3.1 Land Use

ROM24 Multi-Modal Model V4.40
24-Hour Traffic Volumes (Factor X 100)

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MRWA ROM24 Base Network - Version 2014

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HERRING STORER ACOUSTICS

KLOPPER AND DAVIS ARCHITECTS

MIXED-USE DEVELOPMENT
LOT 93 & 94 SOUTH WESTERN HIGHWAY
BYFORD

ACOUSTIC REPORT

OCTOBER 2025

OUR REFERENCE: 35461-1-25408

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ACOUSTIC REPORT

MIXED-USE DEVELOPMENT
LOT 93 & 94 SOUTH WESTERN HIGHWAY, BYFORD

Job No: 25408

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FOR

KLOPPER AND DAVIS ARCHITECTS

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APPENDICIES

A WALL SETOUT PLANS AND WALL TYPES

B EXTRACT OF PART F7 OF NCC

1.0 INTRODUCTION

Herring Storer Acoustics was commissioned to undertake a review of the proposed development of 830 and 834 South Western Highway, Byford with regards to compliance with Part F7 of the *National Construction Code* (NCC) and the *Environmental Protection (Noise) Regulations 1997*. Part F7 of the NCC details the requirements for sound transmission and insulation of residential type buildings.

The development consists of two two-storey residential buildings and a separate two storey commercial building.

The report is based upon the development approval drawings.

2.0 CRITERIA

2.1 NCC PROVISIONS

For Class 2 or 3 buildings, the appropriate sections of Part F7 "Sound transmission and insulation" relating to the acoustic criteria are attached in Appendix B for information. Table 2.1 summarises the deemed to satisfy requirements of Part F7.

TABLE 2.1 – SUMMARY OF NCC REQUIREMENTS

Space of separation	Acoustic Rating	Discontinuous Construction Required
WALLS		
Wet to wet	$R_W + C_{tr}$ not less than 50 dB	NO
Living to living	$R_W + C_{tr}$ not less than 50 dB	NO
Wet to living	$R_W + C_{tr}$ not less than 50 dB	YES
Kitchens to living	$R_W + C_{tr}$ not less than 50 dB	YES
Unit to plantroom, stairway Public corridor / lobby or alike	R_W not less than 50 dB.	NO
Unit to Lift shaft	R_W not less than 50 dB.	YES
Unit to part of a different classification	R_W not less than 50 dB.	NO
FLOORS		
Between Sole Occupancy Units	$R_W + C_{tr}$ not less than 50 dB.	N/A
	$L_{n,w}$ not more than 55 dB is recommended	N/A
SERVICE RISERS / STORM WATER DOWN PIPES		
to Habitable Rooms	$R_W + C_{tr}$ not less than 40 dB.	NO
to Non-Habitable Rooms	$R_W + C_{tr}$ not less than 25 dB	NO
DOORS		
Doors to Sole Occupancy Units	R_W not less than 30 dB	NO

Notes:

1 Where kitchens are part of an open living area, kitchens are considered to be part of the living area and in these cases discontinuous construction is required. This also includes cases where kitchens are back-to-back, however, discontinuous construction is only required on one side.

2 Wet area include bathrooms, ensuites, sanitary compartments/powder rooms, laundries and kitchens.

3 For the purposes of this Part, discontinuous construction means a wall having a minimum 20 mm cavity between 2 separate leaves, and—

(a) for masonry, where wall ties are required to connect leaves, the ties are of the resilient type; and
(b) for other than masonry, there is no mechanical linkage between leaves except at the periphery.

2.2 ENVIRONMENTAL PROTECTION (NOISE) REGULATIONS 1997

The *Environmental Protection (Noise) Regulations 1997* stipulate the allowable noise levels at any noise sensitive premises from other premises. The allowable or assigned noise levels for noise sensitive premises are determined by the calculation of an influencing factor, which is added to the baseline criteria set out in Table 1 of the Regulations. The baseline assigned noise levels are listed in Table 2.2. For commercial premises, the allowable or assigned noise levels are the same for all hours of the day. Table 2.2 also lists the assigned noise levels for commercial premises.

TABLE 2.2 – ASSIGNED NOISE LEVELS

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		$L_{A\ 10}$	$L_{A\ 1}$	$L_{A\ max}$
Noise sensitive premises within 15 metres of a dwelling	0700 - 1900 hours Monday to Saturday	45 + IF	55 + IF	65 + IF
	0900 - 1900 hours Sunday and Public Holidays	40 + IF	50 + IF	65 + IF
	1900 - 2200 hours all days	40 + IF	50 + IF	55 + IF
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	35 + IF	45 + IF	55 + IF
Commercial premises	All hours	60	75	80

Note: The L_{A10} noise level is the noise that is exceeded for 10% of the time.
The L_{A1} noise level is the noise that is exceeded for 1% of the time.
The L_{Amax} noise level is the maximum noise level recorded.

It is a requirement that noise from the site be free of annoying characteristics (tonality, modulation and impulsiveness) at other premises, defined below as per Regulation 9.

"impulsiveness" means a variation in the emission of a noise where the difference between L_{Apeak} and $L_{Amax\ Slow}$ is more than 15dB when determined for a single representative event;

"modulation" means a variation in the emission of noise that –

(a) is more than 3dB $L_{A\ Fast}$ or is more than 3dB $L_{A\ Fast}$ in any one-third octave band;
(b) is present for more at least 10% of the representative assessment period; and
(c) is regular, cyclic and audible;

"tonality" means the presence in the noise emission of tonal characteristics where the difference between –

(a) the A-weighted sound pressure level in any one-third octave band; and
(b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands, is greater than 3 dB when the sound pressure levels are determined as $L_{Aeq,T}$ levels where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as $L_{A\ Slow}$ levels.

Where the above characteristics are present and cannot be practicably removed, the following adjustments are made to the measured or predicted level at other premises.

TABLE 2.3 – ADJUSTMENTS FOR ANNOYING CHARACTERISTICS

Where tonality is present	Where modulation is present	Where impulsiveness is present
+ 5 dB	+ 5 dB	+ 10 dB

Where the noise emission is music, then any measured level is adjusted according to Table 2.4 below.

TABLE 2.4 – ADJUSTMENTS TO MEASURED MUSIC NOISE LEVELS

Where **impulsiveness** is not present	Where **impulsiveness** is present
+10 dB(A)	+15 dB(A)

3.0 NCC REQUIREMENTS

3.1 WALL CONSTRUCTION

Acoustic requirements per the NCC for walls are listed in Appendix A.

In addition to the required R_w rating of not less than 50, a discontinuous construction for the wall separating the bedroom of apartment 103 and the bin room is recommended.

3.2 FLOOR CONSTRUCTION

Floors separating apartments require an R_w+C_{tr} of not less than 50 dB and an $L_{n,w}$ of not more than 55 dB is recommended.

3.3 SOIL AND WASTE PIPES

Due to the design of the building, there is understood to be no soil and waste pipes located in shafts or ceiling spaces, associated with a different SOU to that SOU.

3.4 GENERAL BUILDING NOTES

S28C3 of the NCC (included in Appendix B) lists details regarding the installation of building elements separating SOUs.

4.0 NOISE EMISSIONS

Noise emissions from the development include noise from mechanical plant servicing the apartments and noise associated with the commercial tenancies. The nature of the commercial tenancies is currently unknown and each operator will require an acoustic assessment as part of their development approval.

4.1 INFLUENCING FACTOR

The development is located in a corridor of mixed use zoning between South Western Highway and residential zoning. An illustration of the surrounding area is included in Figure 4.1.

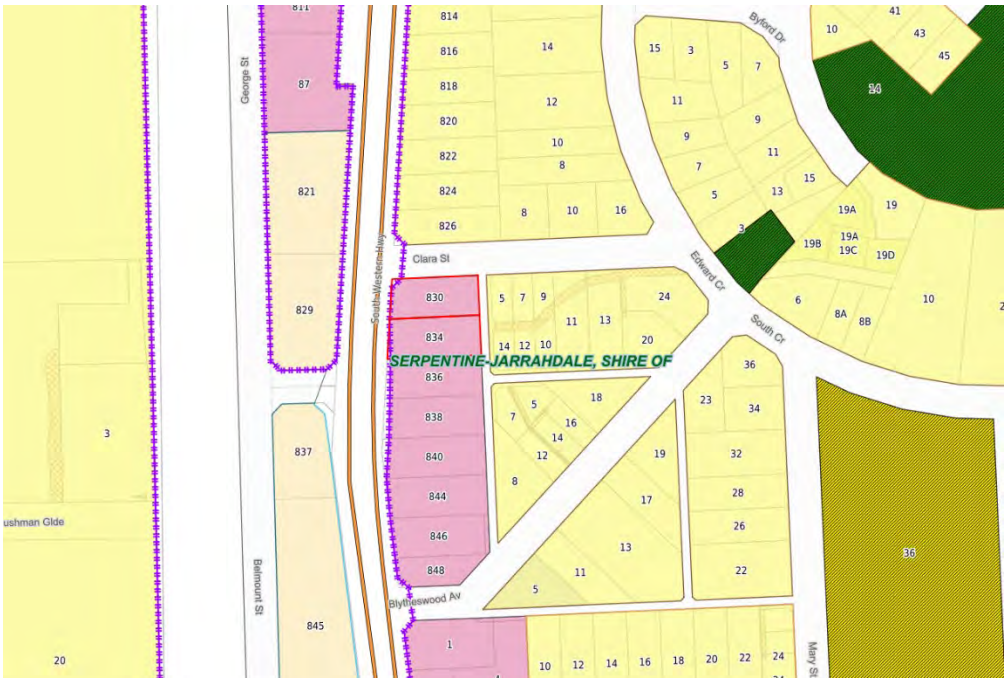


FIGURE 4.1 – SURROUNDING AREA

The influencing factor for these nearby residences is calculated as follows:

TABLE 4.1 – INFLUENCING FACTOR CALCULATION

Component	Contribution	Influencing Factor (dB)
Commercial within 100m	20%	1
Commercial within 450m	13%	0.6
Major Road within 100m	South Western Highway (15,500 vpd)	6
Total (rounded)		**8**

As such the assigned levels for these receivers is summarised in Table 4.2.

TABLE 4.2 - ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises within 15 metres of a dwelling	0700 - 1900 hours Monday to Saturday	53	63	73
	0900 - 1900 hours Sunday and Public Holidays	48	58	73
	1900 - 2200 hours all days	48	58	63
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	43	53	63

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.

4.2 NOISE EMISSIONS FROM APARTMENTS

The main source of noise associated with the apartments within the development is the mechanical services. Emissions from these sources will be required to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997*.

As mechanical services can operate during the night period the critical assigned level is the night time period L_{A10} of 43 dB. These emissions are typically tonal in nature, and hence carry a +5 adjustment to their assessable level. The design level for mechanical plant selections is therefore 38 dB(A) at the nearest residences.

The mechanical plant for the apartments is located on the roof of the residential buildings as indicated on the drawings. While mechanical plant selection is not yet known these criteria should not be difficult to meet. An assessment of noise emissions is recommended once mechanical plant selection is known.

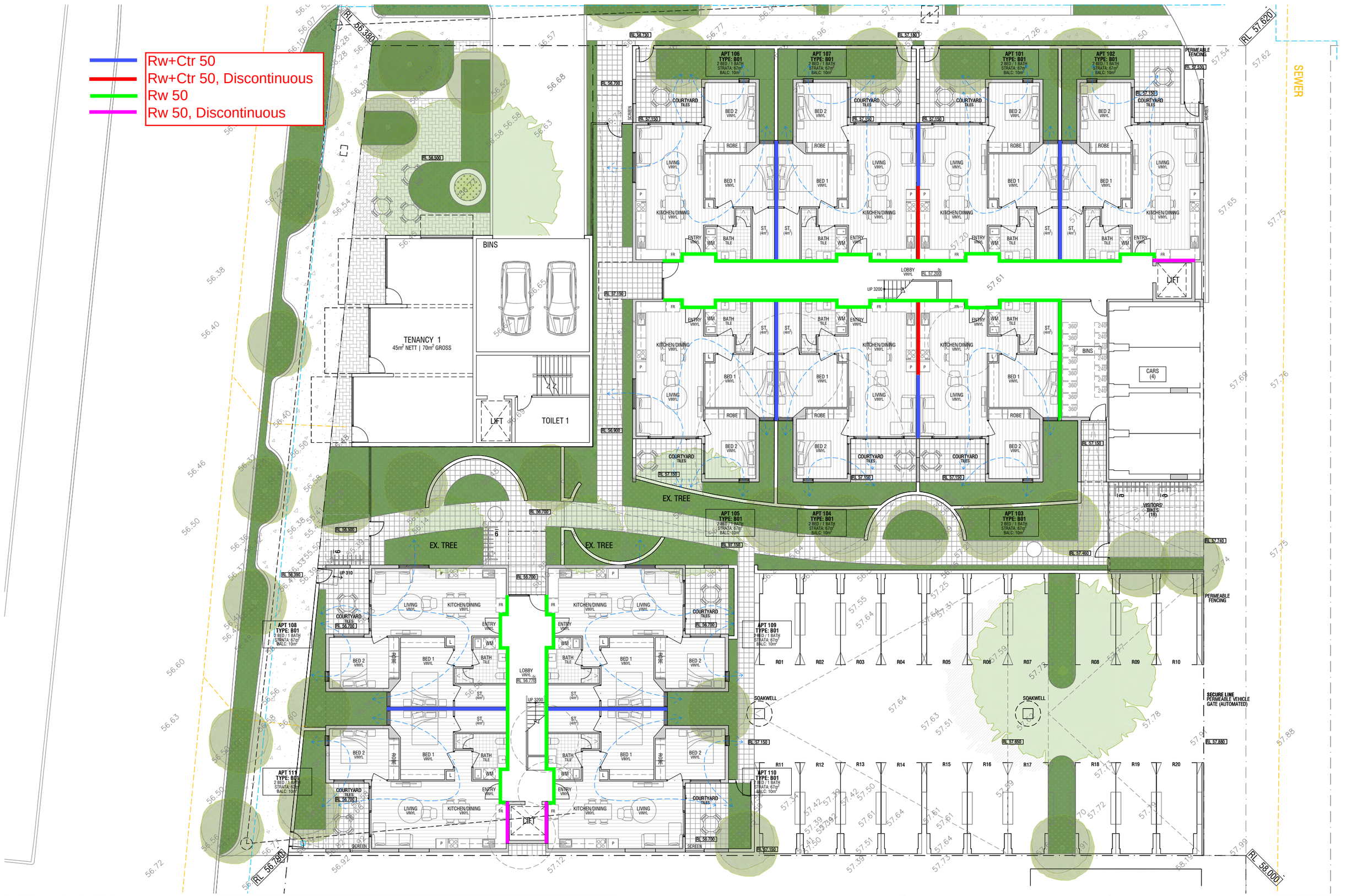
4.3 NOISE EMISSIONS FROM COMMERCIAL TENANCIES

The development includes a commercial building. The noise emissions from these are required to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* and a noise impact assessment would form part of the development application for each operator.

Noise associated with mechanical plant such as air conditioners and kitchen exhausts is assumed to be present during the night period so the critical assigned level is the night time L_{A10} of 43 dB. These emissions are typically tonal in nature, and hence carry a +5 adjustment to their assessable level. The design level for mechanical plant selections is therefore 38 dB(A) at the nearest residences, including the apartments that are part of this development. This is expected to be achievable with minor noise controls such as a barrier around the plant.

APPENDIX A

Drawings and Wall Requirements



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KLOPPER & DAVIS ARCHITECTS

ISSUE NUMBER			

ISSUE NUMBER			
S	08-10-25	CONSULTANT ISSUE	
R	04-09-25	DESIGN UPDATE	

PROJECT: CLARA STREET RESIDENCES

CLIENT: SPINNAKER DEVELOPMENTS

ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

DWG: GROUND FLOOR PLAN

STAGE: DEVELOPMENT APPLICATION

SCALE: 1:200 @ A3

JOB #: 2422

NORTH

DWG: A104

ISSUE S

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Rw+Ctr 50
Rw+Ctr 50, Discontinuous
Rw 50
Rw 50, Discontinuous

TENANCY 2
55m² NETT | 90m² GROSS
LIFT
TOILET 2

APT 207 TYPE: B01 2 BED / 1 BATH STRATA: 67m² BALC: 10m²
APT 208 TYPE: B01 2 BED / 1 BATH STRATA: 67m² BALC: 10m²
APT 201 TYPE: B01 2 BED / 1 BATH STRATA: 67m² BALC: 10m²
APT 202 TYPE: B01 2 BED / 1 BATH STRATA: 67m² BALC: 10m²
APT 206 TYPE: B01 2 BED / 1 BATH STRATA: 67m² BALC: 10m²
APT 205 TYPE: B01 2 BED / 1 BATH STRATA: 67m² BALC: 10m²
APT 204 TYPE: B01 2 BED / 1 BATH STRATA: 67m² BALC: 10m²
APT 203 TYPE: B01 2 BED / 1 BATH STRATA: 67m² BALC: 10m²
APT 209 TYPE: B01 2 BED / 1 BATH STRATA: 67m² BALC: 10m²
APT 210 TYPE: B01 2 BED / 1 BATH STRATA: 67m² BALC: 10m²
APT 212 TYPE: B01 2 BED / 1 BATH STRATA: 67m² BALC: 10m²
APT 211 TYPE: B01 2 BED / 1 BATH STRATA: 67m² BALC: 10m²

LOBBY VINYL RL 59.400
LOBBY VINYL RL 59.970
LIFT
SCREEN
OBSCURE GLASS BELOW 1600mm
7300

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ISSUE NUMBER			
S	08-10-25	CONSULTANT ISSUE
R	04-09-25	DESIGN UPDATE

PROJECT: CLARA STREET RESIDENCES
CLIENT: SPINNAKER DEVELOPMENTS
ADDRESS: 830 & 834 SOUTH WESTERN HWY BYFORD

DWG: FIRST FLOOR PLAN
STAGE: DEVELOPMENT APPLICATION

SCALE: 1:200 @ A3
JOB #: 2422

NORTH
DWG: A105
ISSUE S

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APPENDIX B

Extract of Part F7 of NCC

WALLS

F7D6 Sound insulation rating of walls

(1) A wall in a Class 2 or 3 building must—(a)have an $R_w + C_{tr}$ (airborne) not less than 50, if it separates sole-occupancy units; and

(a) have an R_w (airborne) not less than 50, if it separates a sole-occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby or the like, or parts of a different classification; and

(b) comply with F7D4(2) if it separates—

(i) a bathroom, sanitary compartment, laundry or kitchen in one sole-occupancy unit from a habitable room (other than a kitchen) in an adjoining unit; or

(ii) a sole-occupancy unit from a plant room or lift shaft.

(2) A door may be incorporated in a wall in a Class 2 or 3 building that separates a sole-occupancy unit from a stairway,public corridor, public lobby or the like, provided the door assembly has an R_w not less than 30.

(3) A wall in a Class 9c building must have an R_w not less than 45 if it separates—

(a) sole-occupancy units; or
(b) a sole-occupancy unit from a kitchen, bathroom, sanitary compartment (not being an associated ensuite), laundry, plant room or utilities room.

(4) In addition to (3), a wall separating a sole-occupancy unit in a Class 9c building from a kitchen or laundry must comply with F7D4(2).

(5) Where a wall required to have sound insulation has a floor above, the wall must continue to—

(a) the underside of the floor above; or
(b) a ceiling that provides the sound insulation required for the wall.

(6) Where a wall required to have sound insulation has a roof above, the wall must continue to—

(a) the underside of the roof above; or
(b) a ceiling that provides the sound insulation required for the wall.

F7D4 Determination of impact sound insulation ratings

(1) A floor in a building required to have an impact sound insulation rating must—

(a) have the required value for weighted normalised impact sound pressure level ($L_{n,w}$) determined in accordance with AS ISO 717.2 using results from laboratory measurements; or
(b) comply with Specification 28.

(2) A wall in a building required to have an impact sound insulation rating must—

(a) for a Class 2 or 3 building be of discontinuous construction and
(b) for a Class 9c building, must—
(i) for other than masonry, be two or more separate leaves without rigid mechanical connection except at the periphery; or
(ii) be identical with a prototype that is no less resistant to the transmission of impact sound when tested in accordance with Specification 29 than a wall listed in S28C4 to S28C7.

(3) For the purposes of this Part, discontinuous construction means a wall having a minimum 20 mm cavity between 2separate leaves, and—

(a) for masonry, where wall ties are required to connect leaves, the ties are of the resilient type; and
(b) for other than masonry, there is no mechanical linkage between leaves except at the periphery.

FLOORS

F7D5 Sound insulation rating of floors

(1) A floor in a Class 2 or 3 building must have an $R_w + C_{tr}$ (airborne) not less than 50 and an $L_{n,w}$ (impact) not more than62 if it separates—

(a) sole-occupancy units; or
(b) a sole-occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby or the like, or parts of a different classification.

As recommended by the Association of Australian Acoustical Consultants, the design objective of an $L_{n,w}$ of 55 is recommended to be utilised for impact isolation between floors of apartments.

SOIL & WASTE PIPES

F7D7 Sound insulation rating of internal services

(1) If a duct or soil, waste or water supply pipe, including a duct or pipe that is located in a wall or floor cavity, serves or passes through more than one sole-occupancy unit, the duct or pipe must be separated from the rooms of any sole-occupancy unit by construction with an R_w + Ctr (airborne) not less than—

(a) 40 if the adjacent room is a habitable room (other than a kitchen); or
(b) 25 if the adjacent room is a kitchen or non-habitable room.

(2) If a stormwater pipe passes through a sole-occupancy unit, it must be separated in accordance with (1)(a) and (b)

PUMPS

F7D8 Sound isolation of pumps

A flexible coupling must be used at the point of connection between the service pipes in a building and any circulating or other pump.

SOUND INSULATION FOR BUILDING ELEMENTS

S28C3 Construction Deemed-to-Satisfy

The forms of construction referred to in (1) [Acceptable forms for walls and floors - S28C4 through S28C10] must be installed as follows:

a. Masonry units must be laid with all joints filled solid, including those between the masonry and any adjoining construction.

b. Joints between concrete slabs or panels and any adjoining construction must be filled solid.

c. For sheeting materials—

i. if one layer is required on both sides of a wall, it must be fastened to the studs with joints staggered on opposite sides; and

ii. if two layers are required, the second layer must be fastened over the first layer so that the joints do not coincide with those of the first layer; and

iii. joints between sheets or between sheets and any adjoining construction must be taped and filled solid.

d. Timber or steel-framed construction — perimeter framing members must be securely fixed to the adjoining structure and—

i. bedded in resilient compound; or

ii. the joints must be caulked so that there are no voids between the framing members and the adjoining structure.

e. Services must not be chased into concrete or masonry elements.

f. A door or panel required to have a certain $R_w + C_{tr}$ that provides access to a duct, pipe or other service must—

i. not open into any habitable room (other than a kitchen); and

ii. be firmly fixed so as to overlap the frame or rebate of the frame by not less than 10 mm, be fitted with a sealing gasket along all edges and be constructed of—

1. wood, particleboard or blockboard not less than 33 mm thick; or

2. compressed fibre-reinforced cement sheeting not less than 9 mm thick; or

3. other suitable material with a mass per unit area not less than 24.4 kg/m^2.

g. A water supply pipe must—

i. only be installed in the cavity of discontinuous construction; and

ii. in the case of a pipe that serves only one sole-occupancy unit, not be fixed to the wall leaf on the side adjoining any other sole-occupancy unit and have a clearance not less than 10 mm to the other wall leaf.

h. Electrical outlets must be offset from each other—

i. in masonry walling, not less than 100 mm; and

ii. in timber or steel-framed walling, not less than 300 mm.

DOCUMENT END

Waste Management Plan

830 & 834 South Western Highway, Byford

Prepared for Spinnaker Developments c/- Klopper & Davis Architects

27 October 2025

Project Number: WMP25107

DOCUMENT CONTROL

Version	Description	Date	Author	Reviewer	Approver
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Approval for Release

Name	Position	File Reference
Ann Brouwer	Project Manager – Waste Management Plan Lead (WA)	WMP25107-02_Waste Management Plan_2.0
Signature		

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Executive Summary

Spinnaker Developments is seeking development approval for the proposed mixed-use development located at Lot 93 & 94 (830 & 834) South Western Highway, Byford (the Proposal).

To satisfy the conditions of the development application the Shire of Serpentine Jarrahdale (the Shire) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the Shire's requirements.

A summary of the bin size, numbers, collection frequency and collection method is provided in the below table.

Proposed Waste Collection Summary

Waste Type	Generation (L/week)	Bin Size (L)	Number of Bins	Collection Frequency	Collection
Residential Bin Storage Area					
Refuse	3,680	240	Sixteen	Once each week	Shire of Serpentine Jarrahdale
Recycling	920	360	Six	Once each fortnight	Shire of Serpentine Jarrahdale
Commercial Bin Storage Area					
Refuse	50	240	One	Once each week	Shire of Serpentine Jarrahdale
Recycling	50	240	One	Once each fortnight	Shire of Serpentine Jarrahdale

The Shire will collect refuse and recyclables from the Proposal utilising its kerbside collection service. The Shire's collection vehicle will service the bins from the Bin Presentation Area on Clara Street.

A strata manager/caretaker will oversee the relevant aspects of waste management at the Proposal.

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Diagram 1: Residential Bin Storage Area
Diagram 2: Commercial Bin Storage Area
Diagram 3: Bin Presentation Area

Figures

Figure 1: Locality Plan

1 Introduction

Spinnaker Developments is seeking development approval for the proposed mixed-use development located at 830 & 834 South Western Highway, Byford (the Proposal).

To satisfy the conditions of the development application the Shire of Serpentine-Jarrahdale (the Shire) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the Shire's requirements.

The Proposal is bordered by Clara Street to the north, Raggle Lane to the east, residential developments to the south and South Western Highway to the west, as shown in Figure 1.

1.1 Objectives and Scope

The objective of this WMP is to outline the equipment and procedures that will be adopted to manage waste (refuse and recyclables) at the Proposal. Specifically, the WMP demonstrates that the Proposal is designed to:

- Adequately cater for the anticipated volume of waste to be generated;
- Provide adequately sized Bin Storage Areas, including appropriate bins; and
- Allow for efficient collection of bins by appropriate waste collection vehicles.

To achieve the objective, the scope of the WMP comprises:

- Section 2: Waste Generation;
- Section 3: Waste Storage;
- Section 4: Waste Collection;
- Section 5: Waste Management; and
- Section 6: Conclusion.

2 Waste Generation

The following section shows the waste generation rates used and the estimated waste volumes to be generated at the Proposal.

2.1 Proposed Tenancies

The anticipated volume of refuse and recyclables is based on the number of apartments and the floor area (m^2) of the commercial tenancies at the Proposal. The Proposal consists of the following:

Building 1:

- Two Bedroom Apartments – 15.

Building 2:

- Two Bedroom Apartments – 8.

Commercial:

- Tenancy 1 – 45m^2; and
- Tenancy 2 – 55m^2.

2.2 Waste Generation Rates

In order to achieve an accurate projection of waste volumes for the Proposal, consideration was given to the Western Australian Local Government Association's (WALGA) *Multi Dwelling Development Waste Management Plan Guidelines* (2014).

Table 2-1 shows the waste generation rates which have been applied to the Proposal.

Table 2-1: Waste Generation Rates

Tenancy Use Type	WALGA Guideline Reference	Refuse Generation Rate	Recycling Generation Rate
Residential			
Two-Bedroom Apartments	2 bedroom	160L/week	40L/week
Commercial			
Tenancy 1 & 2	Offices	10L/100m^2/day	10L/100m^2/day

2.3 Waste Generation Volumes

Waste generation is estimated by volume in litres (L) as this is generally the influencing factor when considering bin size, numbers and storage space required.

2.3.1 Residential Waste

Residential waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 2-2. It is estimated that the residential apartments for Building 1 and Building 2 at the Proposal will generate 3,680L of refuse and 920L of recyclables each week.

Table 2-2: Estimated Waste Generation – Residential

Residential Apartments	Number of Apartments	Waste Generation Rate (L/week)	Waste Generation (L/week)
Refuse			
Building 1 Two Bedroom Apartments	15	160	2,400
Building 2 Two Bedroom Apartments	8	160	1,280
		Total	**3,680**
Recyclables			
Building 1 Two Bedroom Apartments	15	40	600
Building 2 Two Bedroom Apartments	8	40	320
		Total	**920**

2.3.2 Commercial Waste

Commercial waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 2-3. It is estimated that the commercial tenancies at the Proposal will generate 50L of refuse and 50L of recyclables each week.

Table 2-3: Estimated Waste Generation – Commercial

Commercial Tenancies	Floor Area (m^2)	Waste Generation Rate (L/100m^2/day)	Waste Generation (L/week)
Refuse			
Tenancy 1	45	10	22
Tenancy 2	55	10	28
		Total	**50**
Recyclables			
Tenancy 1	45	10	22
Tenancy 2	55	10	28
		Total	**50**

3 Waste Storage

Waste materials generated within the Proposal will be collected in the bins located in the Bin Storage Areas, as shown in Diagram 1 and Diagram 2, and discussed in the following sub-sections.

3.1 Internal Transfer of Waste

To promote positive recycling behaviour and maximise diversion from landfill, the residential apartments will have room to accommodate two under counter/kitchen bins for the separate disposal of refuse and recyclables. Waste from these internal bins will be transferred by residents directly to the Residential Bin Storage Area and deposited into the appropriate bins.

The commercial tenancies will also have a minimum of two internal bins to facilitate the separate disposal of refuse and recyclables. The contents of these internal bins will be transferred by staff or cleaners to the Commercial Bin Storage Area and deposited into the appropriate bins, as required.

All bins will be colour coded and labelled in accordance with Australian Standards (AS 4123.7) to assist residents to dispose of their separate waste materials in the correct bins.

3.2 Bin Sizes

Table 3-1 gives the typical dimensions of standard bins sizes that may be utilised at the Proposal. It should be noted that these bin dimensions are approximate and can vary slightly between suppliers.

Table 3-1: Typical Bin Dimensions

Dimensions (m)	Bin Sizes		
	140L	240L	360L
Depth	0.615	0.730	0.848
Width	0.535	0.585	0.680
Height	0.915	1.060	1.100

Reference: SULO Bin Specification Data Sheets

3.3 Residential Bin Storage Area Size

To ensure sufficient area is available for storage of the residential bins, the amount of bins required for the Residential Bin Storage Area was modelled utilising the estimated waste generation in Table 2-2, bin sizes in Table 3-1 and based on collection of refuse once each week and recycling once each fortnight.

Based on the results shown in Table 3-2 the Residential Bin Storage Area has been sized to accommodate:

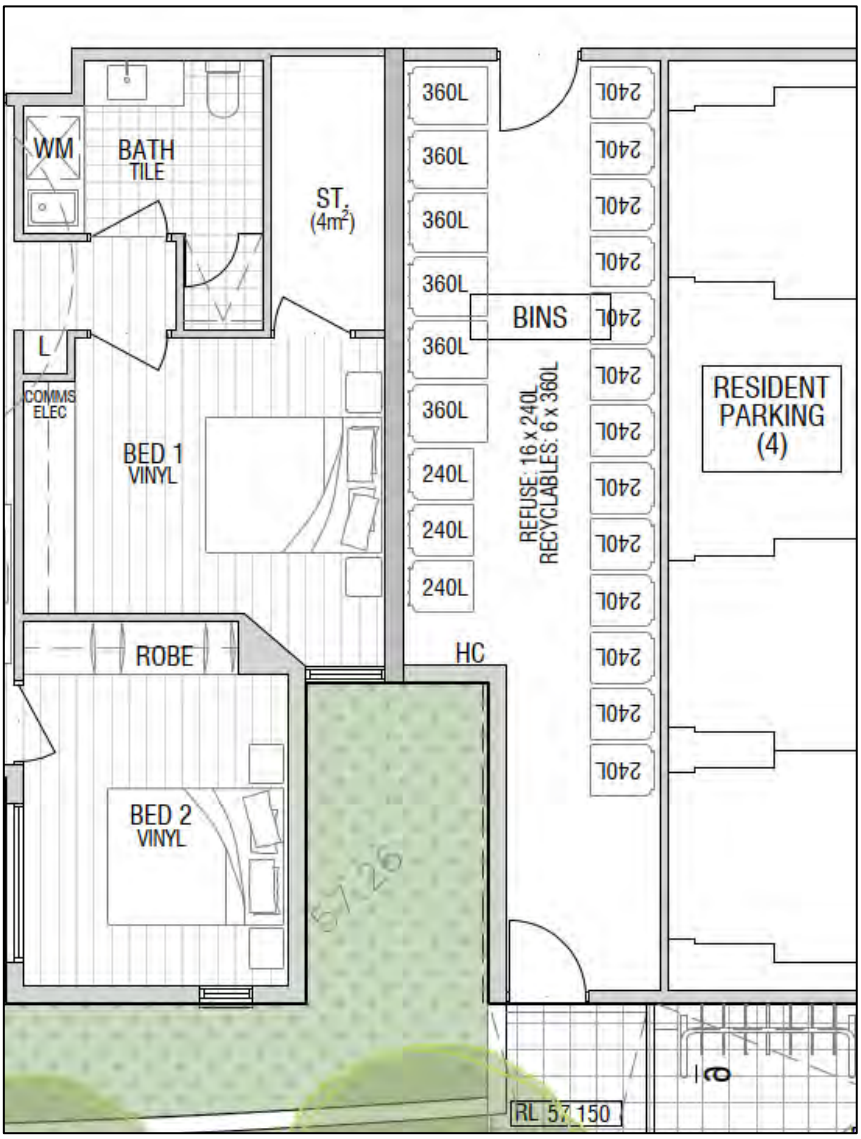
- Sixteen 240L refuse bins; and
- Six 360L recycling bins.

Table 3-2: Bin Requirements for Bin Storage Area – Residential

Waste Stream	Waste Generation (L/week)	Number of Bins Required		
		140L	240L	360L
Refuse	3,680	27	16	-
Recycling	920	-	8	6

The configuration of these bins within the Residential Bin Storage Area is shown in Diagram 1 It is worth noting that the number of bins and corresponding placement of bins shown in represents the maximum requirements assuming one collection each week of refuse and once each fortnight for recyclables.

Diagram 1: Residential Bin Storage Area



3.4 Commercial Bin Storage Area Size

To ensure sufficient area is available for storage of the commercial bins, the amount of bins required for the Commercial Bin Storage Area was modelled utilising the estimated waste generation in Table 2-3, bin sizes in Table 3-1 and based on collection of refuse once each week and recyclables once each fortnight.

Based on the results shown in Table 3-2 the Commercial Bin Storage Area has been sized to accommodate:

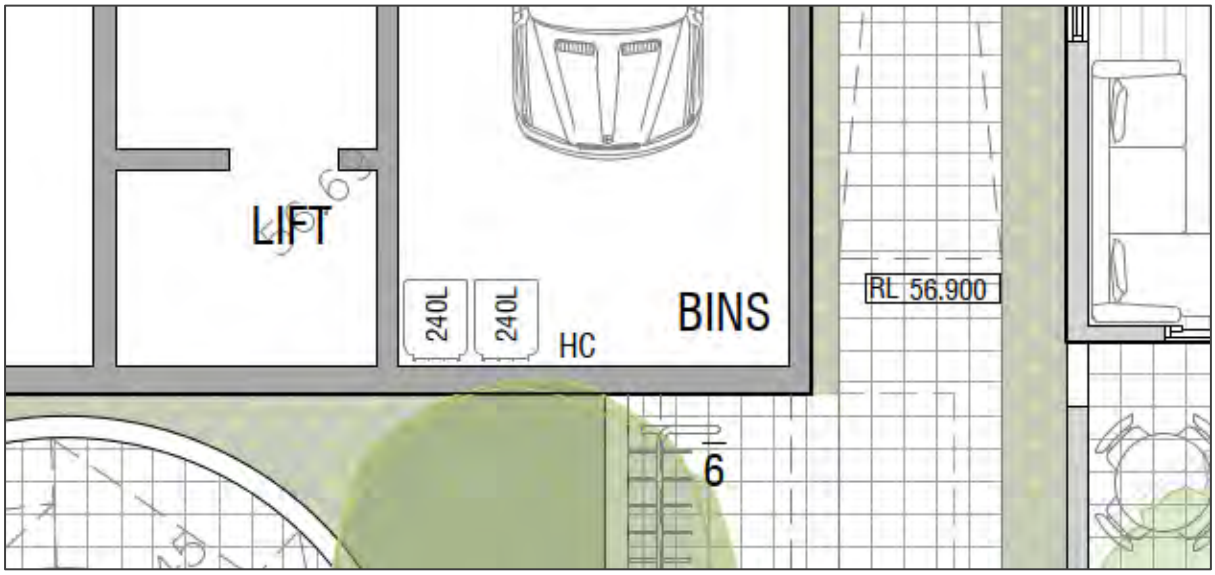
- One 240L refuse bin; and
- One 240L recycling bin.

Table 3-3: Bin Requirements for Bin Storage Area – Commercial

Waste Stream	Waste Generation (L/week)	Number of Bins Required		
		140L	240L	360L
Refuse	50	1	1	-
Recycling	50	-	1	1

The configuration of these bins within the Commercial Bin Storage Area is shown in Diagram 2. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 2 represents the maximum requirements assuming one collection each week of refuse and once each fortnight for recyclables.

Diagram 2: Commercial Bin Storage Area



3.5 Future Food Organics and Garden Organics (FOGO)

In the near future it is expected that the Shire will be introducing bins for the separate collection of food organics and garden organics (FOGO) within multi-unit residential properties in line with the state government's Waste Avoidance and Resource Recovery (WARR) Strategy 2030.

Should the development be required to separate food waste for collection in future, numerous 240L refuse bins (anticipated approximately three) could be swapped out with 240L lime green lidded FOGO bins to allow for the change once implemented.

Kitchen caddies would be used in each residential apartment to collect FOGO, which would then be taken by residents to the Residential Bin Storage Area for depositing into communal 240L lime green lidded FOGO bins.

3.6 Bin Storage Area Design

The design of the Bin Storage Areas will take into consideration:

- Smooth impervious floor sloped to a drain connected to the sewer system;
- Taps for washing of bins and Bin Storage Areas;
- Adequate aisle width for easy manoeuvring of bins;

- No double stacking of bins;
- Doors to the Bin Storage Areas self-closing and vermin proof;
- Doors to the Bin Storage Areas wide enough to fit bins through;
- Ventilated to a suitable standard;
- Appropriate signage;
- Undercover where possible and be designed to not permit stormwater to enter into the drain;
- Located behind the building setback line;
- Bins not to be visible from the property boundary or areas trafficable by the public; and
- Bins are reasonably secured from theft and vandalism.

Bin numbers and storage space within the Bin Storage Areas will be monitored by the strata manager/caretaker during the operation of the Proposal to ensure that the number of bins and collection frequency is sufficient.

4 Waste Collection

The Shire will service the Proposal by providing the following:

Residential Bin Storage Area:

- Sixteen 240L refuse bins; and
- Six 360L recycling bins.

Commercial Bin Storage Area:

- One 240L refuse bins; and
- One 240L recycling bins.

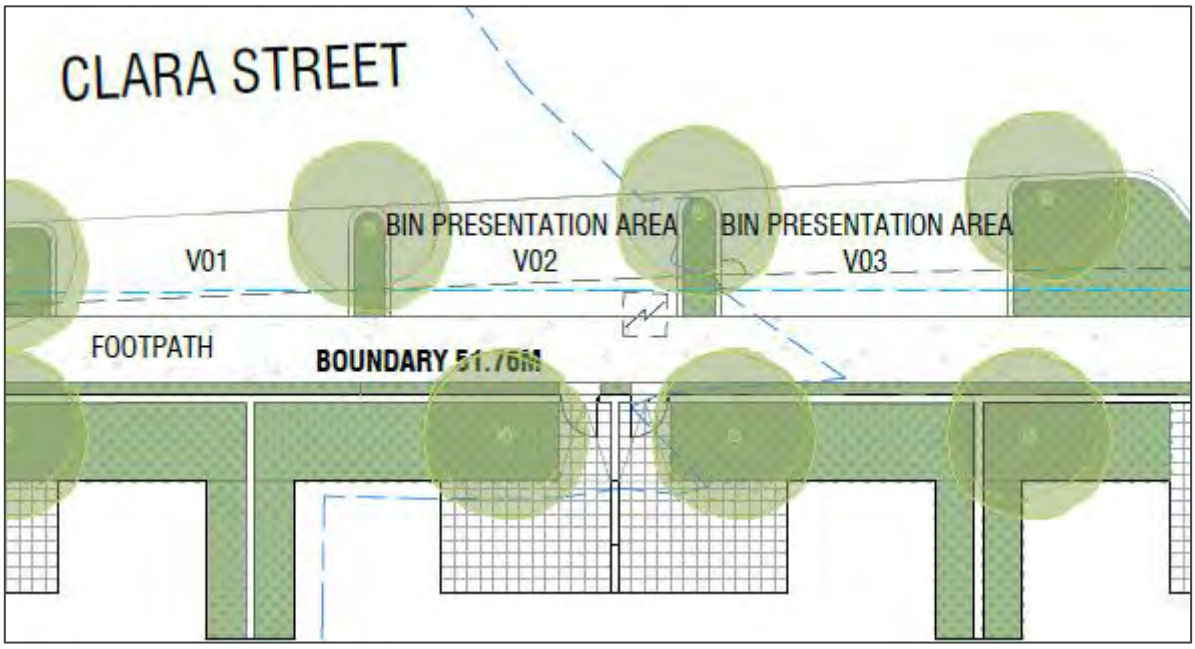
The Shire will collect refuse once each week and recyclables once each fortnight from the Proposal utilising its side arm waste collection vehicle.

The Shire will service bins from the Bin Presentation Area on the verge on Clara Street at the front of the Proposal, refer Diagram 3.

Bins will be presented for collection 1m from the verge with the wheels and handles facing away from the street. The bins will remain clear of obstructions such as power poles, signs and street trees, and will be placed so as not to obstruct pedestrians, footpaths or bike lanes. Bins will be lined up neatly and in a single row along the verge, with sufficient space between each bin to facilitate collection by the Shire's side arm waste collection vehicle.

The strata manager/caretaker will ferry the bins to and from the Bin Presentation Area via Raggle Lane on collection days. The travel path between the Bin Storage Areas and the Bin Presentation Area will be of flat surface and kept free of obstacles. The strata manager/caretaker will return the bins to the respective Bin Storage Area as soon as possible on the same day following collection.

Diagram 3: Bin Presentation Area



4.1 Residential Bulk Waste

To assist with the reduction of illegal dumping of bulky wastes, each apartment has an allocated storage room of at least 4m^2. The strata manager/caretaker will liaise with residents on procedures for bulky waste disposal within the Proposal, as required.

The Shire offers residents one free on demand waste collection annually for either a mattress, white good, lounge suite or green waste. Additional services will incur an additional cost.

There is sufficient verge space for the placement of bulk materials for collection. An area on the verge that is clear of overhanging trees and services or a fenced off parking bay may be designated for use as a collection point.

5 Waste Management

A strata manager/caretaker will complete the following tasks:

- Monitoring and maintenance of bins within the Bin Storage Areas;
- Cleaning of bins and the Bin Storage Areas, when required;
- Ensure all residents/tenants at the Proposal are made aware of this WMP and their responsibilities thereunder;
- Monitor resident/tenant behaviour and identify requirements for further education and/or signage;
- Ferrying of bins to and from the Bin Storage Areas and the Bin Presentation Area on collection days;
- Monitor bulk waste collection services and assist residents to store/remove bulk wastes appropriately;
- Regularly engage with the Shire to ensure efficient and effective waste service is maintained.

6 Conclusion

As demonstrated within this WMP, the Proposal provides sufficiently sized Bin Storage Areas for storage of refuse and recyclables, based on the estimated waste generation volumes and suitable configuration of bins. This indicates that adequately designed Bin Storage Areas have been provided, and collection of refuse and recyclables can be completed from the Proposal.

The above is achieved using:

Residential Bin Storage Area:

- Sixteen 240L refuse bins, collected once each week; and
- Six 360L recycling bins, collected once each fortnight.

Commercial Bin Storage Area:

- One 240L refuse bin, collected once each week; and
- One 240L recycling bin, collected once each fortnight.

The Shire will collect refuse and recyclables from the Proposal utilising its kerbside collection service. The Shire's waste collection vehicle will service the bins from the Bin Presentation Area on Clara Street.

A strata manager/caretaker will oversee the relevant aspects of waste management at the Proposal.

Figures

Figure 1: Locality Plan

P: PO Box 454, Leederville WA 6903 | A: 604 Newcastle St, Leederville WA 6007 | T: 1300 251 070 | W: www.talisconsultants.com.au

406,600

406,650

406,700

6,435,000

6,434,950

Clara St

South Western Hwy

Raggle Lane

Quoin Lane

Pitman Way

Data source: Roads, Cadastre - Landgate, 2025. Imagery: Nearmap, 2025.

LEGEND

Site Boundary

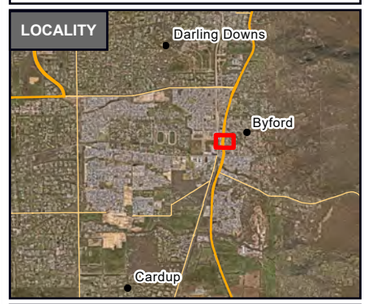
Cadastre

Freehold

Road

Easement

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0 2 4 6 8 km

LOCALITY

Lot 93 & 94
830 & 834 South Western Highway
Byford WA 6122

Spinnaker Developments

N 0 5 10 15 20 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:500

Prepared:	M Henschel	Date:	8/10/2025
Reviewed:	A Brouwer	Revision:	A
Project:	WMP25107		

talis consultants

Figure 01

Document Path: \\server\Talis\SECTIONS\Waste\PROJECTS\WMP2025\WMP25107 - Lot 93 & 94 (830 & 834) South Western Highway, Byford\GIS\Maps\WMP25107 - Lot 93 & 94 (830 & 834) South Western Highway, Byford\WMP25107 - Lot 93 & 94 (830 & 834) South Western Highway, Byford.aprx



Assets | Engineering | Environment | Noise | Spatial | Waste

HEAD OFFICE
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NSW OFFICES
Nowra
76 Bridge Road,
Nowra, NSW 2541

Newcastle
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Hamilton, NSW 2303

QLD OFFICE
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South Brisbane, QLD 4101

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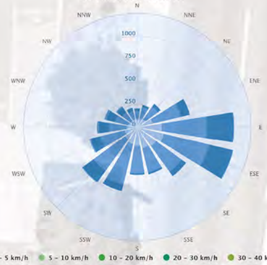
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BYFORD | WA
SEASONAL MEANS

WINTER SUN 9 - 16°C

SUMMER SUN 17 - 31°C

SOLAR DIAGRAM
SEASONAL SUNLIGHT



WIND DIRECTION
SEASONAL STRENGTH

13.7%
DEEP SOIL AREA
354 SQM (EXCLUDES VERGE)
2587 SQM LOT

13.1%
PERMEABLE
339 SQM (EXCLUDES VERGE)
2587 SQM LOT

TYPICAL UNDERSTOREY PLANTING PALETTE
3 X 130MM POTS PER SQM | 75MM THICK ORGANIC MULCH
7 GRAMS DICHONDRA REPENS SEED PER SQM TO GRANULAR MULCH

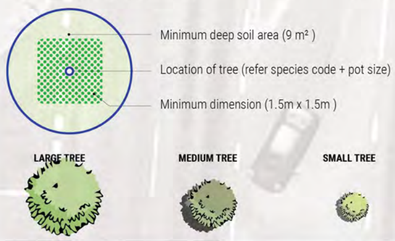
M1
- *Carpobrotus virescens* **Pig Face**
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M2
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- *Myoporum parvifolium* **Creeping Boobialla**

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- *Westringia dampiera* **Coastal Rosemary**

M4
- *Billardiera heterophylla* **WA Blue Bell**
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- *Olearia little smokie* **Smoke Bush**

SMALL TREE SYMBOL DIMENSIONS
note: symbols on plan are drawn to scale to demonstrate the following areas and dimensions:





LANDSCAPE DESIGN RATIONALE

Initial site investigations reveal two residential lots with a combined area of 2587m² in Byford, WA. The streetscapes on South Western highway are quite degraded and have limited tree planting on this side of the road due to overhead power lines. The pedestrian footpaths street are designed to be 1.5m wide and aligned with Liveable Neighbourhoods dimensions and set out to connect with existing pathways.

The pram ramp on the NW street corner is natural grey, broomed concrete exiting to a drainage grate on the road and a large power pole adjacent. This crossing should be removed and reinstated with a barrier kerb, with a new pram ramp on Clara Street shifted to the east. A significant Moreton Bay Fig (Ficus macrocarpa) will be retained and must be protected to AS4790-2009 during demolition and construction. This tree will form the centrepiece to the forecourt of the commercial development (subject to separate DA).

The streetscape in this location would benefit from additional street tree planting to assist with wind buffering, shade and canopy under the power lines. Street tree species shown are a suggestion only and subject to local council selections and compliant with western power.

Turf will only be incorporated at the street corner to improve visibility and passive recreation, the remaining landscape areas are planted and irrigated (including verges) to soften the pedestrian experience and improve the presentation of this street corner. The landscape design for this project will consist of plants and materials sourced locally using the toughest coastal species adapted to this location.

The soft works designs are inspired by local vegetation complexes punctuated with small and medium-sized ornamental trees to create a flowering and scented, textured native garden setting to the complex.

In addition to technical responses to access, native planting, sustainable irrigation and drainage, a robust greening rationale is incorporated to achieve a vegetated environment that will complement the presentation of the building to the street and neighbouring lots and tie in with existing pedestrian pathways and future streetscape improvements.

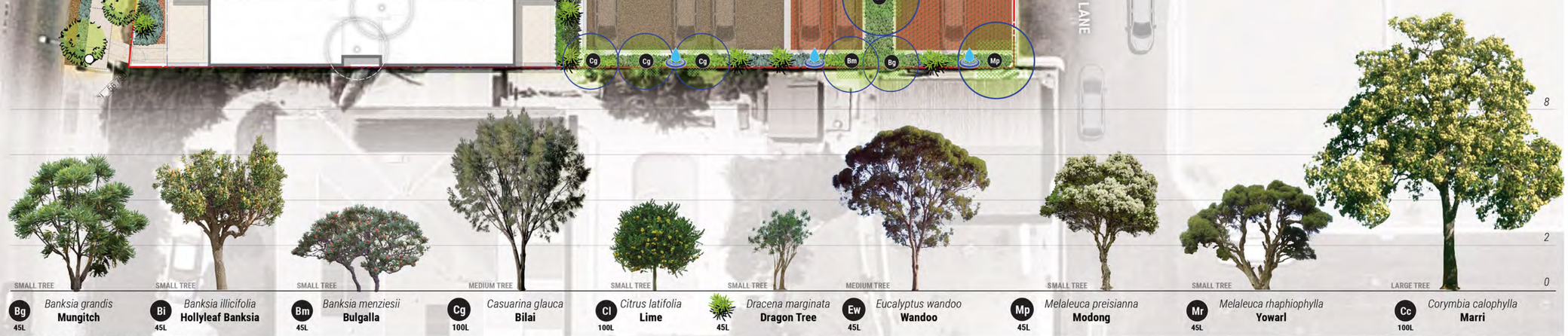
LEGEND

- **TREES TO BE RETAINED** to be protected to AS 4970
- **TREE TO BE REMOVED** stumps + roots to be removed
- **PROPOSED TREE** refer schedule for selections & sizes
- **FEATURE PLANTING** accent species | succulent or vertical accent
- **MASS PLANTING** 75mm organic mulch | 3 plants/sqm | 130mm pots
- **INTERNAL ROAD** red asphalt | flush concrete kerbs | wheelstops
- **RETAINING WALL | LIMESTONE BLOCK** 1000 x 350 x 350 | raked joints | flushed perpends mortar colour : WHITE
- **TRAFFICABLE UNTI PAVEMENT | PERMEABLE** 80mm unit paving | flush conc. edges | Aqua Tripave colour: HERITAGE RED
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- **GRANULAR PAVING | Permeable** 75 thick | 3-5mm crushed pea gravel | compacted *Dichondra repens* seeding (7g/sqm)
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IRRIGATION RATIONALE

Irrigation will be a series of smart, automatic irrigation systems that will provide subsurface watering to verge planting for establishment from each individual lot.

- **DRIP IRRIGATION THROUGHOUT** in-line drip system | subsurface
- **BUBBLERS TO TREES** 1 - 3 bubblers per tree dependent on size
- **NO OVERHEAD SPRAY SPRINKLERS** minimise water use, overspray & evaporation
- **HYDROZONING** designed with water demand calibrated stations
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Bg 45L *Banksia grandis* **Mungitch**
Bi 45L *Banksia illicifolia* **Hollyleaf Banksia**
Bm 45L *Banksia menziesii* **Bulgalla**
Cg 100L *Casuarina glauca* **Bilai**
Cl 100L *Citrus latifolia* **Lime**
45L *Dracena marginata* **Dragon Tree**
Ew 45L *Eucalyptus wandoo* **Wandoo**
Mp 45L *Melaleuca preisianna* **Modong**
Mr 45L *Melaleuca rhaphiophylla* **Yowarl**
Cc 100L *Corymbia calophylla* **Marri**

TYPICAL TREE PLANTING PALETTE

propagule

PROPOSED MULTI-UNIT DEVELOPMENT
830 + 834 SOUTH WESTERN HWY | BYFORD | WA

LANDSCAPE DEVELOPMENT APPLICATION

0 2 4 6 8 10m

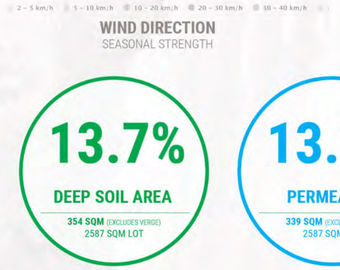
AUTHOR: JC
CHECKED: TB | MD
PROJECT NO: P25-002
SCALE: 1:200 @ A2
DATE: 28.11.2025

BYFORD | WA
SEASONAL MEANS

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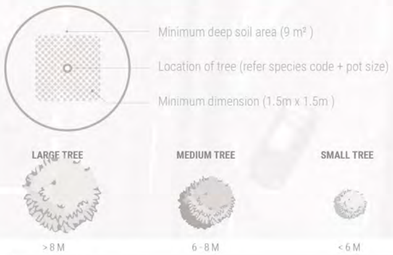
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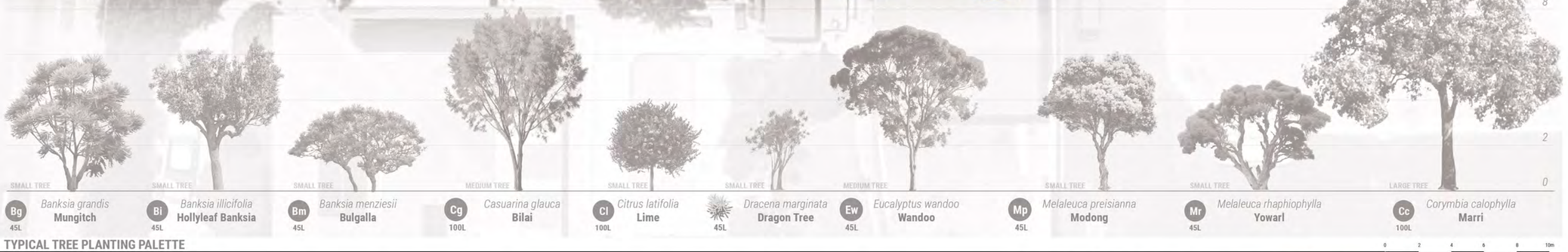
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TYPICAL TREE PLANTING PALETTE



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Prepared for: Spinnaker Developments Pty Ltd

Prepared by: ARBORITE TREE MANAGEMENT SOLUTIONS

3 November 2025

Tree Survey Report



830-834 S Western Hwy,
Byford WA 6122

Consulting Arborist

Guillaume Esposito
Diploma of Arboriculture (AQF 5)
www.treemanagement.com.au
info@treemanagement.com.au
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"In nature, nothing is perfect and everything is perfect. Trees can be contorted, bent in weird ways, and they're still beautiful."

- Alice Walker

1. Client

Spinnaker Developments Pty Ltd
C/- Lucas Berry | Managing Director
Suite 14/12 Napoleon Street, Cottesloe WA 6011
M 0430 469 396
E lucas@spinnakerdevelopments.com.au

2. Introduction

The purpose of this report is to provide an independent Arboricultural assessment of a tree set located at 830-834 S Western Hwy, Byford WA 6122 (Fig. 1). Arborite Tree Management Solutions has been employed to establish; tree details, health & condition and Useful Life Expectancy (ULE) to assist with tree retention priorities. A risk assessment will be conducted on the subject trees and recommendations to mitigate associated risks will be provided where necessary.

3. Key objectives

- Retain the subject trees through appropriate management
- Perform Visual Tree Assessment (VTA) on the subject trees to determine health and structure
- Identify scientific and common names
- Determine the subject trees height, width, trunk diameter, Tree Protection Zone (TPZ) and Structural Root Zone (SRZ)
- Establish tree retention values

4. Methodology

- The site was assessed from observations made from ground level on the 31st October 2025
- Field notes were taken and the information documented was an accurate account of the subject trees on the above specified date
- Australian Standards 4970-2009 – Protection of trees on development sites has been used as a reference for this Tree Protection Plan (TPP)
- A tape measure was used to determine relevant trees Diameter at Breast Height (DBH)
- Trees with a DBH of less than 100mm have not been surveyed
- The height and spread of the trees were estimated
- A walk by assessment (ISA Level 2 risk assessment) was performed on all trees on site and the Qualified Tree Risk Assessment (QTRA) model was applied to determine levels of risk.
- A Samsung tablet and Geographic Information System (GIS) have been used to capture the tree and its location imposed on Google satellite imagery

5. Limitations

Information contained in this report pertains only to the trees examined on the above specified date of inspection. The tree assessment was performed by a suitably qualified arborist (AQF 5) using a recognised model (VTA) that aligns with the International Society of Arboriculture (ISA). The assessment

was limited to a ground based VTA that did not extend to aerial inspections, nor below ground evaluations. The documented, observations, results, recommendations and conclusions given may vary after the site visit due to environmental conditions or variances in site conditions. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject tree may not arise in the future.

6. Site details

6.1 Site Map

The tree locations (Fig. 1) have been plotted using GIS software and are only accurate to that of standard GPS (4-8m). The points have been manually adjusted using aerial imagery to improve accuracy however, there is a margin of error and some points may not be in their correct (accurate) location. It is advised to cross reference these tree IDs with the feature survey to achieve their accurate locations.



Fig. 1 - Indicating subject trees at 830 S Western Hwy, Byford (Google satellite)

6.2 Feature survey



Fig. 2 - Indicating subject trees on feature survey

7. Tree details

7.1 Tree survey

Tag no.	Species	Height (m)	Width (m)	DBH (m)	Health	Structure	Age class	ULE	Retention Priority
1	*Cupressus sempervirens*	1-5	1-5	0.15	7	7	juvenile	5-15	Low
2	*Callistemon citrinus*	1-5	1-5	0.15	7	6	juvenile	5-15	Low
3	*Arbutus unedo*	1-5	1-5	0.35	7	7	semi-mature	15-40	Low
4	*Callistemon citrinus*	1-5	1-5	0.3	7	6	semi-mature	15-40	Low
5	*Schinus sp*	1-5	5-10	0.35	7	6	semi-mature	15-40	Low
6	*Populus nigra*	15-20	5-10	0.55	7	7	semi-mature	15-40	Medium
7	*Melia azedarach*	5-10	5-10	0.4	6	5	semi-mature	5-15	Low
8	*Populus nigra*	10-15	1-5	0.2	7	7	semi-mature	15-40	Low
9	*Palm*	1-5	5-10	0.4	7	7	semi-mature	15-40	Low
10	*Palm*	5-10	5-10	0.2	7	7	semi-mature	15-40	Low
11	*Palm*	5-10	5-10	0.25	7	7	semi-mature	15-40	Low
12	*Erythrina variegata*	10-15	10-15	0.9	7	5	mature	15-40	Medium
13	*Populus nigra*	15-20	5-10	0.75	7	5	mature	15-40	Medium
14	*Schinus sp*	5-10	5-10	0.4	7	6	semi-mature	15-40	Low
15	*Schinus sp.*	5-10	10-15	0.5	7	6	semi-mature	15-40	Low
16	*Jacaranda mimosifolia*	1-5	5-10	0.25	7	6	semi-mature	15-40	Low
17	*Olea europaea*	1-5	5-10	0.3	7	6	semi-mature	15-40	Low
18	*Callistemon citrinus*	1-5	1-5	0.3	7	6	semi-mature	15-40	Low

Table 1: Tree survey

7.2 Trees not surveyed

Trees not surveyed are those that are or may include trees;

1. Not within the scope of this report
2. With a DBH of less than 100mm
3. That have a low retention value/not significant

8. Retention values

8.1 Tree retention

There is always a compromise between retaining trees on a development site and the economic imperatives of land development. Retaining trees on development sites is a fine balance between sustaining that amenity and the economic development of the land. Establishing priorities for the retention of trees is an important part of the planning process if amenity is to be sustained in the long term. If the trees are found to have high significance plans may be altered or construction methods changed to accommodate tree retention. Excavation within the TPZ can be conducted in a non-intrusive manner that can dramatically reduce disturbance to the trees' roots.

8.2 Medium retention value trees

3 trees were categorized as having a medium retention value (Fig. 3). Typically trees in this category are of average quality with an estimated remaining life expectancy of 15–25 years. They have moderate amenity value and make low/moderate environmental contributions. Trees with this retention value warrant minor design consideration in an attempt to allow for their retention or a suitable replanting scheme.



Fig. 3 - Indicating medium priority trees at 830 S Western Hwy, Byford (Count 3)

8.3 Low retention value trees

15 trees were categorized as having a low retention value (Fig. 4). Trees in this category are typically of low health and condition with an estimated remaining life expectancy of 5–15 years or; young trees that are easily replaceable, trees of poor health and structure or undesirable species. Low retention value trees do not warrant design consideration.



Fig. 4 - Indicating low priority trees at site 830 S Western Hwy, Byford (Count 15)

8.4 Small trees

With present day abilities to easily move small trees or replace them with virtually identical semi-matures, it is inappropriate that they should dictate the long-term layout of a new construction site. For the purpose of this report, trees/shrubs with a DBH of <100mm have not been regarded.

9. Risk Assessment (QTRA)

9.1 QTRA overview

The QTRA system applies established and accepted risk management principles to tree safety management. The system moves the management of tree safety away from labelling trees as either 'safe' or 'unsafe' and thereby away from requiring definitive judgements from either tree assessors or tree managers. Instead, QTRA quantifies the risk of significant harm from tree failure in a way that enables tree managers to balance safety with tree values and operate to pre-determined limits of tolerable or acceptable risk.

Tree safety management should not seek to minimise the risk of falling trees, but should balance the benefits of risk reduction with the associated costs in terms of both lost tree value and financial expenditure and maintain risks and benefits at a reasonable level.

The QTRA method provides a framework for the assessment of the three primary components of tree failure risk. The input values for these components are set out in broad ranges of Target, Size, and Probability of Failure. The QTRA User estimates values for the three components and inputs them to either the QTRA manual calculator or software application to calculate the Risk of Harm.

9.2 Tree risk management

The risks from tree failure are generally very low and high risks will usually be encountered only in areas with either high levels of human occupation or where valuable property can be affected by the structural failure of trees. Where human occupation and the value of property are sufficiently low, we may be able to identify that the risk is 'broadly acceptable'.

9.3 Tree risk management vs. cost

Risk minimisation is often cited as an objective when managing risks from trees. This is not a reasonable aim because it does not take account of the cost of risk reduction. If reasonable management decisions are to be made, the benefits of controlling a risk must be balanced with its costs, and those costs are not just financial. The tree-related benefits that are lost to risk control are often a substantial cost of managing risks from falling trees.

When considering risks from falling trees, the cost of risk control will usually be too high when it is clearly 'disproportionate' to the reduction in risk. The issue of 'gross disproportion'[5], where decisions are heavily biased in favour of safety, is likely to be considered only where there are annualised risks greater than 1/10, 000.

9.4 Weather affected targets

Often the nature of a structural weakness in a tree is such that the probability of failure is greatest during windy weather, while the probability of the site being occupied by people during those weather conditions is often low. As wind speeds increase to 60-70 knots the failure of branches will increase both in size and number and the population is put on notice that catastrophic tree failure is increasingly likely. In most recreational areas, including the streets of our towns and cities, pedestrian access reduces with inclement weather.

9.5 Land use

The risk assessment has been conducted based on the anticipation of property development. This may include site works, further inspections, contractors entering site etc. It is recommended to conduct a further risk assessment once development has been complete and before opening to the general public.

9.6 QTRA result & recommendations

Tag no.	Species	Tree defect 1	Tree defect 2	Tree defect 3	Risk rating	Pruning Rec.	Management recommendations	Residual risk
1	*Cupressus sempervirens*				low	No		low
2	*Callistemon citrinus*	Previously lopped	Basal growth		low	No		low
3	*Arbutus unedo*	Canopy decline	Major deadwood		low	Yes	1. Reduce canopy height to living tissue	low
4	*Callistemon citrinus*	Multi-stemmed with inclusion	Previously lopped		low	No		low
5	*Schinus sp*	Multi-stemmed with inclusion	Previously lopped	Pest	low	Yes	1. Consider removal as pest	low
6	*Populus nigra*				low	No		low
7	*Melia azedarach*	Previously lopped	Reduced vitality	Vine	low	No		low
8	*Populus nigra*				low	No		low
9	*Palm*				low	No		low
10	*Palm*				low	No		low
11	*Palm*				low	No		low
12	*Erythrina variegata*	History of failures	Included unions		low	No		low
13	*Populus nigra*	History of failures	Included unions		low	No		low
14	*Schinus sp*	Multi-stemmed with inclusion	Previously lopped	Pest	low	Yes	1. Consider removal as pest	low
15	*Schinus sp.*	Multi-stemmed with inclusion	Previously lopped	Pest	low	Yes	1. Consider removal as pest	low
16	*Jacaranda mimosifolia*	Multi-stemmed with inclusion			low	Yes		low
17	*Olea europaea*	Multi-stemmed with inclusion	Previously lopped		low	No		low

Tag no.	Species	Tree defect 1	Tree defect 2	Tree defect 3	Risk rating	Pruning Rec.	Management recommendations	Residual risk
18	*Callistemon citrinus*	Multi-stemmed with inclusion	Previously lopped		low	No		low

Table 2: QTRA result and risk mitigation recommendations

NOTE: Pruning recommendations and comments made are irrespective of the decision to remove or retain the tree.

10. Tree Protection Zone (TPZ)

10.1 TPZ

Tree protection zones (TPZ) are the principal means of protecting trees on development sites and are defined by AS 4970-2009 Protection of Trees on Development Sites (Standards Australia 2009). The TPZ is a combination of the root area and crown area requiring protection. It is an area that is required to be isolated from construction disturbance to ensure continued viability of the tree.

The TPZ for an individual tree is determined as follows (Standards Australia 2009):

TPZ = Diameter at Breast Height (DBH) × 12

That is, the radius of the TPZ = 12 X the DBH measured at 1.4 metres (m).

A TPZ should not be less than 2 m nor greater than 15 m except where crown protection is required.

The TPZ incorporates the structural root zone (SRZ).

10.2 SRZ

The structural root zone (SRZ) is the minimum volume of roots required by the tree to remain stable in the ground (Standards Australia 2009). If the SRZ is breached the chances of windthrow are significantly increased, especially if roots are cut on the same side as prevailing winds. Windthrow is an event where the entire tree fails/falls over. Often, the tree is completely uprooted with devastating results.

It is important to note that the SRZ is not related to tree health. It refers to the physical volume of roots required for the tree to remain stable in the ground. It is in no way related to the physiological requirements of the tree but is the minimum volume of roots required for the tree to remain standing.

11. Impact assessment

11.1 TPZ summary

The table below is a summary of the trees TPZ.

Tag no.	Species	DBH (m)	TPZ (m radius)	SRZ (m radius)	TPZ area (m²)
1	*Cupressus sempervirens*	0.15	2.00	1.50	12.57
2	*Callistemon citrinus*	0.15	2.00	1.50	12.57
3	*Arbutus unedo*	0.35	4.20	1.50	55.42
4	*Callistemon citrinus*	0.3	3.60	1.50	40.72
5	*Schinus sp*	0.35	4.20	1.50	55.42
6	*Populus nigra*	0.55	6.60	1.98	136.85
7	*Melia azedarach*	0.4	4.80	1.50	72.38
8	*Populus nigra*	0.2	2.40	1.50	18.10
9	*Palm*	0.4	4.80	1.50	72.38
10	*Palm*	0.2	2.40	1.50	18.10
11	*Palm*	0.25	3.00	1.50	28.27
12	*Erythrina variegata*	0.9	10.80	3.24	366.44
13	*Populus nigra*	0.75	9.00	2.70	254.47
14	*Schinus sp*	0.4	4.80	1.50	72.38
15	*Schinus sp.*	0.5	6.00	1.80	113.10
16	*Jacaranda mimosifolia*	0.25	3.00	1.50	28.27
17	*Olea europaea*	0.3	3.60	1.50	40.72
18	*Callistemon citrinus*	0.3	3.60	1.50	40.72

Table 3: TPZ summary

11.2 Calculating incursions

Using the above table (3), the relative TPZ values can be added to the feature survey and overlaid with concept/development plans to gain a more accurate TPZ incursion figure (Fig. 5). As a general rule;

1. Trees with a TPZ incursion of <10% can be retained and will not require additional arboricultural input
2. Trees with a TPZ incursion of 10-25% can typically be retained with minimal intervention
3. Trees with a TPZ incursion of 25-50% may have retention viability with additional arboricultural input (i.e., design review & root mapping)
4. Trees with a TPZ incursion of >50% or with an SRZ breach will typically require removal. For trees in this category that have HIGH retention values, an additional viability assessment is recommended.

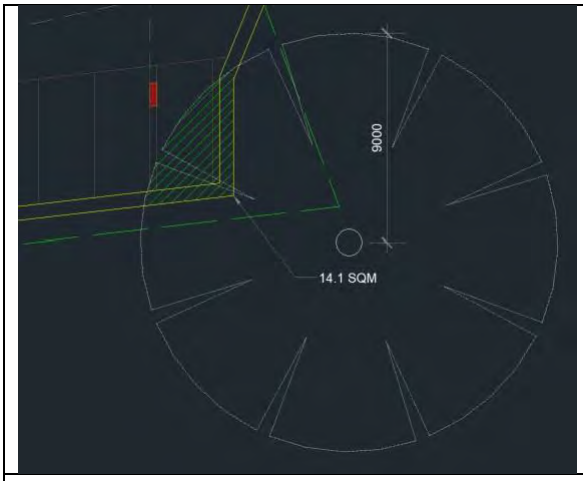


Fig. 5 - An example of TPZ incursion using CAD

11.3 Comments

Current plans indicate that the proposed works will make significant incursions >25% into the TPZ of these trees and with a breach of the SRZ for all the Medium retention value trees (Fig. 6). As per AS 4970 2009, this level of incursion requires demonstration that the trees will remain viable. Root mapping is recommended in these areas to determine if significant roots will be compromised and to assist with further viability assessments.

1. Where incursions greater than 10% are anticipated within the TPZ, it is recommended to treat the tree in preparation for ensuing disturbances. The application of a soil drench consisting of fish emulsion, kelp, minerals and humates at the utmost convenience is advised. This solution is high in nitrogen to support new growth, promotes root development and encourages biodiversity. A soil wetting agent is also recommended to facilitate deep penetration of the nutrients into the soil profile. This should be applied at 500-1000L per large tree over the entire TPZ.

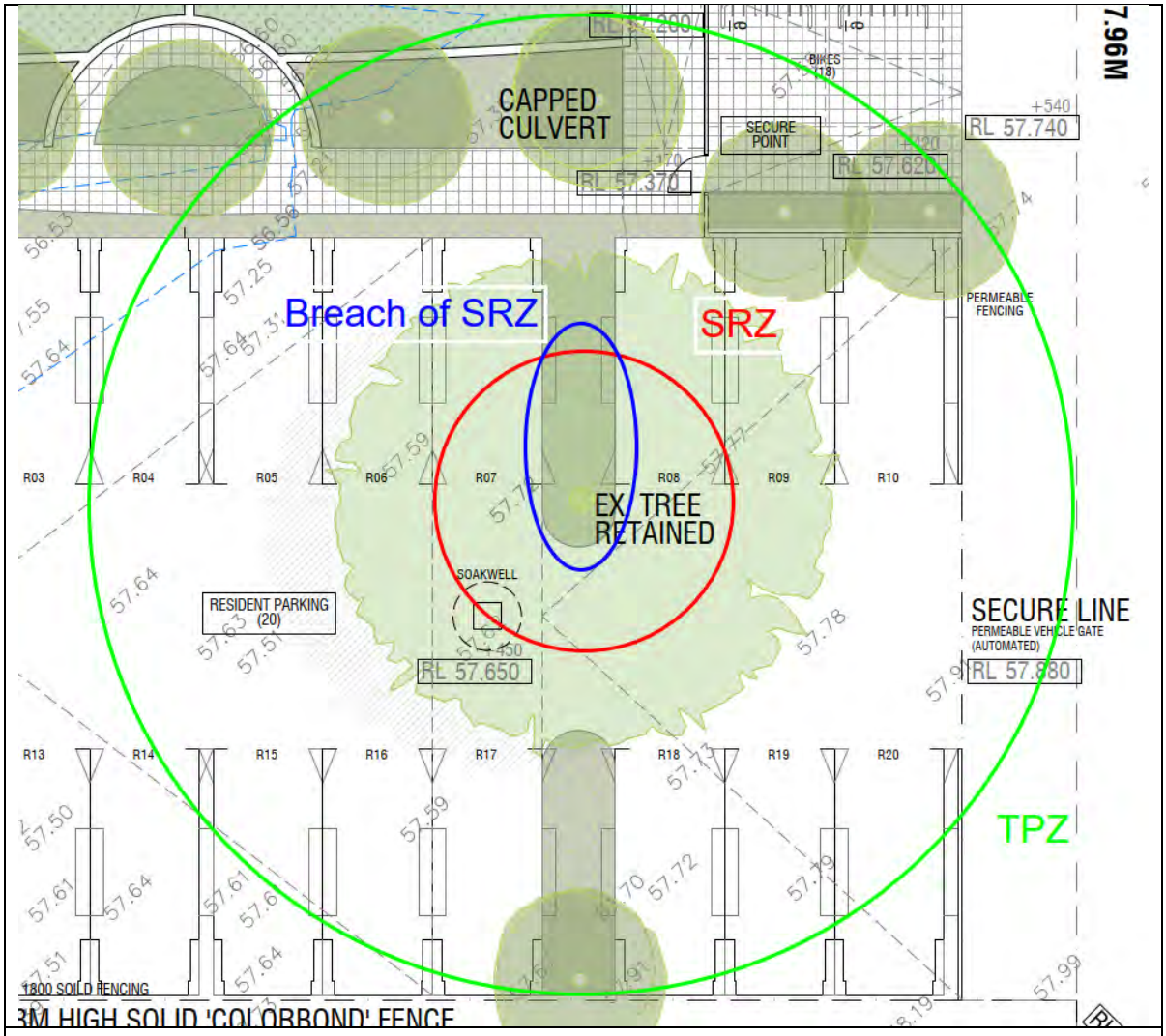


Fig. 6 - Example of TPZ incursion

12. Discussion

12.1 TPZ Incursion:

It may be possible to encroach into or make variations to the standard TPZ. Encroachment includes excavation, compacted fill and machine trenching. Encroachment can be classified as minor or major encroachment.

Minor: If the proposed encroachment is less than 10% of the area of the TPZ and is outside the SRZ.

Major: If the proposed encroachment is greater than 10% of the TPZ or inside the SRZ.

12.2 Root damage

Root damage is the most common cause of damage to trees on construction sites. Mechanical damage reduces the root:shoot ratio and subsequently inhibits the trees' ability to uptake water resulting in symptoms synonymous to drought and can be fatal.

12.3 Root mapping

Root mapping is the process of investigating the presence of subsurface tree roots in a specific location. This can be achieved by vacuum excavation, Ground Penetrating Radar or more commonly hand excavation. Roots are mapped down to a specified depth, usually the depth of the proposed development. Root mapping is used prior to development to locate structural woody roots so that the extent of root loss can be determined and minimised.

12.4 Clean cutting roots

Damaged roots are very susceptible to pathogen infection so it is important to sterilize equipment before cutting each root, using sharp loppers or hand saws to encourage faster healing and good wound compartmentalisation. Aim to cut at root junctions where possible and after each cut has been made, remove the cutting and fill in soil around the remaining root. When the clean cutting has been completed, water the tree well.

12.5 Excavation

Traditional excavation (levelling) can be very impactful to a tree's root system and typically results in shredding or tearing of the tree's roots. A torn or shredded root is much harder for the tree to compartmentalise and exposes the root to harmful pathogens for a longer period of time. Shredded roots should be 'clean cut' to minimise the risk of infection and facilitate healing. **Excavation close to or within the trees SRZ can be hazardous.** Anchorage roots destroyed in the process can render the tree unstable resulting in an elevated risk of whole tree failure. Backfilling will mask the trees hazardous state and whole tree failure may occur years after the root severance has occurred.

12.6 Manual excavation

Where excavation, demolition or the removal of material is necessary in the TPZ; this should be done manually without the use of heavy machinery to prevent damage to the tree and should be supervised by a suitably qualified arborist (AQF 5 or equiv.)

12.7 Sandy soils

In urban settings, the trees' roots are not often where they are expected and can also be influenced by soil type and tree species. A majority of Perth's suburbs are situated on sandy soils that typically have low compaction rates and high filtration that can result in tree roots growing downwards as opposed to the more conventional lateral growth. As a result, it may be possible in certain circumstances to make significant encroachments into the TPZ and often the structural root zone.

12.8 Root pruning

Most trees will tolerate root pruning up to 25% total mass and some species endure considerably more. Given they have space to do so, roots will regenerate in time to compensate for the loss and re-align the root:shoot ratio.

12.9 Tree health amendment prior to construction

Construction works often compromises the growing environment of nearby trees and may place them in a state of stress which may lead to decline or tree mortality. How a tree responds to various stresses will depend largely on their current health. To greatly increase tree viability on construction sites it is recommended to develop a Tree Health Amendment Strategy. This may be a simple as supplying supplementary irrigation and can extend to mulching, soil amendments and nutrient injections etc. This particularly important where the tree is currently showing signs of stress or reduced vitality, or if the tree is predisposed to decline following changes in its environment.

12.10 Mulch

Mulching is a very effective technology for conservation of soil moisture as a combatant to drought stress in trees.

Mulch acts as a protective barrier, reducing water evaporation from the soil surface by heat and wind. By retaining moisture, it helps shield plants by ensuring a consistent and healthy water supply and is particularly crucial during hot summer months or in regions with limited rainfall.

Enviro mulch: Is effectively shredded trees that contain both wood chip and leaf litter. This combination allows the mulch to break down timelier than pine bark mulch which results in organic material being added thus improving the soil profile. It is usually screened to produce a somewhat uniformed size that facilitates water filtration. Enviro mulch will need to be re-applied more often than pine bark mulch however, this indicates that organic matter is being added and rapidly improving the soil.

13. Closing & recommendations

The surveyed trees are of mixed health and condition. Generally the trees have a low to medium retention value based on species, age & condition. The proposed construction will make heavy incursions into the trees' TPZ and will require root mapping to assist with tree viability assessment.

13.1 Schedule of works

Table 4 below is a proposed guideline for the schedule of works in context of tree retention.

Construction Stage	Hold Point	Description
Sub-division design	1	Finalise lot boundaries based on desired tree retention outcomes
	2	Overlay concept plan, or ground floor plans to determine likely incursions and adjust tree retention proposal
	3	Conduct root mapping on trees marked for retention, where predicted incursion levels of >25% are anticipated to determine tree viability
	4	Review & finalise tree retention proposal
Pre-construction	5	Prior to demolition and/or site establishment, indicate clearly (with spray paint or flagging on trunks) trees marked for removal only.
	6	Tree protection (for trees that will be retained) shall be installed prior to demolition and site establishment. This may include the mulching of areas within the TPZ. The project arborist shall inspect and certify tree inspection. Follow guidelines established in the 'civil/sub-division procedures' (Appendices 14.5)
	7	Prune trees to achieve appropriate clearances and risk reductions where necessary
During construction	8	Scheduled inspection of trees by the project arborist should be undertaken monthly during the construction period.
	9	Project arborist to supervise and document all works carried out within the TPZ of trees to be retained.
	10	Inspection of trees by project arborist after all major construction has ceased, following the removal of tree protection measures.
Post construction	11	Final inspection of trees by project arborist.

Table 4: Schedule of works & hold points in context of tree retention

13.2 Recommendations

- Perform a root mapping for all the retained trees with incursions greater than 25% prior any work
    - Peg a line for the anticipated incursion. Manually dig a trench 600mm deep to the extent of the TPZ. Avoid severing roots particularly those at >40mm. Where larger roots are uncovered, particular within the SRZ, these can be chased to determine where they are tracking which may affect or influence design possibilities. Utilising a vacuum excavation truck is highly recommended as it is the least intrusive method for root mapping and will create a clearer picture of the trees root system.
- Perform a viability assessment based on the root mapping exercise

- Revise plans or construction methods to improve retention probabilities, or revise the tree retention proposal
- Establish a tree protection plan (TPP) for all trees marked for retention, detailing specific guidelines to protect retained tree throughout the entire duration of the construction process.
- Follow guidelines established in the TPP, establishing TPZ's prior to commencing work
- Apply a soil drench (100-200L/tree) of Fish emulsion, kelp & humates prior to construction works to mitigate stresses induced from nearby construction
- Perform pruning recommendations prior commencing work

14. Disclaimer

The conclusions and recommendations contained in this report refer to the trees' condition on the day of inspection only. The report should be read and considered in its entirety. All care has been taken using the most up to date arboricultural information in the preparation of this report. The report is based on visual inspection only. No guarantee can be given nor can it be predicted that branch failure or uprooting (windthrow) would not occur as a result of high winds and /or excessive rainfall and other unpredictable events. Tree health and environmental conditions can change at any time due to unforeseen circumstances.

15. Appendices

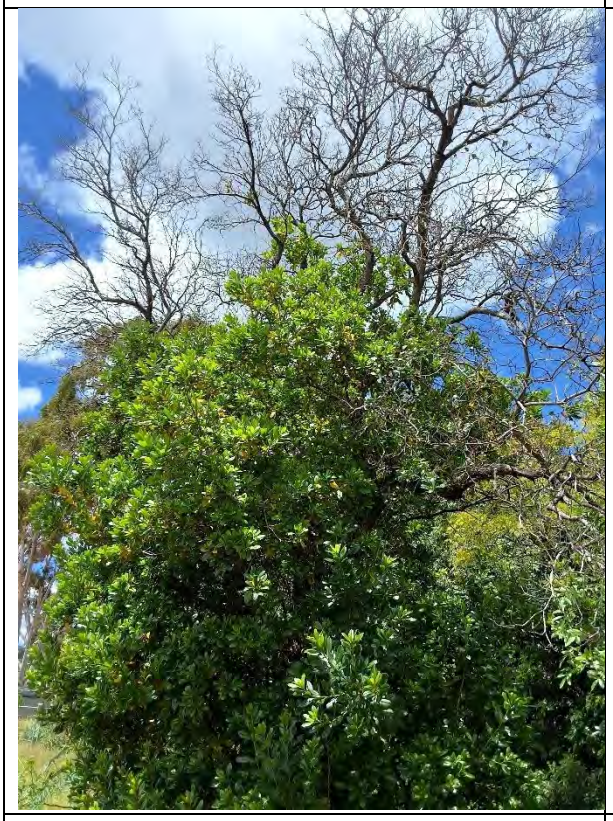
15.1 Tree photos



Tree 1



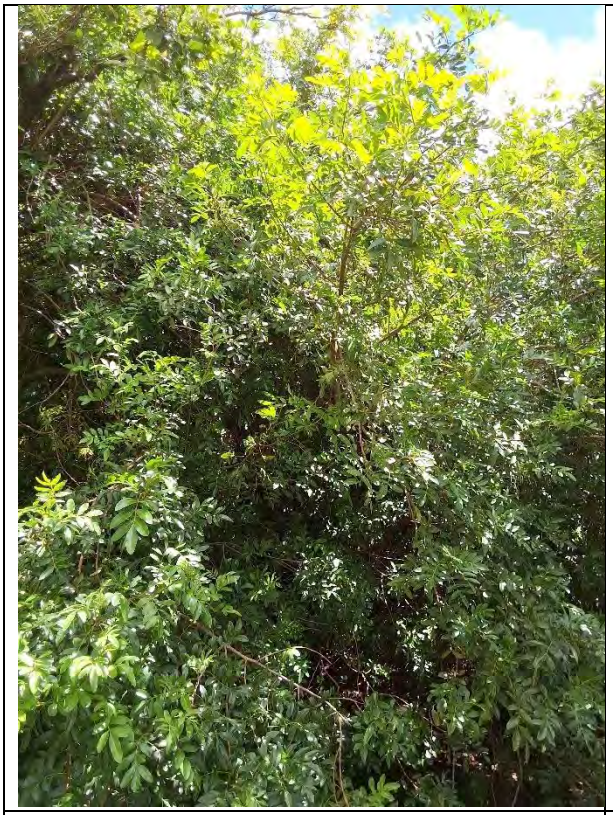
Tree 2



Tree 3



Tree 4



Tree 5



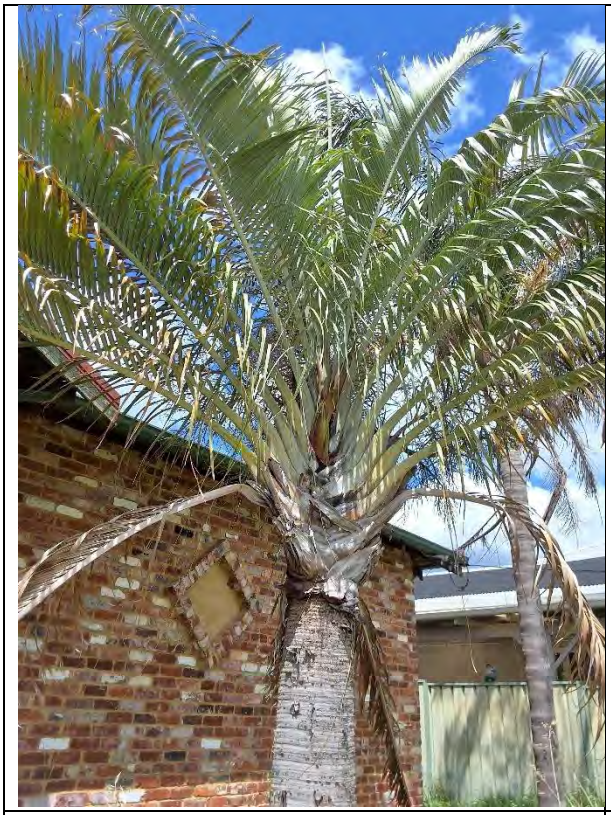
Tree 6



Tree 7



Tree 8



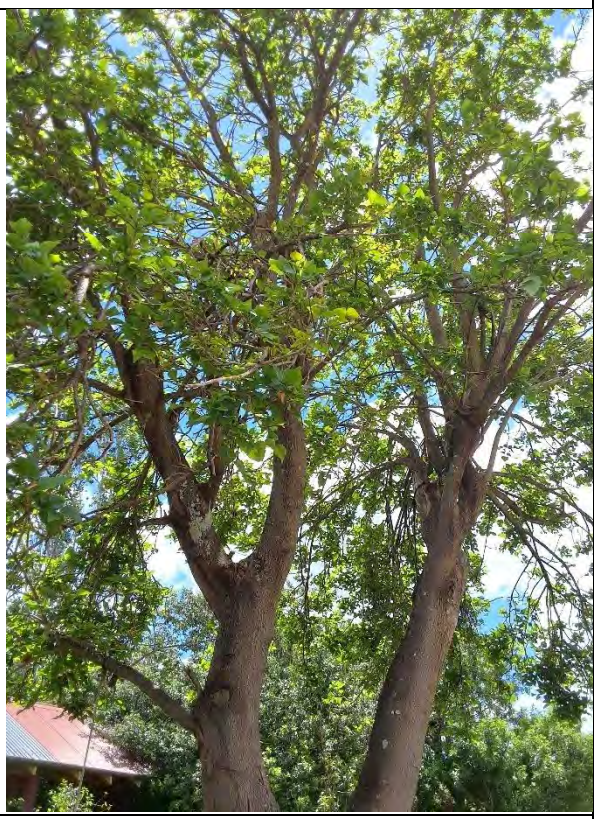
Tree 9



Tree 10



Tree 11



Tree 12



Tree 13



Tree 14



Tree 15



Tree 16

	
Tree 17	Tree 18

15.2 Health rating

Assessed trees are given a numerical value to signify their overall health. Several factors and/or symptoms are taken into consideration when assessing the health of a tree. It's vigour and seasonal extension growth, symptoms of decline like deadwood and/or dieback, foliage density, colour, size and intactness as well as signs of pests and/or disease are all appraised.

Rating	Health
10	Exceptional
9	
8	Good
7	
6	Average
5	
4	
3	Poor
2	
1	Dead

Classification	Description
Exceptional	Canopy is full with dense foliage coverage throughout, leaves are entire and are of an excellent size and colour for the species with no visible pathogen damage. Excellent growth indicators, e.g. seasonal extension growth.
Good	Canopy is full with minor variations in foliage density throughout, leaves are entire and are of good size and colour for the species with minimal or no visible pathogen damage. Some minor dead wood and epicormic growth. Good growth indicators.
Average	Canopy has moderate variations in foliage density throughout, leaves not entire with reduced size and/or atypical in colour, moderate pathogen damage. Reduced growth indicators, visible amounts of minor and major deadwood/dieback, and epicormic growth.
Poor	Canopy density significantly reduced throughout, leaves are not entire, are significantly reduced in size and/or are discoloured, significant pathogen damage. Significant amounts of deadwood and/or epicormic growth, noticeable dieback of branch tips, possibly extensive.
Dead	Dead. No live plant material observed throughout the canopy, bark may be visibly delaminating

15.3 Structure rating

Assessed trees are given a numerical rating to signify their overall structure. Several factors and/or conditions are taken into consideration when assessing a tree's structure. It's form, branching habit, trunk and lower stem are all appraised.

Rating	Structure
10	Exceptional
9	
8	Good
7	
6	
5	Average
4	
3	Unacceptable
2	
1	

Classification	Description
Exceptional	Good form and branching habit typical of the species. Structural defects are insignificant or undetected. All major unions appear well attached and devoid of anything that could be considered a weakness. All aspects of the tree exhibit no evidence of pathogens. No obvious damage to the trunk and roots.
Good	Canopy devoid of major defects but may exhibit minor damage, disease or decay in the crown, trunk and roots. Branching habit is well formed, spaced and tapered. May contain small amounts of deadwood or have evidence of previous limb failure.
Average	Moderate structural defects, damage, disease or decay that impact longevity. Defects may not reflect an imminent threat
Unacceptable	Serious structural defects that could cause failure within 12 months i.e., active splits, unstable/loose in ground, excessive branch end-weight. Immediate arboricultural intervention recommended to minimise risk.

16. Glossary of terms

ULE – Useful Life expectancy

DBH – Diameter at breast height

TPZ – Tree protection Zone

SRZ – Structural root zone

VTA - Visual tree assessment

QTRA – Quantified tree risk assessment

DTW – Distance to works

TPP – Tree Protection Plan

PART C – CITY OF COCKBURN

1. Declarations of Due Consideration

2. Disclosure of Interests

3. Form 1 DAP Applications

3.1 Lot 701 Armadale Road, Jandakot - Large Retail Expansion – DAP/25/03002

3.2 Lot 810L Wentworth Parade, Success - Proposed Child Care Premise and Swim School – DAP/25/03028

4. Form 2 DAP Applications

Nil

5. Section 31 SAT Reconsiderations

Nil

Part C – Item 3.1 Lot 701 Armadale Road JANDAKOT – Large Retail Expansion

Form 1 – Responsible Authority Report
(Regulation 12)

DAP Name:	Metro Outer Development Assessment Panel	
Local Government Area:	City of Cockburn	
Applicant:	Rowe Group	
Owner:	South Central WA Pty Ltd	
Value of Development:	$65 million ☒ Mandatory (Regulation 5) ☐ Opt In (Regulation 6)	
Responsible Authority:	City of Cockburn	
Authorising Officer:	Lachlan Compton	
LG Reference:	DAP25/003	
DAP File No:	DAP/25/03002	
Application Received Date:	13 November 2025	
Report Due Date:	29 January 2026	
Application Statutory Process Timeframe:	90 Days	
Attachment(s):	1. Planning Report 2. Development Plans 3. Sustainable Design Assessment Report 4. Bushfire Management Report 5. Landscaping Pans 6. Revised Acoustic Report 7. Supplementary Acoustic Report 8. Waste Management Plan 9. CoC Letter to waive Structure Plan 10. Traffic Impact Assessment 11. Design Review Panel 1 Minutes 12. MRWA comments 13. Boundary Section – Residential/Commercial Relationship 14. DAP25/003 - 701L Armadale Road, Jandakot - Large Format Retail | Comment on Cockburn 15. Schedule of Submissions - Applicant and City Responses	
Is the Responsible Authority Recommendation the same as the Officer Recommendation?	☒ Yes ☐ N/A	Complete Responsible Authority Recommendation section
	☐ No	Complete Responsible Authority and Officer Recommendation sections

Responsible Authority Recommendation

1. **Accept** that the DAP Application reference DAP/25/3002 is appropriate for consideration as a "Large Retail Expansion" (Showroom, Warehouse, Café/Restaurant, Recreation Private and Lunch Bar land uses and compatible with the objectives of the zoning table in accordance with Clause 3.4.2 of the City of Cockburn Town Planning Scheme No. 3;

2. **Approve** DAP Application reference DAP25 and accompanying plans in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015* , and the provisions of the City of Cockburn Town Planning Scheme No. 3, subject to the following conditions:

Conditions:

1. This decision constitutes planning approval only and is valid for a period of 4 years from the date of approval. If the subject development is not substantially commenced within the specified period, the approval shall lapse and be of no further effect.

2. Development shall be carried out in accordance with the approved plans.

3. No building or construction activities shall be carried out before 7.00am or after 7.00pm, Monday to Saturday, and not at all on Sunday or Public Holidays, unless otherwise approved by the City.

4. **Prior to the lodgement a of Building Permit,** an amended site plan shall be submitted to the City to remove the 3 parking bays annotated in red on the plans and converted to landscaping.

5. The bin store walls must be solid and washable. It shall have a concrete floor graded to a floor waste connected to sewer or a sealed reservoir for periodic pumping with a tap.

6. No wash-down of plant, vehicles or equipment is permitted on the premises. Industrial, commercial or wash-down wastes shall not enter stormwater disposal systems or otherwise be discharged into the environment.

7. All services and service related hardware, including antennae, satellite dishes and air conditioning units, being suitably located away from public view and/or screened to the satisfaction of the City.

8. All earthworks cleared land, and batters shall be stabilised to prevent sand or dust blowing to the satisfaction of the City.

9. All stormwater to be contained on site. Stormwater drainage to be able to contain a 1 in 100 year, 24 hour storm event. Details about the stormwater drainage design intended for the proposed development shall be submitted to the City prior to the lodgement of a Building Permit Application, for review and approval. Details should include drainage calculations with catchment area, rainfall intensity etc.

10. **Prior to occupation** or use of the development, vehicle parking, manoeuvring and circulation areas shall be designed, constructed, sealed, drained, line marked and kerbed in accordance with:
    - The approved plan;
    - Council's engineering requirements and design guidelines.

    The areas must be sealed in bitumen or concrete in accordance with City's specifications, unless otherwise approved by the City.

11. The dimensions of all car parking bays, aisle widths, wheel stops, columns, ramps and circulation areas complying with the Australian Standards AS/NZS 2890.1:2004 and AS/NZS 2890.6:2009.

12. All access ways, parking areas and hardstand areas shall be maintained in accordance with the City's engineering requirements and design guidelines.

13. A geotechnical report prepared by an appropriately qualified consultant certifying that the ground is capable of accommodating the proposed development, shall be lodged with the City prior to the commencement of construction on site, at the cost of the owner/applicant, to the satisfaction of the City.

14. **Prior to the issue of a Building Permit,** a construction management plan (CMP) shall be submitted to and approved by the City. The CMP shall be implemented to the satisfaction of the City.

15. All noise attenuation measures, identified by the Herring Storer Acoustics Report "Proposed Large Format Retail Development, Lot 701 Armadale Road, Treeby, Environmental Acoustic Assessment" (Ref 35923-2-25372; dated 28/01/26) and the further acoustic report required under condition XXX, are to be implemented prior to occupancy of the development (or as otherwise required by the City) and the requirements of the Acoustic Report are to be observed at all times.

16. A further Acoustic Report shall be submitted to and approved by the City, prior to the submission of a Building Permit application, and implemented thereafter, to the satisfaction of the City.

17. Written confirmation, where required, from the builder, that all recommendations made in the Acoustic Report prepared by Herring Storer Acoustics and the further Acoustic Report required under condition 16 &17 have been incorporated into the proposed development, shall be submitted to the City at the time of lodgement of the Building Permit Application, to the satisfaction of the City.

18. Written confirmation, where required, from the builder, that all recommendations made in the Acoustic Report prepared by Herring Storer Acoustics and the further Acoustic Report required under condition 16 & 17 have been incorporated into the completed development with the Form BA7 Completion Form, prior to occupation of the development, to the satisfaction of the City.

19. Landscaping including verge planting shall be installed, reticulated and/or irrigated in accordance with the/an approved plan and maintained thereafter to the satisfaction of the City. The landscaping shall be implemented during the first available planting season post completion of development and any species which fail to establish within a period of 12 months from planting shall be replaced to the satisfaction of the City.

20. The development site must be connected to the reticulated sewerage system of the Water Corporation before commencement of any use.

21. All outdoor lighting shall be installed and maintained in accordance with Australian Standard AS 4282 - 2023 "Control of the Obtrusive Effects of Outdoor Lighting".

22. The washing of bins must only occur in the designated bin wash areas. No other wash down of plant, vehicles or equipment is permitted on the premises. Industrial, commercial or wash-down wastes shall not enter stormwater disposal systems or otherwise be discharged to the environment.

23. **Prior to the issue of a Building Permit,** the owner/applicant shall:
    a) submit to the City for approval a preliminary proposal for an art work designed be a professional artist at a cost of 1% of the total project cost (to a maximum of $250,000), to be to be located within the subject site as an integral part of the development;
    b) submit to the City for approval an 'Application for Art Work Design';
    c) enter into a contract with a professional artist/s to design and install (if appropriate) the artwork approved by the City.

    The artwork shall then be installed prior to occupation of the building/development and maintained thereafter to the satisfaction of the City.

24. No part of the development, other than approved landscaping is to be located within the land requirement for Armadale Road as detailed in the attached Land Requirement Plan Extract No.1.7103.

25. Stormwater discharge shall not exceed pre-development discharge to Armadale Road Reserve.

26. The signage component is not approved as part of this application.

27. **Prior to the lodgement of a Building Permit,** a Delivery Management Plan shall be prepared and submitted to the City. The plan shall detail the proposed delivery and servicing arrangements and demonstrate that servicing demand can be adequately accommodated to avoid obstruction of internal circulation roadways and impacts on the surrounding road network. Delivery times shall be noted and also be in accordance with an approved Acoustic Report.

28. Deliveries, inclusive of loading/unloading activities (ie. forklift usage), are permitted between the hours of 7am to 7pm Monday to Saturday (excluding public holidays) only. No deliveries and associated activities would be permitted between the hours of 7pm and 7am, and not at all on Sundays or Public Holidays.

29. **Prior to the occupation** of the buildings hereby approved, a Noise/Acoustic Management Plan shall be submitted to and approved the City that addresses all potential noise sources. Measures contained in the plan shall be implemented to the satisfaction of the City.

30. The Waste Management Plan (WMP) – Lot 701 Armadale Road, Treeby prepared by Talis Consultants, dated 28 October 2025 shall be implemented in perpetuity to the satisfaction of the City.

31. **Prior to the lodgement of a Building Permit**, a Light Management Plan shall be prepared and submitted to the satisfaction of the City. The Plan shall demonstrate how artificial lighting associated with the development will be designed, installed and managed to minimise light spill, glare and impacts on surrounding residential properties and the night sky. The approved Light Management Plan shall thereafter be implemented and maintained in perpetuity to the satisfaction of the City.

32. **Prior to the lodgement of a Building Permit,** the plans shall be amended and submitted to the City to remove the four (4) parking bays indicated in red on the approved plans and replace them with landscaping to the satisfaction of the City.

Advice Notes

a) This is a Development Approval only and does not remove the responsibility of the applicant/owner to comply with all relevant building, health and engineering requirements of the City, or with any requirements of the City of Cockburn Town Planning Scheme No.3 or with the requirements of any external agency.

b) In accordance with Clause 26 of the Metropolitan Region Scheme (MRS) text, this development approval under Town Planning Scheme No.3 is also deemed to be an approval under the Metropolitan Region Scheme.

c) Please be advised that the development must comply with the requirements of the Building Codes of Australia.

d) If an odour detected at an adjacent premises is deemed to be offensive by the City, then any process, equipment and/or activities that are causing the odour shall be stopped until the process, equipment and or activity has been altered to prevent odours to the satisfaction of the City.

e) If dust is detected at adjacent premises and is deemed to be a nuisance by the City, then any process, equipment and/or activities that are causing the dust nuisance shall be stopped until the process, equipment and or activity has been altered to prevent the dust to the satisfaction of the City.

f) All food businesses shall comply with the Food Act 2008 and Chapter 3 of the Australia New Zealand Food Standard Code (Australia Only).

g) An “Application to Construct or Alter a Food Premises” is required to be submitted to Health Services prior to construction. This is to be accompanied by detailed plans and specifications of the food preparation and storage area (including mechanical ventilation and hydraulics), sanitary conveniences and garbage room, demonstrating compliance with the mentioned legislation.

h) This development has been defined as a public building and shall comply with the relevant provisions of the Health (Miscellaneous Provisions) Act 1911 (as amended), and the Health (Public Buildings) Regulations 1992. A Building Permit Application shall be submitted for approval, prior to works commencing.

i) The development shall comply with the noise pollution provisions of the Environmental Protection Act 1986, and more particularly with the requirements

of the Environmental Protection (Noise) Regulations 1997. The installation of equipment within the development shall not result in noise emissions to neighbouring properties exceeding those imposed by the Environmental Protection (Noise) Regulations 1997 (as amended).

j) All earthworks and/or associated drainage details shall be in accordance AS3500 with plans and specifications certified by a suitably qualified practicing Engineer to the satisfaction of the City

k) Retaining wall(s) being constructed in accordance with a suitably qualified Structural Engineer's design and a Building Permit being obtained prior to construction. Retaining walls are required for any cut and/or fill greater than 150mm in height. In this regard, any fill above or below natural ground level at the lot boundaries is to be suitably retained or have a compliant stabilised embankment.

l) The dimensions of all car parking bays, aisle widths, wheel stops, columns, ramps and circulation areas complying with the Australian Standards AS/NZS 2890.1:2004 and AS/NZS 2890.6:2009.

m) The installation of outdoor lighting shall be in accordance with the requirements of Australian Standard AS 4282 - 2019 *"Control of the Obtrusive Effects of Outdoor Lighting".*

n) The loading and/or unloading of vehicles is to occur on-site and in a manner that does not interfere with the parking of vehicles in the car park. All car parking bays in the car park are to be always made available for the parking of vehicles by visitors or employees

o) The upgrading/widening of Armadale Road is not in Main Roads current 4-year forward estimated construction program and all projects not listed are subject to change without notice, and Main Roads assumes no liability for the information provided.

p) Prior to undertaking works within the Armadale Road Reserve, a Working on Roads Permit must be obtained from Main Roads.

q) The applicant is required to submit an application form to undertake works within the road reserve prior to undertaking any works within the road reserve. Applications forms and supporting information about the procedure can be found on the Main Roads website > Technical & Commercial > Working on Roads.

r) In regard to condition 15, the Construction Management Plan (CMP) shall be prepared in accordance with the *'City of Cockburn Construction Management Plan* Guidelines' (available on the City's website) and shall include the provision of a completed CMP checklist. Please note that in accordance with the Guidelines, a Dust Management Plan and/or Traffic Management Plan may be required to form part of the CMP. You are advised to contact the City's Environmental Health team and Traffic & Transport team to discuss whether these are required.

s) With regard to Condition 17 above, the acoustic report shall be prepared by a suitably qualified and recognised acoustic consultant to address the following

requirements, and recommend suitable design and/or attenuation measures to ensure compliance with the *Environmental Protection (Noise) Regulations 1997* (as amended):

- the design and location of mechanical plant;
- Noise contour maps to present the noise prediction results
- Modelling of the fire system diesel pump
- Clarification of the representative assessment period

t) The applicant is advised that the property is located within the Jandakot Airport Protected Airspace Area, and notification to Jandakot Airport may be required prior to construction. For further information please contact Jandakot Airport directly or refer to the following link: http://www.jandakotairport.com.au/development/airspace-protection.html

u) The Light Management Plan shall include, but not be limited to, the following:

- The location, height, type and orientation of all external lighting fixtures.
- Details of lighting levels (lux levels) and confirmation that lighting will be directed away from adjoining properties and public roads.
- Measures to minimise light spill and glare, including the use of shields, hoods, baffling or similar devices where appropriate.
- Hours of operation of external lighting.
- Confirmation that lighting will be designed and operated in accordance with relevant Australian Standards, including AS 4282 – Control of the Obtrusive Effects of Outdoor Lighting (or the most recent version).

Details: outline of development application

Region Scheme	Metropolitan Region Scheme
Region Scheme - Zone/Reserve	Industrial/Urban
Local Planning Scheme	City of Cockburn Town Planning Scheme No.3
Local Planning Scheme - Zone/Reserve	Development Zone - DA37
Structure Plan/Precinct Plan	NA
Structure Plan/Precinct Plan - Land Use Designation	NA
Use Class and permissibility:	Showroom Private Recreation Lunch Bar Warehouse
Lot Size:	14.0668 hectares
Existing Land Use:	Development Zone
State Heritage Register	No
Local Heritage	☒ N/A ☐ Heritage List ☐ Heritage Area
Design Review	☐ N/A ☒ Local Design Review Panel ☐ State Design Review Panel ☐ Other
Bushfire Prone Area	Yes
Swan River Trust Area	NA

Proposal:

The application seeks approval to construct a commercial development (Large Format Retail). The development will comprise of 26 tenancies of varying sizes across 7 buildings. The tenancies will comprise of warehouses, showroom, café and private creation land uses.

Proposed Land Use	Showroom Private Recreation Lunch Bar/Restaurant (Café) Warehouse
Proposed Net Lettable Area	31184m2
Proposed No. Storeys	Two storeys
Proposed No. Dwellings	NA – no dwellings proposed

Background:

The subject site is located roughly 1 kilometre east of Cockburn Central and is located on Armadale Road in Jandakot. Lot 701 is currently vacant and contains no buildings or vegetation of significance. Lot 403, by contrast, is fully developed and accommodates existing large-format retail uses and associated built form. Land immediately east and north-east of Lot 701 is characterised by established single residential development, while land to the west and north-west of Lot 403 comprises existing large-format retail and industrial uses. This site is zoned Development Zone.

Legislation and Policy:

Legislation

- Planning and Development Act 2005
- Planning and Development (Local Planning Schemes) Regulations 2015
- Planning and Development (Development Assessment Panels) Regulations 2011

State Government Policies

- State Planning Policy 2.3 – Jandakot Groundwater Policy
- State Planning Policy 2.4 Basic Raw Materials Policy
- State Planning Policy 3.7 – Bushfire Prone Areas
- State Planning Policy 5.4 Road and Rail Noise

Structure Plans/Activity Centre Plans

NA

The City waived the requirement for a structure plan to be provided, as there was a requirement for this to be provided prior to a Development Application under DA 37. The letter to confirm this can be found in attachment 9.

Local Policies

- Local Planning Policy - 1.12 Noise Attenuation
- Local Planning Policy - 1.14 Waste Management
- Local Planning Policy 3.1 – Commercial Development
- Local Planning Policy 3.7 – Signs and Advertising
- Local Planning Policy 3.8 – Industrial Subdivision and Development
- Local Planning policy 5.16 – Design Review Panel

Public Consultation

The Development Application was advertised in accordance with clause 64 of the Planning and Development (Local Planning Schemes) Regulations 2015. Letters were

sent to the existing residential dwellings that are situated towards the east of the development (as seen in the image below).



Landowners were given 14 days to comment on the proposal via the advertising letter they had received. The proposal was also uploaded onto the City's Comment on Cockburn website which allows any member of the public to add a submission regarding the proposal (see here).

The reason there was such an extensive advertising area is due to the building bulk and proximity of the showroom/warehouse uses in respect to the existing residential dwellings. Development Area (DA) 37 in the City's Town Planning Scheme No.3 (TPS3), noted that 701L Armadale road had the ability to provide an appropriate mix of residential and non-residential land uses subject to the non-residential land uses providing an appropriate interface and transition towards the existing residential dwellings towards the north/north-east.

The City received 18 responses to the proposed development. The City received 17 responses in objection and 1 response in support of the application. The proposal was advertised for a total of two weeks, the first week comprised of the initial plans, the second week a second lot of elevations were updated as the building heights on two tenancies had increased by 1.5-2m in height. The City saw the amendment as minor in the bulk of the development.

The City's and applicants' response to the submissions can be found in attachment 14

The majority of the objects the City received were to do with building bulk, setbacks, noise, ventilation, traffic and natural lighting and artificial lighting. All of these concerns could be addressed through conditions and the further information the City Requested such as revised acoustic reports, TIA's, landscaping and management plans for lighting, noise and deliveries.

Referrals/consultation with Government/Service Agencies

Agency	Reason for Referral	Summary of Response

MainRoadsWA (MRWA)	Potential impact on *Primary Regional Road* Reservation under the Metropolitan Region Scheme	MRWA Comments can be found in attachment 12
Jandakot Airport	The proposed heights and location of the development potentially having an effect on the existing flight paths.	Jandakot Airport were sent a referral email including all lodged documents. The email was sent on the 8th of December and were asked to reply within 30 days. Comments were never received from then until the RAR due date. The City is taking that the absence of any comments means there are no concerns from Jandakot Airport.

Design Review Panel Advice

In accordance with Local Planning Policy 5.16 – Design Review Panel (DRP), the proposal required DRP consideration as its estimated cost exceeds $10 million. The application attended one DRP meeting; however, the applicant chose not to proceed to a second meeting despite the panel's recommendation to return with further design information.
Although no second DRP meeting occurred, the applicant updated the plans to address the principles that required additional detail. These responses are provided in Table 3 of the planning report. After reviewing the amended plans, the City is satisfied that, had a second DRP meeting been held, additional design principles would likely have been supported.

DRP 1 Minutes can be found in attachment 11.

Design Review progress	
	Supported
	Pending further attention
	Not yet supported
	Insufficient information provided by applicant to assess
	DR1 – 24/09/25
Principle 1 - **Context and character**	
Principle 2 - **Landscape quality**	
Principle 3 - **Built form and scale**	
Principle 4 - **Functionality and build quality**	
Principle 5 - **Sustainability**	
Principle 6 - **Amenity**	
Principle 7 - **Legibility**	
Principle 8 - **Safety**	
Principle 9 - **Community**	
Principle 10 - **Aesthetics**	

Planning Assessment

City of Cockburn Town Planning Scheme No.3, LPP 3.2 & LPP 3.8

The site is zoned ‘Development’ under TPS 3. The objective of the Development zone is to provide for future residential, industrial or commercial development guided by a comprehensive Structure Plan prepared under the Scheme.

Both Lot 403 and Lot 701 are located within Development Areas under TPS3. Lot 403 is within Development Area 20 – Solomon Road (DA20), while Lot 701 sits within Development Area 37 – Banjup Quarry Redevelopment (DA37). Development Areas contain specific provisions that apply in addition to the general requirements of TPS3 and the underlying Development zone.

For DA20 and DA37, the provisions require that subdivision, land use or development must have due regard to an applicable Structure Plan:

- DA20 requires a Structure Plan that facilitates light/service industrial and mixed-use development to complement the Thomsons Lake Regional Centre. This requirement is met through the adopted Cockburn Central East Structure Plan.
- DA37 requires a Structure Plan that provides for a mix of residential and non-residential uses to support a mixed-use neighbourhood, including compatible commercial and light/service industrial uses to transition to DA20. No Structure Plan has been prepared for DA37.

Under Clause 27(2) of the Deemed Provisions, development may still be approved without a Structure Plan where it:
(a) does not conflict with orderly and proper planning; and
(b) does not prejudice the area’s overall development potential.
The City has confirmed it is willing to consider a Development Application for Lot 701 in the absence of a Structure Plan, having regard to the site’s single ownership, surrounding developed context, and the ability to undertake public consultation.

Lot 403, being within the Cockburn Central East Structure Plan area, is designated ‘Mixed Business – excluding residential’. As a result, the TPS3 Mixed Business zone provisions apply when determining land use permissibility. The purpose of the Mixed Business zone is to allow a broad range of light/service industrial, wholesale, showroom, trade and professional service uses that are unsuitable for, or cannot be accommodated within, Centre or Industry zones.

Lot 701, however, is not subject to any adopted or proposed Structure Plan. Therefore, its land use permissibility must be determined under Clause 27(2) of the Deemed Provisions, which allows development to be approved in the absence of a Structure Plan where it does not compromise orderly planning or the development potential of the wider area.

Setbacks:
Clause 4.9.1 of TPS3 which requires:

- Commercial buildings to be setback from lot boundaries in accordance with the provisions of the Building Code of Australia (BCA); and
- Buildings to be setback from boundaries so that the impact on the use and amenity of the adjoining buildings is minimised and the scale and bulk of the building is compatible with the streetscape.

Boundary	Proposed Setback Range
South (Armadale Road)	2 m – 15 m
West (Verde Drive)	46 m – 155 m
East (Residential)	8 m – 50 m
North (Residential)	10 m – 60 m

A minimum 8 m setback has been proposed along the eastern boundary, including a 2 m landscaping strip, with the remaining setback area accommodating service vehicle access and staff parking for Buildings 1 and 2. Along the northern boundary, a 10 m setback is proposed, incorporating a 5 m landscaping strip, and similarly providing space for service access and staff parking.

Setbacks to Armadale Road and Verde Drive are consistent with existing development

Building facade and interface with residential land uses:
The built form of the Development is generally consistent with the existing large-format retail buildings at 70 and 71 Armadale Road. There are no prescribed building heights in LPP 3.8, nor is there an approved structure plan that sets height or storey limits for this site.

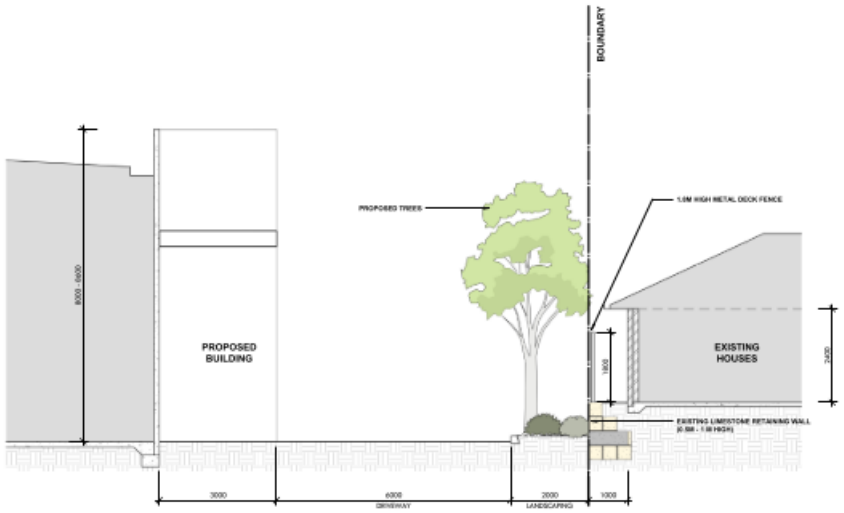
Most proposed tenancies have a building height of approximately 9.6 m above natural ground level, which is typical for large showroom-style retail development. While the buildings present a height similar to a two-storey structure, they accommodate only a single level internally to allow for the display and storage of large items.

Building One (Tenancies 11–19) will have the greatest visual impact for existing residents in the Calleya Estate to the east, with a maximum height of 12 m to accommodate back-of-house servicing and storage areas.

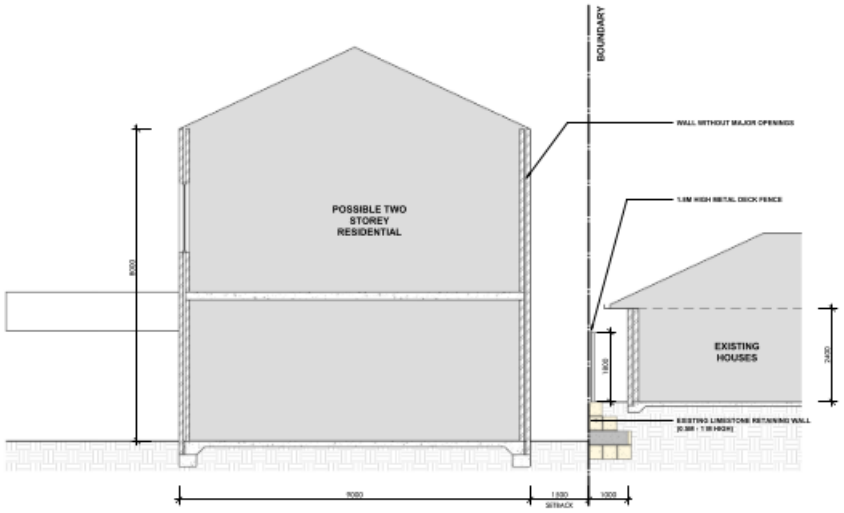
As outlined in the community consultation summary, several submissions raised concerns about building bulk. These concerns are partly a result of the site not being guided by a structure plan, which would ordinarily address the interface between large-scale retail development and nearby residential areas. In the absence of such a framework, the proposal must instead be assessed on its merits against LPP 3.8.

All community submissions relating to building height have been addressed by both the applicant and City officers. In response to the RFI, the applicant also provided a cross-section comparison illustrating the proposed development against a potential two-storey residential dwelling (attachment 13). This demonstrated that although the built form differs in character, the proposed buildings are set back significantly further than a typical two-storey residential development would be.

DA 37	Banjup Quarry Redevelopment *AMD 95 GG 29/10/13*	1.	An approved Structure Plan together with all approved amendments shall be given due regard in the assessment of applications for subdivision, land use and development in accordance with clause 27(1) of the Deemed Provisions.
		2.	The Structure Plan is to provide for an appropriate mix of residential and non-residential land uses, in order to support the objective for a mixed use neighbourhood. Non-residential land uses may include compatible commercial and industrial (light and service industry) land uses, as a means to provide an appropriate interface and transition to the western adjoining Solomon Road Development Area 20.
		3.	The Structure Plan is to provide for safe and efficient pedestrian connections between DA37 and the Cockburn Central Railway Station.



BOUNDARY SECTION - PROPOSED COMMERCIAL DEVELOPMENT



BOUNDARY SECTION - RESIDENTIAL DEVELOPMENT

Traffic:
Initial concerns were raised regarding the increased traffic volume this development will bring onto Armadale Road. During the application process the proposal was referred to Main Roads for comment. Their comments are attached

The City requested an amended TIA due to missing/incorrect information. RFI within attached documents. The applicant provided information to address the City's concerns and queries. All vehicle manoeuvring has been supported by the City and MRWA.

The City's only remaining traffic and transport concerns were that there were no delivery bays are shown for Buildings 1 and 3. The City will condition a Delivery Management Plan is to be provided at this stage to detail the proposed delivery and servicing arrangements and demonstrate that servicing demand can be adequately accommodated, to avoid potential obstruction of the internal circulation roadways and impacts on the surrounding road network.

Parking:
- The proposed uses when assessed under TPS3 Table 3 & 4 has a parking shortfall of 85 bays
- The proposed uses when assessed against the DRAFT LPS13 has a parking surplus of 255 bays; and
- The proposed uses when assessed under the WA Planning Manual for non-residential car parking rates has a parking surplus of 264 bays.

Due to parking not being an issue with the current existing tenancies and there being a surplus of parking under the draft LPS and WA Planning Manual the City is supportive of the parking shortfall and the applicant's justification of this shortfall with TPS3.

Landscaping:
Internally, questions were raised in regard to landscaping areas, species, shade trees and the amount of landscaping provided. The City requested an amended landscaping plan asking for trees a rate of 1 tree per 3 bays, change of tree species as they were identified on the PHSB host list, more appropriate species in regard to the space they would occupy and what they abut (eg vehicle access way or OLA to a residential lot.

MRWA also requested some amendments to the verge landscaping abutting Armadale Road. Theses comments can be seen in the attached documents.

Landscaping provided is compliant with TPS3 requirements with 5.3% landscaping provided with the lot, 1 tree per 3 car bays and verge treatment landscaping provided along Armadale Road and Verde Drive

Noise:
The City's Health Department noted that the initial Acoustic Report did not consider all potential noise sources and does not provide enough detail to make a full assessment of the future noise impacts on the nearby residents.

The City's health services believe there is a lack of detail in the revised acoustic report to give confidence that the amenity impact from the overall cumulative effect from all the potential noise emissions from the development can be mitigated or sufficiently managed.

- There has been no assessment of the general banging that occurs with loading and unloading bulky goods.
- There is no detail to show that a large truck driving along the delivery route has been assessed as well as the location that the trucks have been modelled at the loading points.
- Similarly, there are no figures provided to show the modelling location of the other noise sources.
- There is no assessment on the cumulative effect of all the noises sources and the effect on amenity. Each noise source has been assessed individually. In practice complaints are received about the noise from the site as a whole and the number of different sources rather than one noise source.
- There is no justification that delivery truck engines will be turned off during loading and unloading thereby limiting the noise duration and making the LA1 the applicable assigned noise level. Without a delivery management plan there is no justification on how the driver behaviour can be managed.

An RFI was sent to address concerns the City had with noise. The applicant refused to provide a further revised acoustic report to address the above and provided responding comments by the Acoustic Consultants Herrring Storer. The City could not agree with the supplementary acoustic advice and findings in the acoustic report as the City believes that the acosutic report hasnt considered signficantly contributing/cumulative noise. Therefore, the City has proposed the conditions such as restrictions of delivery times and operations due to this.

The acoustic report and supplementary acoustic advice can be found in attachment 6 & 7

Waste Management:
There was a Waste Management Plan provided in the planning report. This was referred internally to the City's Waste Services and was approved. The Waste Management Plan is in accordance with LPP 1.14 Waste Management and the City's specifications.

To address community objections and concerns the City has with the servicing and noise the City is conditioning a Delivery Management Plan prior to the occupation of the buildings once the proponent has confirmed it tenancies. This is to address noise concerns and objections from the public to protect noise amenity and compliance with the relative noise regulations

Signage:
The signage shown on the submitted plans has not been assessed or recommended for approval, as final signage will vary depending on future tenants. Accordingly, the City will recommend a condition stating that this approval relates only to the proposed large retail development, and that any future signage or advertising not exempt under Town Planning Scheme No. 3 or LPP 3.7 – Signs & Advertising must be accompanied by a plan and description and submitted to the City for approval prior to installation. Applicants are strongly encouraged to contact the City's Planning Services before installing any signage to confirm approval requirements.

Conclusion:
The proposed large-format retail development at Lot 701 Armadale Road has been assessed against the relevant provisions of TPS 3, the Deemed Provisions and applicable local planning policies. In the absence of a Structure Plan for DA37, the proposal has been considered under Clause 27(2), and is not expected to compromise orderly and proper planning or the future development potential of the wider area. Issues raised through advertising to the public relating to bulk, traffic, noise and residential interface, can be satisfactorily managed through the recommended conditions. Overall, the development is consistent with some of the intended uses in DA37 and existing development to the west and can function harmoniously with the residential land to the east and is supported subject to conditions.

This information is provided by the City of Cockburn

Town Planning Report

Proposed Large Format Retail Development
Lot 403 (No. 87) and 701 Armadale Road, Treeby

ROWE GROUP

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1. Introduction

Rowe Groups acts on behalf of South Central WA Pty Ltd, being the registered owner of Lot 403 (No. 87) and Lot 701 Armadale Road, Treeby (**site**). We are instructed by our Client to prepare and lodge an Application for Development Approval to construct a commercial development (Large Format Retail) on the site. The proposed development comprises 26 tenancies of varying sizes across seven (7) buildings, providing for predominantly large format retail land uses along with a gymnasium, café and a food tenancy. These land uses are all contained within Lot 701.

The application also proposes the removal of an existing large format retail tenancy located within the existing development at Lot 403 to facilitate additional car parking and a new accessway connection between Verde Drive and Lot 701.

This report has been prepared in support of the proposed development and addresses the following matters:

- Site location and description;
- Surrounding land uses and context;
- Overview of relevant planning and design issues;
- Detailed explanation of the proposed development; and
- Justification for the proposed development.

The proposed development has been informed by technical input from the following consultants:

Discipline	Consultant
Acoustic	Herring Storer Acoustics
Architectural Design	Meyer Shircore Architects
Bushfire	Western Environmental
ESD	Emergen
Landscape Design	KDLA
Servicing	Colliers
Town Planning	Rowe Group
Traffic	Transcore
Waste Management	Talis Consultants

Table 1: Project Team

The proposed development has an estimated construction value of $65 million and therefore meets the threshold for determination by the Outer Metro Development Assessment Panel (**DAP**). On this basis, our Client has elected for the proposed development to be determined under Regulation 17 of the *Planning and Development (Development Assessment Panels) Regulations 2011* (**DAP Regulations**). The associated forms and fees have been included to facilitate determination by the DAP.

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2. Description of Site

2.1 Location

The site is located on the border between the suburbs of Jandakot and Treeby, in the municipality of the City of Cockburn. It is located approximately 19 km south of the Perth Central Area and is positioned on the eastern side of the Kwinana Freeway, approximately 1 km east of the Cockburn Central Train Station.

Refer to **Figure 1 – Regional Location**

The site is located on the northern side of Armadale Road at the intersection of Verde Drive and Tapper Road. The land to the immediate east and north-east of the site contains existing residential uses whilst the land to the west and north-west comprise existing large format retail and industrial uses. The site is accessible to the Kwinana Freeway (north and south) via Armadale Road and Beeliar Drive.

Refer to **Figure 2 – Local Context**

2.2 Cadastral Information

Cadastral information relating to the site is summarised in **Table 2** below.

Lot No.	Street Address	Plan/Diagram	Volume/Folio	Landowner
403	No. 87 Armadale Road, Jandakot	DP 59934	2712/370	South Central WA Pty Ltd
701	N/A	DP 413030	2948/709	South Central WA Pty Ltd

Table 2: Cadastral Information

The site has a combined land area of approximately 13.8ha with Lot 403 comprising an area of approximately 6.774ha and Lot 701 comprising an area of approximately 7.033ha.

Lot 701 has a frontage of approximately 200m to Armadale Road along its southern boundary and maintains direct vehicle access onto Armadale Road via an existing left-in/left-out crossover with an associated slip lane. Lot 403 has extensive frontage to Verde Drive along its western boundary and maintains frontage to Armadale Road along its southern boundary. Direct vehicle access into Lot 403 is provided via an existing full movement round-a-bout located approximately mid-way between Armadale Road and Biscayne Way. A second crossover located between the round-a-bout and Armadale Road also provides access into Lot 403.

Refer **Figure 3 – Site Plan**

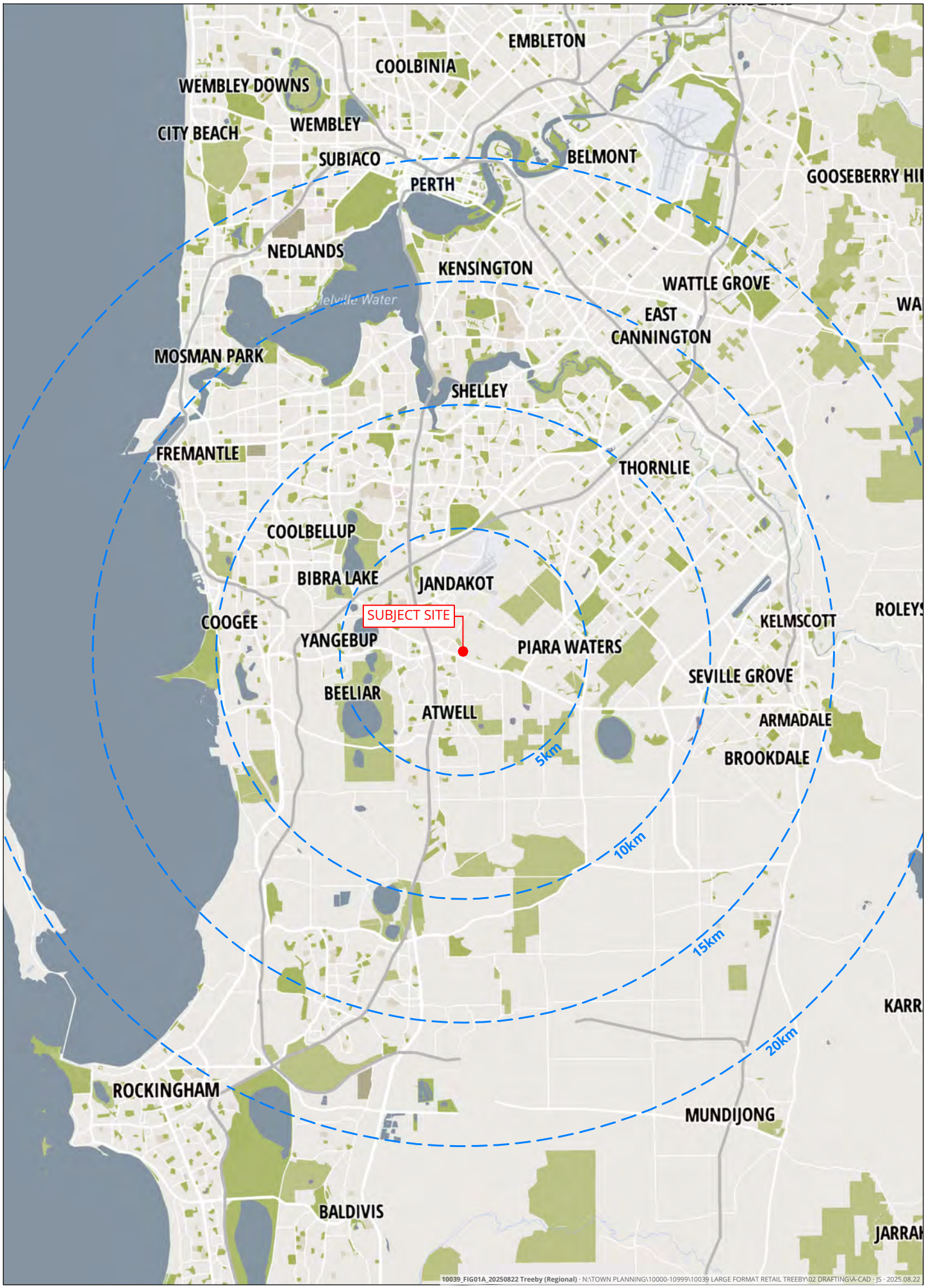
A review of the Certificates of Title reveal that Lot 403 is affected by a number of encumbrances predominantly related to access easements and lease notifications/caveats. Other than a mortgage notification, there are no encumbrances registered on Title in relation to Lot 701.

The landowner is aware of the encumbrances and the proposed development has been designed to accommodate and/or address each as necessary.

Refer **Attachment 1 – Certificates of Title and Deposited Plan**

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FIGURE 1

REGIONAL LOCATION

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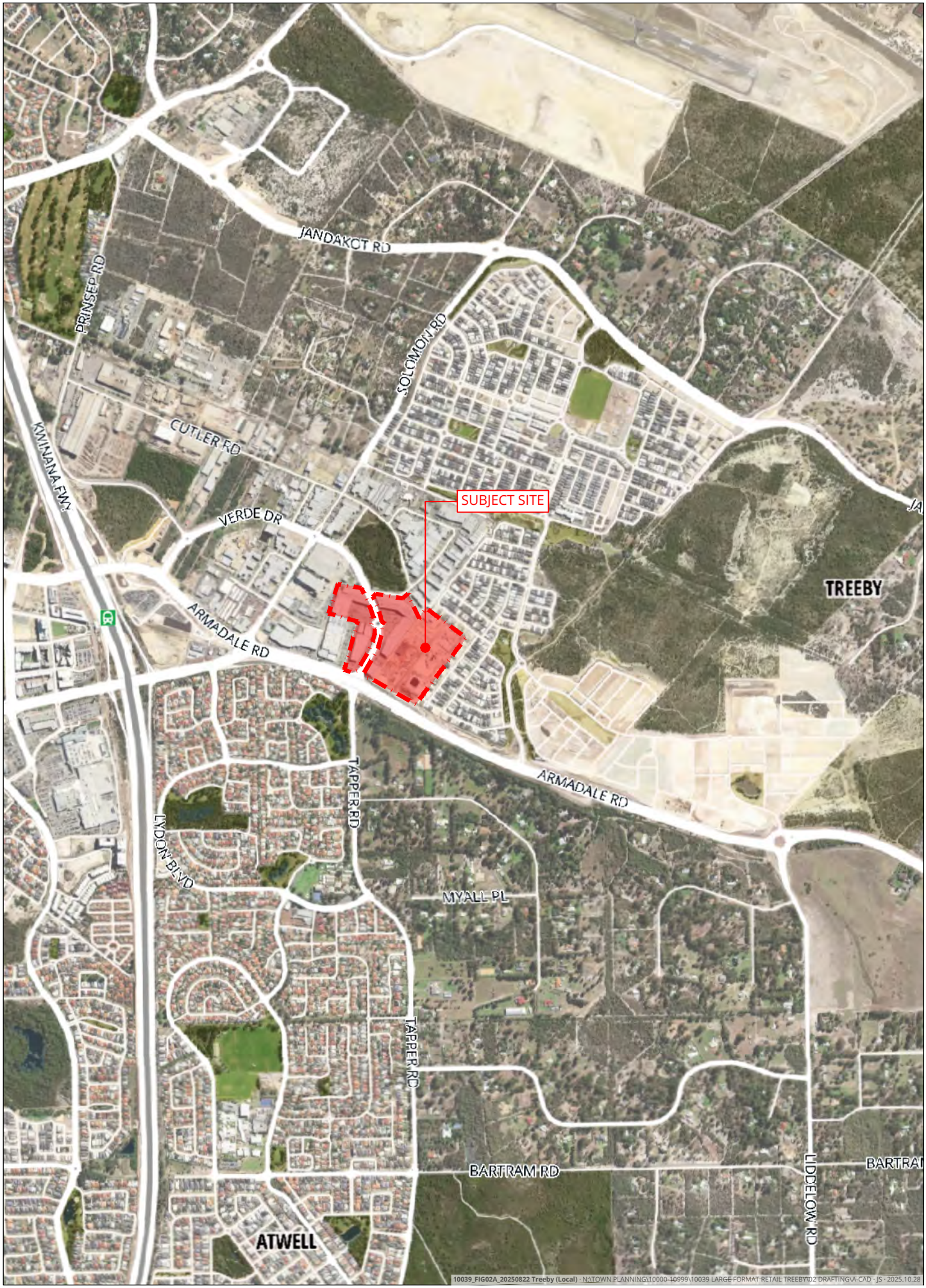
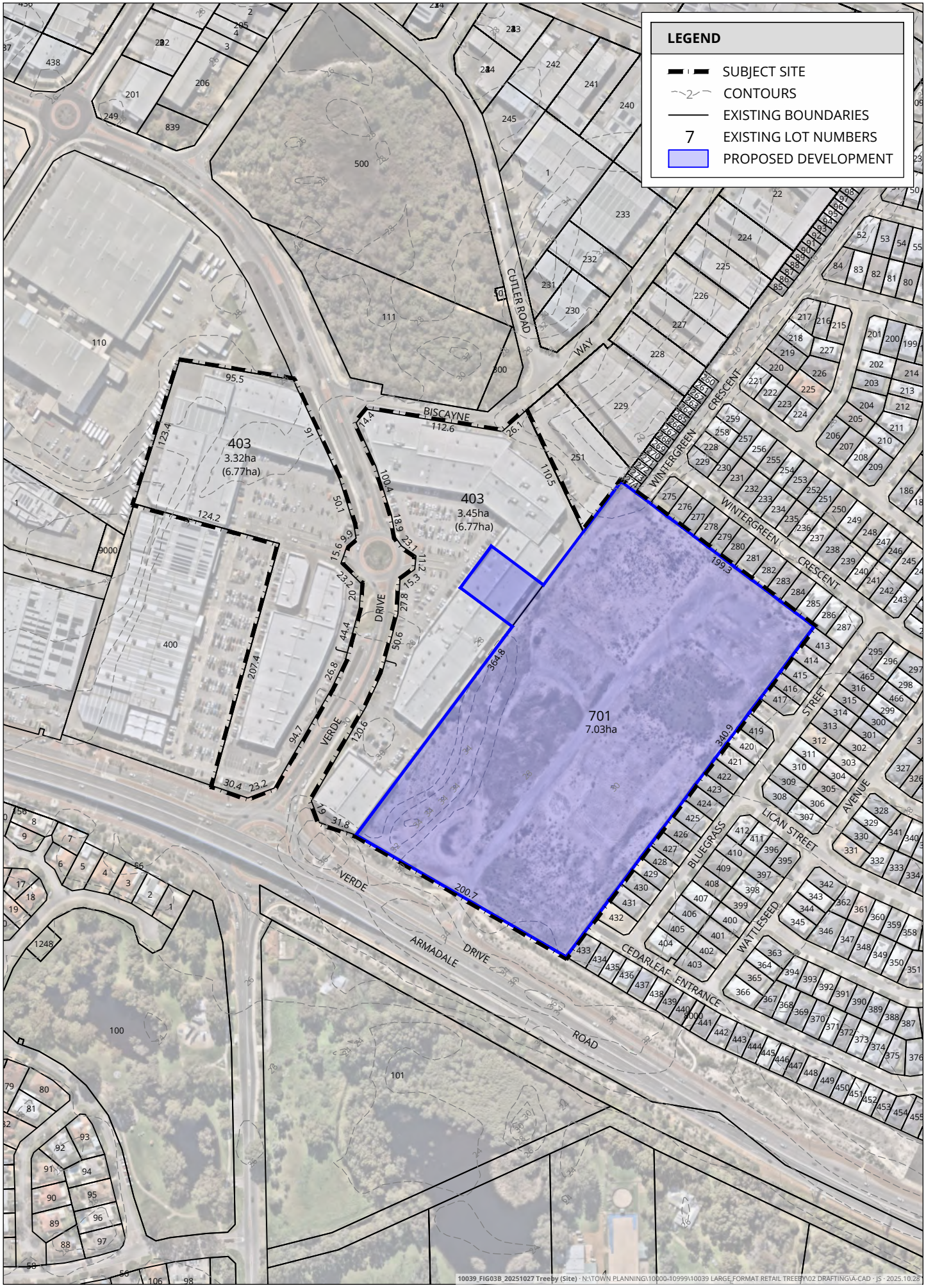


FIGURE 2
LOCAL CONTEXT

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FIGURE 3

SITE PLAN

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2.3 Existing Improvements and Surrounding Land Uses

Lot 701 is currently vacant and does not contain any existing buildings or vegetation of any significance. Lot 403 is fully developed, comprising existing large format retail land uses and development. The land to the immediate east and north-east of Lot 701 contains existing single residential uses whilst the land to the west and north-west of Lot 403 comprises existing large format retail and industrial uses.

The adjoining single residential properties predominantly 'back on' to Lot 701 with one property, located at Lot 433 (No.53) Cedarleaf Entrance, maintaining a common side boundary with Lot 701. There are three (3) road connections from the adjoining residential area in total (Hiba View, Sage Vista and Cedarleaf Entrance) that abut the eastern and northern boundaries of Lot 701.

The existing large format retail uses on Lot 403 are well established. These uses operate in conjunction with the large format retail uses on the western side of Verde Drive which forms part of a well-established node for large format retail activities. There is a Crown reserve located to the north of Lot 403 (north of Biscayne Way) however the predominant land use to the north is industrial.

The site is connected to all essential infrastructure including reticulated water, sewer and power.

2.4 Site Conditions and Environmental Considerations

A preliminary assessment of existing conditions and services relating to the subject site has been undertaken by Colliers. Key findings from the assessment in relation to site and environmental considerations are summarised below.

2.4.1 Geology

- Aerial imagery illustrates that the site was historically utilised as a Contractors laydown for the Armadale Road upgrade, which consisted of limestone hardstands, asphalt access roads, stockpiles and dewatering ponds. The remnants of these former land uses may be present on site.
- Preliminary investigations suggest that the site is geotechnically appropriate for the proposed development however a detailed geotechnical investigation is recommended prior to the commencement of design documentation.

2.4.2 Topography

- Site levels across the site range from RL 30.50 to 31.50m Australian Height Datum (**AHD**). Typical crossfalls are at less than 1.0% which is suitable for the proposed development.
- Stockpiles have been noted within the feature survey. A geotechnical investigation of the stockpile material is recommended to verify if the material is suitable for reuse.
- Some minor boundary retaining walls abutting the existing residential dwellings may be required to facilitate a consistent finished floor level throughout the proposed development. If retaining walls are necessary, they are not anticipated to exceed a height of 600mm.
- The existing Armadale Road has a one-way crossfall directing the road reserve runoff towards the two (2) existing basins located within the northern verge of Armadale Road.

2.4.3 Groundwater

- Mapping produced by the Department of Water and Environmental Regulation (**DWER**) indicates that historical maximum groundwater is likely to be encountered at RL 27.0m AHD.

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- The existing site surface is located at approximately RL 31.0 AHD, with the proposed finished floor levels likely to be constructed within 0.5m of this existing surface.
- Groundwater levels are demonstrated in the form of a water body on the southern side of Armadale Road, adjacent to Tapper Road.
- Based on these maximum groundwater levels, groundwater is unlikely to impact the proposed development.
- A groundwater monitoring bore is located within Lot 403 however no development is proposed in proximity to this monitoring bore.

2.4.4 Site Contamination

- A search of the DWER's Contaminated Sites Database indicates that the subject site is not classified as a known or suspected contaminated site.

2.4.5 Acid Sulphate Soils

- Acid Sulphate Soil (**ASS**) risk mapping by DWER indicates that the subject site has a moderate to low risk of disturbing ASS within 3m of the natural soil surface.
- Subject to the final development levels, the depth of excavation in proximity to the potential ASS shall be limited to minimise the risk associated with encountered acid sulphates.

2.4.6 Bushfire

- Mapping produced by the Department of Fire and Emergency Services (**DFES**) indicates that the subject site is predominantly clear of bushfire risk, except for a small section of the site along its southern boundary fronting Armadale Road. Management of bushfire risk is addressed in section 5.2.2 of this report.

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3. Description of Proposed Development

This Application seeks approval for the construction of a large format retail development on the site. The proposed development consists of 26 individual tenancies across seven (7) buildings. The tenancies vary in size to accommodate a range of commercial offerings and will include a gymnasium, café and a food tenancy. The total Gross Floor Area (**GFA**) of the proposed development is 36,346m^2.

The large format retail tenancies, café and food tenancy are expected to operate 7 days a week between the hours of 9.00am and 5.30pm Monday to Saturday (with longer trading hours on Thursday evenings) and between the hours of 11.00am and 5.00pm on Sundays in accordance with Western Australia's retail trading hours. The gymnasium is expected to operate 7 days a week, potentially with 24 hour access (subject to operator requirements), providing activity outside of normal retail trading hours.

The proposed development will be serviced by 705 car parking bays of which 656 will be constructed on Lot 701 and 49 bays will be constructed on Lot 403. 91 of these bays have been set aside for designated staff parking and are located to the rear of Buildings 1 and 2.

Each of the proposed buildings will be provided with a designated delivery and service area accessible to the rear of the building. Most of the delivery and service vehicles will enter the site from the north-west along Biscayne Way and exit via Armadale Road in the south. Access for delivery and service vehicles has been designed to avoid customer traffic and provide physical separation between the proposed development and adjoining residential dwellings to the north and east.

Pedestrian access to the site will be provided via a network of existing footpaths along Armadale Road, Verde Drive and Biscayne Way. Internally, the parking area will be serviced by a series of designated pedestrian access points providing for the safe movement of pedestrians between the car park and shopping area.

A 'pocket park' measuring approximately 150m^2 in area will be constructed centrally within the site adjoining the proposed gymnasium, café and food tenancies. The park will be landscaped and include seating for use by customers and employees.

Extensive landscaping is proposed throughout the balance of the site including the Armadale Road verge which adjoins the site's southern boundary. The Armadale Road verge area is managed by Main Roads WA (**MRWA**). In total, 4,400m^2 of landscaping will be provided across the site (and the adjoining road reserve) including 269 trees.

Key elements of the proposed development are summarised below:

- Overall GFA of 36,346m^2
- 26 tenancies ranging in size from 150m^2 to 8,800m^2 GFA
- Showroom, gymnasium and café / lunch bar land uses
- 705 on-site car parking bays
- Designated service and delivery vehicle access
- Vehicle access via Armadale Road and Verde Drive
- 4,213m^2 (6%) of landscaping including 150m^2 'pocket park' and adjoining verge areas
- 269 trees
- Integration with existing large format retail development to the west

Refer **Attachment 2 – Development Proposal Plans**

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4. Pre-Lodgement Consultation and Design Review

The proposed development has been informed by consultation with the City of Cockburn's Planning Department and Design Review Panel (**DRP**).

Noting that Lot 701 is zoned 'Development' under the provisions of the City of Cockburn *Town Planning Scheme No. 3* (**TPS3**) and that an existing Structure Plan applies to Lot 403 but not Lot 701, a key topic of discussion was the need for a Structure Plan prior to the consideration of development on Lot 701. The City has confirmed in this instance that it is agreeable to progressing an Application for Development Approval on the site in the absence of a Structure Plan given the site is in single ownership, is bounded by fully developed land and that a public consultation process will be undertaken as part of the application process. This is discussed in more detail in section 5.5.2 of this report.

On 24 September 2025, the Applicant presented to the DRP to assess and provide comments on the proposed development against the City's planning framework. Key aspects of the DRP meeting are summarised in **Table 3** below, together with the Applicant's responses.

DRP Recommendations

Introductory Comments:

- The proposal generally includes a number of positive aspects not always integrated into this typology
- Integration with and links to the adjoining west side large format retail site are logical
- The inclusion of a cafe, pocket parks and pedestrian arcade establish a social aspect for the development
- A legible pedestrian pathway network has been established through the site
- Fire tanks and pumps are positioned concealed from view from the public realm
- A good proportion of the delivery, loading and service areas are separated from the customer parking area
- A Landscape Architect has been engaged
- The landscaping incorporates native and endemic planting species
- The majority of the carpark has trees providing shade in continuous planters
- Wandoo trees are supported
- A landscaped buffer is positioned on the north and east edge interfaces to the adjacent single residential properties

	Principle 1: Context and Character	**Applicant Response**
1.	Soften the western end of the Armadale Road streetscape interface using generous landscaping. If Main Roads don't support generous landscaping on the verge introduce a setback to the built form so a generous landscaping buffer can be provided within the site.	MRWA has indicated preliminary support for infill planting within the existing flowerbeds and mulch in some areas outside the existing drainage sumps. Whilst this verge landscaping assists, the built form along this frontage has been setback so that more substantial landscaping can be provided on-site in conjunction with the proposed verge treatment. This has generated an additional 300m^2 of landscaping within the site along the Armadale Road frontage.
2.	Provide a high level Masterplan showing the arrangement of the future residential estates including cul-de-sac terminations on the adjoining north and east side properties. Illustrate how the proposed development will interface with the adjoining single storey houses and terminating roads in an attractive manner.	Additional elevation plans have been prepared illustrating proposed treatments and resulting views from the Hiba View and Cedarleaf Entrance cul-de-sacs to the north and east of the site (see Sheets 36 and 37 of the enclosed Development Proposal Plans).
3.	The pedestrian connection to Verde Street should be strengthened.	The Verde Drive pedestrian connections are now clearly shown.

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DRP Recommendations

Principle 2: Landscape Quality		
4.	Liaise with MRWA to confirm what landscaping they will support on the Armadale Road verge area	Consultation with MRWA has been undertaken and preliminary support for infill planting received – refer to response at item 1 above.
5.	Increase the width of the landscape buffer on the east edge of the site to match the generosity of the buffer on the north side of the site	Widening of the landscape buffer along the site's eastern boundary was considered however it was determined that any widening of the landscape buffer would compromise vehicle access arrangements and building placement within the site more broadly. A landscaping buffer of 2m is considered adequate to accommodate landscaping and tree growth and provide an appropriate buffer to adjoining residential land uses.
6.	Consider treating the full width of the buffer planting strips for habitat and screen planting with a greater mix of species	A detailed landscaping plan has been prepared in support of the proposed development and details proposed treatments to the buffer areas located along the site's northern and eastern boundaries. These buffer areas will be developed with semi-mature trees and low level native planting with dense native and endemic planting species to provide a visual buffer to adjacent residential lots.
7.	Select screen planting to block views of the rear walls of the large format development from adjacent residential properties and cul-de-sacs	Noted. Refer to response at Item 6 above.
8.	Add public space infrastructure in the pocket park on the Armadale Road streetscape interface including seating, tables, bike racks, shade etc. to accommodate use of this space	The landscaping plan has been updated to illustrate, in further detail, proposed soft and hard landscaping treatments within the 'pocket park'.
9.	Illustrate how hard landscaping materiality will be utilised to play a role in defining a unique sense of 'place' for the development	The development proposal and landscaping plans have been updated to illustrate how hard landscaping elements will be incorporated to create a sense of place and distinguish between pedestrian and vehicle spaces. The main access driveways will comprise a "Brown Hotmix" finish while the balance of the car parking area will comprise "Black Hotmix" paving. All pedestrian footpaths will comprise of a brushed aggregate finish.
Principle 3: Built Form and Scale		
10.	No recommendations	Noted
Principle 4: Functionality and Build Quality		
11.	No recommendations	Noted
Principle 5: Sustainability		
12.	Strengthen the ESD narrative / strategy for the site by providing commitments in relation to the active initiatives that will be integrated and detailing how materiality selections can assist in carbon reduction	An ESD Report has been prepared in support of the proposed development and is enclosed at **Attachment 3**. The Report expands on the sustainable design principles previously discussed for the site and outlines the various commitments to be undertaken by the Applicant. Refer to Sections 8 and 9 in the Sustainable

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DRP Recommendations

		Design Report regarding materiality selections assisting to reduce carbon.
13.	Provide details in relation to the number and size of the PV solar systems that will be installed on the site upfront	The development proposal plans have been updated to identify the location of proposed PV Solar Systems (refer to Building Roof Plans). In the ESD Design, Section 3.2.1 'Estimated Energy Used' indicates the size required for each building to meet the 30% energy reduction.
14.	Ensure initiatives in the ESD Report are co-ordinated with and shown on the architectural drawings including the bicycle racks	The development proposal plans have been updated to ensure the initiatives outlined in the ESD report are suitably captured. This includes the provision of bicycle parking facilities.
15.	Consider integrating further active ESD initiatives into the proposal	All proposed sustainability initiatives are documented in the enclosed ESD Report and reflected on the development proposal plans where appropriate. Energy use reduction is targeted as 30%, Lighting is nominated as 20% below NCC max requirement, as well as Solar PV, water and waste efficiency.
Principle 6: Amenity		
16.	Ensure the café and pocket park are positioned and orientated to receive adequate natural light and achieve good visibility within the site	The development proposal plans have been updated to modify the roof of the Café and adjacent Showroom to a provide additional sunlight into the alfresco and 'pocket park'.
17.	Look for all opportunities to maximise glazing to the showroom tenancies and the Gym	The development proposal plans have been updated to include unlimited glazing to the western, northern and eastern walls of the proposed gym.
Principle 7: Legibility		
18.	Review the legibility and ease of access to the rear service road for customers collecting items	Tenancy No. 10 within proposed Building 2 has been modified to include a designated customer pick-up area to the front of the Tenancy. Customer access to the rear of the proposed Buildings will not be permitted.
Principle 8: Safety		
19.	Consider all opportunities to increase passive surveillance of the internal carpark areas, pocket park and pedestrian arcade through increasing the extent of windows to the tenancies	Passive surveillance to the internal carpark has been maximised through increased glazing. Electronic surveillance will also be utilised throughout the site. The gymnasium is expected to operate 7 days a week, potentially with 24 hour access (subject to operator requirements), providing activity outside of normal retail trading hours.
Principle 9: Community		
20.	Provide a Public Art Strategy for the site at an early stage illustrating the locations and forms of public art that will contribute to the development in a meaningful and positive way	A Public Art Strategy for the site will be developed in consultation with the City's Planning Department following the granting of Development Approval.
Principle 10: Aesthetics		
21.	Provide further information in relation to the proposal's architectural language and materiality to	Materials and base construction colours have been included on all elevation plans.

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DRP Recommendations		
	establish a unique sense of 'place' for the development	
22.	Provide a Signage Strategy for the development illustrating that signage will be integrated in a sensitive and cohesive way whilst still achieving adequate levels of commercial visibility for tenants	Signage zones are shown on all elevation plans to indicate the location and type of signage expected. Specific Tenant signage within each of these nominated zones will be by separate Application by Tenants to the City of Cockburn. All proposed signage within the site will need to comply with the City's Signage Policy.
Concluding Remarks:		
The Proposal includes a number of positive aspects including the overall site organisation and is generally working towards a supportable outcome. The Applicant is encouraged to soften the Armadale Road streetscape interface with landscaping, strengthen the sustainability narrative and respond to the other recommendations provided above to ensure the positive aspects of the proposal result in meaningful and usable benefits for workers, visitors as well as the surrounding community.		

Table 3: Design Review Panel Summary

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5. Town Planning Considerations

5.1 Strategic Planning Framework

5.1.1 South Metropolitan Peel Sub-Regional Planning Framework

The *South Metropolitan Peel Sub-Regional Planning Framework* (**Framework**) was adopted by the WAPC in 2018 and establishes a long-term planning framework for land use and infrastructure to guide future growth across the south metropolitan region. The Framework forms part of the *Perth and Peel @ 3.5 Million* suite of documents and is specific to the South Metropolitan and Peel regions.

The Framework identifies Lot 403 as 'Industrial' and Lot 701 as 'Urban', consistent with their regional zoning under the *Metropolitan Region Scheme* (**MRS**).

Refer **Figure 4 - South Metropolitan Peel Sub-Regional Planning Framework**

5.1.2 City of Cockburn Local Planning Strategy

The City of Cockburn *Local Planning Strategy* (**Planning Strategy**) was endorsed by the WAPC in October 2024. It sets out the long term planning direction for the City, covering a 10-15 year timeframe, and is intended to guide the ultimate land use pattern for the district, and a context for planning and development under both the MRS and LPS13.

The Planning Strategy does not specifically consider the site in isolation but rather deals more broadly with a range of district-wide issues relating to matters such as housing, employment, shopping and transport. The subject site is identified on the Planning Strategy Map as a 'Structure Planning Area for Future Rationalisation' however no specific land use designation is identified.

Refer **Figure 5 – Local Planning Strategy Map**

5.1.3 City of Cockburn Local Commercial and Activity Centres Strategy (2012)

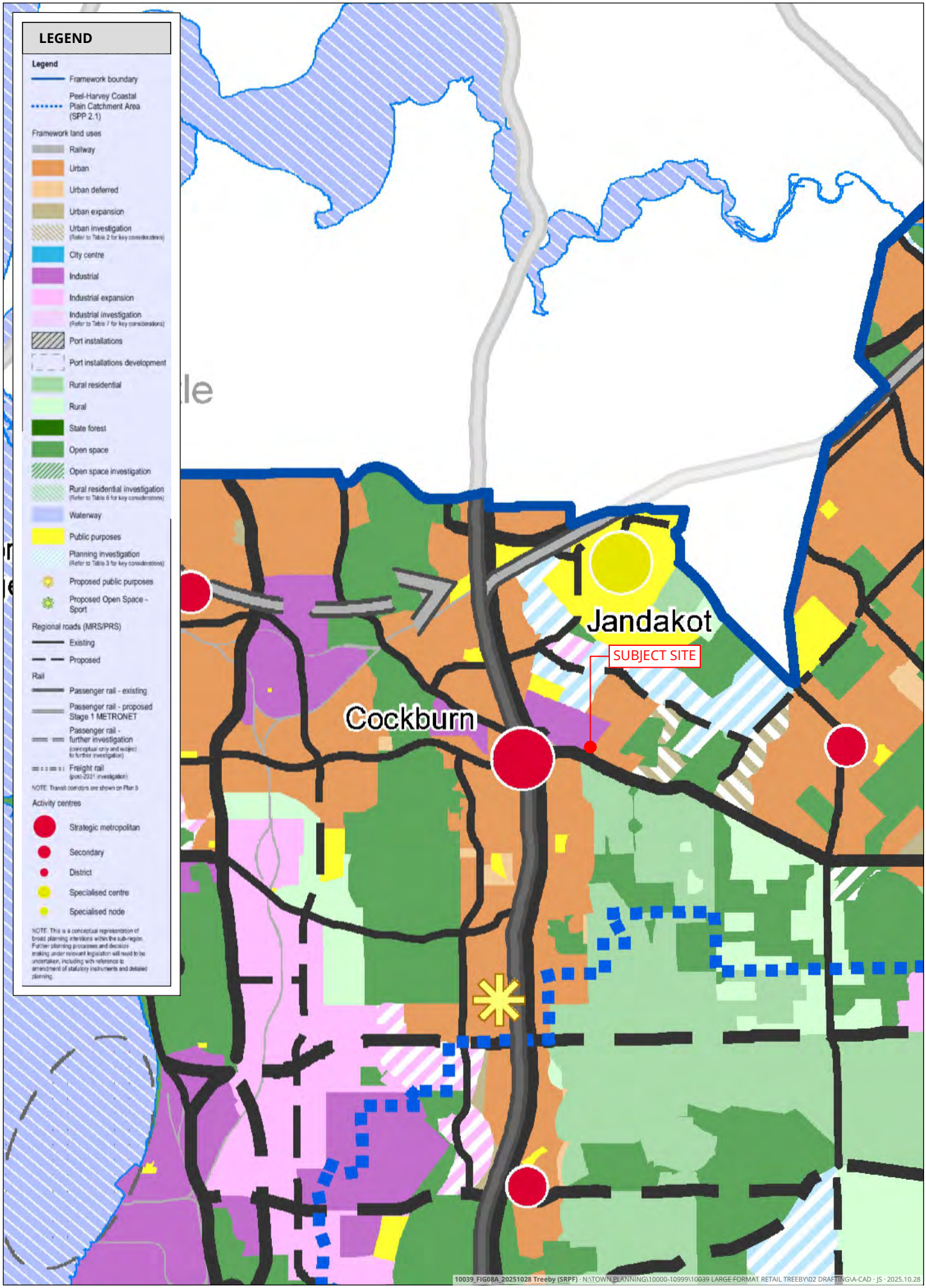
The City of Cockburn *Local Commercial and Activity Centres Strategy* (**Commercial Strategy**) was adopted by Council in 2012 and sets the strategic vision and broad framework to guide the planning and development of the City's activity centres. The findings and recommendations from the Commercial Strategy have informed the City's Planning Strategy and draft Local Planning Scheme No. 13.

The subject site is broadly identified under the Commercial Strategy as forming part of the 'Jandakot East Industrial Centre' which performs the role of a Strategic Employment Centre within the hierarchy of activity centres. Strategy Employment Centres support a high density of jobs outside of the City's commercial focused activity centres.

The proposed development is consistent with its designation under the Commercial Strategy and will assist in the delivery of local employment opportunities.

Refer **Figure 6 – Commercial Strategy Activity Centre Location Plan**

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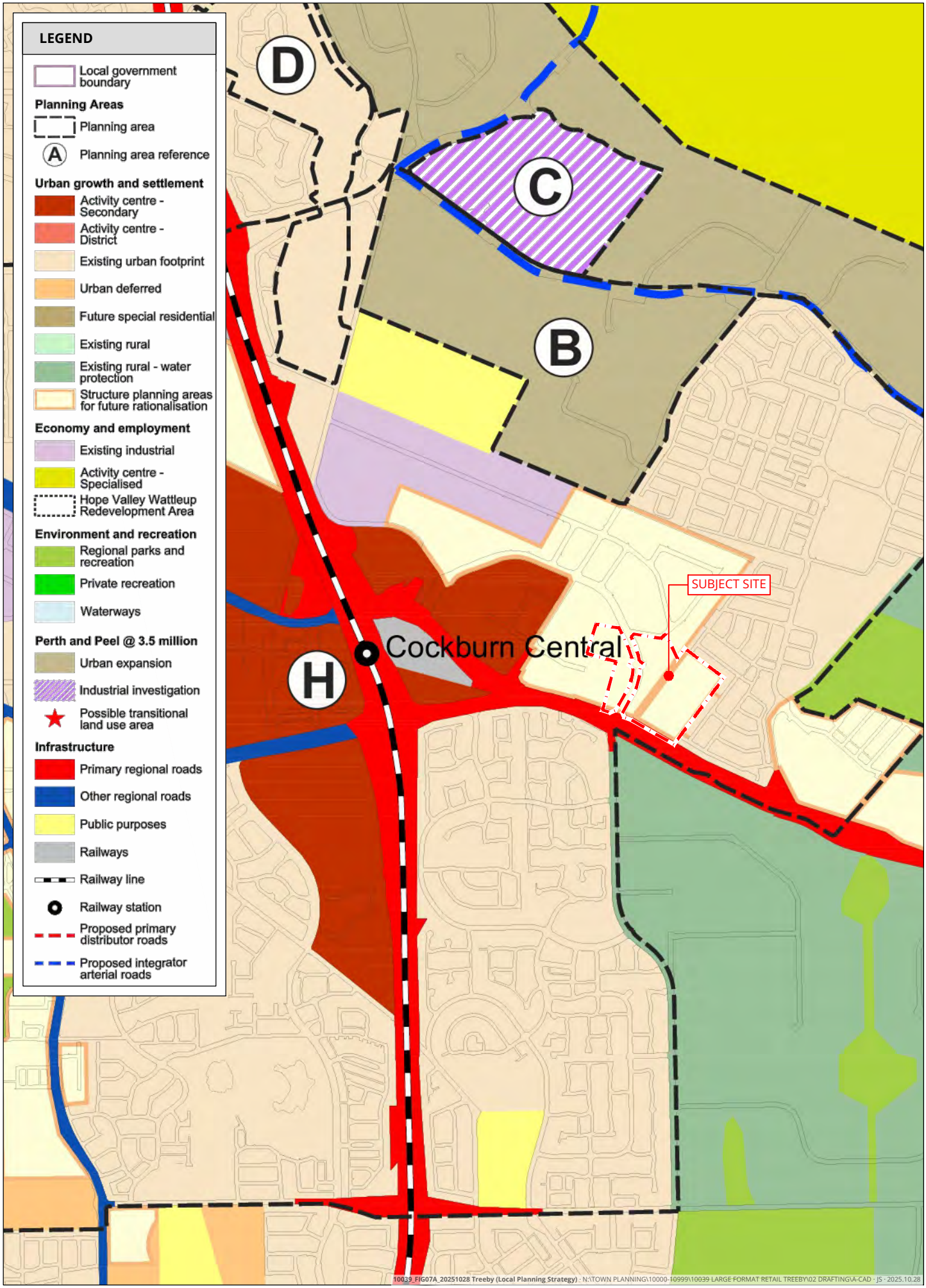
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FIGURE 4

SOUTH METROPOLITAN PEEL SUB-REGIONAL PLANNING FRAMEWORK

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FIGURE 5

LOCAL PLANNING STRATEGY MAP

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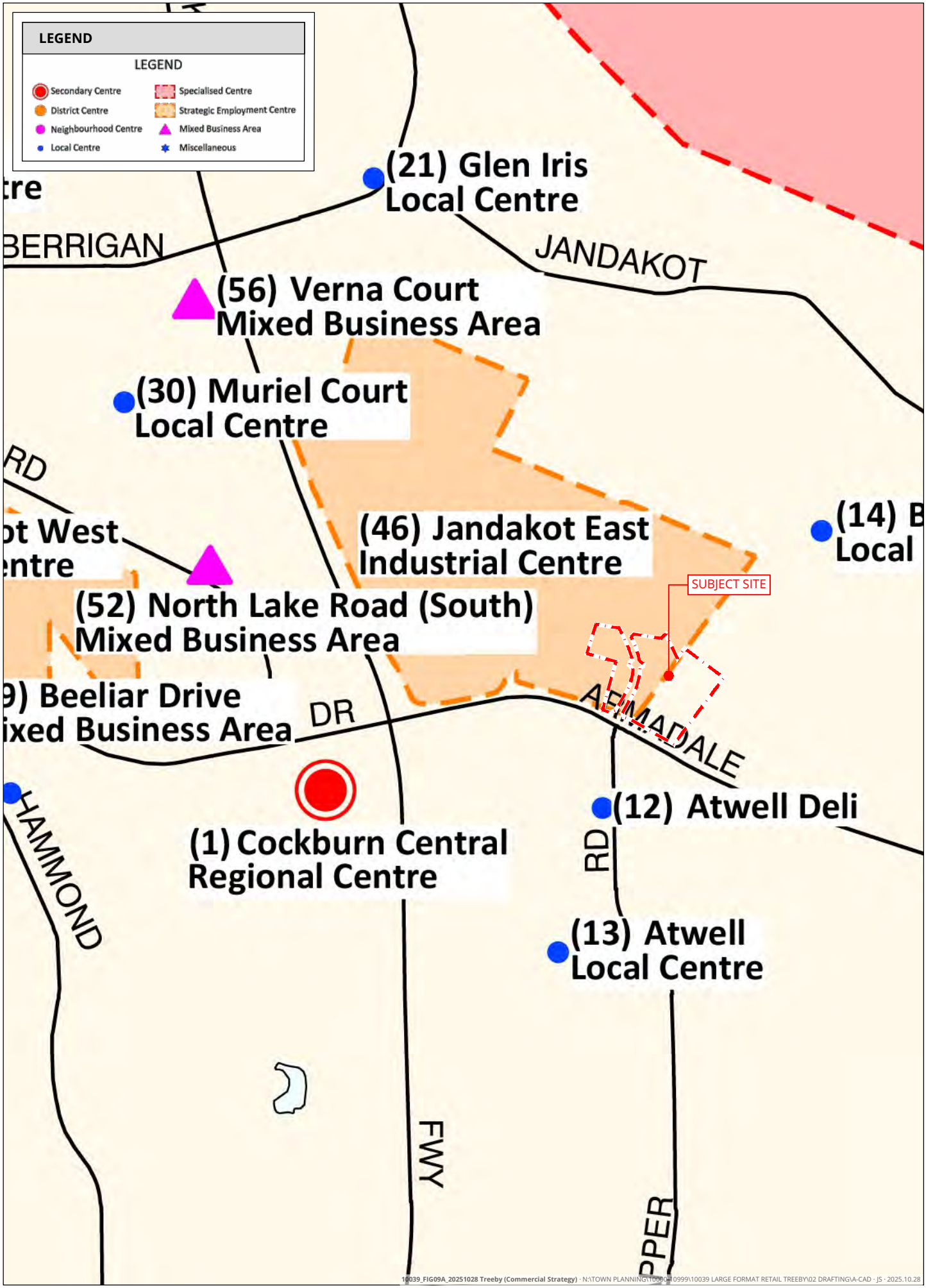


FIGURE 6

COMMERCIAL STRATEGY ACTIVITY CENTRE LOCATION PLAN

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5.2 State Planning Policies

5.2.1 State Planning Policy No. 2.3 – Jandakot Groundwater Protection

Lot 403 is classified as a Priority 3 (P3) Groundwater Protection Area and Lot 701 is classified as a Priority 3* (P3*) Groundwater Protection Area. The southern part of both lots are also partially located within Wellhead Protection Zone. The site is therefore subject to the principles and policy measures contained with the Western Australian Planning Commission's (**WAPC**) *State Planning Policy No. 2.3 - Jandakot Groundwater Protection* (**SPP 2.3**). The purpose of SPP 2.3 is to protect the Jandakot Groundwater Area from development and land uses that may have a detrimental impact on the water resource.

The Department of Water's *Land Use Compatibility Tables for Public Drinking Water Source Areas Water Quality Protection Note No. 25* (2021) identifies urban, commercial and light industrial land uses as being acceptable within the P3 and P3* Protection Areas. The site's location within the Jandakot Groundwater Area therefore does not preclude development, although some specific land uses and development restrictions/exclusions (such as a petrol station) may apply. No such land uses are proposed as part of this development.

Refer to **Figure 7 – SPP 2.3 Jandakot Groundwater Protection Area Map**

5.2.2 State Planning Policy No. 3.7 – Planning in Bushfire Prone Areas

The site is partially mapped by the Department of Fire and Emergency Services (**DFES**) as being within a Bushfire Prone Area however the mapped areas are limited to the southern boundary of Lot 701 and the north-eastern corner of Lot 403. No new development other than landscaping is proposed within these areas. Notwithstanding, the proposed development has been assessed against the objectives and requirements contained within the WAPC's *State Planning Policy No. 3.7 – Bushfire* (**SPP 3.7**) and accompanying *Planning for Bushfire Guidelines* (**SPP 3.7 Guidelines**). SPP 3.7 seeks to guide the implementation of effective risk-based land use planning and development to preserve life and reduce the impact of bushfire on property / infrastructure.

The Applicant has engaged Western Environmental to undertake a Bushfire Attack Level (**BAL**) and prepare a Bushfire Management Plan (**BMP**) to advise on any bushfire management measures required to ensure compliance with SPP 3.7. The Assessment determined that post-development, all of the proposed commercial buildings will be subject to BAL ratings of less than BAL-19. As none of the proposed buildings are Class 1, 2 or 3, construction to *Australian Standard 3959 Construction of Buildings in Bushfire-Prone Areas* (AS 3959: 2018) is not required however it is recommended that the ember protection measures outlined in sections 3 and 5 of AS 3959: 2018 are incorporated into the design and construction of any warehouses or offices.

Refer to **Figure 8 – SPP 3.7 Bushfire Prone Areas Map** and **Attachment 4 – BMP**

5.2.3 State Planning Policy No. 4.2 – Activity Centres

State Planning Policy 4.2 – Activity Centres for Perth and Peel (**SPP 4.2**) sets out the broad planning requirements for the planning and development of new activity centres and the redevelopment and renewal of existing centres in Perth and Peel. It particularly encourages development and employment growth to be focused within and around activity centres containing train stations in order to capitalise on the use of existing and planned infrastructure.

The subject site is broadly identified under the City's Commercial Strategy as forming part of the 'Jandakot East Industrial Centre' which performs the role of a Strategic Employment Centre within the hierarchy of activity centres. 'Strategic Employment' is defined under SPP 4.2 as being associated with the production and transfer of goods, services and knowledge predominantly to serve markets beyond the immediate location or catchment. Also known as trade clusters, as distinct from local clusters, which comprise industries that serve local population and business driven demand.

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FIGURE 7

SPP 2.3 JANDAKOT GROUNDWATER PROTECTION AREA MAP

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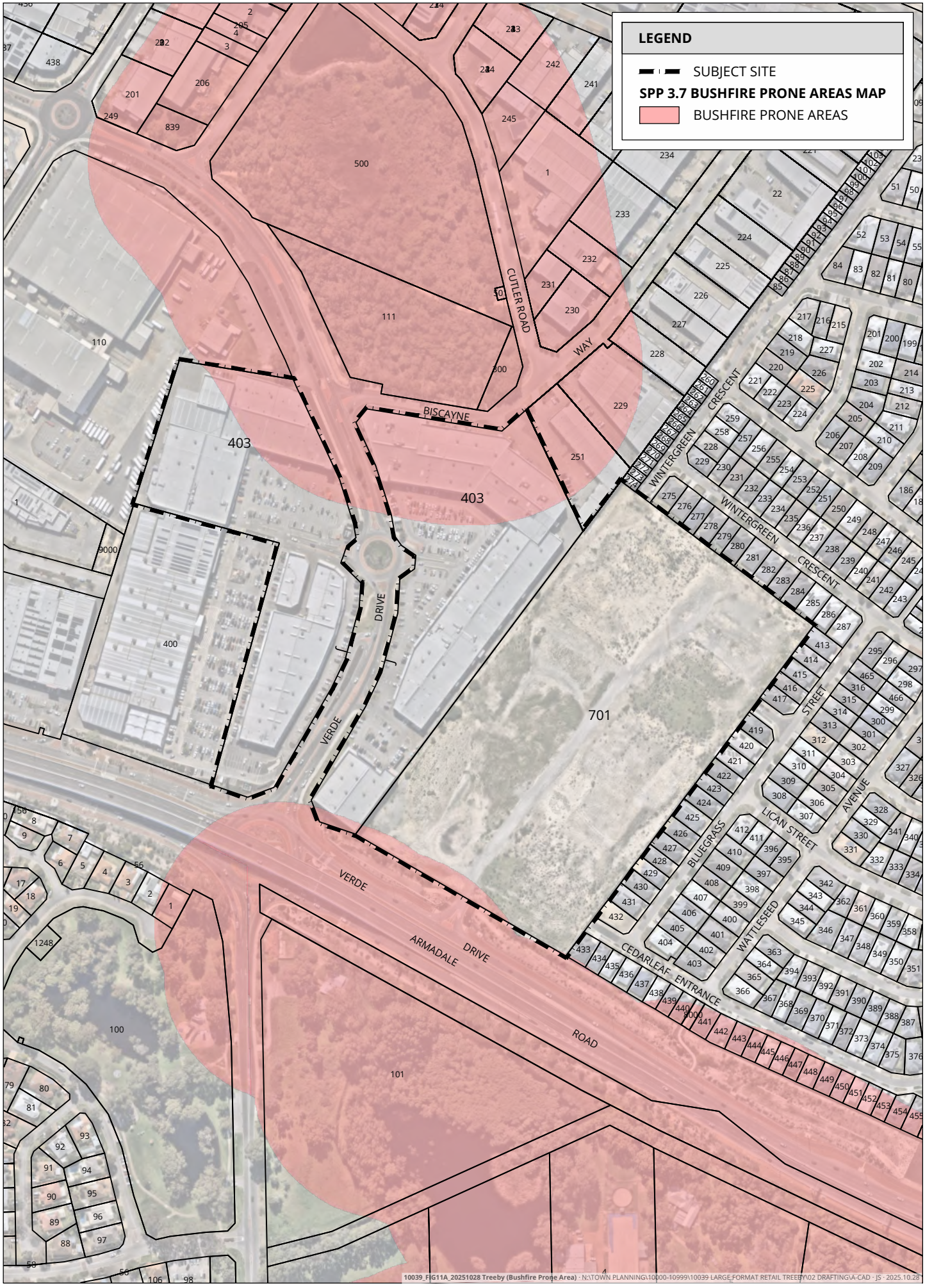


FIGURE 8

SPP 3.7 BUSHFIRE PRONE AREAS

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5.2.4 State Planning Policy No. 5.4 – Road and Rail Noise

The WAPC's *State Planning Policy No. 5.4 - Road and Rail Transport Noise* (**SPP 5.4**) and accompanying *Road and Rail Noise Guidelines* apply to planning proposals where noise sensitive land uses are located within a specified distance of a transport corridor, major road or railway line. Armadale Road is identified as a strategic freight or major traffic route under the provisions of SPP 5.4 and the majority of the site is therefore within the 'trigger' distance for assessment. As the proposed development provides for a commercial land use outcome, an assessment of noise generation or the consideration of noise mitigation strategies is required.

Refer **Figure 9 – SPP 5.4 Road and Rail Noise Map**

5.2.5 State Planning Policy No. 7.0 – Design of the Built Environment

The WAPC's *State Planning Policy 7.0 – Design of the Built Environment* (**SPP 7.0**) provides the broad framework for the design of the built environment across Western Australia and establishes ten (10) key principles for good design. **Table 4** provides a summary of the proposed development's response to these design principles.

Design Principle	Design Statement
Context and Character Good design responds to and enhances the distinctive characteristics of the local area, contributing to a sense of place.	The site is located in a well-established regional destination for large format retail that supports the higher order retail activities in the Cockburn Central District Centre. The proposed development has been designed to fit seamlessly within this existing commercial context.
Landscape Quality Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.	The proposed landscaping is designed to enhance and complement the built form, with a strong focus on human scale and comfort. It aims to strengthen the development's identity, walkability, connectivity, and sense of place. The design also responds to the broader context, drawing on existing landscape features to ensure integration with the surrounding area. The design response incorporates the following landscape objectives: - A range of tree species throughout car park to preserve sight lines and reduce the heat island effect. - Feature planting mixes and single species within setbacks to accentuate buildings and development entry point. - Dense native and endemic planting species to provide buffer to adjacent residential lot. - Heavy tree buffer to both east and north boundaries abutting residential development.
Built Form and Scale Good design ensures that the massing and height of the development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.	The proposed development features a high-quality architectural design that acts as a gateway along Armadale Road, marking the transition from commercial activity to surrounding residential areas. Carefully designed to reflect the car-oriented nature of the area while remaining sensitive to the local context, the built form responds appropriately to key frontages. The buildings are positioned to enable strong connections with the adjacent large format retail centre, contributing to a cohesive and integrated retail destination. The proposal continues an architectural language that reflects the natural landscape, site topography, and the area's intended land uses. Varying building heights along Armadale Road and

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Design Principle	Design Statement
	throughout the site help to break up the built form, creating visual interest and a more human-scaled environment.
Functionality and Built Quality Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full life cycle.	The design represents a functional, efficient and competent commercial retail proposal. The proposed development has been designed to be fully integrated with the existing adjoining LFR development via car, service and pedestrian movement. The existing development on Lot 403 will be partially demolished to provide an important accessway to Verde Drive. Staff parking and semi-trailer access are separated from public areas. The materials selected for the development are proposed to be highly durable to withstand harsh environmental conditions, minimise maintenance and shall respond to the desired context and character of the site.
Sustainability Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.	An ESD Report has been developed for the proposed development and is enclosed at **Attachment 3**. The Framework proposed the following sustainability initiatives: - On-site solar photovoltaic (PV) systems - Water efficient fittings and fixtures - LED lighting - Waste Management Plan - Materials with low carbon emissions and recycled content will be considered - Finishes with low VOC and formaldehyde content will be considered - Roofing materials with a Solar Reflective Index of less than 64 - Glazing and sunshades to buildings - Water efficient landscaping - End-of-trip facilities and bicycle parking to promote sustainable transport options
Amenity Good design provides successful places that offer a variety of uses and activities while optimising internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and healthy.	The proposal will deliver valuable amenity to the area by providing residents with convenient access to a diverse range of goods in a single, accessible location. This retail offering not only enhances the functionality of the suburb but also contributes to a more complete and connected local retail landscape, improving the overall liveability and appeal of the area. Importantly, the amenity of nearby residential areas will be preserved, with vehicular access separated from adjacent homes. Additionally, a buffer of native trees along shared boundaries further protects the residential interface, maintaining privacy and reducing visual and noise impacts.
Legibility Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.	The proposed development has been designed to ensure a high degree of legibility for pedestrians and vehicles, which is demonstrated through the following: - The development provides a clear understanding of the land uses. - The entrances to the buildings are clearly defined.

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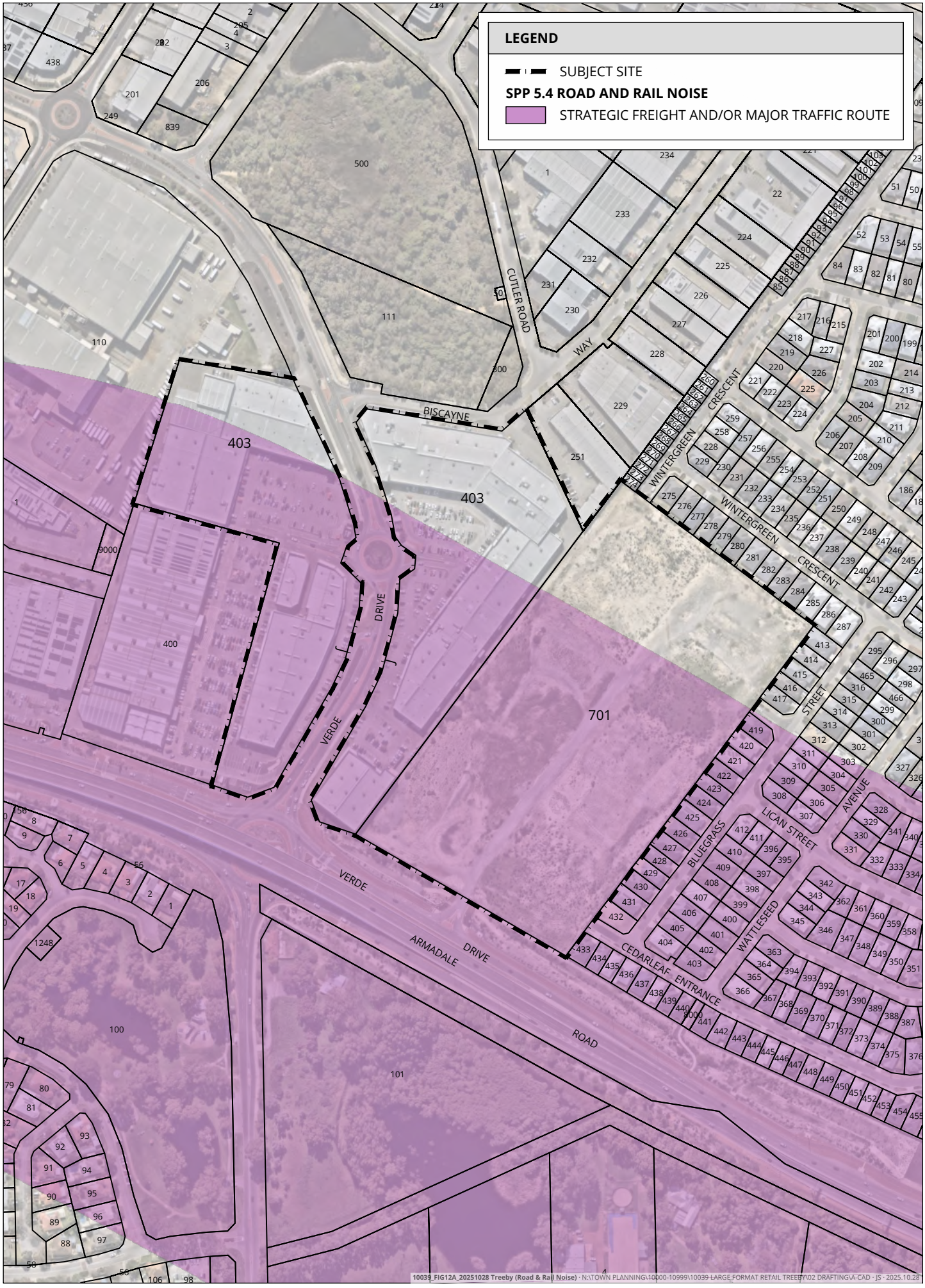
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Design Principle	Design Statement
	- Access through the site creates service corridors within and connecting to the adjacent development lots. - Servicing access is discreet and separated from public areas. - Internal pedestrian movement is prioritised. - Clear sight lines, well-designed car parking and pedestrian connections are provided.
Safety Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.	The proposed development creates and contributes to an activated and effective street and public space. It provides passive surveillance and has been designed in consideration of the CPTED principles to improve safety and amenity. Sightlines have been considered through the design process, with the buildings designed to allow clear vision to the car parking areas and street frontages. Proposed landscaping has been designed to provide shade and amenity, but not to impact on sight lines across the site, minimising opportunity for visual barriers or hidden areas. An effective lighting scheme shall be incorporated to enhance visibility and result in a well-lit site and streetscape environment. Clearly defined car bays, line markings, landscape strips, buildings and footpaths identify the use of specific areas of the site. The inclusion of a gym as part of the land use mix creates a degree of activation outside normal retail trading hours.
Community Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people that facilitate social interaction.	The proposal aims to provide an active, engaged and passively surveilled ground plane and public domain. The inclusion of a central green space and cafe provides a focal point for users and fosters a sense of community. The proposal brings significant benefits to the local community. The stores provide convenient access to essential goods, reducing the need for trips to other areas. They also create local employment opportunities and stimulate economic activity by attracting foot traffic that can support nearby small businesses. Moreover, their presence signals investment in the area's growth, contributing to the development of a more self-sufficient and vibrant suburban community.
Aesthetics Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.	Although several of the proposed tenants or owners have a generic aesthetic, the development has been thoughtfully designed to be well-planned, visually coherent, and appealing with robust materials surrounded by an enduring landscape. The buildings have been designed to a high visual standard, with facades articulated with contrasting elements which create visual interest, and is of a size and scale appropriate to the surrounding area.

Table 4: Response to SPP 7.0 Design Principles

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FIGURE 9

SPP 5.4 ROAD AND RAIL NOISE

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5.3 Local Planning Policies

5.3.1 Noise Attenuation

The City's *Local Planning Policy No. 1.12 – Noise Attenuation* (**LPP 1.12**) applies to commercial developments located in proximity to residential areas where potential noise and amenity impacts may be generated. LPP 1.12 requires that for commercial or industrial development, an Acoustic Report is required to demonstrate that the requirements of the *Environmental Protection (Noise) Regulations 1997* (**Noise Regulations**) can be achieved and that there will be no adverse amenity impact upon any nearby noise sensitive premises.

Given the site's proximity to existing residential land uses, the Applicant has engaged acoustic consultants Herring Storer to undertake an acoustic assessment of the proposed development, identify any potential areas of non-compliance and recommend mitigation measures to be incorporated into the building design (where required). Nosie sources considered as part of this assessment include:

- Mechanical services;
- Delivery vehicles; and
- Waste collection.

Noise emissions from the proposed development have been assessed to comply with the requirements of the Noise Regulations at all times, however the following mitigation measures are proposed:

- The mechanical services design needs to be confirmed during the design development phase. An acoustic study of the mechanical services should be undertaken once the design has been finalised, to ensure compliance is achieved.
- Waste collections are to be undertaken in accordance with the requirements of Regulation 14A – "Waste collection and other works".
- Deliveries by *large* trucks are restricted to the daytime (including Sundays and Public Holidays) and evenings (ie. no deliveries are permitted during the nighttime period).

Refer to **Attachment 5 – Acoustic Assessment**

5.3.2 Waste Management

The City's *Local Planning Policy No. 1.14 – Waste Management* (**LPP 1.14**) applies to various types of development including those of a non-residential nature where waste is generated (eg. commercial, retail, and food and beverage establishments). LPP 1.14 requires a Waste Management Plan (**WMP**) to the submitted and approved by the City as part of the Development Application process.

A WMP has been prepared by Talis Consultants in support of the proposed development and addresses matters including waste minimisation, the location and size of bin stores, the location and access arrangements for on-site collection, estimates of waste volumes, the method and timing of collection, communication with tenants and/or cleaning contractors, and implementation and review. Further information regarding waste management is provided at section 6.3 of this report.

Refer to **Attachment 6 – Waste Management Plan**

5.3.3 Commercial Development

The City's *Local Planning Policy No. 1.3 - Commercial Development* (**LPP 3.1**) applies to the planning and development of specific commercial land uses within the City including childcare premises, health studios, service stations and motor vehicle wash facilities. Given the proposed development includes provision for a

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gymnasium (Health Studio), the provisions of LPP 3.1 have been taken into consideration. **Table 5** below provides a summary of the proposed development's compliance with LPP 3.1.

Policy Requirement	Compliant (Y/N)
Location	
(a) Health studios are encouraged where there is sufficient vehicle parking, such as in commercial and industrial areas with a readily available supply of parking spaces or a capacity to create additional parking spaces. Where possible, health studios shall be purpose built as opposed to retrofitting other uses such as warehouses.	Y
(b) All activities associated with an approved health studio shall be conducted within the approved building and not extend to the parking areas and/or Council property.	Y
Parking	
(a) Car parking bays shall be located within the lot boundaries of the subject site unless utilising joint use of car parking facilities as outlined under the requirements of TPS3.	Y
(b) Applications for a change of use to health studios that result in a parking shortfall on site may be considered at the discretion of the City. Discretion may be exercised with regard to parking shortfalls for a unit in a tenancy with shared parking arrangements where classes are proposed to operate outside standard business hours.	N/A
Gymnasium Health Studios	
(a) Car parking for 'gymnasiums' shall be provided at the rate of 1 per 3 machines plus 1 per 20m² of active floor space and 1 car parking bay per staff members.	Y (refer to parking assessment at section 5.7.6 of this report)
(b) With every planning application submitted for a 'gymnasium', a detailed floor plan showing number of machines and active floor space in square metres proposed is to be provided in order to calculate the number of car parking bays required.	N The internal layout of the gymnasium is subject to design by the future tenant. No specific internal layout plan is available at this stage.
Other Health Studios	
(a) Car parking for health studios shall be provided at the rate of 1 car parking bay for every two persons accommodated.	Y (refer to parking assessment at section 5.7.6 of this report)
Bicycle Parking	
(a) Bicycle parking for all health studios is to be at the rate of 1 per 100m² of active floor space.	Y (refer to parking assessment at section 5.7.7 of this report)
End-of-Trip Facilities	
(b) The provision of End of Trip Facilities must be provided on site and shall be in accordance with LPP 3.8.	Y
Other	
(a) When making application for a change of use to a health studio, proposals that are located in strata titled properties containing a car parking area in common property, require approval from the body corporate/strata manager	N/A

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Policy Requirement		Compliant (Y/N)
	where the change of use results in a parking shortfall. A letter with a strata body common seal clearly indicating non-objection to the proposed health studio is required with regard to this.	
(b)	Applications for Health Studios shall include a completed 'Health Studio Supplementary Information Form'. Applications for a change of use to health studio will not be considered unless the checklist is completed.	N/A
(c)	Classes on City reserves and public spaces such as beaches, football ovals etc. are exempt from the need to obtain Planning Approval. However, prospective applicant wishing to use City reserves and public spaces shall liaise with the City's Recreation Services.	N/A

Table 5: Summary of Compliance with LPP 3.1

5.3.4 Signs and Advertising

The City's *Local Planning Policy No. 3.7 – Signs and Advertising* (**LPP 3.7**) aims to ensure that the display of signs and advertisements on properties does not adversely impact upon the amenity of the area while providing appropriate exposure of activities or services. The development proposal plans identify the general size, location and number of signs proposed, demonstrating that signage has been carefully integrated into the overall development.

Signage zones are shown on all elevation plans to indicate the location and type of signage expected. Specific tenant signage within each of these nominated zones will be by separate application by tenants to the City of Cockburn. All proposed signage within the site will need to comply with the City's Signage Policy.

5.3.5 Industrial Subdivision and Development

The City's *Local Planning Policy No. 3.8 – Industrial Subdivision and Development* (**LPP 3.8**) applies to land within the (various) industrial and 'Mixed Business' Zones and land within the 'Development' Zone which is identified for industrial or mixed business use under an approved Structure Plan. LPP 3.8 prescribes development controls relating to various matters including land use, built form, materials, setbacks, access, parking and landscaping. These controls have been taken into consideration in the design of the proposed development and are included in the development compliance assessment at section 5.7 of this report.

5.3.6 Vehicle Access

The City's *Local Planning Policy No.5.6 – Vehicle Access* (**LPP 5.6**) applies to development adjacent to major, arterial, distributor or important roads. Given the site's location adjoining Armadale Road, the provisions of LPP 5.6 have been taken into consideration. The purpose of LPP 5.6 is to ensure a coordinated approach to vehicle access is provided in these situations in order to provide for the safe and efficient movement of vehicles, public transport users and pedestrians.

A City has prepared and adopted a 'Vehicle Access Plan' in relation to Verde Drive which identifies access arrangements including intersection location and spacing, traffic control type and crossover location. The proposed development is consistent with the Verde Drive Vehicle Access Plan as it provides for an internal road connection to an existing and approved round-a-bout located on Verde Drive approximately midway between Armadale Road and Biscayne Way. No new or additional access points between the site and Verde Drive are proposed.

The proposed development has also been designed in a manner that ensures all vehicle movement to and from the site are undertaken in a forward direction and comply with the City of Cockburn's car parking and on-site vehicle circulation requirements.

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5.3.7 Public Art

The City of Cockburn's *Local Planning Policy 5.13 – Percent for Art* (**LPP 5.13**) aims to develop a collection of distinct and diverse public artworks and increase awareness of public art as a significant cultural asset, by requiring the delivery of artworks through significant development proposals. It requires commercial development proposals with a value exceeding $1 million (exclusive of GST) to set aside a minimum 1% of the total project cost (up to a maximum value of $250,000) for the development of artworks.

Given the construction value of the proposed development, a 1% public art contribution will be required as a condition of development approval. The public art concept for the site will be developed following approval of the Application and in accordance with any conditional requirements.

5.4 Structure Plans

5.4.1 Cockburn Central East Structure Plan

The *Cockburn Central East Structure Plan* (**CCESP**) was approved by the WAPC in December 2018 and applies to the area located immediately east of the Kwinana Freeway, north of Armadale Road generally in the vicinity of the Armadale Road and North Lake Road Bridge Interchange Project. Lot 403 is located within the CCESP boundary and Lot 701 is located to the immediate east.

The CCESP identifies Lot 403 as 'Mixed Business – excluding residential'. Land use permissibility for each land use designation under the CCESP is to be as per the equivalent named zoned and/or reserve within TPS3. Residential uses are not preferred land uses within mixed business designation under the CCESP as there is a primary presumption in favour of retaining and fostering employment use over residential use.

Refer **Figure 10 – Cockburn Central East Structure Plan Map**

5.4.2 Local Development Plan 17/06

A Local Development Plan (**LDP**) applies to the residential area located to the east and north of Lot 701. It provides for residential development, predominately at a density of R25, and designates three (3) potential future road connections into Lot 701.

5.5 Zones and Reservations

5.5.1 Metropolitan Region Scheme

Lot 403 is zoned 'Industrial' and Lot 701 is zoned 'Urban' under the provisions of MRS. The purpose of the 'Industrial' and 'Urban' Zones is as follows:

Industrial: *To provide for manufacturing industry, the storage and distribution of goods and associated uses*

Urban: *To provide for residential development and associated local employment, recreation and open space, shopping, schools and other community facilities*

The land to the north and west of Lot 403 is zoned 'Industrial' under the MRS and the land to the north and east of Lot 701 is zoned 'Urban'. Armadale Road, abutting the site's southern boundary, is reserved 'Water Catchment' and 'Primary Regional Road' (red road).

Refer to **Figure 11 – MRS Zoning**

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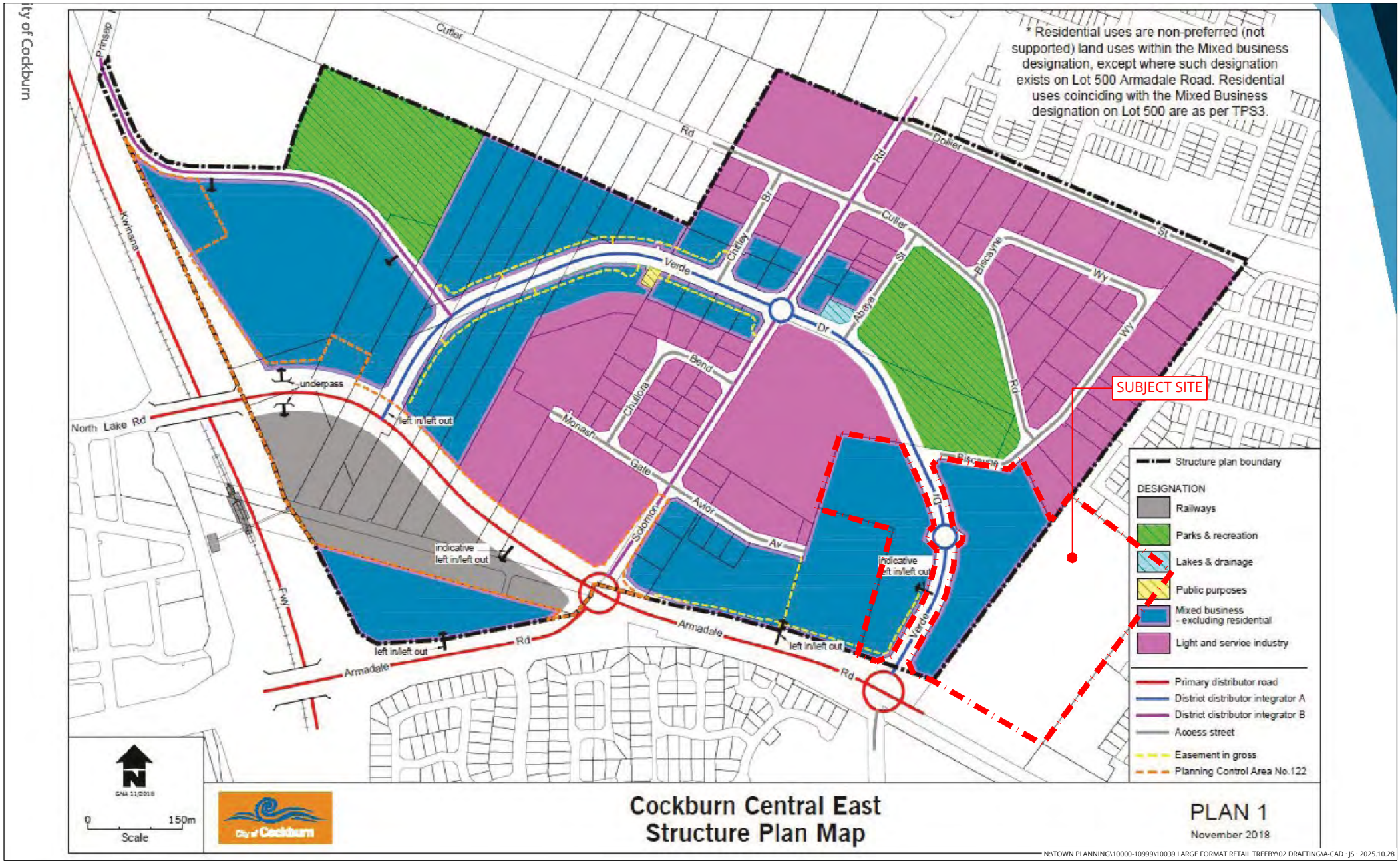
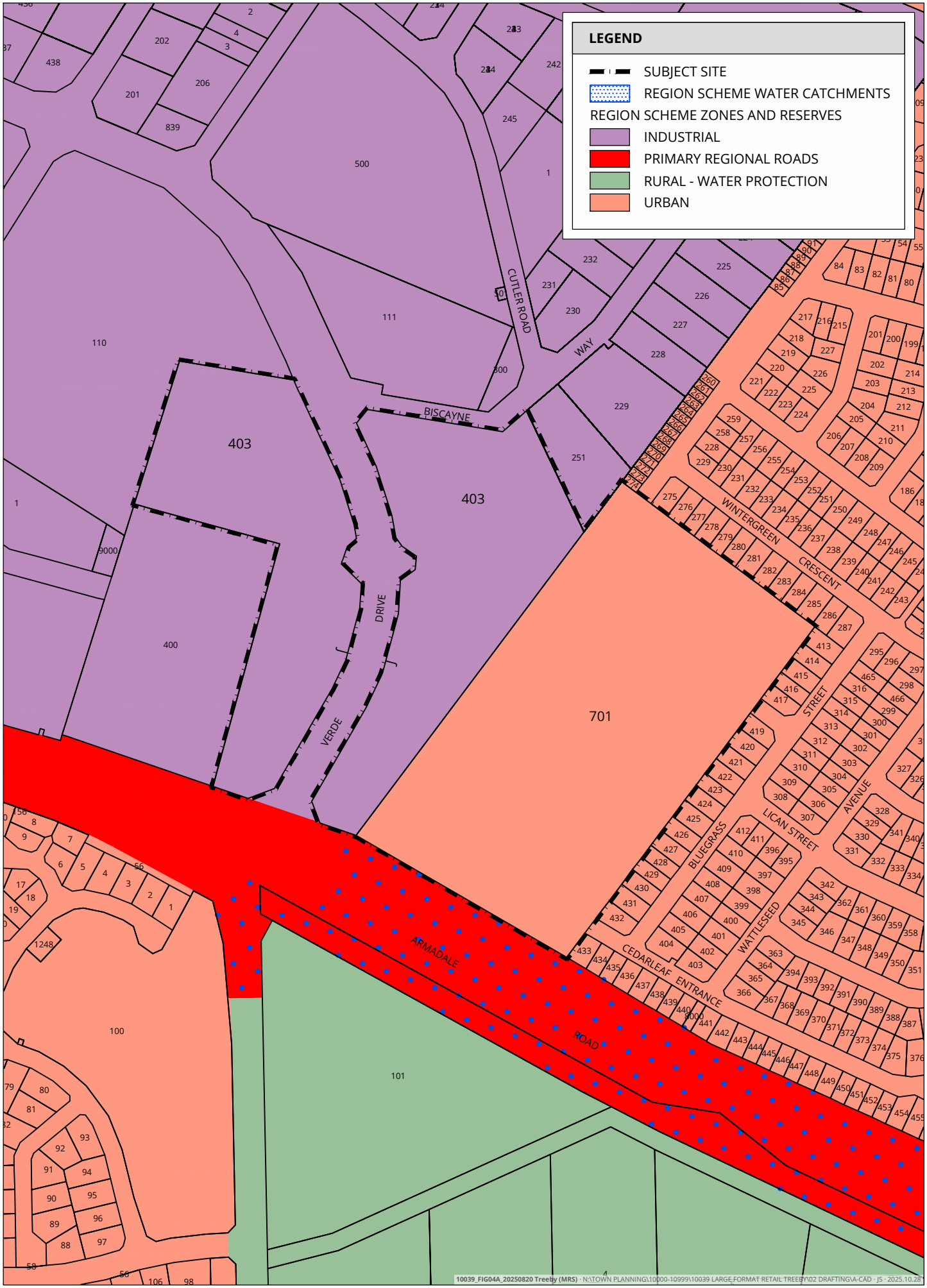


FIGURE 10
COCKBURN CENTRAL EAST STRUCTURE PLAN MAP

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FIGURE 11

METROPOLITAN REGION SCHEME ZONING

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5.5.2 City of Cockburn Town Planning Scheme No. 3

The site is zoned 'Development' under the provisions of TPS 3. The Objective of the 'Development' Zone is:

> *To provide for future residential, industrial or commercial development to be guided by a comprehensive Structure Plan prepared under the Scheme*

Both Lots 403 and 701 are located within 'Development Areas' under TPS3 with Lot 403 forming part of *Development Area 20 – Solomon Road* (**DA20**) and Lot 701 forming part of *Development Area 37 - Banjup Quarry Redevelopment* (**DA37**). Development Areas are subject to specific provisions that apply in addition to the general provisions of TPS3 and any provision relating to the 'Development' Zone.

Refer **Figure 12 – LPS3 Zoning**

The specific 'Development Area' provisions applicable to both DA20 and DA37 require that any Structure Plan applying to the land is given due regard in the consideration of subdivision, land use or development proposals. In relation to DA20, the 'Development Area' provisions state that any Structure Plan prepared in relation to the Area is to provide for light and service industrial and mixed use development to complement the Thomsons Lake Regional Centre and mixed business development where appropriate.

In relation to DA37, the 'Development Area' provisions state that a Structure Plan prepared in relation to the Area is to provide for an appropriate mix of residential and non-residential land uses, in order to support the objective for a mixed use neighbourhood. Non-residential land uses may include compatible commercial and industrial (light and service industry) land uses, as a means to provide an appropriate interface and transition to the western adjoining DA20. The proposal to develop Lot 701 for large format retail land uses is consistent with the specific 'Development Area' provisions applicable to DA37 under TPS3. A Structure Plan has been prepared and adopted in respect to DA20 and is known as the *Cockburn Central East Structure Plan*. No Structure Plan has been prepared in respect to DA37.

In the absence of an adopted Structure Plan, the provisions at Clause 27 in Schedule 2 'Deemed Provisions' of the *Planning and Development (Local Planning Schemes) Regulations 2015* (**Deemed Provisions**) apply. Clause 27 (2) of the Deemed Provisions provides that a decision-maker may approve development in the absence of a Structure Plan provided the decision-maker is satisfied that (a) the proposed development or subdivision does not conflict with the principles of orderly and proper planning; and (b) the proposed development or subdivision would not prejudice the overall development potential of the area.

The City has confirmed in this instance that it is agreeable to progressing an Application for Development Approval on the site in the absence of a Structure Plan given the site is in single ownership, is bound by fully developed land and that a public consultation process will be undertaken as part of the application process. Correspondence from the City confirming the above is enclosed at **Attachment 7**.

5.5.3 City of Cockburn Local Planning Scheme Review

The City of Cockburn has prepared a draft new local planning scheme (**draft LPS13**) to replace existing TPS3. Draft LPS13 is currently with the WAPC for examination and approval to advertise. Once WAPC approval is granted, draft LPS13 will be formally advertised for public comment.

Draft LPS13 proposes an 'Urban Development' zoning over both Lots 403 and 701 and designates both lots within a Special Control Area (**SCA**). Lot 403 is proposed to be located within SCA6 – Cockburn Central East and Lot 701 is proposed to be located within SCA16 – Banjup Quarry. The provisions set out under draft LPS13 in relation to SCA6 and SCA16 are broadly consistent with those that currently apply under the 'Development Area' provisions of existing TPS3.

Refer **Figure 13 – Draft LPS13 Zoning**

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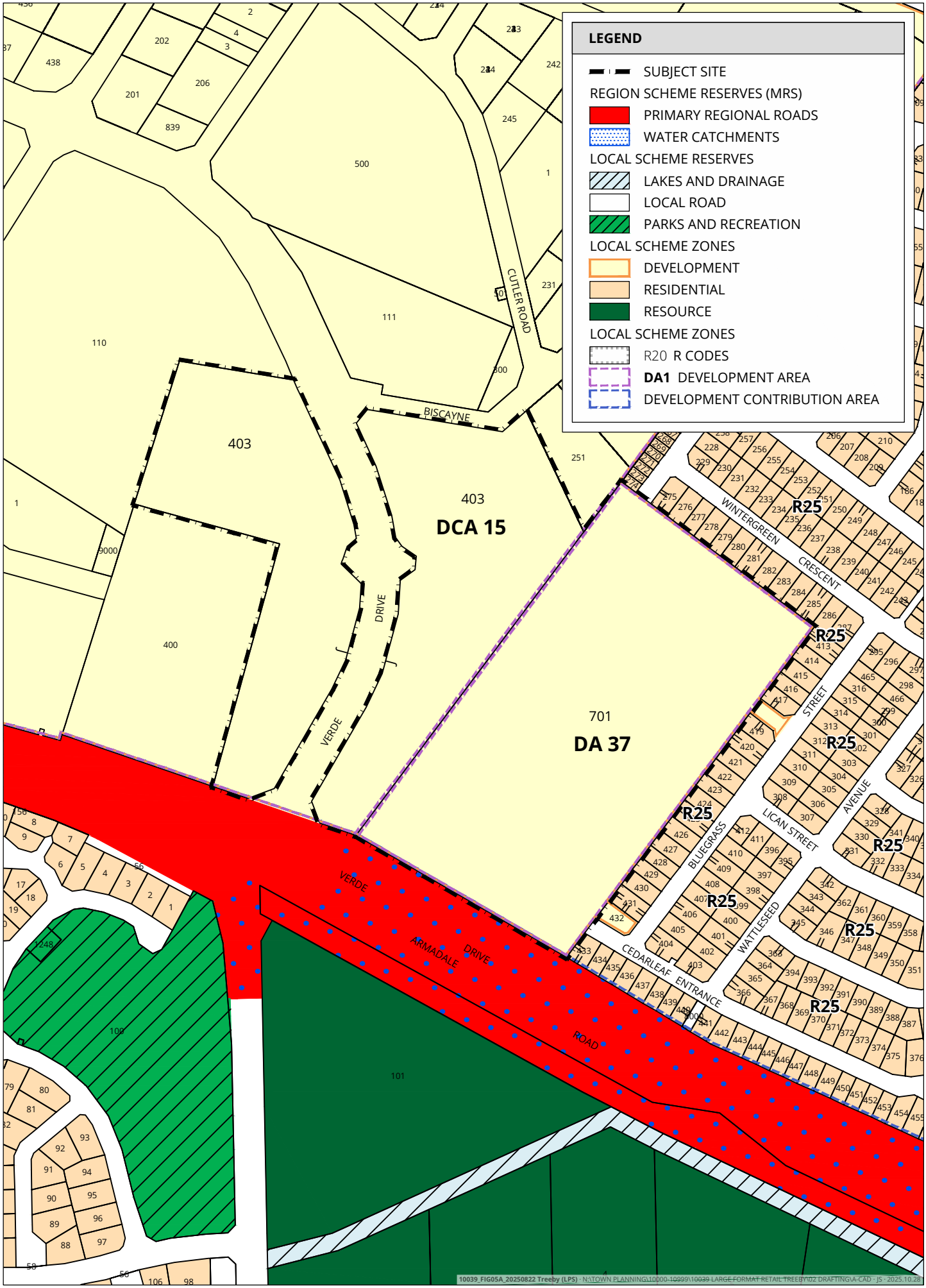


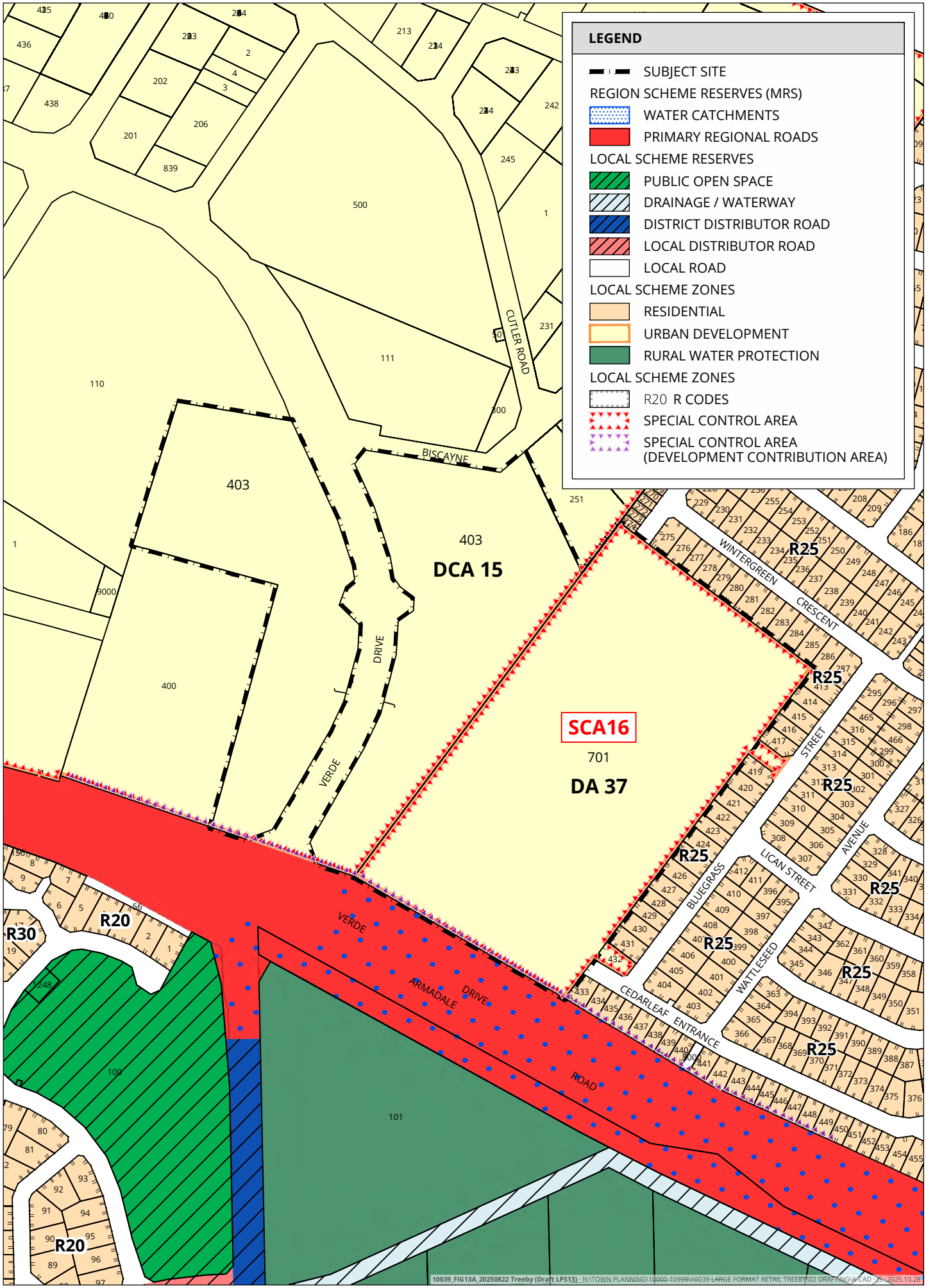
FIGURE 12

CITY OF COCKBURN TOWN PLANNING SCHEME No.3 ZONING

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SCALE @ A4: 1:4000

FIGURE 13

CITY OF COCKBURN DRAFT LOCAL PLANNING SCHEME No.13 ZONING

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5.6 Land Use Permissibility

In accordance with the provisions of TPS3, the use and development of land within the 'Development' Zone is to be guided by an approved Structure Plan. The zones and reserves designated under any approved Structure Plan apply to the land within it as if the zones and reserves were incorporated into TPS3.

As discussed at section 5.4.1, Lot 403 is located within the CCESP and is designated 'Mixed Business - excluding residential'. The provisions contained within TPS3 relating to the 'Mixed Business' Zone have therefore been applied to Lot 403 for the purposes of determining land use permissibility. The objective of the 'Mixed Business' Zone under TPS3 are as follows:

> *To provide for a wide range of light and service industrial, wholesaling, showrooms, trade and professional services, which, by reason of their scale, character, operation or land requirements, are not generally appropriate to, or cannot conveniently or economically be accommodated within the Centre or industry zones*

Lot 701 does not form part of an approved (or proposed) Structure Plan. In the absence of an approved Structure Plan, the permissibility of land uses on Lot 701 is determined by the decision-maker in accordance with Clause 27 (2) of the Deemed Provisions.

The proposed development includes 26 individual tenancies across seven (7) buildings. 23 of the proposed tenancies will be used for large format retail land uses with the three (3) remaining tenancies designated for use as a gymnasium, a café and a food outlet/lunch bar. These classes, and their corresponding permissibility under the Zoning Table in TPS3, is summarised in **Table 6** below:

Use Class	Permissibility under TPS3 (Lot 403 – Mixed Business Zone)	Permissibility under TPS3 (Lot 701 – No Structure Plan)
Showroom	P	At the City's discretion as per Clause 27 (2) of the Deemed Provisions
Recreation - Private	P	
Restaurant	P	
Health Studio	P	
Lunch Bar	A	
Warehouse	P	

Table 6: Land Use Permissibility (TPS3)

All of the abovementioned land uses sought by this Application are capable of approval under TPS3.

An assessment of land use permissibility under the provisions of draft LPS13 has also been undertaken and is summarised in **Table 7** below. This assessment has been undertaken on the basis of the 'unadvertised' version of draft LPS13 which is currently under assessment by the WAPC.

Use Class	Permissibility under draft LPS13 (Lot 403 – Service Commercial Zone)	Permissibility under draft LPS13 (Lot 701 – No Structure Plan)
Bulky Goods Showroom	P	At the City's discretion as per Clause 27 (2) of the Deemed Provisions
Fast Food Outlet / Lunch Bar	D	
Recreation - Private	D	
Restaurant / Café	D	
Warehouse / Storage	P	

Table 7: Land Use Permissibility (draft LPS13)

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All of the abovementioned land uses sought by this Application are capable of approval under draft LPS13.

5.7 Development Standards

Various development standards apply to the site specifically and/or to the form of development proposed. Some of these standards are contained within TPS3 whilst others are set out in the applicable Strutcure Plan (Lot 403) or under the City's local planning policy framework. Each of the applicable development standards are addressed separately below.

5.7.1 Building Setbacks

There are no specific building setback standards under TPS3 that apply to the 'Mixed Business' or 'Development' Zones and no specific setback requirements under the CCESP. General guidance is provided at Clause 4.9.1 of TPS3 which requires:

- Commercial buildings to be setback from lot boundaries in accordance with the provisions of the Building Code of Australia (BCA); and
- Buildings to be setback from boundaries so that the impact on the use and amenity of the adjoining buildings is minimised and the scale and bulk of the building is compatible with the streetscape.

Boundary setbacks proposed by the development are listed in **Table 8** below.

Boundary	Proposed Setbacks
South (Armadale Road)	2m – 15m
West (Verde Drive)	46m – 155m
East (Residential)	8m – 50m
North (Residential)	10m – 60m

Table 8: Proposed Lot Boundary Setbacks

The proposed development has been carefully sited and designed to ensure appropriate building setbacks are provided to the adjoining residential areas located north and east of Lot 701.

A minimum building setback of 8m is proposed along the site's eastern boundary and includes a 2m landscaping strip. The setback area will be used for service vehicle access and staff parking associated with Buildings 1 and 2. A minimum building setback of 10m is proposed along the site's northern boundary and includes a 5m landscaping strip. This setback area will similarly be used for service vehicle access and staff parking. Nosie and amenity considerations relating to the northern and eastern boundary setbacks are discussed in further detail at section 5.7.4 of this report.

Building setbacks to Armadale Road generally reflect the setback of existing buildings to the immediate west and have been designed to maintain a consistent streetscape. The setback area will be partially used for service vehicle access with the balance of the setback area to be landscaped. Further details regarding the landscaping treatments proposed along the site's Armadale Road frontage are provided at section 5.7.3 of this report.

The Verde Drive frontage of the site will remain largely unchanged as a result of the proposed development given the existing building interface at this location. Internally, setbacks between buildings have been designed to allow for the safe and efficient movement of vehicles and pedestrians and to provide for a high degree of public amenity.

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The building setbacks proposed by the development are considered acceptable and appropriate for the site given they:

- Maintain a consistent streetscape along Armadale Road;
- Are restricted to use by service vehicles and staff only;
- Will be sensitively landscaped; and
- Provide separation between commercial and adjoining residential land uses.

5.7.2 Building Height

As with building setbacks, there are no specific building height provisions under TPS3 that apply to the 'Mixed Business' or 'Development' Zones and no specific height requirements under the CCESP. The following general guidance is provided at Clause 4.9.3 (b) in relation to 'Amenity':

> *Buildings shall be designed so that they are complementary with their surroundings and adjoining development in terms of their external appearance, design, height, scale and bulk*

Building heights of between 8.1m and 9.6m are proposed across the site and reflect the height of existing buildings within the adjoining large format retail precinct to the west. Some minor variations above these heights are proposed to provide for an appropriate level of building articulation. The use of consistent building heights across the broader precinct is considered desirable.

Having regard to the adjoining residential areas to the north and east, the building heights proposed are considered appropriate in scale for an urban residential context noting that landscaping and building setbacks of between 8m and 10m will be provided.

5.7.3 Landscaping

Clause 4.9.2 of TPS3 sets out standards for landscaping associated within commercial and industrial uses. The proposed development's compliance with these standards is summarised in **Table 9** below.

Required		Provided
(a)	A minimum on-site provision of 10% of the total area of the lot or a defined portion of the site shall be set aside, developed and maintained as a landscaped area	Less than 10% on-site landscaping is proposed – refer to (b) below
(b)	The local government may reduce the minimum on-site provision to not less than 5% of the total area of the lot to be set aside, developed and maintained as a landscaped area where the owner agrees in writing that all of the street verge abutting the lot shall be included in the landscape area	The proposed development incorporates a total of 4,213m^2 of landscaping which equates to approximately 6% of the total site area. Some of the proposed landscaping is located within the Armadale Road verge area which adjoins the site's southern boundary. Landscaping proposed within the Armadale Road verge has been designed to satisfy MRWA requirements and will be maintained by the Applicant on an ongoing basis.
(c)	Where the street verge is included in the landscaped area it shall be developed and maintained by the owner	Noted and agreed
(d)	The landscaped area shall have a minimum width of not less than 1.5m and distributed in areas of not less than 4m^2	Compliant

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Required		Provided
(e)	No less than 1 shade tree shall be planted for every linear metre of verge frontage or for every 50m^2 of total landscaped area, whichever is greater	Compliant
(f)	No less than 1 shade tree shall be planted in the car parking area for every 3 side-by-side car parking bays	Compliant
(g)	Landscaping is to be confined to the area of the lot between the building or the use of the land and the boundaries of the lot adjoining the public road reserve, or other public reserve, unless varied by the local government	Landscaping within the Armadale Road verge is proposed

Table 9: Summary of Compliance with Landscaping Provisions (TPS3)

The proposed development incorporates a total of 4,213m^2 of landscaping which equates to approximately 6% of the total site area.

The proposed landscaping is designed to enhance and complement the built form, with a strong focus on human scale and comfort. It aims to strengthen the development's identity, walkability, connectivity, and sense of place, respond to the broader context and drawing on existing landscape features to ensure integration with the surrounding area. Landscaping will consist of trees (various deciduous and evergreen species), groundcover and low level native planting to preserve sight lines and reduce the heat island effect. Feature planting mixes and single species will be provided within setback areas to accentuate buildings and development entry point.

A landscaped 'pocket park' measuring 200m^2 is proposed within the site and will be developed with lighting and seating for use by staff and visitors. The park is located centrally within the development between the proposed café and food outlet (lunch bar) to maximise ease of access and will be connected to the broader development by a network of internal pathways.

Landscaping within the Armadale Road verge will be undertaken in consultation with MRWA, being the custodian of this road reservation. Proposed verge landscaping treatments will consist of low level planting, groundcover within the MRWA nominated garden bed area and mulch. The landscaping within the verge is to be maintained on an ongoing basis by the management of the development. Consultation has been undertaken with MRWA's Road Access and Planning team in relation to landscaping of the Armadale Road verge area, with the following advice received:

> *The area is still in DLP for the landscaping as part of the Armadale Access Alliance.*
>
> *No future planting would be approved for the area between the site boundary and the sump fencing (Lot 701). The width of this area is small and there is a clearance required. This area would therefore need to remain mulch only. There is a small garden bed at either side of the unbuilt entry. These may possibly have some infill landscaping but it would need to be a maximum mature height of 500mm and there would need to be 2m clearance off the back of kerb and 2m from the sump fence.*
>
> *On Lot 403 there is a small area of mulch in front of the Cockburn East sign and also a small area of compacted laterite around services. This would need to be untouched as it is part of the current project. The area directly behind this appears to provide access to the double gates which will need to remain clear for access. There is a small section of private property that can be planted.*

The northern and eastern boundaries of Lot 701 will be sensitively landscaped to provide an appropriate interface with the adjoining residential uses. A 5m landscaping strip is proposed along the site's northern boundary and a 2m landscaping strip is proposed along the eastern boundary. Both landscaping areas will be

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developed with semi-mature trees and low level native planting with dense native and endemic planting species to provide a buffer to adjacent residential lots.

Refer to **Attachment 8 – Landscape Plan**

5.7.4 Interface to Residential

The proposed development has been carefully sited and designed to ensure an appropriate level of amenity is maintained for the adjoining residential areas located north and east of Lot 701. No direct vehicle access is proposed between the site and the adjoining residential areas to ensure that the integrity of the residential area Is not compromised with the introduction of through traffic.

A minimum building setback of 8m is proposed along the site's eastern boundary (including a 2m landscaping strip) and a minimum building setback of 10m is proposed along the site's northern boundary (including a 5m landscaping strip). The substantial building setbacks proposed to the east ensure no overshadowing of adjoining residential properties. No windows are proposed at the upper levels along the northern and eastern facades of the proposed buildings, ensuring no overlooking of adjoining residential properties. Service yard/delivery areas are set further back within alcoves hence increasing the separation distance to the residential properties.

The setback areas will be used for landscaping, delivery/service vehicle access and staff parking only. Vehicle movements within the delivery/service and staff parking areas will be limited to one-way, with vehicles entering via Biscayne Way to the north and existing via Armadale Road to the south. To ensure compliance with the Noise Regulations, deliveries by large trucks will be time-restricted with no deliveries to occur during the night. An assessment of potential noise generating activities and proposed mitigation measures to address these activities are provided in the Acoustic Assessment at **Attachment 5**.

As discussed at section 5.7.3 above, the landscaping buffers along the northern and eastern boundaries of the site will be planted with native trees to provide a visual buffer between existing residential and proposed commercial land uses. A mix of species have been selected to provide both screening and potential habitat functions and will be maintained in perpetuity by the developer. Detailed plans showing the location, number and size of proposed plant species are provided in the Landscape Plan at **Attachment 8**.

5.7.5 Convenience and Functionality

Clause 4.9.4 of TPS3 requires commercial developments to be designed to ensure that they are convenient and functional for those who will use it. The proposed development has been designed to offer convenience and functionality by:

- Fully integrating with the existing adjoining large format retail development to the west via car, service and pedestrian movement;
- Separating staff parking and service vehicle access from customer parking and movement;
- Delivering valuable amenity to the area by providing residents with convenient access to a diverse range of goods in a single, accessible location;
- Clearly defining land use offerings and building entrances;
- Providing clear sight lines and well-designed car parking and pedestrian connections;
- Prioritising internal pedestrian movement;
- Providing an informal meeting and public amenity space by way of centrally located 'pocket park';
- Respecting the scale of surrounding development; and

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- Providing extensive and well-positioned landscaping.

This proposed development will not only enhance the functionality of the suburb but also contribute to a more complete and connected local retail landscape, improving the overall liveability and appeal of the area.

5.7.6 Vehicle Parking

In addition to the parking proposed on Lot 701, the modifications to the existing built form on Lot 403 will generate an additional 45 car bays where the showroom/warehouse is to be demolished and an additional 4 car bays adjoining the existing 'Good Guys' tenancy resulting in a total new car bay provision of 705 bays. Clause 4.9.5 of TPS3 sets out the minimum requirements for the provision of on-site car parking bays, delivery spaces and bicycle parking depending on land use. The WAPC has also released the *WA Planning Manual - Non-Residential Car Parking Rates in Perth and Peel Guidelines*, which are intended provide consistent car parking requirements for non-residential land uses and support the review of car parking ratios under individual local planning frameworks.

A parking assessment of the proposed development has been undertaken in relation to the standards set out TPS3 and draft LPS13, along with the standards set out within the WA Planning Manual. The findings of this assessment are summarised in **Tables 10, 11** and **12** below. For the purposes of the parking assessment, the following breakdown of land uses and GFA have been applied:

- Total Showroom use: 31,421m^2
- Total Warehouse use: 2,575m^2
- Total Café/Restaurant use: 350m^2
- Total Recreation – Private use: 2,000m^2

Land Use	Use Class (Commercial Vehicle Parking Table)	Parking Requirement	Area	No. of Bays Required
Showroom	Showroom	1 : 50m^2 GLA	31,421m^2	628.4
Warehouse	Showroom	1 : 50m^2 GLA	2,575m^2	51.5
Café/Food	Lunch Bar*	1 : 15m^2 NLA	350m^2	23.3
Gym	Recreation – Private**	1 per 3 machines 1 per 20m^2 of active FA 1 per staff member	50 machines 1,500m^2 active FA 10 staff ***	86.6
Notes: * *The Parking requirement for 'Lunch Bar' Use Class has been applied. The 'Restaurant' Use Class may similarly apply however the number of seats/people accommodated cannot be determined at this stage (tenant dependant)* ** *The parking requirement for the proposed gym has been calculated in accordance with LPP 3.1* *** *The internal layout of the gym is subject to design by the future tenant. No specific internal layout plan is available at this stage and accordingly the number of machines, active floorspace and staff have been assumed*				
			Total Bays Required	**789.8 (790)**
			Total Bays Provided	**705**
			Shortfall	**85**

Table 10: Car Parking Assessment (TPS3 standards)

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Land Use	Use Class (Parking Standards Table)	Parking Requirement	Area	No. of Bays Required
Showroom	Bulky Good Showroom	1 : 100m² GLA	31,421m²	314.21
Warehouse	Warehouse/Storage	1 : 100m² GLA	2,575m²	25.75
Café/Food	Restaurant/Cafe*	1 : 15m² NLA	350m²	23.3
Gym	Recreation – Private**	1 per 3 machines 1 per 20m² of active FA 1 per staff member	50 machines 1,500m² active FA 10 staff ***	86.6
Notes: * *The number of seats/people accommodated cannot be determined at this stage (tenant dependant). The parking requirement for 'Fast Food Outlet/Lunch Bar' has been applied and is considered to reflect a 'worst case' scenario* ** *The parking requirement for the proposed gym has been calculated in accordance with LPP 3.1* *** *The internal layout of the gym is subject to design by the future tenant. No specific internal layout plan is available at this stage and accordingly the number of machines, active floorspace and staff have been assumed*				
			Total Bays Required	**449.8 (450)**
			Total Bays Provided	**705**
			Surplus	**255**

Table 11: Car Parking Assessment (Draft LPS13 standards)

Land Use	Use Class (Appendix B Standards)*	Parking Requirement	Area	No. of Bays Required
Showroom	Bulky Good Showroom	1 : 100m² FA	31,421m²	314.21
Warehouse	Bulky Good Showroom	1 : 100m² FA	2,575m²	25.75
Café/Food	Lunch Bar**	1 : 25m² FA	350m²	14
Gym	Recreation – Private***	1 per 3 machines 1 per 20m² of active FA 1 per staff member	50 machines 1,500m² active FA 10 staff ***	86.6
Notes: * *Based on the parking rates set out in Appendix B of the WA Planning Manual Standards relating to service commercial zones* ** *There is no use class for 'Café or 'Restaurant' under the WA Planning Manual Appendix B standards. The parking requirement for a 'Lunch Bar' use class has been applied om its place* *** *The parking requirement for the proposed gym has been calculated in accordance with LPP 3.1. The internal layout of the gym is subject to design by the future tenant. No specific internal layout plan is available at this stage and accordingly the number of machines, active floorspace and staff have been assumed*				
			Total Bays Required	**440.5 (441)**
			Total Bays Provided	**705**
			Surplus	**264**

Table 12: Car Parking Assessment (WA Planning Manual – Non-Residential Parking Rates (Appendix A) Standards)

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The above tables demonstrates that the proposed development provides:

- A parking shortfall of 85 bays when assessed under TPS3;
- A parking surplus of 255 bays when assessed under draft LPS13; and
- A parking surplus of 264 bays when assessed under the WA Planning Manual.

It is clear from the above that there is a significant variation in parking standards applicable to the site. For the purposes of our assessment, we have assumed a 'worst case' parking shortfall but would expect that 'actual' parking demand to sit somewhere in between all three (3) of the above.

Assuming a parking shortfall in the order indicated above, we offer the following as justification for the variation proposed:

- A number of the proposed land uses are not assigned a specific parking requirement under TPS3, draft LPS13 or the WA Planning Manual. In these instances, a 'worst case' requirement (typically 'Lunch Bar') has been applied for the purposes of assessment.
- The parking requirement for the proposed gym has been applied in accordance with the standards set out in LPP 3.1. This standard is considerably higher than the standard for the 'Recreation – Private' use class under TPS3 and draft LPS13.
- The gym is expected to experience typical (peak) trading hours between 5.00am - 10.00am and between 5.00pm - 10.00pm, which is outside the trading hours of the proposed showrooms.
- Parking assessments based on NLA or GFA figures do not take into account 'back of house' areas, staff amenities and other areas not accessible by the public. For each NLA or GFA figure, actual 'public' floorspace comprises approximately 50%. This is not factored into parking ratios.
- The demolition of the existing showroom / warehouse on Lot 403 to provide connectivity between Verde Drive and Lot 701 results in an overall reduction of 1,875m^2 of showroom / warehouse floorspace within Lot 403. This is equivalent to 37.5 bays that are no longer required to service the existing development on Lot 403. This would effectively reduce the parking shortfall under TPS3 from 85 bays to 48 bays.
- Retail employees tend to be 'younger' people who do not drive or do not have a vehicle, and find other means of getting to work. The site's proximity to public transport (bus and train) is conducive to this form of travel.
- The parking standards contained within TPS3 are generally excessive having regard to the parking standards set out in draft LPS13 and the WA Planning Manual which suggests significantly lower ratios, particularly for the 'Showroom' use class.
- The parking assessment does not take into account the significant cross-trade between the various tenancies as well as the potential for reciprocal parking arrangements among these uses, and the existing large format retail tenancies to the west.
- The proposed food/café tenancies are expected to be used primarily by the staff and patrons of the proposed development and in this regard are unlikely to attract customers independently.
- The parking shortfall (85 bays) represents approximately 10% of the overall parking requirement under TPS3.

Having regard to the above, it is anticipated that in a practical sense the proposed development will operate with a significant surplus of parking when compared against actual parking demand.

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5.7.7 Bicycle Parking

An assessment of bicycle parking has been undertaken having regard to the provisions contained within TPS3. The findings of this assessment are summarised in **Table 13** below.

Land Use	Use Class (Commercial Vehicle Parking Table)	Parking Requirement	Area	No. of Bays Required
Showroom	Showroom	N/A	N/A	N/A
Warehouse	Showroom	N/A	N/A	N/A
Café/Food	Lunch Bar*	1 : 20m² NLA	350m²	17.5
Gym	Health Studio**	1 per 100m² of active FA	1,200m²***	12
Notes: * *The Parking requirement for 'Lunch Bar' Use Class has been applied. The 'Restaurant' Use Class may similarly apply however the number of seats/people accommodated cannot be determined at this stage (tenant dependant)* ** *The parking requirement for the proposed gym has been calculated in accordance with LPP 3.1 on the basis of 'Health Studio' given there is no bicycle parking requirement for the 'Recreation – Private' use class under TPS3.* *** *The internal layout of the gym is subject to design by the future tenant. No specific internal layout plan is available at this stage and accordingly the number of machines, active floorspace and staff have been assumed*				
			Total Bays Required	**29.5 (30)**
			Total Bays Provided	**16**

Table 13: Bicycle Parking

Parking for up to 16 bicycles is provided on site, distributed throughout the development for ease of use. There are ample opportunities to supplement the bicycle parking across the site should there be additional future demand.

5.7.8 Matters to be Considered

Clause 67 of the Deemed Provisions contained within Schedule 1 of the *Planning and Development (Local Planning Schemes) Regulations 2015* ('LPS Regulations') sets out 'matters to be considered' by a local government in considering a development application. Compliance with these matters is summarised in **Table 14** below:

Matter to be Considered	Response
(c) The aims and provisions of this Scheme (including any planning codes that are read, with or without modifications, into this Scheme) and any other local planning scheme operating within the Scheme area;	The proposed development satisfies the relevant provisions of, and is capable of approval under, TPS3.
(b) The requirements of orderly and proper planning including any proposed local planning scheme or amendment to this Scheme that has been advertised under the Planning and Development (Local Planning Schemes) Regulations 2015 or any other proposed planning instrument that the local government is seriously considering adopting or approving;	The proposed development has been designed having close consideration for the applicable planning framework.
(c) Any approved State planning policy;	The proposed development has been designed in a manner cognisant of the WAPC's State Planning Policies 2.3, 3.7, 4.2, 3.7 and 7.0 - refer to section 5.2 of this report. No other approved State Planning Policies apply to the site.

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Matter to be Considered	Response
(d) Any environmental protection policy approved under the *Environmental Protection Act 1986* section 31(d);	No environmental protection policies apply to the site.
(e) Any policy of the Commission;	The proposed development has been assessed for compliance with the WAPC's WA Planning Manual - Non-Residential Car Parking Rates in Perth and Peel Guidelines – refer to section 5.7.6 of this report.
(f) Any policy of the State;	N/A
(fa) Any local planning strategy for this Scheme endorsed by the Commission;	The proposed development is consistent with the directions set out in the City of Cockburn Local Planning Strategy and Local Commercial and Activity Centres Strategy - refer to section 5.1 of this report.
(g) Any local planning policy for the Scheme area;	The proposed development is consistent with the objectives and provisions contained within all applicable local planning policies – refer to section 5.3 of this report.
(h) Any structure plan or local development plan that relates to the development;	The proposed development is consistent with the CCESP which applies to Lot 403. No Structure Plan applies to Lot 701 – refer to section 5.4 of this report.
(i) Any report of the review of the local planning scheme that has been published under the *Planning and Development (Local Planning Schemes) Regulations 2015*;	N/A
(j) In the case of land reserved under this Scheme, the objectives for the reserve and the additional and permitted uses identified in this Scheme for the reserve;	N/A
(k) The built heritage conservation of any place that is of cultural significance;	N/A
(l) The effect of the proposal on the cultural heritage significance of the area in which the development is located;	N/A
(m) The compatibility of the development with its setting;	The range of land uses proposed under the Application are capable of being approved under TPS3 and draft LPS13 and are complementary to the existing shops and other land uses currently provided within the broader precinct.
(n) The amenity of the locality;	The proposed development has been carefully sited and designed to ensure an appropriate level of amenity is maintained for the adjoining residential areas located north and east of Lot 701. No direct vehicle access is proposed between the site and the adjoining residential areas and substantial (landscaped) setbacks are provided along the site's northern and eastern boundaries.
(o) The likely effect of the development on the natural environment or water resources and any means that are proposed to protect or to mitigate impacts on the natural environment or the water resource;	No environmental impacts identified

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Matter to be Considered	Response
(p) Whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved;	The proposed development incorporates a total of 4,213m^2 of landscaping which equates to approximately 6% of the total site area. Some of the proposed landscaping is located within the Armadale Road verge area which adjoins the site's southern boundary. Lot 701 is vacant and does not contain any existing vegetation of significance. Lot 403 is fully developed, comprising existing large format retail land uses.
(q) The suitability of the land for the development taking into account the possible risk of flooding, tidal inundation, subsidence, landslip, bush fire, soil erosion, land degradation or any other risk;	N/A
(r) The suitability of the land for the development taking into account the possible risk to human health or safety;	N/A
(s) The adequacy of (i) the proposed means of access to and egress from the site; and (ii) arrangements for the loading, unloading, manoeuvring and parking of vehicles;	Proposed access arrangements into, out of and throughout the site have been assessed and determined to be adequate.
(t) The amount of traffic likely to be generated by the development, particularly in relation to the capacity of the road system in the locality and the probable effect on traffic flow and safety;	The Application is supported by a TIA which considers the impact of traffic generated by the proposed development on the surrounding road network. The TIA has determined that the proposed development can operate within the capacity of the existing road system.
(u) The availability and adequacy for the development of the following — (i) public transport services; (ii) public utility services; (iii) storage, management and collection of waste; (iv) access for pedestrians and cyclists (including end of trip storage, toilet and shower facilities); (v) access by older people and people with disability;	Existing local public transport services are available in proximity to the site and include various bus routes and a rail service (Cockburn Central), providing convenient connectivity for commuters.
(v) The potential loss of any community service or benefit resulting from the development other than potential loss that may result from economic competition between new and existing businesses;	N/A
(w) The history of the site where the development is to be located;	N/A
(x) The impact of the development on the community as a whole notwithstanding the impact of the development on particular individuals;	The proposed development is consistent with its designation under the Commercial Strategy and will assist in the delivery of local employment opportunities.
(y) Any submissions received on the application;	To be determined
(za) The comments or submissions received from any authority consulted under clause 66	To be determined
(zb) Any other planning consideration the local government considers appropriate	N/A

Table 14: Matters to be Considered by Local Government

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6. Movement and Servicing

6.1 Traffic Impact Assessment

A Transport Impact Assessment (**TIA**) has been prepared in support of the proposed development and is enclosed at **Attachment 9**. The TIA assesses the impacts of the proposed development upon the adjacent road network, with a focus on capacity, access, safety, and car parking requirements and has been prepared in accordance with the WAPC's *Transport Impact Assessment Guidelines for Developments: Volume 4 – Individual Developments* (2016).

Key findings from the TIA are summarised below:

- A total of 705 on-site parking bays will be provided on site. This is anticipated to be more than sufficient for the proposed development based on the significant cross-trade between the various land uses within the site as well as the potential for reciprocal parking arrangements among these uses. A cross trade of 30% is assumed to be reasonable to allow for internal trips between the proposed land uses within the site.
- The site currently features a left in/left out crossover on Armadale Road (service road). As part of the proposed development, some existing tenancies and car bays within the existing large format retail development on Lot 403 will be removed to facilitate two (2) further connections via internal driveways to Verde Drive. This includes western connections that link the site directly to the existing round-a-bout and the left in/left out crossover on Verde Drive.
- These upgrades are designed to integrate the site with the surrounding road network while effectively utilising the existing infrastructure and will facilitate effective traffic circulation for general traffic and service vehicles.
- Turn path analysis confirms satisfactory movements for service vehicles. A 19m semi-trailer accessing the service areas for Buildings 1 and 2 will enter via the existing gated crossover on Biscayne Way, located at the north-west corner of the site and exit via Armadale Road crossover. This crossover will be used for service vehicles only.
- The other showroom tenancies would be serviced by vehicles up to 12.5m long. The 12.5m service vehicle can enter vie the round-a-bout intersection on Verde Drive and exit via the existing left in/ left out crossover on Armadale Road.
- Existing local public transport services are available in proximity to the site and include various bus routes and a rail service (Cockburn Central), providing convenient connectivity for commuters.
- Pedestrian and cyclists' connectivity to the site is currently available via the existing shared paths along Armadale Road and Verde Drive.
- Due to the nature of the proposed development, the greatest demand on the local road network capacity is expected to occur during the combined peak business activity of the development and the peak commuter traffic during the weekday afternoon and Saturday midday periods.
- Traffic assessments have been carried out for two horizon years - 2026, which is assumed to represent the post-development scenario, and 2036, which is assumed as the 10-year post-development assessment year.

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- The proposed development is expected to generate approximately 8,371 trips per regular weekday with approximately 599 vph and 695 vph (both inbound and outbound) during the weekday AM and PM peak hours respectively and about 1,316vph during the Saturday mid-day peak hour.
- The SIDRA network outputs for the critical Saturday peak hour demonstrate satisfactory operations with no queue backs reported from the Armadale Road round-a-bout intersection extending to the development crossover and Verde Drive northern round-a-bout intersection during the critical Saturday peak period for both the 2026 and 2036 assessment years.
- No queue back from the development crossover on Armadale Road is expected to the Armadale Road round-a-bout intersection during the critical Saturday peak hour for the same assessment years.

Refer **Attachment 9 – Traffic Impact Assessment**

6.2 Delivery Management

A designated delivery and service area will be provided along the northern and eastern boundaries of Lot 701, located to the rear of proposed Buildings 1 and 2, providing separated access for delivery and waste collection vehicles. The area will also accommodate staff parking and other services such as fire tanks and pumps.

Access to this delivery/service and parking area will be limited to one-way traffic, with vehicles entering via Biscayne Way to the north and existing via Armadale Road to the south. To ensure compliance with the Noise Regulations, deliveries by large trucks will be time-restricted with no deliveries to occur during the night. An assessment of potential noise generating activities and proposed mitigation measures to address these activities are provided in the Acoustic Assessment at **Attachment 5**.

Each of the remaining buildings will be provided with a designated delivery and services area, the majority of which are positioned to the rear of each building and separated from customer access and parking areas.

Vehicle movements within each of the delivery/service areas have been assessed with Swept Paths as part of the TIA and demonstrated to provide for appropriate manoeuvrability to and from the loading areas, facilitating service vehicles up to a 19m long.

6.3 Waste Management

A Waste Management Plan (**WMP**) has been prepared by Talis Consultants in relation to the proposed development and addresses matters including waste minimisation, the location and size of bin stores, the location and access arrangements for on-site collection, estimates of waste volumes, the method and timing of collection, communication with tenants and/or cleaning contractors, and implementation and review.

Key findings and recommendations from the WMP are summarised below:

- A private contractor will service the proposed development on-site, directly from the bin storage areas.
- Each building is provided with at least one (1) designated Bin Storage Area, designed to align with the requirements of the City's Health Laws and consider noise, odour, hygiene, vermin, security, health and safety and the environment.
- Each Bin Storage Area has been cited and designed to accommodate the volume of waste expected to be generated by each individual tenancy within that building.

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- To promote positive recycling behaviour and maximise diversion from landfill, internal bins will be available to each tenancy for the source separation of refuse and recycling.
- These internal bins will be collected by the staff/cleaners and transferred to the respective Bin Storage Area for consolidation into the appropriate bins. All bins will be colour coded and labelled in accordance with Australian Standards (AS 4123.7) to assist staff/cleaners to dispose of their separate waste materials in the correct bins.
- The private contractor will collect refuse and recyclables twice weekly utilising a rear loader waste collection vehicle.
- The private contractor's waste collection vehicle will enter and exit the site in forward gear.
- Noise from waste collections vehicles will be required to comply with the *Environmental Protection (Noise) Regulations 1997* and should not service the site before 7.00am or after 7.00pm Monday to Saturday, or before 9.00am or after 7.00pm on Sundays and Public Holidays.
- Bin numbers and storage space within the bin storage area will be monitored by the building manager/caretaker during the operation of the development to ensure that the number of bins and collection frequency is sufficient.
- The WMP will form part of the building management agreement and will continue to be applied in perpetuity across the life of the development.

The WMP demonstrates that the proposed development has been designed to adequately cater for the anticipated volume of waste to be generated, provide adequately sized Bin Storage Areas and allow for the efficient collection of bins by appropriate waste collection vehicles.

Refer to **Attachment 6 – Waste Management Plan**

6.4 Servicing

A preliminary assessment of existing conditions and services associated with the proposed development has been undertaken by Colliers. Key findings from the assessment in relation to servicing considerations are summarised below.

6.4.1 Sewer

- The subject site is not currently serviced with a Water Corporation sewer connection, although existing sewer mains are present within the adjacent road reserves.
- In order to service the proposed development, an extension of one (or more) of these networks will be required, likely via Verde Drive.

6.4.2 Water

- The subject site is not currently serviced with a Water Corporation water connection, although existing water mains are present within the adjacent road reserves.
- The proposed development will be serviced by an extension of one (or more) of these water mains, likely via the existing connection located within the Armadale Road verge.

6.4.3 Gas

- Several existing gas connections are located within the adjacent road network.

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- The proposed development will be serviced by an extension of one (or more) of these connections, the most likely being located within the Armadale Road verge.

6.4.4 Power

- Underground High Voltage (**HV**) infrastructure is located within the Armadale Road verge, adjacent to the southern boundary of the site.
- Underground Low Voltage (**LV**) infrastructure exists within the western verge of Bluegrass Street, the southern verge of Cedarleaf Entrance, and the southern verge of Wintergreen Crescent – all within the surrounding residential area.
- An existing power dome to the site has been provided within the western verge of Hiba View, in the north-western corner of the site. This power supply may have been implemented to facilitate temporary power to the Contractors laydown during the construction of the Armadale Road upgrade.
- An existing transformer is located to the west of the site on the north-western corner of the Verde Drive and Armadale Road round-a-bout. A new (additional) transformer is expected to be required to service the proposed development. Preliminary investigations suggest this transformer would be most suitability located in the south-western corner of Lot 703.

6.4.5 Telecommunications

- The site is currently serviced by NBN, Telstra and Vocus communications infrastructure. Additional connections to the existing communications network are expected to be feasible.

6.4.6 Drainage

- Drainage infrastructure in the form of gully pits are located within both the Armadale Road and Verde Drive road reserves, adjoining the subject site.
- Two (2) basins are located adjacent to the southern boundary, serving as discharge points for MRWA's drainage network. Stormwater discharge from the proposed development is not expected to be permitted to enter these basins.
- There are no existing stormwater lot connections to the subject site.
- The City of Cockburn require all stormwater that falls within the lot to be contained on site, with a design capacity of 1 in 100-year event over a 24-hour duration.
- Based on the sandy soil geology and groundwater table, it is anticipated that stormwater detention on site can be achieved via the use of shallow connected soakwells and underground storage cells throughout the driveway and carpark areas.

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7. Conclusion

This Application seeks approval for the construction of a large format retail development on the site. The proposed development consists of 26 individual tenancies across seven (7) buildings and comprises a total Gross Floor Area (**GFA**) of 36,346m^2. The Application represents a sound and considered proposal for the site and should be supported for the following reasons:

- The range of land uses proposed by the Application are capable of being approved under TPS3 and draft LPS13 and are complementary to the existing land uses currently provided within the broader precinct.
- The proposed development satisfies the objectives and provisions of all relevant WAPC State Planning Policies including SPP 2.3 – Jandakot Groundwater Protection, SPP 3.7 - Bushfire and accompanying Guidelines for Bushfire Protection, SPP 4.2 – Activity Centres, and SPP 7.0 – Design of the Built Environment.
- The proposed development is consistent with the objectives and provisions contained within the City of Cockburn's Local Planning Strategy and all applicable local planning policies.
- The proposed development is consistent with its designation under the Commercial Strategy and will assist in the delivery of local employment opportunities.
- The proposed use of the site for commercial purposes is consistent with its zoning under the MRS and TPS3.
- The land uses proposed are all capable of approval under existing TPS3 and draft LPS13.
- The built form, amenity and landscaping treatments proposed are consistent with the requirements set out in TPS3 and respond to feedback provided during the design review process.
- The proposed development has been carefully sited and designed to ensure an appropriate level of amenity is maintained for the adjoining residential areas located north and east of Lot 701. No direct vehicle access is proposed between the site and the adjoining residential areas and substantial (landscaped) setbacks are provided along the site's northern and eastern boundaries.
- The proposed development satisfies the matters to be considered by a Local Government in assessing an Application for Development Approval as set out in Clause 67 of the Deemed Provisions contained within Schedule 1 of the *Planning and Development (Local Planning Schemes) Regulations 2015*.
- The proposed development will incorporate more than sufficient parking, having regard to the likely multi-purpose trips, peak demand periods, proximity to public transport, walkable catchment and the WAPC's *WA Planning Manual - Non-Residential Car Parking Rates in Perth and Peel Guidelines*.
- The proposed development will comply with the *Environmental Protection (Noise) Regulations 1997* subject to the implementation of noise mitigation and management measures as detailed in this report.
- A number of ESD initiatives are incorporated into the proposed development, including roof-top Solar PV panels.
- The proposed development incorporates extensive and high quality landscaping which will be located both within the site and adjoining road reserves.

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- The proposal includes a centrally located 'pocket park' providing high quality amenities for staff and visitors to the site. The pocket park is supported by food and beverage offerings and is located in a sheltered yet prominent part of the site.
- The local road network and proposed access points are capable of accommodating traffic associated with the proposed development.
- The development can readily accommodate and manage waste and delivery vehicles in a manner that does not compromise safety or amenity in the area.

The development is consistent with the principles of orderly and proper planning. The land uses proposed provide an important large format retail service for the community in a logical, efficient facility that represents a 'rounding off' of the existing precinct. On this basis, the proposed development should be supported and approved.

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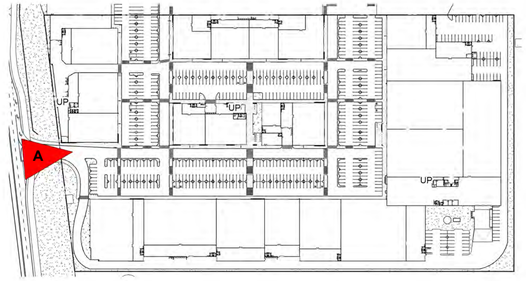
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ATTACHMENT 2

Development Proposal Plans

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SOUTH CENTRAL - ARMADALE ROAD

meyer shircore architects

PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

SATTERLEY Centuria

VEND PROPERTY

0 5 10 15 20 25 50

DATE: JAN 2026 PROJECT NUMBER 9361

REVISION: SK018

SHEET: 0

SCALE: As indicated @B1

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Version: 1, Version Date: 09/02/2026

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SITE AERIAL

SCALE: 1 : 500

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LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

SATTERLEY Centuria

VEND PROPERTY

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DATE:	JAN 2026
REVISION:	SK018
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SCALE:	1 : 500 @B1

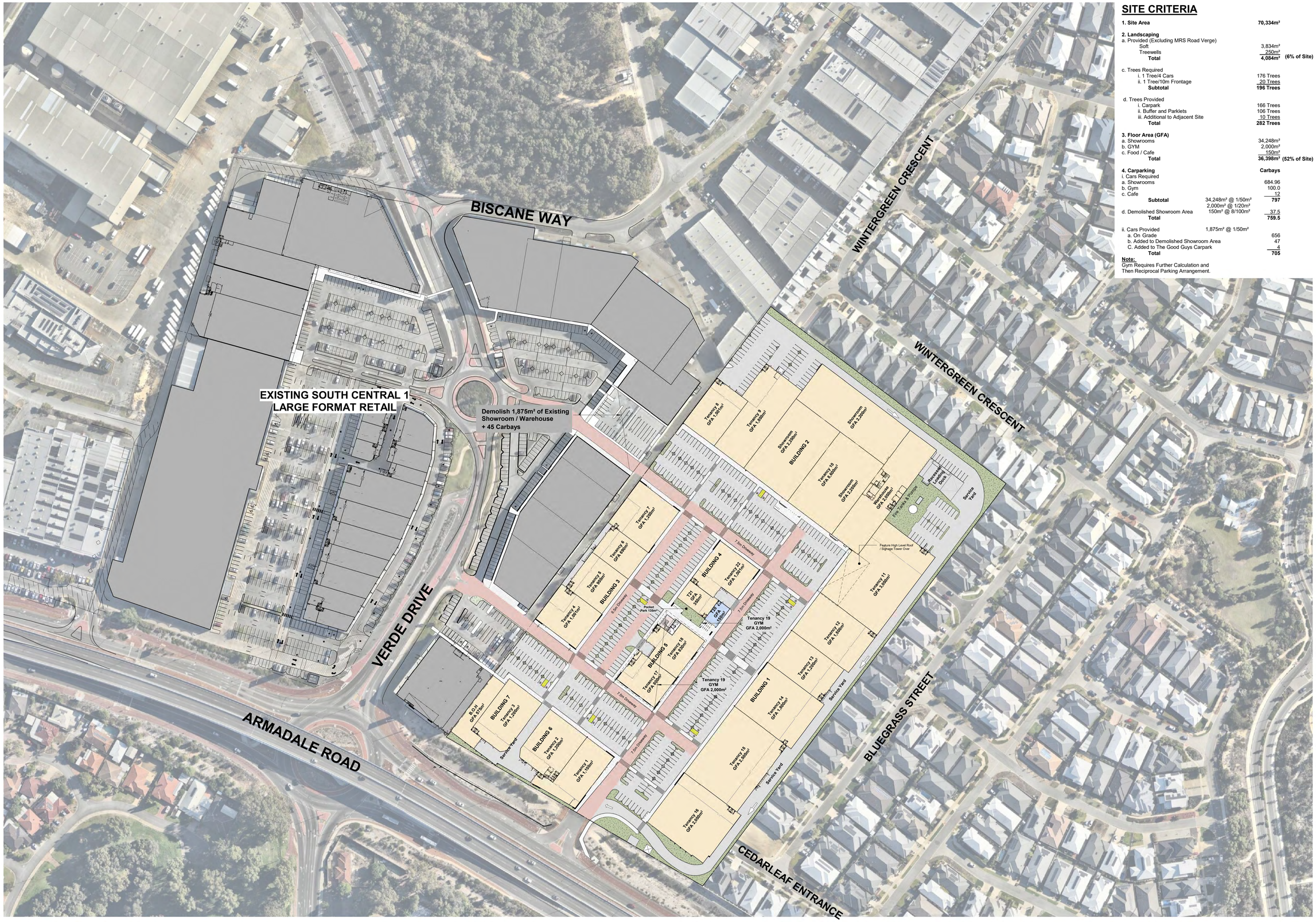
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SITE CRITERIA

1. Site Area		**70,334m²**	
2. Landscaping			
a. Provided (Excluding MRS Road Verge)			
Soft		3,834m²	
Treewells		250m²	
Total		**4,084m²**	**(6% of Site)**
c. Trees Required			
i. 1 Tree/4 Cars		176 Trees	
ii. 1 Tree/10m Frontage		20 Trees	
Subtotal		**196 Trees**	
d. Trees Provided			
i. Carpark		166 Trees	
ii. Buffer and Parklets		106 Trees	
iii. Additional to Adjacent Site		10 Trees	
Total		**282 Trees**	
3. Floor Area (GFA)			
a. Showrooms		34,248m²	
b. GYM		2,000m²	
c. Food / Cafe		150m²	
Total		**36,398m²**	**(52% of Site)**
4. Carparking		**Carbays**	
i. Cars Required			
a. Showrooms		684.96	
b. Gym		100.0	
c. Cafe		12	
Subtotal	34,248m² @ 1/50m² 2,000m² @ 1/20m²	**797**	
d. Demolished Showroom Area	150m² @ 8/100m²	37.5	
Total		**759.5**	
ii. Cars Provided	1,875m² @ 1/50m²		
a. On Grade		656	
b. Added to Demolished Showroom Area		47	
C. Added to The Good Guys Carpark		4	
Total		**705**	

Note:
Gym Requires Further Calculation and
Then Reciprocal Parking Arrangement.

SITE AERIAL & SITE

SCALE: 1 : 1000

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PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

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SITE CRITERIA

1. Site Area		**70,334m²**
2. Landscaping		
a. Provided (Excluding MRS Road Verge)		
Soft		3,834m²
Treewells		250m²
Total		**4,084m²** **(6% of Site)**
c. Trees Required		
i. 1 Tree/4 Cars		176 Trees
ii. 1 Tree/10m Frontage		20 Trees
Subtotal		**196 Trees**
d. Trees Provided		
i. Carpark		166 Trees
ii. Buffer and Parklets		106 Trees
iii. Additional to Adjacent Site		10 Trees
Total		**282 Trees**
3. Floor Area (GFA)		
a. Showrooms		34,248m²
b. GYM		2,000m²
c. Food / Cafe		150m²
Total		**36,398m² (52% of Site)**
4. Carparking		**Carbays**
i. Cars Required		
a. Showrooms		684.96
b. Gym		100.0
c. Cafe		12
Subtotal	34,248m² @ 1/50m² 2,000m² @ 1/20m²	**797**
d. Demolished Showroom Area	150m² @ 8/100m²	37.5
Total		**759.5**
ii. Cars Provided	1,875m² @ 1/50m²	
a. On Grade		656
b. Added to Demolished Showroom Area		47
c. Added to The Good Guys Carpark		4
Total		**705**

Note:
Gym Requires Further Calculation and Then Reciprocal Parking Arrangement.

SITE PLAN
SCALE: 1 : 500

PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY
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TRUCK SERVICE PLAN

SCALE: 1 : 500

SITE CRITERIA

1. Site Area		**70,334m²**
2. Landscaping		
a. Provided (Excluding MRS Road Verge)		
Soft		3,834m²
Treewells		250m²
Total		**4,084m²** **(6% of Site)**
c. Trees Required		
i. 1 Tree/4 Cars		176 Trees
ii. 1 Tree/10m Frontage		20 Trees
Subtotal		**196 Trees**
d. Trees Provided		
i. Carpark		166 Trees
ii. Buffer and Parklets		106 Trees
iii. Additional to Adjacent Site		10 Trees
Total		**282 Trees**
3. Floor Area (GFA)		
a. Showrooms		34,248m²
b. GYM		2,000m²
c. Food / Cafe		150m²
Total		**36,398m²** **(52% of Site)**
4. Carparking		**Carbays**
i. Cars Required		
a. Showrooms		684.96
b. Gym		100.0
c. Cafe		12
Subtotal	34,248m² @ 1/50m² 2,000m² @ 1/20m²	**797**
d. Demolished Showroom Area	150m² @ 8/100m²	37.5
Total		**759.5**
ii. Cars Provided	1,875m² @ 1/50m²	
a. On Grade		656
b. Added to Demolished Showroom Area		47
C. Added to The Good Guys Carpark		4
Total		**705**

Note:
Gym Requires Further Calculation and
Then Reciprocal Parking Arrangement.

TRUCK PATHS

- 12.5m Large Rigid
- 19m Semi-Trailer

VERDE DRIVE
ARMADALE ROAD
WINTERGREEN CRESCENT
Existing Footpath
Existing Crossover
Pedestrian Path Connects to Verde Drive Footpath
Existing Crossover and kerbs kerbs. Modification not required.
EXISTING SOUTH CENTRAL 1 LARGE FORMAT RETAIL
LOT 403
Existing Building To Be Demolished Shown Dashed
Existing Showrooms GFA 9,985m²
Demolish 1,875m² of Existing Showroom / Warehouse + 45 Carbays
Existing Showrooms GFA 4,750m²
Existing GFA 2,315m² Removed GFA 75m² GFA 2,240m²
Additions GFA 575m² GFA 2,815m²
Remove All or Part Wall
B.O.H GFA 575m² FFL 30.53
BUILDING 7 Showroom Tenancy 3 GFA 1,200m² FFL 30.80
BUILDING 6 Showroom Tenancy 2 GFA 1,200m² FFL 31.00
Showroom Tenancy 1 GFA 1,100m² FFL 31.00
BUILDING 3
Showroom Tenancy 4 GFA 1,001m² FFL 30.40
Showroom Tenancy 5 GFA 900m² FFL 30.40
Showroom Tenancy 6 GFA 690m² FFL 30.50
Showroom Tenancy 7 GFA 1,200m² FFL 30.50
BUILDING 5
Showroom Tenancy 17 GFA 800m² FFL 30.80
Showroom Tenancy 18 GFA 830m² FFL 30.80
BUILDING 4
Showroom Tenancy 22 GFA 1,001m² FFL 30.80
S/R T21 GFA 350m² FFL 30.80
Cafe T20 GFA 150m² FFL 30.80
Public Toilets GFA 45m²
GYM Tenancy 19 GFA 2,000m² FFL 35.80
Foyer
Service Driveway
6.5m Driveway
7.5m Driveway
Service Yard
Exit Only
Pocket Park 135m²
Staff Parking 55 Bays
Showroom Tenancy 8 GFA 1,001m² FFL 30.60
Showroom Tenancy 9 GFA 1,800m² FFL 30.60
BUILDING 2
Showroom GFA 2,200m²
Tenancy 10 GFA 8,600m² FFL 30.80
Warehouse GFA 2,000m²
BUILDING 1
Showroom Tenancy 16 GFA 2,000m² FFL 31.00
Showroom Tenancy 15 GFA 2,500m² FFL 31.00
Showroom Tenancy 14 GFA 1,800m² FFL 31.00
Showroom Tenancy 13 GFA 1,200m² FFL 31.00
Showroom Tenancy 12 GFA 1,500m² FFL 31.00
Showroom Tenancy 11 GFA 3,000m² FFL 31.00
Feature High Level Roof / Signage Tower Over
Fire Tanks & Pumps
Recessed Loading Dock
Bins
R/D
2 x Bicycle Racks
3 x Bicycle Racks
4 x Bicycle Racks
Feature Screening to Service Yard
Landscaping to MRS Primary Region Road Reserve Requires MRD Approval.
Existing Stormwater Swale
Existing Site Retaining
Existing Crossover
Proposed Transformer
Future Transformer
MRS Primary Regional Road Reserve
Site Boundary 2040 mm
Site Boundary 15084 mm
Site Boundary 72462 mm
Site Boundary 5928 mm
Site Boundary 16999 mm
Site Boundary 15000 mm
Site Boundary 12500 mm
Site Boundary 12500 mm
Site Boundary 14999 mm
Site Boundary 15000 mm
Site Boundary 16999 mm
Site Boundary 15000 mm
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Site Boundary 15000 mm
Site Boundary 12500 mm
Site Boundary 15000 mm
Site Boundary 15000 mm
Site Boundary 16999 mm
Site Boundary 15000 mm
Site Boundary 15000 mm
Site Boundary 15000 mm
Site Boundary 12500 mm
Site Boundary 15000 mm
Site Boundary 14999 mm
Site Boundary 16399 mm

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PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY
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SITE CRITERIA

1. Site Area — **70,334m²**

2. Landscaping

a. Provided (Excluding MRS Road Verge)

Soft	3,834m²	
Treewells	250m²	
Total	**4,084m²**	**(6% of Site)**

c. Trees Required

i. 1 Tree/4 Cars	176 Trees
ii. 1 Tree/10m Frontage	20 Trees
Subtotal	**196 Trees**

d. Trees Provided

i. Carpark	166 Trees
ii. Buffer and Parklets	106 Trees
iii. Additional to Adjacent Site	10 Trees
Total	**282 Trees**

3. Floor Area (GFA)

a. Showrooms	34,248m²	
b. GYM	2,000m²	
c. Food / Cafe	150m²	
Total	**36,398m²**	**(52% of Site)**

4. Carparking — **Carbays**

i. Cars Required

a. Showrooms		684.96
b. Gym		100.0
c. Cafe		12
Subtotal	34,248m² @ 1/50m² 2,000m² @ 1/20m²	**797**
d. Demolished Showroom Area	150m² @ 8/100m²	37.5
Total		**759.5**

ii. Cars Provided — 1,875m² @ 1/50m²

a. On Grade	656
b. Added to Demolished Showroom Area	47
C. Added to The Good Guys Carpark	4
Total	**705**

Note:
Gym Requires Further Calculation and Then Reciprocal Parking Arrangement.

LEGEND

Pedestrian Access

PEDESTRIAN ACCESS

SCALE: 1 : 500

PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

meyer shircore architects

SATTERLEY Centuria

VEND PROPERTY

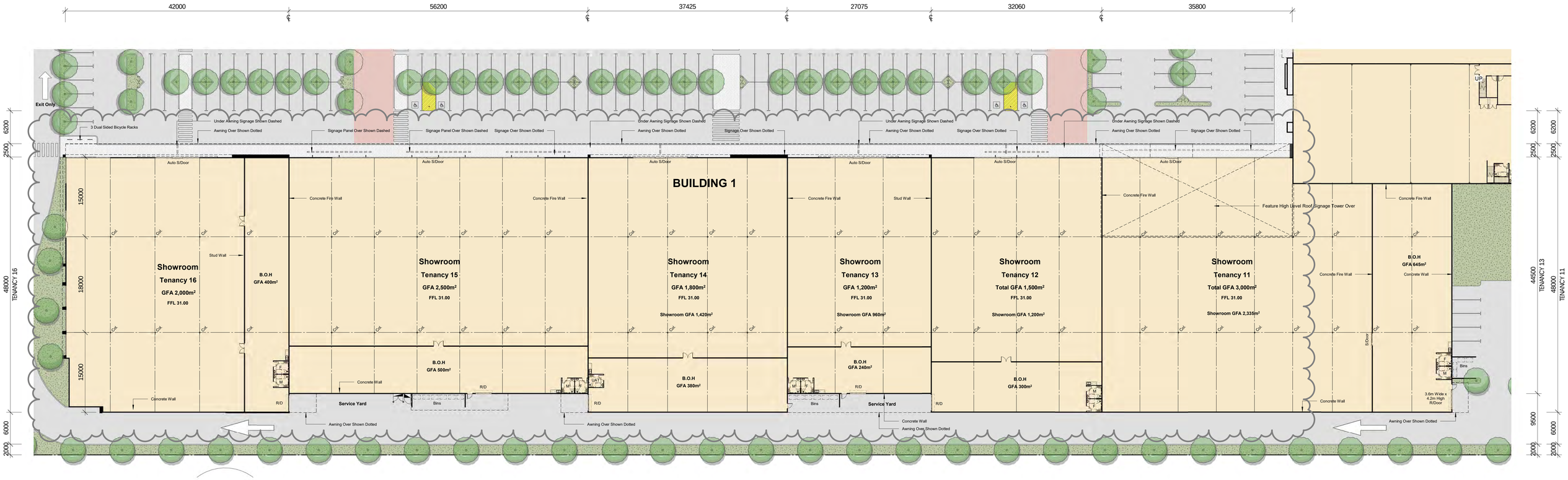
DATE: JAN 2026 PROJECT NUMBER 9361
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SHEET: 5
SCALE: 1 : 500 @B1

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Additional fire walls (FOH/BOH wall and IT walls), may be required to prevent the requirement for sprinklers, depending on the final tenant storage requirements.

BUILDING 1 GROUND FLOOR PLAN

SCALE:1 : 300

BUILDING 1

meyer shircore architects

PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

SATTERLEY Centuria

VEND PROPERTY

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DATE: JAN 2026 PROJECT NUMBER 9361

REVISION: SK018

SHEET: 6

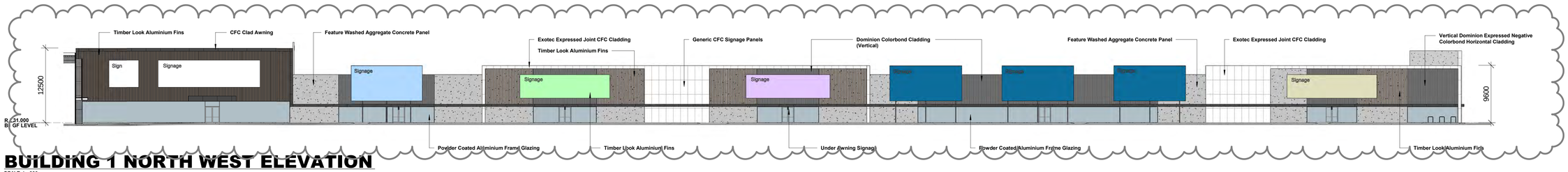
SCALE: 1 : 300 @B1

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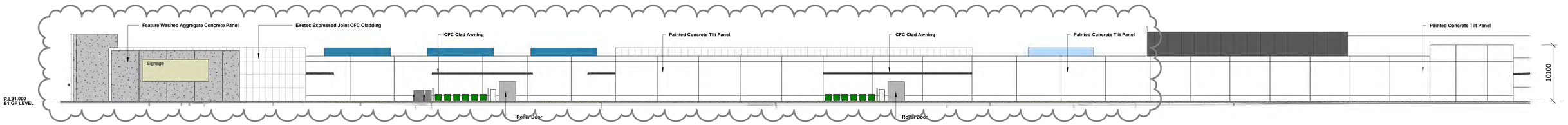
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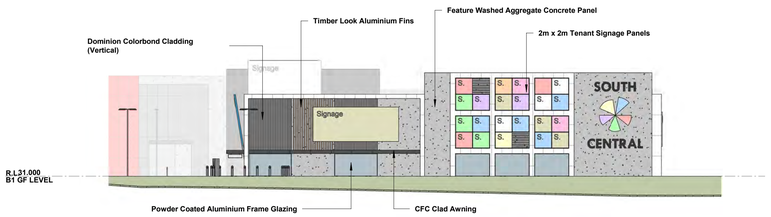
BUILDING 1 NORTH WEST ELEVATION

SCALE:1 : 300



BUILDING 1 SOUTH EAST ELEVATION

SCALE:1 : 300



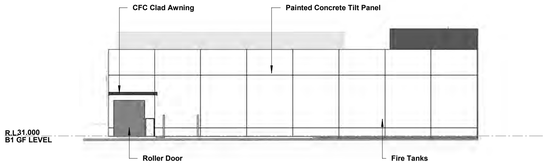
BUILDING 1 SOUTH WEST ELEVATION (ARMADALE ROAD)

SCALE:1 : 300



VIEW A

SCALE:



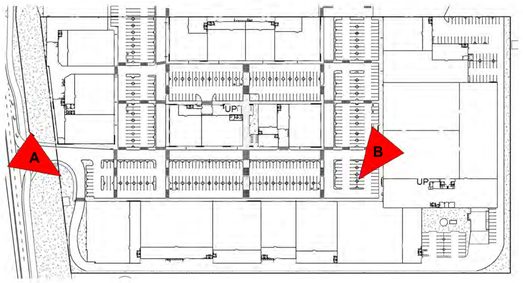
BUILDING 1 NORTH EAST ELEVATION

SCALE:1 : 300



VIEW B

SCALE:



BUILDING 1

meyer shircore architects

PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

SATTERLEY Centuria

VEND PROPERTY

0 5 10 15 20 25 50

DATE: JAN 2026 PROJECT NUMBER 9361

REVISION: SK018

SHEET: 7

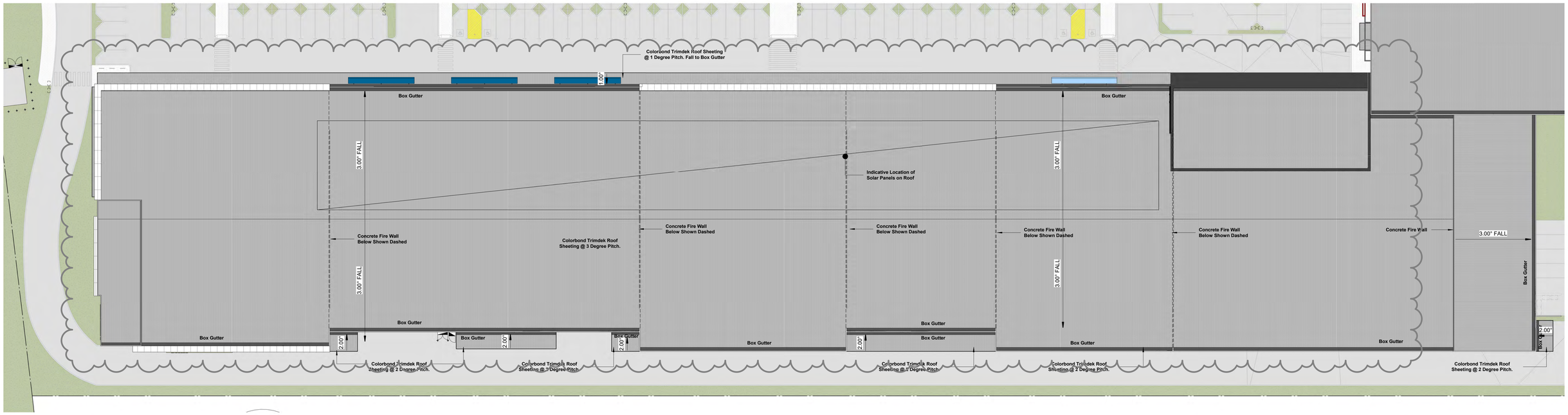
SCALE: As indicated @B1

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BUILDING 1 ROOF PLAN

SCALE: 1 : 300

BUILDING 1

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PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

SATTERLEY Centuria

VEND PROPERTY

0 5 10 15 20 25 50

DATE: JAN 2026 PROJECT NUMBER 9361

REVISION: SK018

SHEET: 8

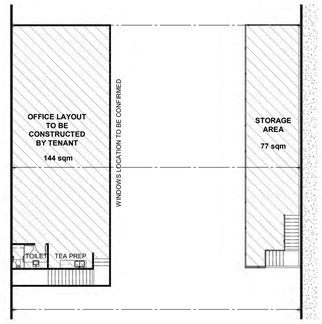
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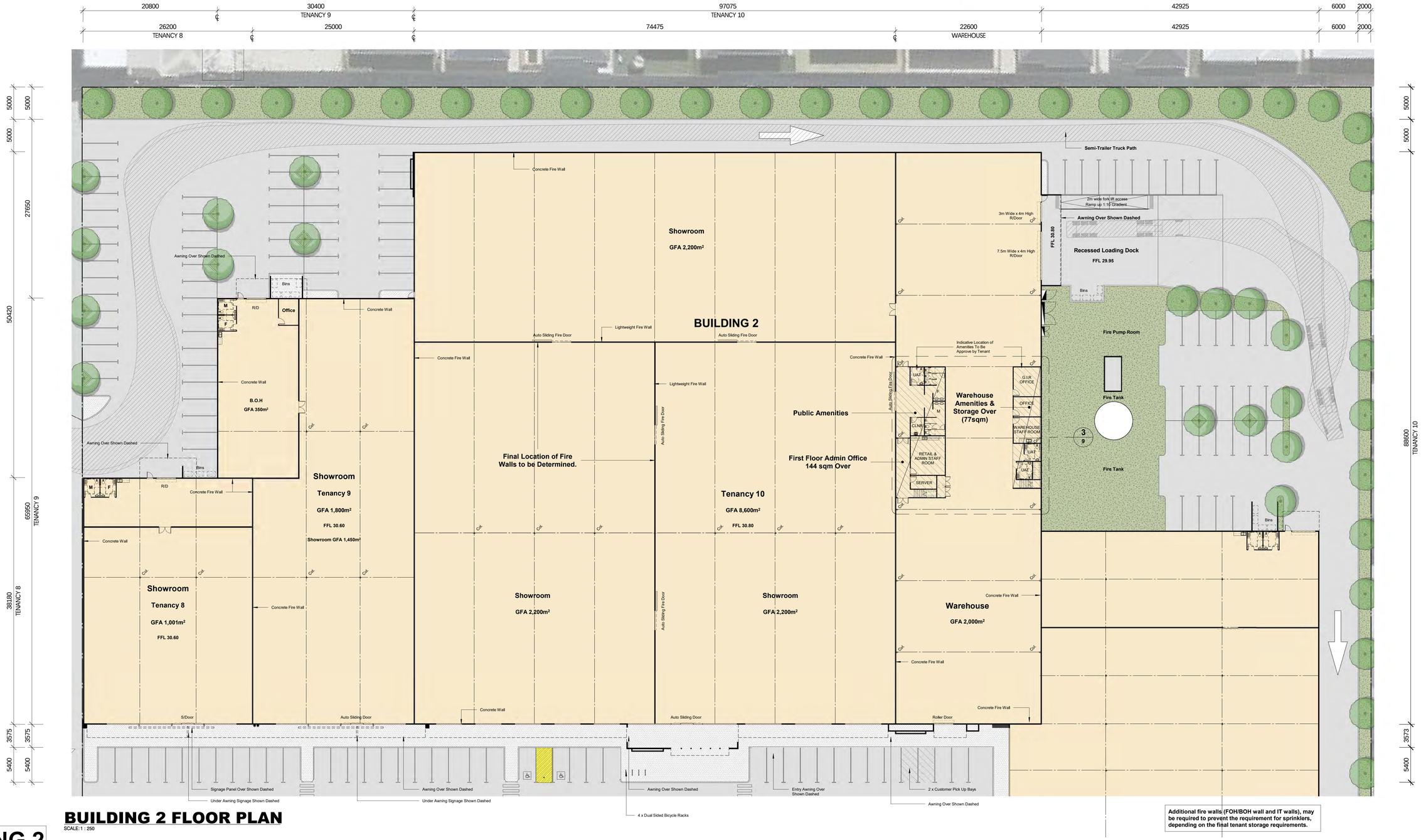
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TENANCY 10 - FIRST FLOOR PLAN

SCALE: 1 : 200



BUILDING 2 FLOOR PLAN

SCALE: 1 : 250

Additional fire walls (FOH/BOH wall and IT walls), may be required to prevent the requirement for sprinklers, depending on the final tenant storage requirements.

BUILDING 2

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PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

SATTERLEY Centuria

VEND PROPERTY

0 5 10 15 20 25 50

DATE: JAN 2026
REVISION: SK018
SHEET: 9
SCALE: As indicated @ B1

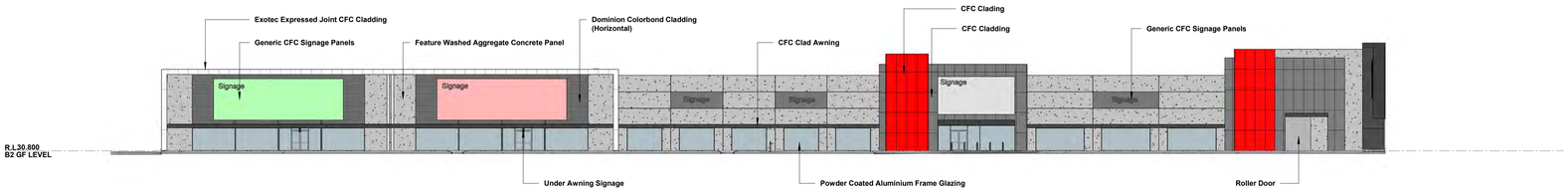
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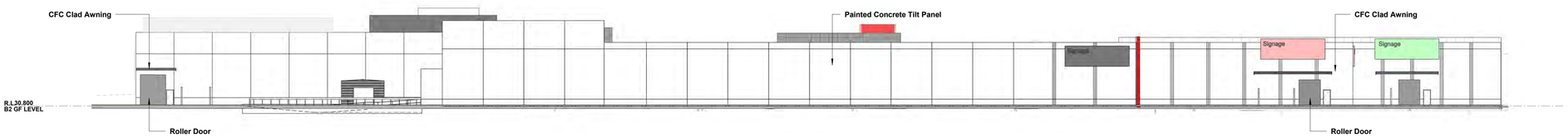
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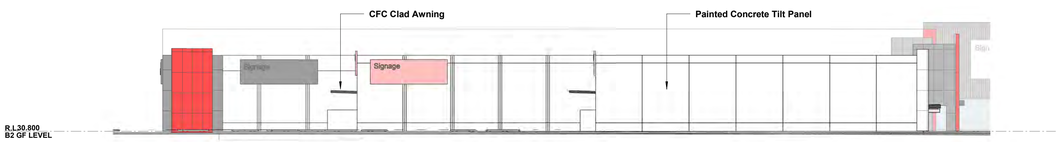
BUILDING 2 SOUTH WEST ELEVATION (ARMADALE ROAD)

SCALE: 1 : 300



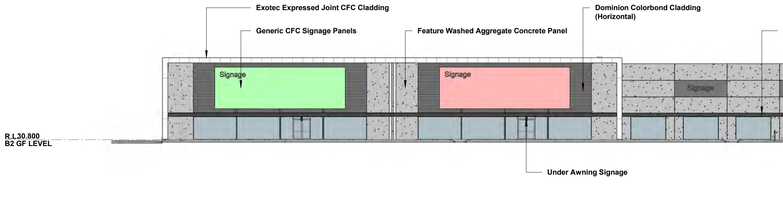
BUILDING 2 NORTH EAST ELEVATION

SCALE: 1 : 300



BUILDING 2 NORTH WEST ELEVATION

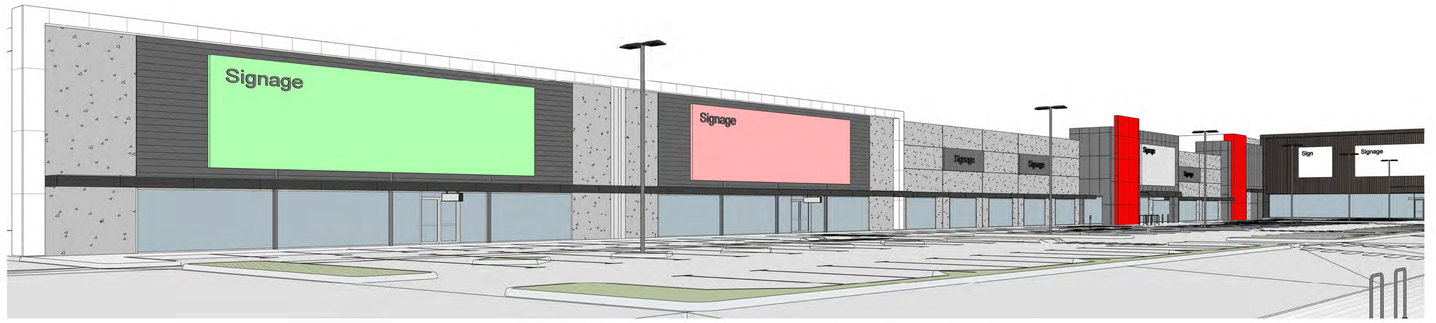
SCALE: 1 : 300



BUILDING 2 SOUTH EAST ELEVATION

SCALE: 1 : 300





VIEW A

SCALE:



VIEW B

SCALE:

BUILDING 2

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PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

SATTERLEY Centuria

VEND PROPERTY

0 5 10 15 20 25 50

DATE: JAN 2026
REVISION: SK018
SHEET: 10
SCALE: As indicated @B1

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BUILDING 2 ROOF PLAN

SCALE: 1 : 250

BUILDING 2

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PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

SATTERLEY Centuria

VEND PROPERTY

0 5 10 15 20 25 50

DATE: JAN 2026
REVISION: SK018
SHEET: 11
SCALE: 1 : 250 @B1

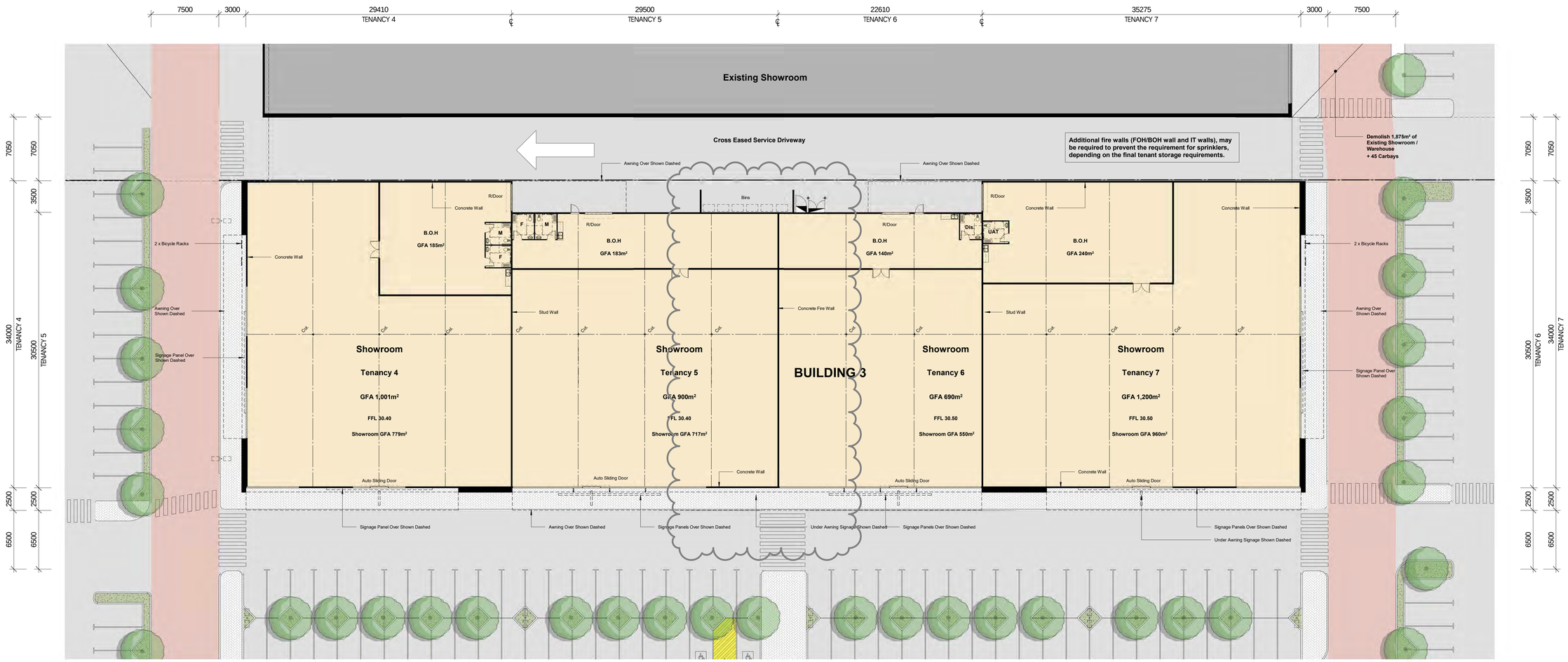
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BUILDING 3 FLOOR PLAN

SCALE: 1 : 200

BUILDING 3

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PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

SATTERLEY Centuria

VEND PROPERTY

0 5 10 15 20 25 50

DATE: JAN 2026
REVISION: SK018
SHEET: 12
SCALE: 1 : 200 @B1

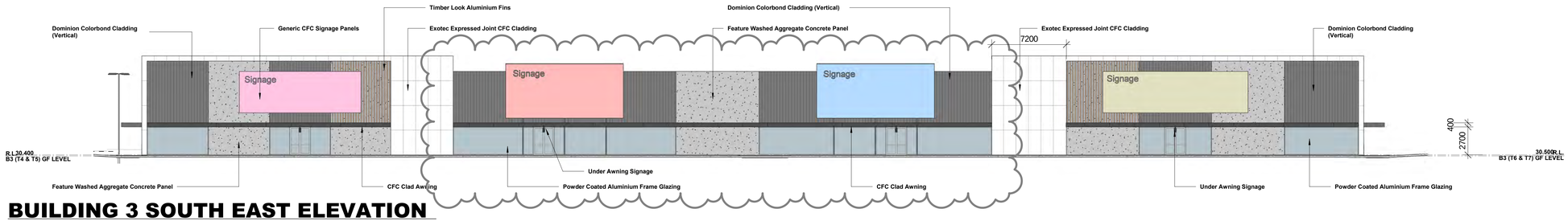
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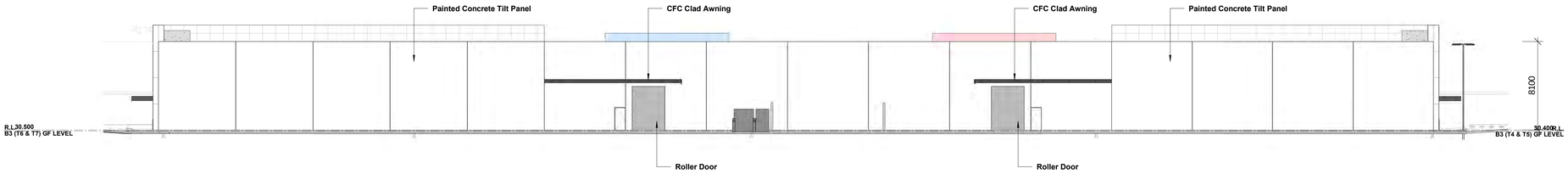
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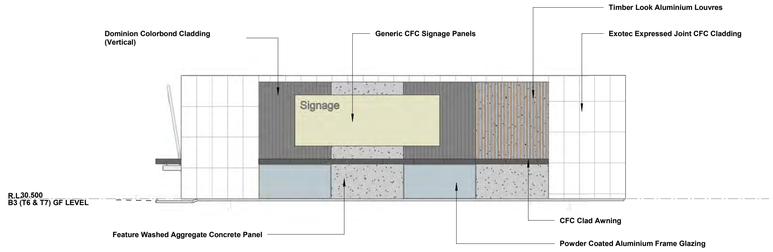
BUILDING 3 SOUTH EAST ELEVATION

SCALE: 1 : 200



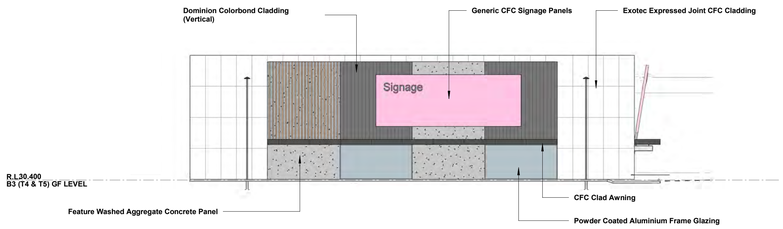
BUILDING 3 NORTH WEST ELEVATION

SCALE: 1 : 200



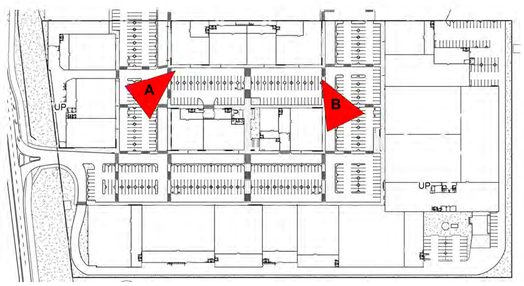
BUILDING 3 NORTH EAST ELEVATION

SCALE: 1 : 200



BUILDING 3 SOUTH WEST ELEVATION (ARMADALE ROAD)

SCALE: 1 : 200





VIEW A

SCALE:



VIEW B

SCALE:

BUILDING 3

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PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

SATTERLEY Centuria

VEND PROPERTY

0 5 10 15 20 25 50

DATE: JAN 2026

REVISION: SK018

SHEET: 13

SCALE: As indicated@B1

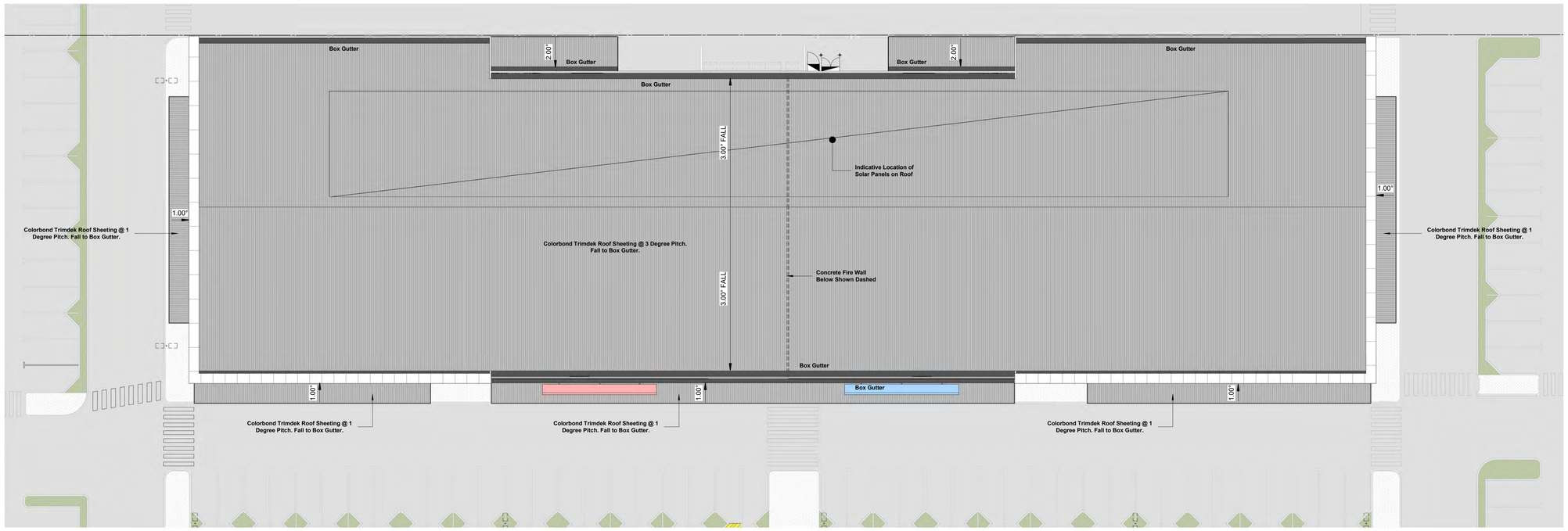
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BUILDING 3 ROOF PLAN

SCALE: 1 : 200

BUILDING 3

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PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

SATTERLEY Centuria

VEND PROPERTY

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DATE: JAN 2026
REVISION: SK018
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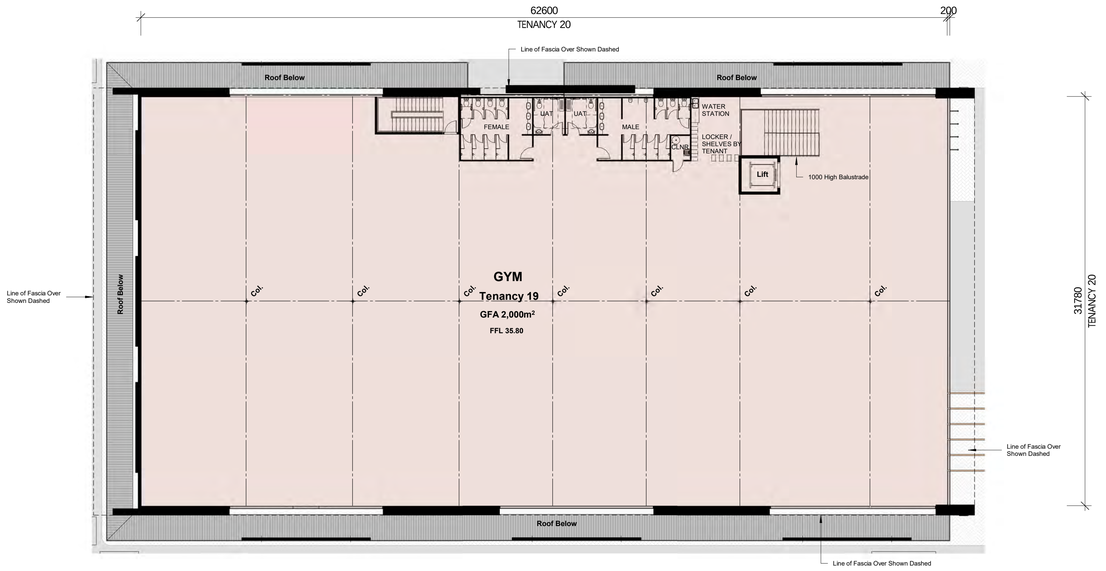
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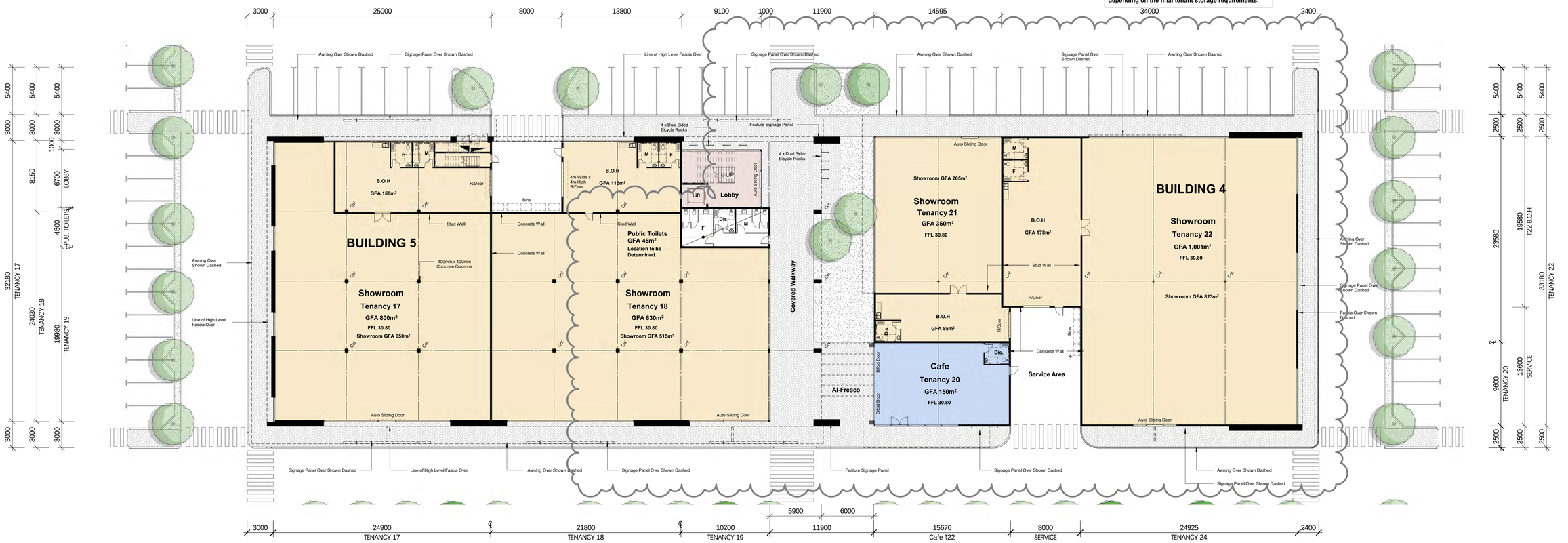
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BUILDING 5 FIRST FLOOR PLAN

SCALE: 1 : 200

Additional fire walls (FOH/BOH wall and IT walls), may be required to prevent the requirement for sprinklers, depending on the final tenant storage requirements.



BUILDING 4 & 5 FLOOR PLAN

SCALE: 1 : 200

BUILDING 4 & 5

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PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

SATTERLEY Centuria

VEND PROPERTY

0 5 10 15 20 25 50

DATE: JAN 2026 PROJECT NUMBER 9361

REVISION: SK018

SHEET: 15

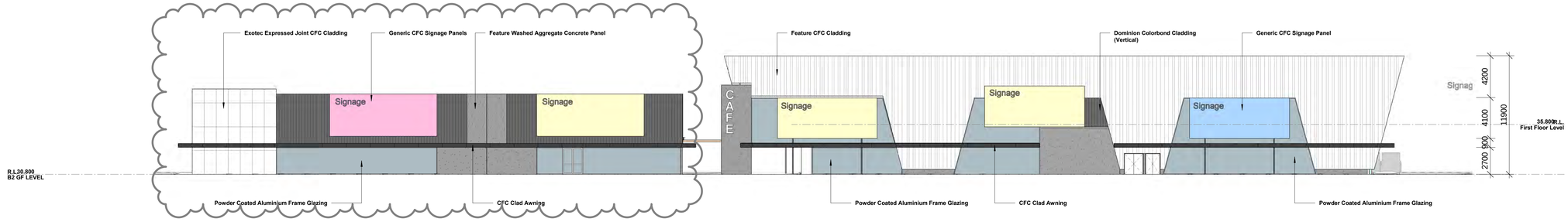
SCALE: 1 : 200 @B1

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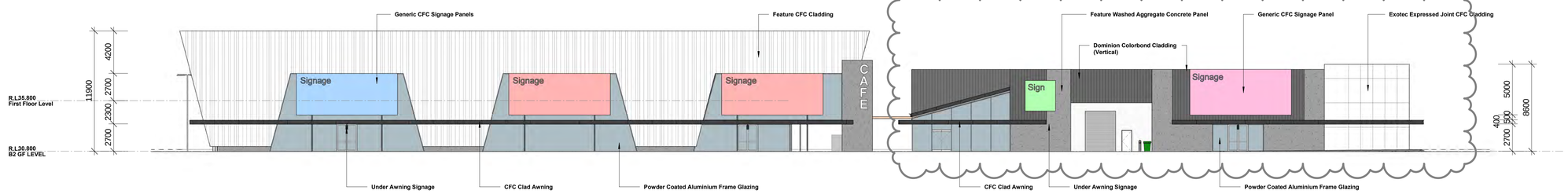
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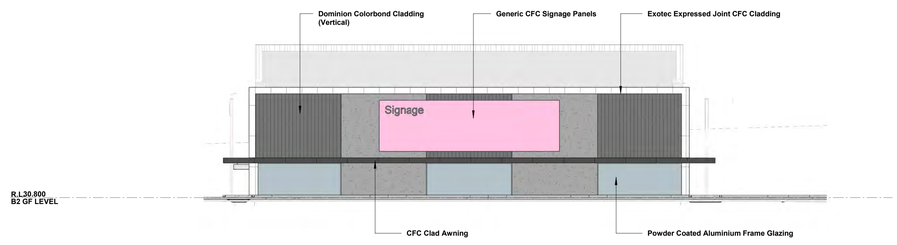
BUILDING 4 & 5 NORTH WEST

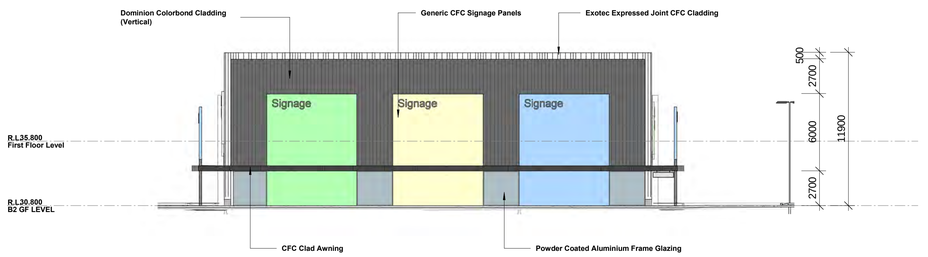
SCALE: 1 : 200



BUILDING 4 & 5 SOUTH EAST

SCALE: 1 : 200







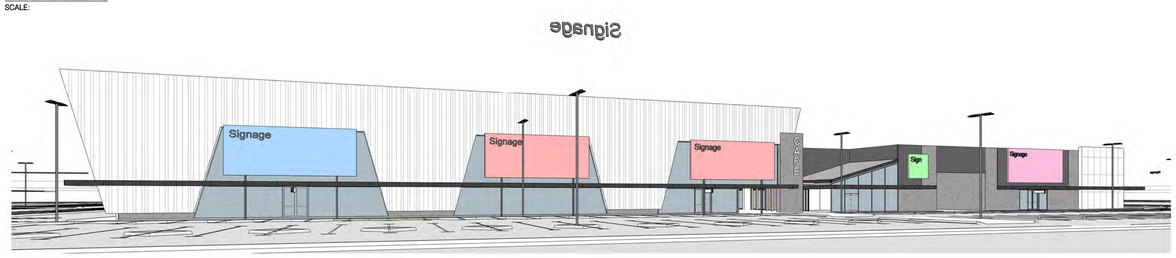
BUILDING 4 & 5 NORTH EAST ELEVATION

SCALE: 1 : 200



VIEW 2

SCALE:



VIEW 3

SCALE:

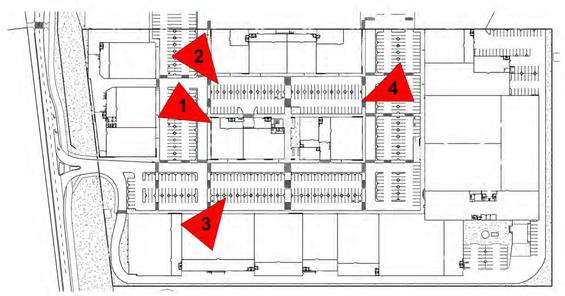
BUILDING 4 & 5 SOUTH WEST ELEVATION (ARMADALE ROAD)

SCALE: 1 : 200



VIEW 1

SCALE:



VIEW 4

SCALE:

BUILDING 4 & 5

meyer shircore architects

PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

SATTERLEY Centuria

VEND PROPERTY

0 5 10 15 20 25 50

DATE: JAN 2026

REVISION: SK018

SHEET: 16

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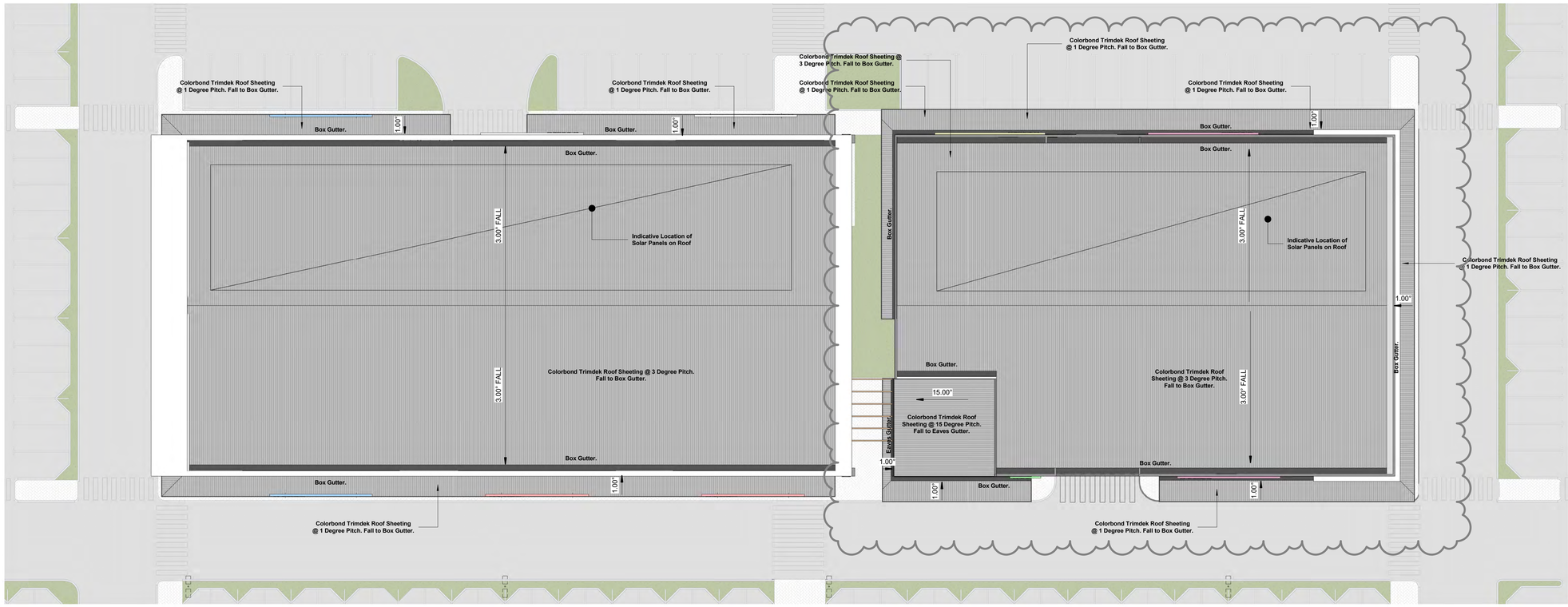
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BUILDING 4 & 5 ROOF PLAN

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BUILDING 4 & 5

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PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

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SATTERLEY Centuria

VEND PROPERTY

0 5 10 15 20 25 50

DATE: JAN 2026 PROJECT NUMBER 9361

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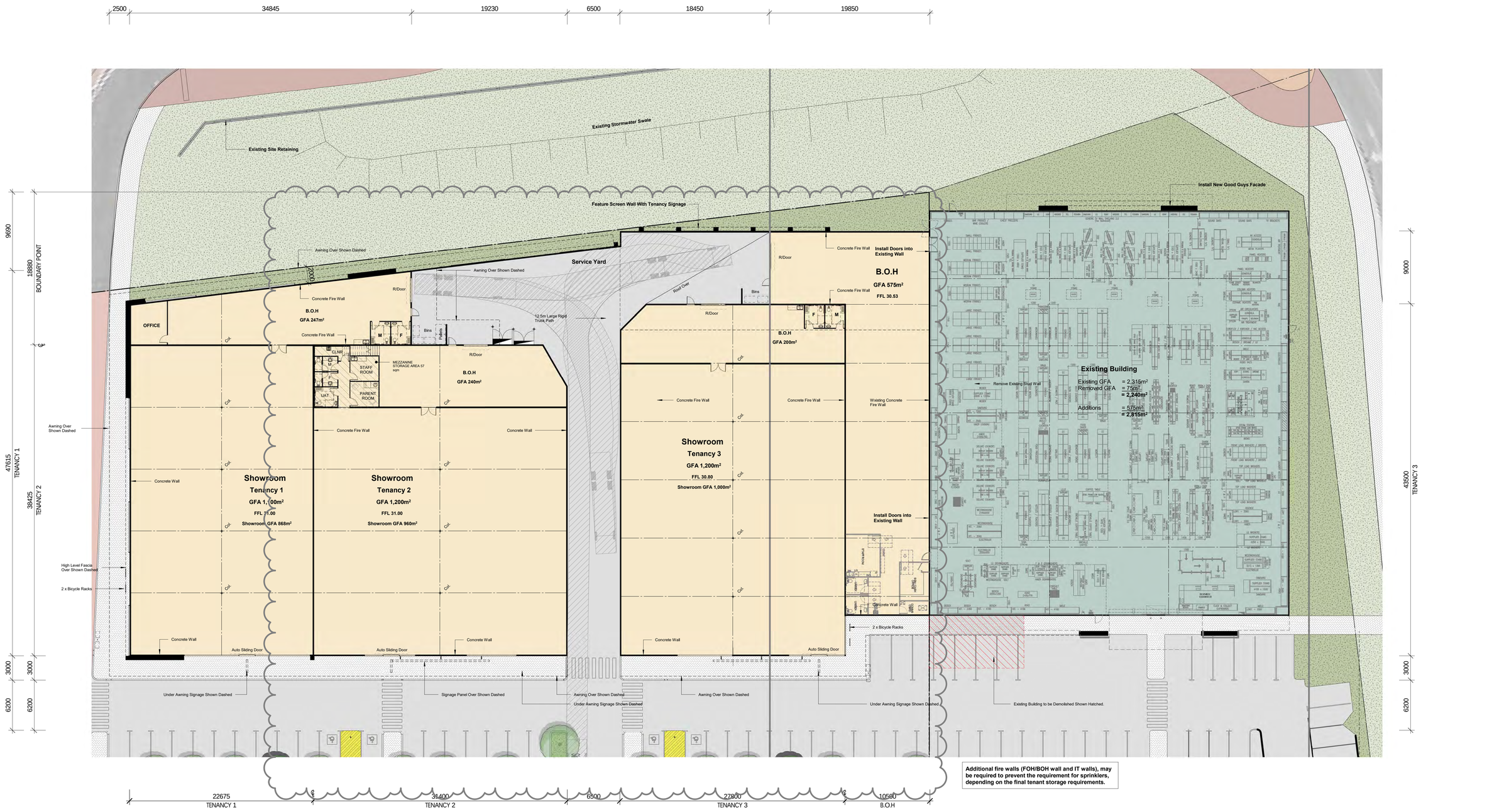
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Additional fire walls (FOH/BOH wall and IT walls), may be required to prevent the requirement for sprinklers, depending on the final tenant storage requirements.

BUILDING 6 & 7 FLOOR PLAN

SCALE: 1 : 200

BUILDING 6 & 7

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SATTERLEY Centuria

VEND PROPERTY

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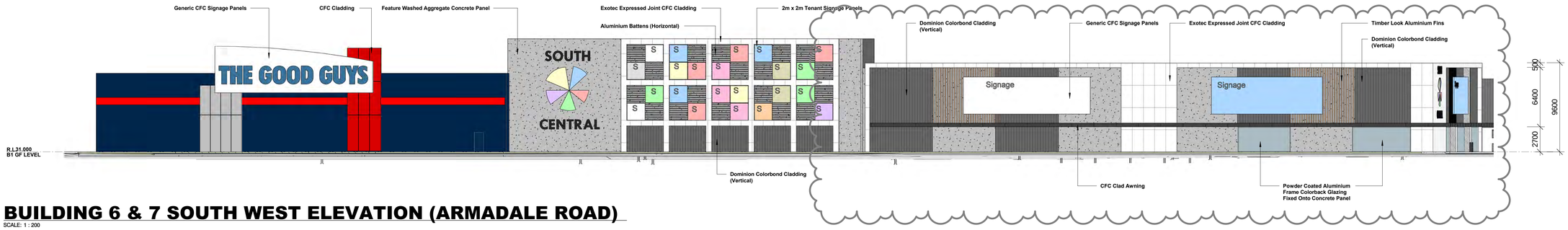
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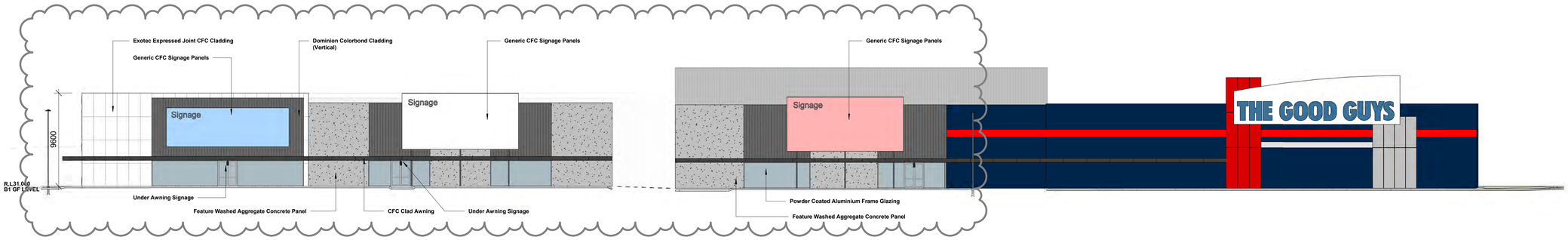
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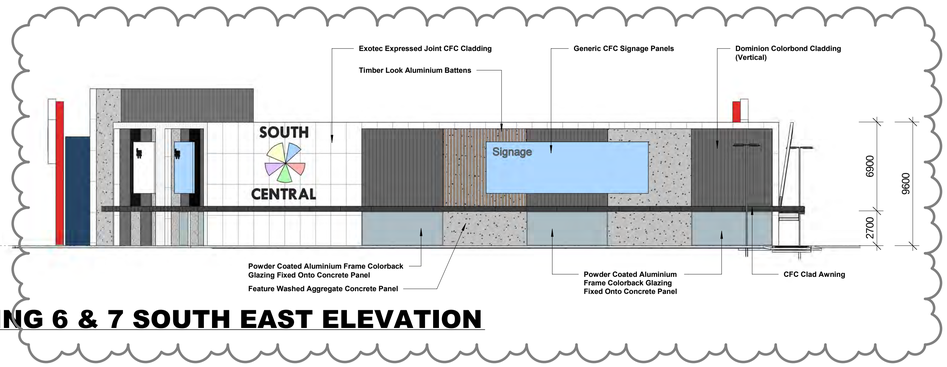
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SCALE: 1 : 200



BUILDING 6 & 7 NORTH EAST ELEVATION

SCALE: 1 : 200



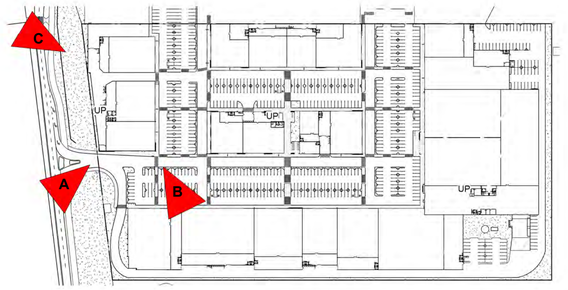
BUILDING 6 & 7 SOUTH EAST ELEVATION

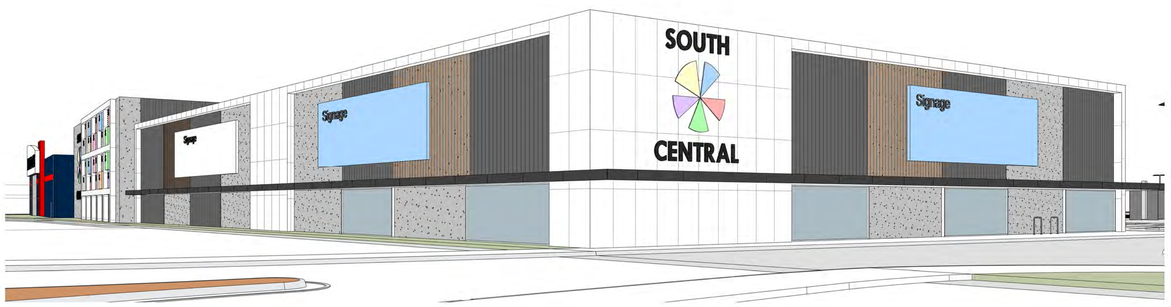
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VIEW C

SCALE:





VIEW A

SCALE:



VIEW B

SCALE:

BUILDING 6 & 7

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PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

SATTERLEY Centuria

VEND PROPERTY

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BUILDING 6 & 7 ROOF PLAN

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BUILDING 6 & 7

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SHADOW DIAGRAM - 12PM 21ST JUNE

SCALE: 1 : 1000

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DATE: JAN 2026 PROJECT NUMBER 9361

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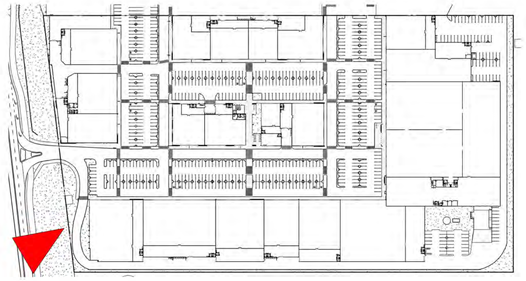
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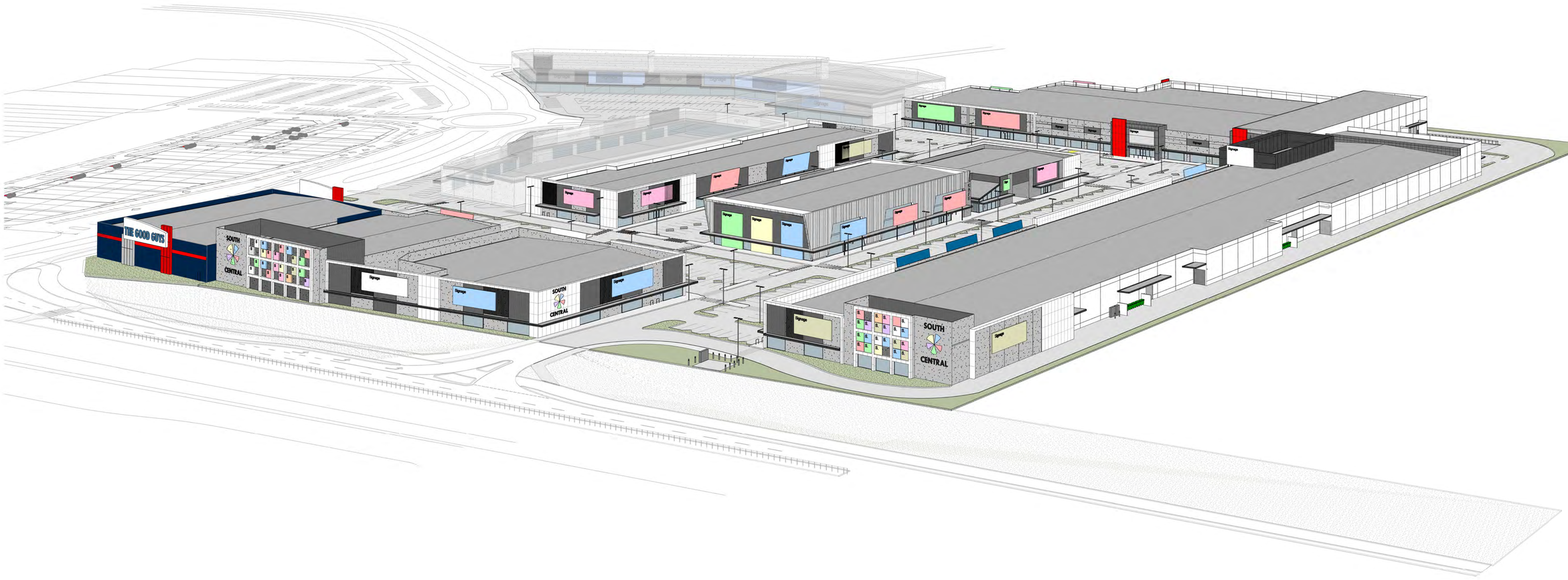
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OVERALL PERSPECTIVE VIEW

SCALE:

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PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

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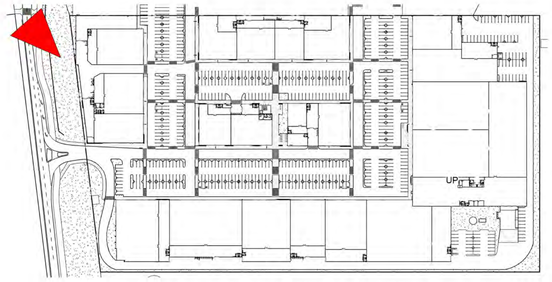
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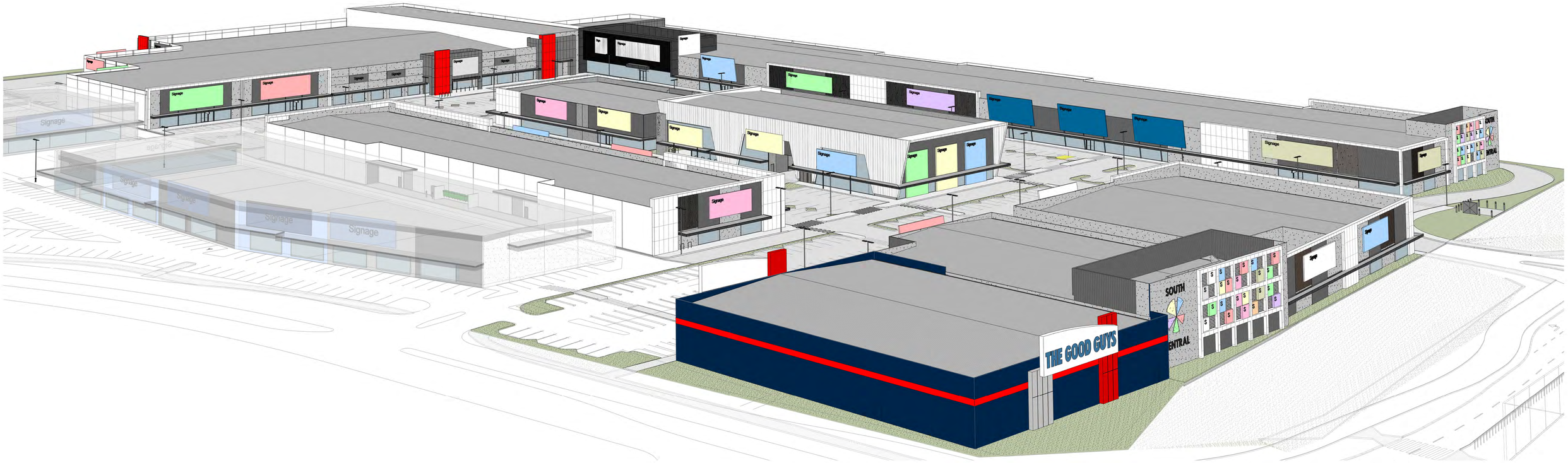
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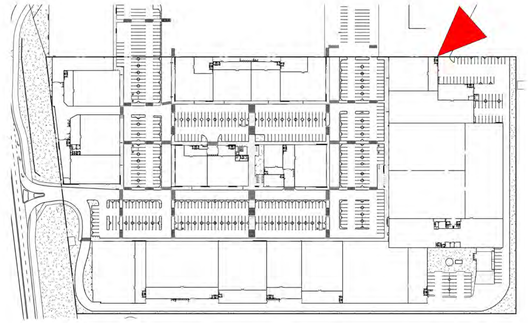
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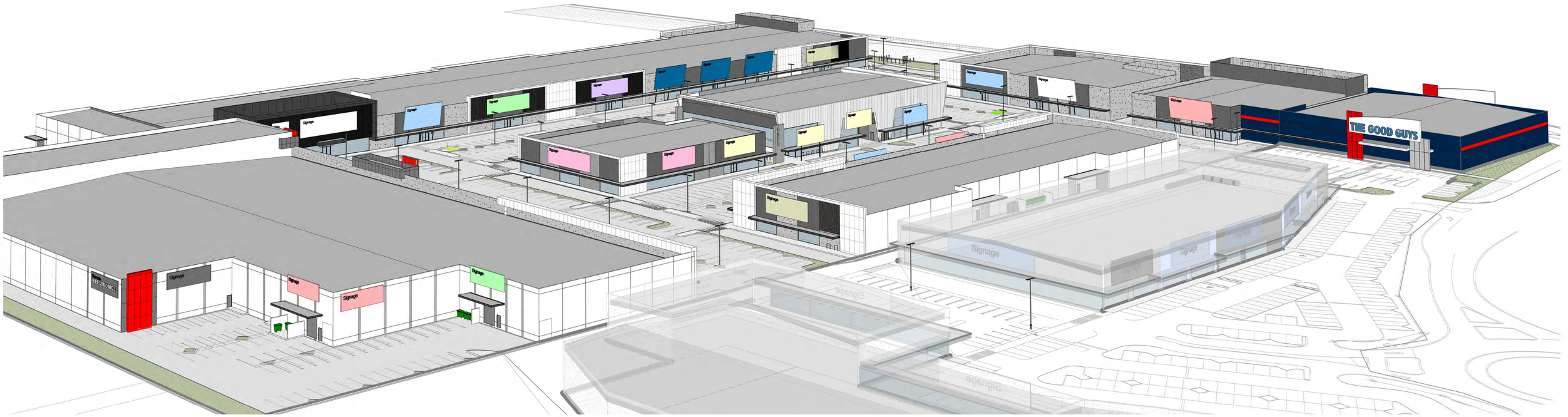
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OVERALL PERSPECTIVE VIEW

SCALE:

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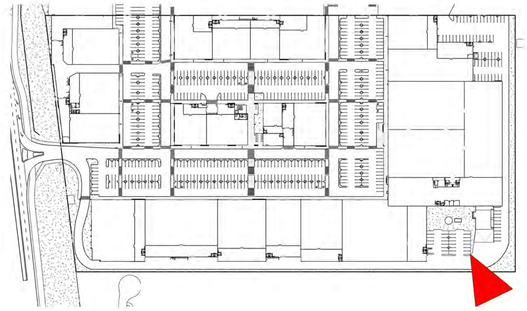
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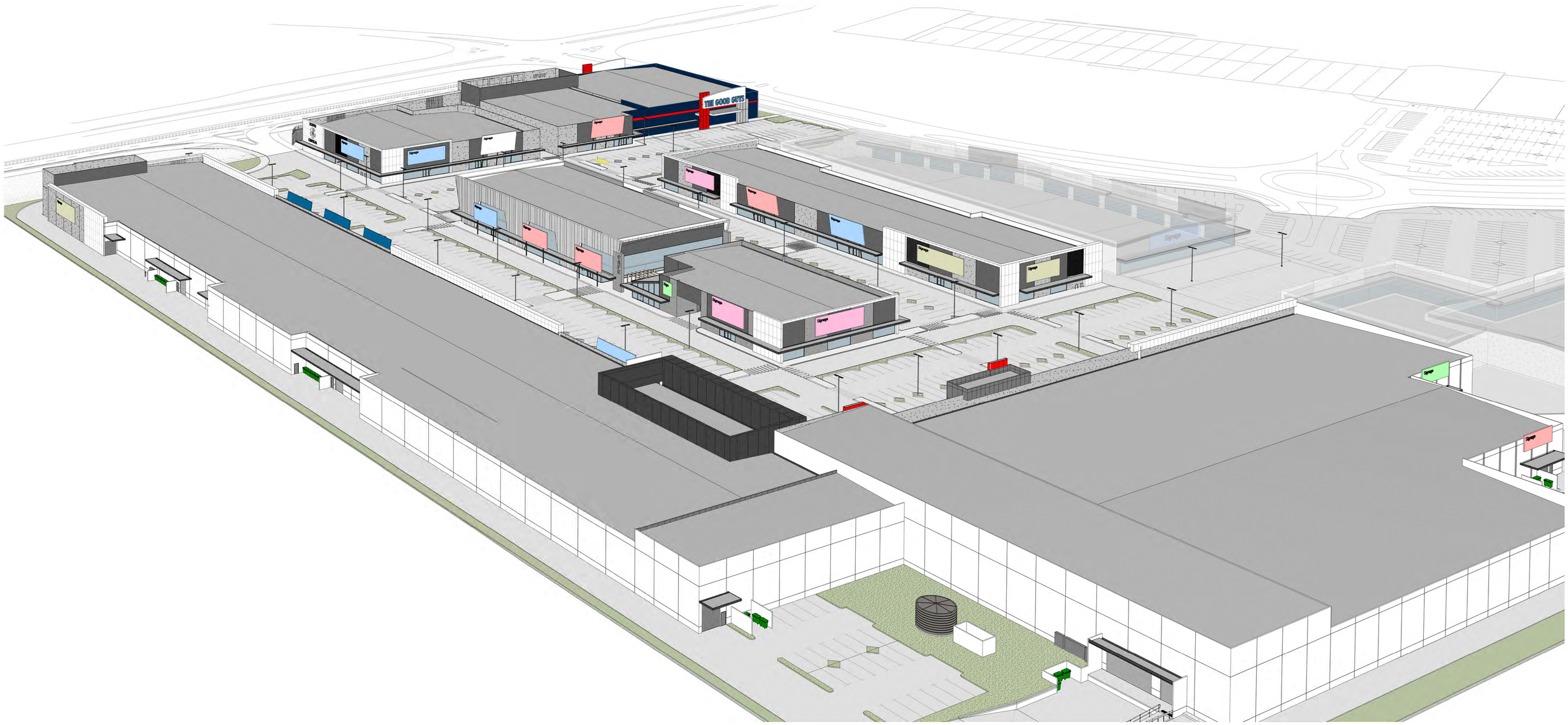
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OVERALL PERSPECTIVE VIEW

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ATTACHMENT 3

ESD Report

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SUSTAINABLE DESIGN ASSESSMENT REPORT

PROPOSED LARGE FORMAT RETAIL EXPANSION, TREEBY

Lot 701 Armadale Road, Treeby WA

PREPARED BY

CLAIRE CHAPMAN

Project: 132311

Published Date: 20/10/2025

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DATE	DOCUMENT	COMPLETED BY	REVIEWED BY	APPROVED BY	REV NO.
20/10/2025	SDAR	Claire Chapman	Glenn Underwood	Glenn Underwood	0

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SOURCES OF INFORMATION

DRAWING NUMBER	DRAWING TITLE	REVISION
9361-2-30	Architectural Drawings	SK012

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DISCLAIMER

The contents of this report are based on the documentation and plans provided by the Client to EMERGEN/CADDS Group. The outcomes presented are representative of schematic systems, schedules, and project design. These results should not be considered as actual energy usage.

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1 OVERVIEW

EMERGEN has developed a sustainable design report on the proposed commercial development at Lot 701 Armadale Road, Treeby WA in consultation with Meyer Shircore Architects.

The purpose of this report is to support the development application by identifying the principles incorporated in the design that meet sustainable objectives and targets for the site. The initial assessment is based on preliminary documentation with the outcomes subject to change during design development.

1.1 STATE PLANNING POLICY SUMMARY

EMERGEN (a division of CADDS GROUP), in collaboration with the design team (Meyer Shircore Architects) has developed a sustainable design strategy aligning with State Planning Policy 7.0 and City of Cockburn, which focuses on the Design of the Built Environment - specifically, Principle 5: Sustainability.

This report serves the vital purpose of bolstering the development application by articulating the sustainability principles and commitments for the project site. We acknowledge the significance of State Planning Policy 7.0 in promoting sustainability within the built environment. Good design, as outlined in the policy, is not only about aesthetics but also optimises the sustainability of our built surroundings, yielding positive outcomes on environmental, social, and economic fronts.

Our approach to sustainable landscape and urban design adheres closely to the established water-sensitive urban design principles, ensuring minimal adverse impacts on existing natural features and ecological processes while promoting green infrastructure at all scales of the project. Furthermore, our strategy for sustainable built environments embraces passive environmental design measures tailored to local climate and site conditions. This includes careful consideration of optimal orientation, shading, building envelope, and natural ventilation, ultimately reducing reliance on energy-intensive heating and cooling technologies. This, in turn, results in reduced energy consumption, decreased resource usage, and lowered operating costs throughout the project's lifecycle.

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1.2 DESIGN AND CONSTRUCT TO AUSTRALIAN BEST PRACTICE

The design team will utilise a structured approach to a sustainable outcome for the design and construction of the development including the following Sustainable Targets.

Table 1: Sustainability Targets

ITEM	ENVIRONMENTALLY SUSTAINABLE DESIGN INITIATIVES	RESPONSIBLE
ENERGY USE REDUCTION	Targeted 30% Reduction in predicted Energy use of the building over NCC minimum compliance. Through solar passive design principles, energy efficient building envelope, appropriate shading.	EMERGEN
RENEWABLE ENERGY	On-site solar photovoltaic (PV) systems offer a number of benefits, including reducing energy costs, mitigating environmental impacts and enhancing energy security.	EMERGEN/ Electrical
WATER EFFICIENT SANITARY FIXTURES & FITTINGS	All fixtures and water-using appliances installed within the project's scope will at a minimum, meet the following WELS ratings. Taps – 5 star Urinals – 5 star Toilets – 4 star Showers – 3 star Dishwasher – 5 star	Architect/ Hydraulic
ARTIFICIAL LIGHTING	Efficient LED Lighting will be provided. Lighting within the building will meet the following requirements: • Colour Rendering Index (CRI) 85 or higher. • Have a MacAdam Ellipse or a Standard Deviation Colour Matching (SDCM) of ≤ 3.	Electrical
WASTE EFFICIENCY	A waste planning expert will produce an Operational Waste Management Plan (OWMP) that addresses best practice in operational waste management, which will include clearly identified waste streams and setting diversion from landfill targets.	Client
SUSTAINABLE MATERIALS	Materials (concrete, steel, engineered wood etc) with low carbon emissions and recycled content will be considered. Materials with Environmental Product Declarations (EPD) will be prioritised.	Structural to include in design.
LOW VOC FINSIHES	Finishes (paints, adhesives, sealants, carpets) with low VOC and formaldehyde content will be considered.	Architect to include in design.

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ITEM	ENVIRONMENTALLY SUSTAINABLE DESIGN INITIATIVES	RESPONSIBLE
HEAT RESILIENCE	The following strategies will be utilised to mitigate heat island effect: • Increase green spaces, i.e., vegetation. • Roofing materials will have a Solar Reflective Index (SRI) ≥ 64. Furthermore, the project will explore passive design strategies, including optimal building orientation, the use of sunshades, and efficient glazing, etc to mitigate heat stress caused by solar radiation.	Architect to include SRI values for roof materials in design.
WATER EFFICIENT LANDSCAPING	Landscaping with low crop coefficients will be considered so that water use is minimised. Landscape irrigation to use efficient irrigation systems such as drip irrigation.	Landscape to include in design.
BIODIVERSITY ENHANCEMENT	A focus on native and locally endemic vegetation for new landscaped areas, including Pocket Parks and screening	Landscape to include in design
SUSTAINABLE TRANSPORT OPTIONS	Sustainable transport options to be provided for staff and visitors to the facility Provide adequate EOT facilities and bicycle parking	Architect/ Client / Electrical to confirm

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2 PROJECT INFORMATION

The proposed commercial development site is located at Lot 701 Armadale Road, Treeby WA. The project focuses on large format retail which compromises of 7 buildings in the proposed stage 2.



Figure 1: Proposed Development

3 ENERGY REDUCTION STRATERGY

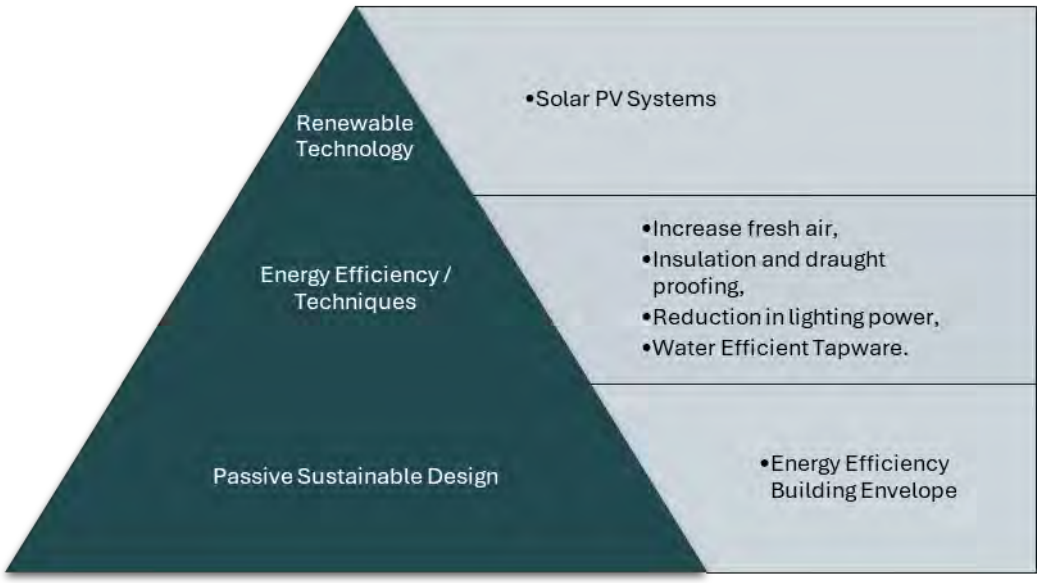


Figure 2: Energy Reduction Strategy

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3.1 BUILDING ENVELOPE

Energy savings can be achieved within a building through the reduction for the need for heating and cooling by means of a well-designed and insulated façade. The construction for the proposed building envelope is as per plans provided and outlined below.

3.1.1 BUILDING FABRIC

CONSTRUCTION		DESCRIPTION	REQUIREMENT
ENVELOPE WALLS	External Concrete Wall	150mm Concrete tilt panel on 92mm steel stud frame with plasterboard lining. External finishes as per elevations	**R2.5HD Insulation Batts** inside steel frame.
INTERNAL WALLS	Party Wall	200mm Concrete tilt panel	**No Insulation Required.**
FLOORS	Concrete Slab	Concrete Slab on ground	**No Insulation Required.**
	Concrete Slab	Suspended concrete slab	**No Insulation Required.**
CEILINGS/ ROOFS	Roof Type 1	Metal deck roof sheeting. Roof colour not specified **(SA ≤ 0.45)**	**130mm R3.6 Anticon** to be installed under roof sheeting with 120mm Ashgrid Roof Spacer System

WINDOW SPECIFICATION		U-VALUE	SHGC
EXTERNAL GLAZING	Single Low E Neutral glazing in aluminium frame. (i.e., **6.38mm Viridian ComfortPlus Neutral**, or equal)	**4.42**	**0.48**

Note: Glazing values provided are for Whole System (Frame + Glass)

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3.2 ENERGY USE

Energy savings in a building can be realised by minimising the need for heating and cooling through a well-designed and insulated façade. The design team will focus on enhancing energy efficiency by exceeding the minimum requirements of BCA Section J. This will involve optimising the building envelope, air conditioning and ventilation systems, and lighting to ensure lower energy consumption.

The review has been undertaken in accordance with the Energy Efficiency provisions of the NCC 2022 – Amendment 1 for each class of building referred in the table below:

Table 2: Energy Compliance Overview

BUILDING	CLASS	VERIFICATION
1: Tenancy 11-19	6	J1V3 – Verification using a reference building
2: Tenancy 8-10	6	
3: Tenancy 4-7	6	
4: Tenancy 24-26	6	
5: Tenancy 20-23	6	
6: Tenancy 1-2	6	
7: Tenancy 3 +BOH	6	

These results are produced from models based on the documentation provided by the Architects. Any updates to these plans may affect the results and may require a change to specification (Section 3.1.1).

The design team has also included provisions for future solar PV installation on the roof of all buildings, accommodating both structural and electrical requirements. The plan is to install the solar systems within two years of the building's operational start.

3.2.1 ESTIMATED ENERGY USED

The figures shown below demonstrate the difference in performance between the Proposed Building and the Reference Building, allowing for a quantifiable comparison on the performance of each building using J1V3-Verification using reference building method. It's important to note that a **solar photovoltaic (PV) system** have been integrated into the proposed building's design to assist in offsetting the overall energy consumption by 30% over an NCC deemed to satisfy building.

Table 3: Estimated Energy Used – Building 1

MODEL	HEATING	COOLING	FANS	LIGHTS	EQUIP	PV	TOTAL
REFERENCE (kWh/m^2)	1.17	7.21	0.64	41.20	30.49		**80.71**
PROPOSED (kWh/m^2)	1.12	6.93	0.60	41.2	30.49	**-24.42**	**55.91**
ENERGY REDUCTION							**30.5%**

It's important to note that an approximate sized **170kW solar photovoltaic (PV) system** has been integrated into the proposed building's design to assist in offsetting the overall energy consumption.

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Table 4: Estimated Energy Used – Building 2

MODEL	HEATING	COOLING	FANS	LIGHTS	EQUIP	PV	TOTAL
REFERENCE (kWh/m^2)	1.03	6.33	0.54	38.54	30.28	-	**76.69**
PROPOSED (kWh/m^2)	0.99	6.23	0.53	38.51	30.28	**-22.7**	**53.84**
ENERGY REDUCTION							**30%**

It's important to note that an approximate sized **170kW solar photovoltaic (PV) system** has been integrated into the proposed building's design to assist in offsetting the overall energy consumption.

Table 5: Estimated Energy Used – Building 3

MODEL	HEATING	COOLING	FANS	LIGHTS	EQUIP	PV	TOTAL
REFERENCE (kWh/m^2)	0.52	8.70	0.65	41.61	30.68	-	**82.16**
PROPOSED (kWh/m^2)	0.46	8.20	0.60	41.61	30.68	**-25.4**	**56.15**
ENERGY REDUCTION							**31%**

It's important to note that an approximate sized **55kW solar photovoltaic (PV) system** has been integrated into the proposed building's design to assist in offsetting the overall energy consumption.

Table 6: Estimated Energy Used – Building 4

MODEL	HEATING	COOLING	FANS	LIGHTS	EQUIP	PV	TOTAL
REFERENCE (kWh/m^2)	1.48	8.85	0.79	40.21	30.39	-	**81.72**
PROPOSED (kWh/m^2)	1.42	8.17	0.71	40.21	30.39	**-23.11**	**58.61**
ENERGY REDUCTION							**29%**

It's important to note that an approximate sized **20kW solar photovoltaic (PV) system** has been integrated into the proposed building's design to assist in offsetting the overall energy consumption.

Table 7: Estimated Energy Used – Building 5

MODEL	HEATING	COOLING	FANS	LIGHTS	EQUIP	PV	TOTAL
REFERENCE (kWh/m^2)	1.1	7.46	0.65	28.96	23.04	-	**61.21**
PROPOSED (kWh/m^2)	1.01	8.49	0.75	28.96	23.04	**-18.3**	**43.95**
ENERGY REDUCTION							**30%**

It's important to note that an approximate sized **45kW solar photovoltaic (PV) system** has been integrated into the proposed building's design to assist in offsetting the overall energy consumption.

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Table 8: Estimated Energy Used – Building 6

MODEL	HEATING	COOLING	FANS	LIGHTS	EQUIP	PV	TOTAL
REFERENCE (kWh/m^2)	0.41	8.60	0.64	41.61	30.73	-	**81.99**
PROPOSED (kWh/m^2)	0.4	8.05	0.58	41.61	30.73	**-24.86**	**57.13**
ENERGY REDUCTION							**30%**

It's important to note that an approximate sized **35kW solar photovoltaic (PV) system** has been integrated into the proposed building's design to assist in offsetting the overall energy consumption.

Table 9: Estimated Energy Used – Building 7

MODEL	HEATING	COOLING	FANS	LIGHTS	EQUIP	PV	TOTAL
REFERENCE (kWh/m^2)	0.52	7.17	0.51	37.87	31.77		**77.84**
PROPOSED (kWh/m^2)	0.46	7.25	0.51	37.87	31.77	**-26.28**	**51.58**
ENERGY REDUCTION							**34%**

It's important to note that an approximate sized **25kW solar photovoltaic (PV) system** has been integrated into the proposed building's design to assist in offsetting the overall energy consumption.

Table 10: Annual Greenhouse Gas Emissions

MODEL	ANNUAL GREENHOUSE GAS EMISSIONS	
	REFERENCE kgCO_2-e	PROPOSED kgCO_2-e
BUILDING 1	668,495.71	466,186.86
BUILDING 2	625,147.24	440,136.52
BUILDING 3	214,073.14	147,907.04
BUILDING 4	86,710.40	62,192.89
BUILDING 5	160,839.22	112,915.42
BUILDING 6	140,974.66	98,229.99
BUILDING 7	85,131.29	56,385.13

4 LIGHTING COMFORT

Lighting within the building must meet the following criteria:

- All lighting must be flicker-free.
- Light sources must have a minimum Colour Rendering Index (CRI) average R1 to R8 of 85 or higher and have a CRI R9 of 50 or higher.

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- Light sources must meet best practice illuminance levels for each task within each space type with a maintained illuminance that meets the levels recommended in AS/NZS 1680.1:2006 series applicable to the project type and including maintenance.
- The maintained Illuminance values must achieve a uniformity of no less than that specified in Table 3.2 of AS/NZS 1680.1:2006, with a maintenance factor method as defined in AS/NZS 1680.4.; and
- All light sources must have a minimum of 3 MacAdam Ellipses.
- The walls within the field of view of occupants in regularly occupied spaces must have an average surface reflectance value of 0.70 and an average surface illuminance of at least 50% of the horizontal illuminance levels required for task.
- Vertical illuminance in workspaces: ensure that 50% of the horizontal task illuminance reaches the average eye height for 90% of primary spaces using vertical illuminance calculation grid.
- The illuminance values must be calculated in accordance with AS/NZS 1680 series for the relevant task.

4.1 EFFICIENT LIGHTING AND CONTROL

The installed aggregate illumination power has been designed to be **20%** below the maximum illumination power based on maximum allowable lighting power densities defined in Table J6.2a of the NCC 2019. Motion Detectors and daylight sensors are provided to reduce demand.

Table 11: Lighting Characteristics

PARAMETER	PROPOSED BUILDING	REFERENCE BUILDING
LIGHTING TYPE	LED light fittings	LED light fittings
DESIGN ILLUMINANCE (LUX)	Various lux	Various lux
NOMINAL LIGHTING POWER DENSITY (W/M^2)	**20%** less compared to NCC max requirements.	As per NCC max requirements.
OCCUPANT SENSOR CONTROLS	Motion sensors	N/A
DAYLIGHT CONTROLS	Yes	N/A
OTHER LIGHTING CONTROLS	Timer switches	N/A
ADJUSTMENT FACTOR APPLIED	0.9 – Motion sensor 1 0.7 – Motion sensor 2 0.55 – Motion sensor 3	Room Aspect Ratio

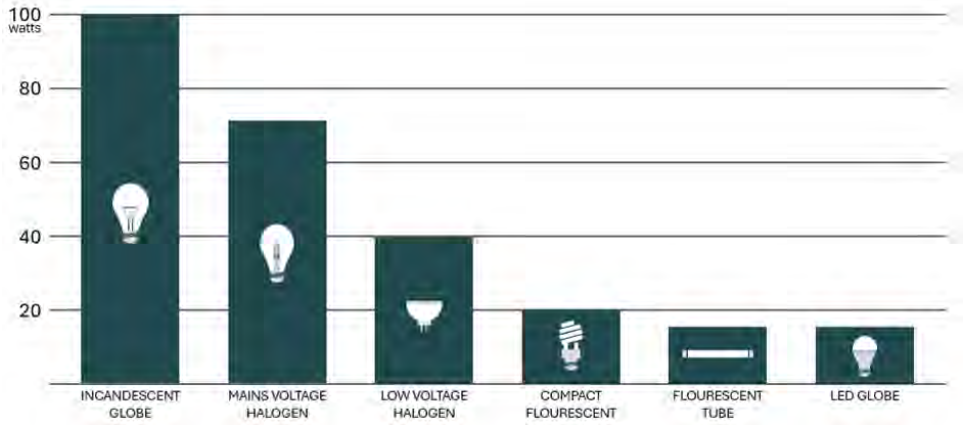
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4.2 ARTIFICIAL LIGHTING AND CONTROLS

All lighting will be equipped with light-emitting diodes (LEDs), covering all primary areas. Common area lighting will include controls like occupancy sensors (PIRs) and time switches to minimize energy usage when lighting is not needed.



4.3 DAYLIGHTING

Preliminary daylight modelling has been conducted for all regularly occupied areas, at finished floor level under standard overcast sky conditions (CIE). The purpose of this target is to demonstrate that the building provides daylight access exceeding typical federal, state, or local regulations by showcasing how the design and glazing specifications optimize natural lighting in these regularly occupied spaces.

For non-residential buildings, at least 40% of the regularly occupied areas across the building must receive high levels of daylight with no less than 20% on any floor or tenancy (whichever is smaller).



Figure 3: Daylighting Model

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Table 12: Calculation Conditions - Daylight

PARAMETER	INPUT
Dynamic daylight simulation	Spatial Daylight Autonomy (sDA)
Sky model	Standard CIE overcast sky
Grid size	0.5 m
Grid height	0.0 m

Table 13: Daylighting Results for each commercial unit

BUILDING NUMBER	PROPOSED USAGE	NOMINATED AREA (M^2)	COMPLIANT AREA (m^2)	COMPLIANt AREA (%)
1	Showroom	11535.81	2344.14	20.31
2	Showroom	9236.33	1314.39	14.23
3	Showroom	3637.56	1241.76	34.13
4	Showroom, Cafe	1429.21	1258.84	88.08
5	Showroom, Fast Food, Gym	3463.31	225.17	65.21
6	Showroom	2411.18	1088.87	45.16
7	Showroom	964.59	280.82	29.11
AVERAGE TOTAL				**42.32**

Buildings 1, 2, 3 and 7 fall short of the targeted 40% of floor area receiving high levels of daylight (above 160 lux), however this is considered acceptable as Large Format Retail use artificial light to create the desired lighting levels. 160 lux is also based on best practice which is very high for this type of building.

4.4 SOLAR ANALYSIS

A solar analysis was undertaken using a detailed 3D model to assess how sunlight interacts with the building throughout the year. The modelling visualises transmitted solar radiation on window surfaces, allowing the design team to evaluate seasonal solar gains and optimise shading, glazing performance, and building orientation, as illustrated in Figures 4 - 6.

The results show that winter solar access is maximised to improve indoor comfort, while summer solar gains are effectively controlled through façade design measures. This ensures good daylight access while reducing unwanted heat loads and supporting the building's overall energy performance.

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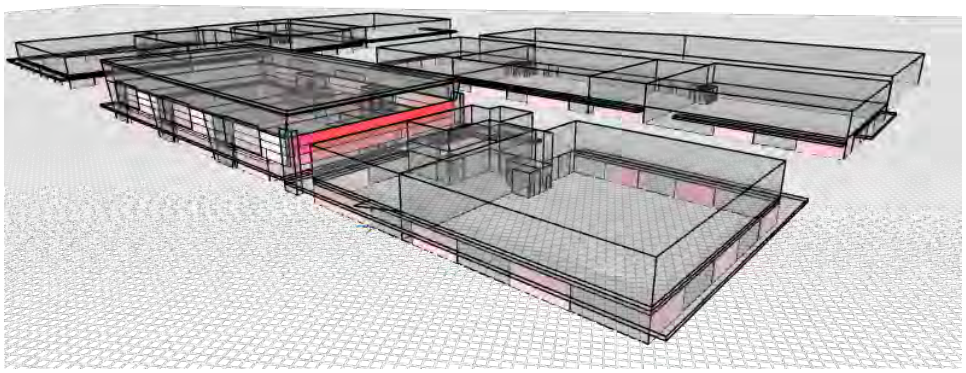


Figure 4: Building 3, 4, and 5 facades solar analysis.

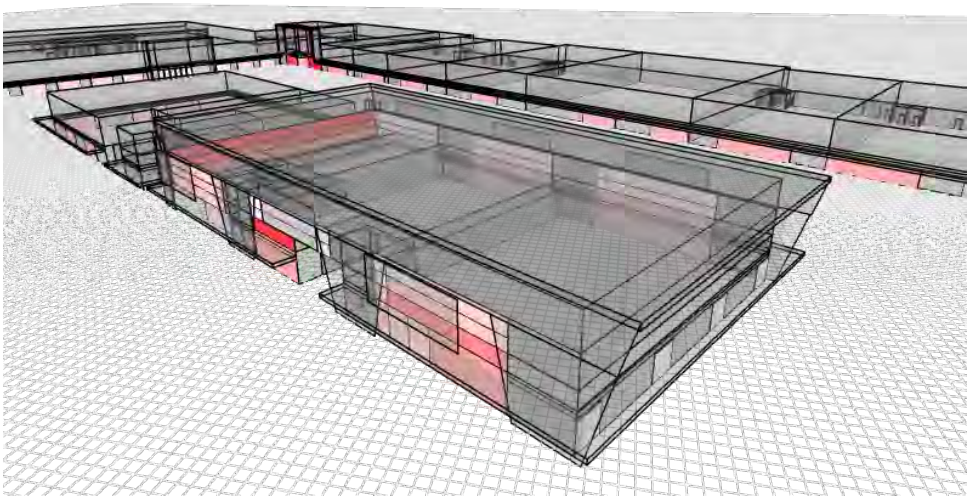


Figure 5: Building 1, 2, 3, and 4 facades solar analysis.

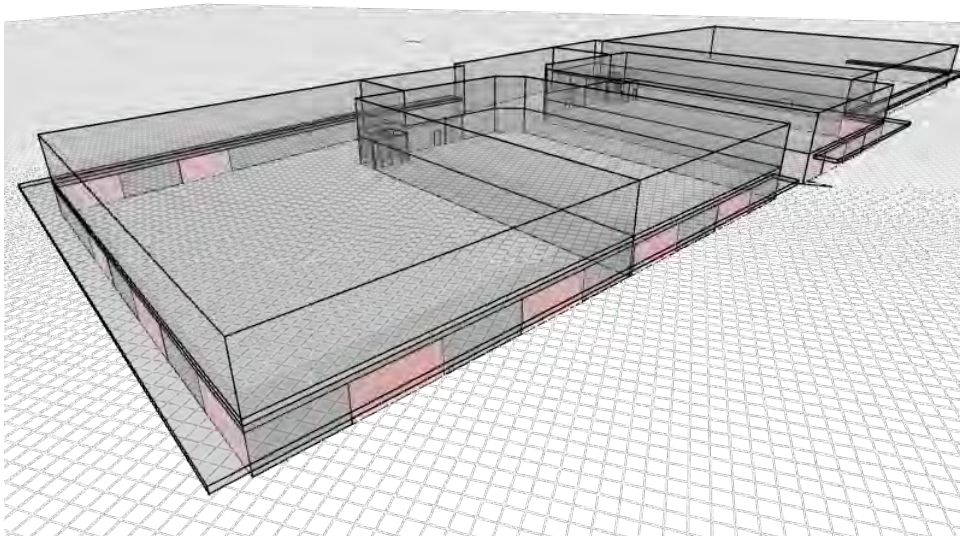


Figure 6: Building 6, and 7 facades solar analysis.

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5 URBAN ECOLOGY

Urban ecology is crucial for conserving biodiversity and enhancing urban life. Well-planned buildings and landscapes protect biodiversity and support sustainable practices, including low water and fertilizer use and the selection of native plants. Existing mature trees in the perimeter buffers will be maintained as much as possible.

5.1 MINIMISING HEAT ISLAND EFFECT

The heat island effect occurs when urban areas are warmer than their rural surroundings due to the built environment. The design has mitigated this effect by using light-coloured roof materials and shaded landscaped areas, which significantly mitigates this effect and enhances energy savings.



Figure 7: Potential Design Provisions for Heat Island Effect

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6 WATER EFFICIENCY

6.1 SUSTAINABLE WATER INITIATIVES

Western Australia has a limited potable water supply due to the increases in population and reductions in annual rainfall levels. By reducing demand this will help to alleviate the concerns related to potable water usage. The development aims to achieve a minimum 20% reduction in potable water consumption compared to established benchmarks.

Table 14: WELS Ratings

FIXTURE / EQUIPMENT TYPE	WELS RATING
TAPS	5 Star
TOILETS	4 Star
URINALS	5 Star
SHOWERS	3 Star
DISHWASHERS	5 Star

6.2 LANDSCAPE AND IRRIGATION PLAN

The development's location in Western Australia is considered a drying climate and as such, water conservation is critically important. The following sections set out design strategies utilised for this development to reduce its overall water consumption

6.2.1.1 Drip-Irrigation System

- Efficient drip irrigation system with bubblers ensuring optimal water delivery to trees and uniform hydration throughout the landscape.

6.2.1.2 Plant Selection:

- Drought-tolerant and water-wise plants will be selected wherever possible to ensure sustainable water use.

6.2.1.3 Vegetation and Landscaping:

- Native vegetation that is water-wise will be prioritized.

6.2.1.4 Car Park Design:

- The car park will feature shade trees for cooling and permeable paving to enhance water management. Traditional kerbs will be included for clear boundaries. Additionally, a swale will be integrated within the parking aisles to aid in natural water drainage and stormwater management.

6.2.1.5 Stormwater Management:

- Stormwater will be directed to an integrated system comprising a wetland, swales, and bioretention gardens, rather than being discharged into the main sewer system.



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7 MOVEMENT AND PLACE

7.1 BICYLCE PARKING FACILITIES & SUSTAINABLE TRANSPORT FACILITIES

It is the intention of this category to reduce occupant's dependency on carbon intensive vehicles. Although the location of the development is not a highly walkable location, the development will install infrastructure to allow for future installation of metered EV charging stations and a high number of secured bike racks for customers and staffs.

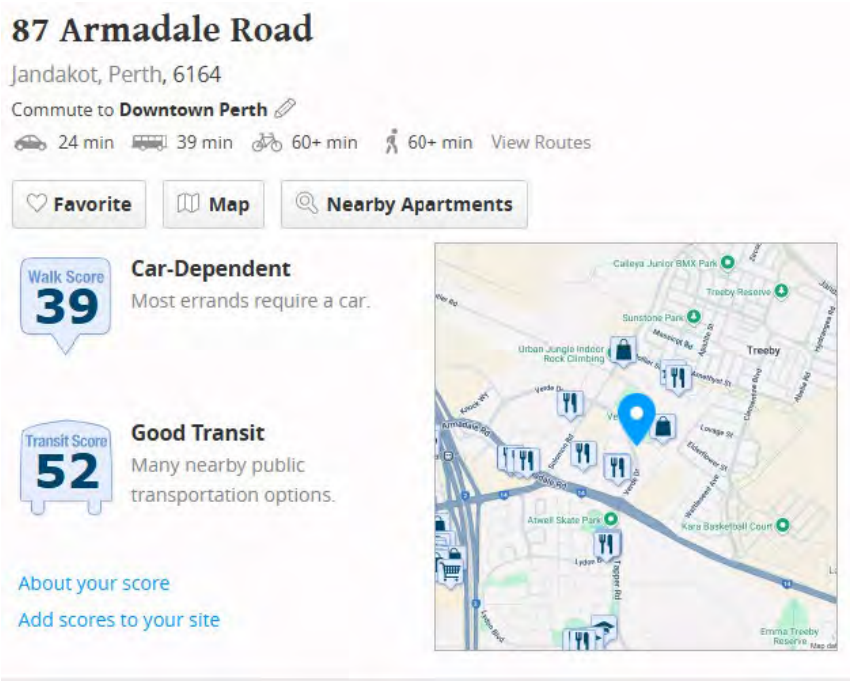


Figure 8: Walkability Score of the Proposed Development

8 WASTE EFFICIENCY

A waste planning expert will produce a Waste Management Plan (OWMP) that addresses best practice in waste management, including:

- Identifying the objectives of the plan, by setting diversion from landfill targets and / or target for reducing total materials generation (general waste materials + recyclable / reusable materials);
- Clearly identify waste streams including general waste, paper and cardboard, glass and plastic;
- Clearly identify applicable bins for various waste streams, that allow for separation of recyclable streams – or use of comingled systems where appropriate.
- Clearly identify at least one other waste stream that can be recycled, and for which recycling facilities are provided.
- Clearly identify storage areas for all waste streams identified in the OWMP.
    - Area to be sized sufficiently for all streams nominated above, based on waste generated by the project and the collection frequency for each stream; and
    - Calculations shall be based on third-party best practice guidelines.
- Outline best practice access requirements for the collection of all waste streams identified in the OWMP.

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- Outline individual roles responsible for delivering and reviewing the OWMP

8.1 RECYCLING BUILDING MATERIALS

Buildings use significant natural resources throughout their lifecycle. This section will outline the impacts of material procurement and construction, and how these have been minimized compared to typical developments. The goal is to reduce the total embodied energy and carbon of the building.

Design Focus	Intended Design Initiative
Sustainable timber	• Timber used in the building and construction will primarily come from sustainable sources or be reused.
Recycled Asphalt	• Using recycled asphalt pavement
Structural and reinforcing steel	• The aim is for the majority of the steel used in the building to come from an energy-efficient processing plant and a Responsible Steel Maker

9 EXPOSURE TO TOXINS

9.1 INTERNAL FINISHES

Internal Finishes (paints, adhesives, sealants, carpets) with low VOC and formaldehyde content will be prioritised.

Using low VOC (volatile organic compounds) products offers numerous benefits, primarily by enhancing indoor air quality and promoting better health. These products release fewer harmful chemicals, reducing the risk of respiratory issues, headaches, dizziness, and long-term health problems. Environmentally, low VOC products contribute less to air pollution and smog formation, supporting a healthier ecosystem.

9.2 PAINTS, ADHESIVES, AND SEALANTS

To meet the requirements, at least 95% of internally applied paints, adhesives, sealants (by volume), and carpets (by area) must meet TVOC (Total Volatile Organic Compounds) limits. Compliance with these limits can be achieved through one of the following methods:

1. **Product Certification Scheme:** The contractor can use products that are certified under a recognized and current Product Certification Scheme at the time of purchase. These schemes assess and verify the TVOC content of the materials, ensuring they meet the specified limits.
2. **Laboratory Product Testing**: If there are no certified products available, the contractor can conduct laboratory testing on the paints, adhesives, and sealants, to determine their TVOC content. The testing should be carried out using the whole paint, including water and tinters, to obtain accurate results.
3. **Absence of Non-compliant Materials**: Alternatively, if none of the materials mentioned (paints, adhesives, sealants, and carpets) are present at the time of practical completion (PC), and thus no TVOC emissions are expected, compliance can be achieved.

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All paints used for internal application on the job are to have a low TVOC content as outlined below. TVOC content must be based on whole paint (water and tinters included):

Table 15: Paint VOC limits

PRODUCT TYPE / SUBCATEGORY	MAX TVOC CONTENT (G/L OF READY TO USE PRODUCT)
Walls and ceilings – Any gloss level	16
Trim, varnishes and wood stains	75
Primers, sealers and prep coats	65

Maximum TVOC Content Limits for Paints, Varnishes and Protective Coatings
*EU Directive
The TVOC content of the 'ready-to-use' paint shall be theoretically calculated as the sum total of the VOCs of each of the raw material component comprising the paint.

Where the TVOC content of individual components is not known, it must be determined experimentally by one of the following testing methods as appropriate:

- ISO Method 17895 (2005), for a material with a presumed VOC content <1%;
- ISO Method 11890-2 (2006), for a material with a presumed VOC <15%;
- ISO Method 11890-1 (2007), for a material with a presumed VOC content >15%;
- ASTM D3960, which is comprised of four individual testing procedures that measures TVOC (D2369) as well as density (D1475) and water content (D4017). Exempt compounds (D4457) must not be subtracted in the calculation of VOC content.

The contractor must obtain written approval from the design team before using any sealant, adhesive, paint, flooring or fit out items. This approval will be contingent on the provision of proof that the product has a VOC content below that noted above.

At the end of construction, the contractor is required to undertake a final audit to ensure that the correct products have been used.

All sealants used in an internal application on the job are to have a low TVOC content as outlined below.

Table 16: Adhesives/Sealants VOC limits

PRODUCT	MAXIMUM TVOC CONTENT (G/LITRE)
General purpose adhesives and sealants	50
Acoustic sealants, architectural sealant, waterproofing membranes and sealant, fire retardant sealants and adhesives	250
Structural glazing adhesive, wood flooring and laminate adhesives and sealants	100
Primers, sealers and prep coats	65
One and two pack performance coatings for floors	140

Maximum TVOC limits for Adhesives & Sealants
*Sealants used to enhance the fire- and water-proofing properties are included.

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The testing method applicable to adhesive and sealants is only ASTM D3960 as detailed above for paints. For more information on ASTM D3960 refer to South Coast Air Quality Management District Rule 1168.

The contractor must obtain written approval from the design team before using any sealant, adhesive, paint, flooring or fitout items. This approval will be contingent on the provision of proof that the product has a VOC content below that noted above.

At the end of construction, the contractor is required to undertake a final audit to ensure that the correct products have been used.

All carpets and/or other flooring used on the project are to have low TVOC emission rates as outlined below.

Table 17: Carpet VOC limits

ALL CARPET/FLOORING PRODUCTS MUST COMPLY WITH TVOC EMISSION LEVELS	
Total VOC limit	0.5 mg/m^2 per hour
4-pc (4-Phenolcycohexene) limit	0.05 mg/m^2 per hour

Compliance Testing: Refer to Carpet and Rug Institute Green Label (US) OR American Society for Testing and Materials (ASTM) D5116 Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Material/Products OR

For carpets and laminate floor coverings, an option for demonstrating compliance with TVOC levels is as follows: ISO 10580 (also known as ISO/TC 219) – Document N238 – Resilient,

Textile and Laminate Floor Coverings Evaluation of Volatile Organic Compounds Emissions, with a limit of 500µg/m^2/hr at 24 hours. OR

For floor coverings (other than carpet), an option for demonstrating compliance with TVOC levels is as follows:

ISO16000 parts 9, 10 and 11 (also known as the EN 13419), with a TVOC limit at three days of 5mg/m^2/h and 0.5mg/m^2/h at 28 days.

Carpet or other flooring installed as part of the base building works prior to fit out works, can be deemed re-used for the purpose of this credit.

The contractor must obtain written approval from the design team before using any sealant, adhesive, paint, flooring or fit out items. This approval will be contingent on the provision of proof that the product has a VOC content below that noted above.

At the end of construction, the contractor is required to undertake a final audit to ensure that the correct products have been used.

There are two options for demonstrating compliance for carpets, as follows:

Option A - Product Certification:

Carpets certified under a relevant Product Certification Scheme standard recognised by the GBCA under the GBCA assessment Framework for Product Certification Schemes are deemed to satisfy the requirements of this criterion. Relevant GBCA recognized standards are listed on the GBCA web site. The

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certificate must be current at the time of project registration or submission and list the relevant product name and model.

A UL GREENGUARD Children & Schools® certification current at the time of project registration or submission is another acceptable evidence for demonstrating compliant TVOC levels for carpets.

Option B - Experimental Testing

All carpets comply with the Total VOC (TVOC) limits within Table below. The emission levels detailed in this table must be established by a NATA or another ISO/IEC17025 accreditation laboratory.

Table 18: Flooring VOC limits

ALL CARPET/FLOORING PRODUCTS MUST COMPLY WITH TVOC EMISSION LEVELS – TO ASTM D5116 TEST PROTOCOL	
Carpets using ASTM D5116 Test Protocol:	
Total VOC limit	0.5 mg/m^2 per hour
4-pc (4-Phenolcycohexene) limit	0.05 mg/m^2 per hour
Carpet using ISO 16000 test protocol (also known as EN 13419)	
TVOC at three days-	0.5 mg/sqm per hour
Flooring using ISO 10580 (also known as ISO/TC 219) – Document	
TVOC at 24 hours - 0	0.5mg/sqm per hour

9.3 FORMALDEHYDE MINIMISATION

All engineered wood products used internally, including exposed and concealed applications, must have low formaldehyde emissions as defined in the table below, or contain no formaldehyde. Engineered wood products are defined as particleboard, plywood, veneer, MDF, Laminated Veneer Lumber (LVL), High-Pressure Laminate (HPL), Compact Laminate and decorative overlaid wood panels and include both finished and unfinished products.

These requirements are not applicable to exterior applications, formwork, internal car park applications, reused engineered wood products or raw timber.

The contractor must obtain approval from the design team before substituting any product.

The limits listed here are defined according to the test method. The levels listed are equivalent results for different test procedures.

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Table 19: Formaldehyde emission limits

TEST PROTOCOL	EMISSION LIMIT/ UNIT OF MEASUREMENTS
AS/NZS 2269:2004, testing procedure AS/NZS 2098.11:2005 method 10 for Plywood	< 1.0 mg/L
AS/NZS 1859.1:2004 - Particle Board, with use of testing procedure AS/NZS 4266.16:2004 method 16	< 1.5 mg/L
AS/NZS 1859.2:2004 - MDF, with use of testing procedure AS/NZS 4266.16:2004 method 16	< 1.0 mg/L
JIS A 5908:2003- Particle Board and Plywood, with use of testing procedure JIS A 1460	< 1.0 mg/L
JIS A 5905:2003 - MDF, with use of testing procedure JIS A 1460	< 1.0 mg/L
JIS A1901 (not applicable to Plywood)	< 1.0 mg/L
ASTM D5116	<0.1 (+/- 0.0005) mg/m^{2}hr (may also be represented as mg/m^2/hr)
ISO 16000 part 9, 10 and 11 (also known as EN 13419)	<0.1 (+/- 0.0005) mg/m^{2}hr (may also be represented as mg/m^2/hr)
ASTM D6007	0.12mg/m^3*
ASTM E1333	0.12mg/m^3**
EN 717-1 (also known as DIN EN 717-1)	0.12 mg/m^3
EN 717-2 (also known as DIN EN 717-2)	3.5 mg/m^{2}hr (may also be represented as mg/m^2/hr).
*The test report must confirm that the conditions of Table 1 comply for the particular wood product type, the final results must be presented in EN 717-1 equivalent (as presented in the table) using the correlation ratio of 0.98.	

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10 CONCLUSION

In conclusion, the report outlines sustainability commitments that align with core principles, focusing on energy, water, and waste management. It highlights efforts to promote environmental responsibility and resource efficiency, underscoring a commitment to a greener, more sustainable future.

Table 20: Sustainability Commitments

ITEM	ENVIRONMENTALLY SUSTAINABLE DESIGN INITIATIVES	RESPONSIBLE
ENERGY USE REDUCTION	Targeted 30% Reduction in predicted Energy use of the building over NCC minimum compliance. Through solar passive design principles, energy efficient building envelope, appropriate shading.	EMERGEN
RENEWABLE ENERGY	On-site solar photovoltaic (PV) systems offer a number of benefits, including reducing energy costs, mitigating environmental impacts and enhancing energy security.	EMERGEN/ Electrical
WATER EFFICIENT SANITARY FIXTURES & FITTINGS	All fixtures and water-using appliances installed within the project's scope will at a minimum, meet the following WELS ratings. Taps – 5 star Urinals – 5 star Toilets – 4 star Showers – 3 star Dishwasher – 5 star	Architect/ Hydraulic
ARTIFICIAL LIGHTING	Efficient LED Lighting will be provided. Lighting within the building will meet the following requirements: • Colour Rendering Index (CRI) 85 or higher. • Have a MacAdam Ellipse or a Standard Deviation Colour Matching (SDCM) of ≤ 3.	Electrical
WASTE EFFICIENCY	A waste planning expert will produce an Operational Waste Management Plan (OWMP) that addresses best practice in operational waste management, which will include clearly identified waste streams and setting diversion from landfill targets.	Client
SUSTAINABLE MATERIALS	Materials (concrete, steel, engineered wood etc) with low carbon emissions and recycled content will be considered. Materials with Environmental Product Declarations (EPD) will be prioritised.	Structural to include in design.
LOW VOC FINSIHES	Finishes (paints, adhesives, sealants, carpets) with low VOC and formaldehyde content will be considered.	Architect to include in design.

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ITEM	ENVIRONMENTALLY SUSTAINABLE DESIGN INITIATIVES	RESPONSIBLE
HEAT RESILIENCE	The following strategies will be utilised to mitigate heat island effect: • Increase green spaces, i.e., vegetation. • Roofing materials will have a Solar Reflective Index (SRI) ≥ 64. Furthermore, the project will explore passive design strategies, including optimal building orientation, the use of sunshades, and efficient glazing, etc to mitigate heat stress caused by solar radiation.	Architect to include SRI values for roof materials in design.
WATER EFFICIENT LANDSCAPING	Landscaping with low crop coefficients will be considered so that water use is minimised. Landscape irrigation to use efficient irrigation systems such as drip irrigation.	Landscape to include in design.
BIODIVERSITY ENHANCEMENT	A focus on native and locally endemic vegetation for new landscaped areas, including Pocket Parks and screening	Landscape to include in design
SUSTAINABLE TRANSPORT OPTIONS	Sustainable transport options to be provided for staff and visitors to the facility Provide adequate EOT facilities and bicycle parking	Architect/ Client / Electrical to confirm

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APPENDIX 1 – THERMAL CONSTRUCTION - GENERAL

Excerpt from the BCA, Volume One - Part J1.2

Thermal Construction - General

1. Where required, insulation must comply AS/NZS 4859.1 and be installed so that it –
    a. Abuts or overlaps adjoining insulation other than at supporting members such as studs, noggings, joists, furring channels and the like where the insulation must be against the member; and
    b. Forms a continuous barrier with ceilings, walls, bulkheads, floors or the like that inherently contribute to the thermal barrier; and
    c. Does not affect the safe or effective operation of a domestic service or fitting.
2. Where required, reflective insulation must be installed with –
    a. The necessary airspace, to achieve the required R-Value between a reflective side of the reflective insulation and a building lining or cladding; and
    b. The reflective insulation closely fitted against any penetration, door or window opening; and
    c. The reflective insulation adequately supported by framing members; and
    d. Each adjoining sheet of roll membrane being –
        i. Overlapped not less than 50 mm; or
        ii. Taped together.
3. Where required, bulk insulation must be installed so that –
    a. It maintains its position and thickness, other than where it crosses roof battens, water pipes, electrical cabling or the like; and
    b. In a ceiling, where there is no bulk insulation or reflective insulation in the wall beneath, it overlaps the wall by not less than 50mm.
4. Roof, ceiling, wall and floor materials, and associated surfaces are deemed to have the thermal properties listed in Specification J1.2
5. The required Total R-Value and Total System U-Value, including allowance for thermal bridging, must be –
    a. Calculated in accordance with AS/NZS 4859.2 for a roof or floor; or
    b. Determined in accordance with Specification J1.5a for wall-glazing construction; or
    c. Determined in accordance with Specification J1.6 or Section 3.5 of CIBSE Guide A for soil or sub-floor spaces.

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ATTACHMENT 4

Bushfire Management Plan

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Bushfire Management Plan

Development Application: Lot 701 Armadale Road, Banjup

Western Environmental Approvals Pty Ltd
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Bushfire Management Plan

Development Application: Lot 701
Armadale Road, Banjup

Report No:
A25.307-RPT-BMP_DRAFT_A.0
Issue Date:
28-Oct-2025
Status
DRAFT

Prepared for:
Satterley Property Group
Level 3, 27-31 Troode Street
West Perth WA 6005

Prepared by
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West Perth WA 6005
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Version: 1, Version Date: 10/03/2026
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Internal Review

Author	Reviewed by	Approved by
<insert signature> **Hannah Cunningham** Bushfire Consultant	<insert signature> **Daniel Panickar** Senior Principal Bushfire Consultant BPAD37802	<insert signature> **Daniel Panickar** Senior Principal Bushfire Consultant BPAD37802
28-Oct-2025	**28-Oct-2025**	**28-Oct-2025**

Distribution Record

Copies	Document ID / Version	Date	Received by
1	A25.307-RPT-BMP_A_DRAFT	28-Oct-2025	Chris Harman

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The conclusions must also be considered in light of the agreed scope of services (including any constraints or limitation therein) and the methods used to carry out those services, both of which are as stated or referred to in this report.

Bushfire Protection

The bushfire management measures and risk treatments proposed in this document do not guarantee that buildings or infrastructure will not be damaged in a bushfire, nor that there will be no injuries or fatalities either on the site or offsite while evacuating. Primarily, this is due to the unpredictable nature and behaviour of fire and fire weather conditions. In addition, implementation of the required bushfire management measures (including construction standards, maintenance etc.) and any other required or recommended measures, will depend upon, among other things, the ongoing actions of landowners and/or operators over which WEPL has no control.

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Appendix A: Landscaping Plans
Appendix B: Classified vegetation photos
Appendix C: Vehicular access technical requirements (WAPC, 2024b)
Appendix D: Site Plan

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1. Introduction

1.1 Proposal Details

Satterley Property Group is seeking to progress a Development Application (DA) over Lot 701 Armadale Road, Banjup (hereafter referred to as the subject site, Figure 1). The proposed development will result in an intensification of land use and involves the construction and operation of seven commercial buildings (refer to Figure 2).

The southern portion of the subject site is within a designated bushfire prone area (Area 2) as per the *Western Australia State Map of Bush Fire Prone Areas* (DFES, 2024; Figure 3), which triggers bushfire planning requirements under *State Planning Policy 3.7 Bushfire* (SPP 3.7; WAPC, 2024a) and reporting to accompany submission of the development application in accordance with the associated *Planning for Bushfire Guidelines* (the Guidelines; WAPC, 2024b).

Western Environmental Approvals Pty Ltd (WEPL) was commissioned to prepare a Bushfire Management Plan (BMP) to support the development. This BMP has been prepared by Bushfire Consultant Hannah Cunningham and Senior Principal Bushfire Consultant Daniel Panickar (FPAA BPAD Level 3 Certified Practitioner No. BPAD37802).

1.1.1 Site context

The subject site is located within the City of Cockburn and is zoned Industrial under the Metropolitan Region Scheme and Development under the City's Town Planning Scheme No 3. The subject site comprises a mixture of unmanaged vegetation and cleared areas. The subject site is bound by Armadale Road to the south, commercial properties to the west and residential properties to the north and east.

1.2 Purpose and Application of the BMP

This BMP has been prepared in accordance with SPP 3.7 and the Guidelines to support the assessment of the development for the subject site submitted to the Metro Outer Development Assessment Panel (MODAP).

In addition, this BMP provides strategies and guidance to reduce the level of bushfire risk exposure for the subject site through implementation of a range of bushfire management measures in accordance with the Guidelines.

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2. Environmental Considerations

SPP 3.7 policy objective 5.4 recognises the need to consider bushfire risk management measures alongside environmental, biodiversity and conservation values.

2.1 Native Vegetation - Modification and Clearing

The subject site has been historically cleared and does not contain native vegetation, Environmentally Sensitve Areas, or Bush Forever Areas (refer to Figure 2).

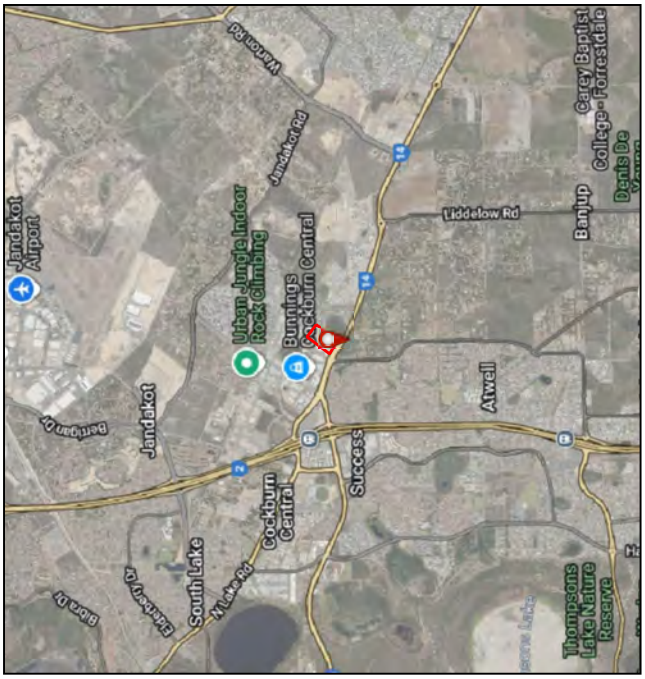
2.2 Revegetation/Landscape Plans

Landscaping has been proposed within and adjacent to the subject site and will be established and maintained to a low-threat state/Asset Protection Zone Standards (KDLA, 2025;Appendix A).

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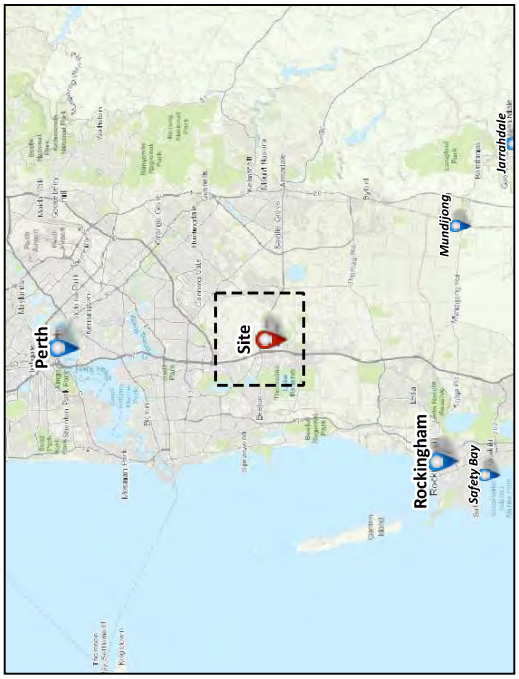




Figure 1: Site Overview

Legend: Subject Site; Buffer 100m; Buffer 150m

N

0 50 100 150 200 m

SCALE	1:3,500
SHEET SIZE	A3 COLOUR
COORDINATE REFERENCE SYSTEM	GDA2020 / MGA zone 50
DATA SOURCE	Nearmap Imagery (16th August, 2025)
CLIENT	Satterly Property Group
PROJECT NUMBER	A25.307
DRAWN BY / REVIEWED BY	JP/FW
VERSION	0
DATE	28/10/2025
PROJECT/REPORT NAME	Bushfire Management Plan- Development Application Lot 701 Armadale Road, Banjup

No	Description	Drawn	Approved	Date
A	Original Issue	JP	FW	28/10/2025

NOTES: Cadastral boundary (LGATE-092). Base map ESRI topo. Townsites (LGATE-248).

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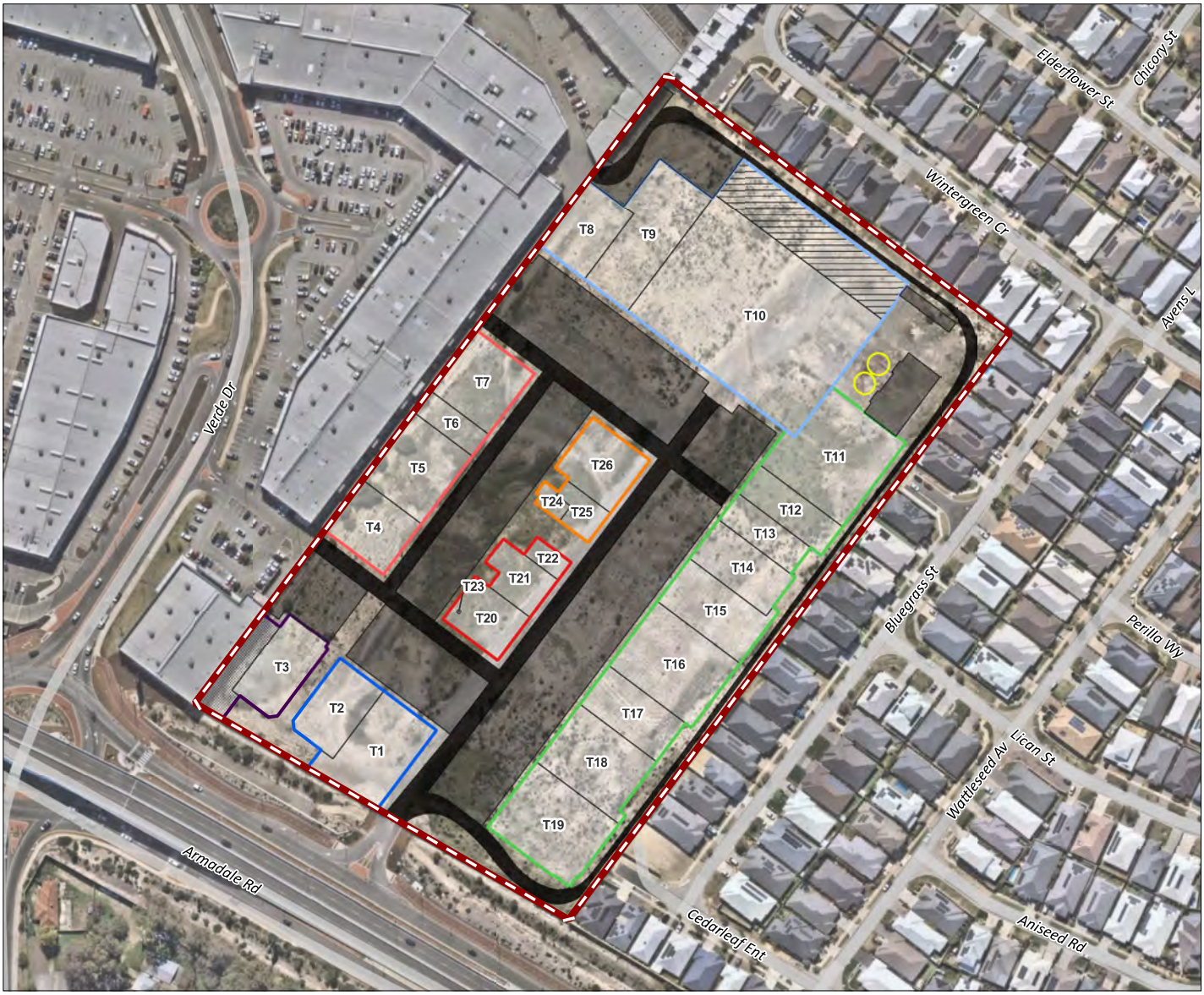








Figure 2: Site Plan

N

0 20 40 60 80 m

PROJECT/REPORT NAME	Bushfire Management Plan- Development Application Lot 701 Armadale Road, Banjup
SCALE	1:2,100
SHEET SIZE	A3 COLOUR
CLIENT	Satterly Property Group
COORDINATE REFERENCE SYSTEM	GDA2020 / MGA zone 50
PROJECT NUMBER	A25.307
VERSION	0
DATA SOURCE	Nearmap Imagery (16th August, 2025)
DRAWN BY / REVIEWED BY	JP/FW
DATE	28/10/2025

Legend

- Subject Site
- Building 1
- Building 2
- Building 3
- Building 4
- Building 5
- Building 6
- Building 7
- Lot
- BOH
- Road
- Car Park
- Warehouse
- Fire Tanks and Pumps
- Environmentally Sensitive Areas (DWER-046)
- Bush Forever Areas - 2000 (DPLH-019)
- Swan Coastal Plain and Perth-Peel Native Vegetation Extent 2024 (DWER-141)

No	Description	Drawn	Approved	Date
A	Original issue	JP	FW	28/10/2025

NOTES:
Cadastral boundary (LGATE-002). Label corresponds to the vegetation association number.

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Figure 3: Bushfire Prone Areas

N

0 25 50 75 100 m

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SCALE	1:2,800
SHEET SIZE	A3 COLOUR
CLIENT	Satterly Property Group
COORDINATE REFERENCE SYSTEM	GDA2020 / MGA zone 50
PROJECT NUMBER	A25.307
VERSION	0
DATA SOURCE	Nearmap Imagery (16th August, 2025)
DRAWN BY / REVIEWED BY	JP/FW
DATE	28/10/2025

Legend

- Subject Site
- Buffer 100m
- Buffer 150m
- Building 1
- Building 2
- Building 3
- Building 4
- Building 5
- Building 6
- Building 7
- Lot
- BOH
- Road
- Car Park
- Warehouse
- Fire Tanks and Pumps

Bush Fire Prone Area Planning (OBRM-023)

- Bushfire Prone Area 1
- Bushfire Prone Area 2

No	Description	Drawn	Approved	Date
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3. Bushfire Assessment Results

3.1 Bushfire Assessment Inputs

A bushfire assessment has been undertaken for the proposed development in accordance with the Guidelines. Inputs to this assessment are detailed below.

3.1.1 Fire Danger Index

A blanket Fire Danger Index (FDI) 80 is adopted for Western Australia, as outlined in *Australian Standard AS 3959: 2018 Construction of Buildings in Bushfire Prone Areas* (SA, 2018).

3.1.2 Pre-Development Vegetation Classification and Slope under Vegetation

Vegetation and effective slope (i.e. slope under vegetation) within the subject site and surrounding 150 m (the assessment area) were assessed on 30/09/2025 in accordance with the Guidelines and AS 3959: 2018.

The pre-development classified vegetation and effective slope for the site from each of the identified vegetation plots are identified below in Table 1 and Figure 4.

Table 1: Pre-Development Classified Vegetation as per AS 3959: 2018

Plot	Vegetation classification	Effective slope
1	Class A Forest	All upslopes and flat land (0 degrees)
2	Class D Scrub	Downslope >5 to 10 degrees
3	Class D Scrub	All upslopes and flat land (0 degrees)
4	Class C Shrubland	Downslope >5 to 10 degrees
5	Class C Shrubland	All upslopes and flat land (0 degrees)
6	Class G Grassland	All upslopes and flat land (0 degrees)
7	Excluded - clause 2.2.3.2 (e)	-
8	Excluded - clause 2.2.3.2 (f)	-

Photographs relating to each area and vegetation type are included in Appendix A.

3.1.3 Post-Development Assumptions

The site will be cleared of vegetation for development, and landscaping established to a low threat state south of site. The assumed post-development vegetation classifications and effective slopes are presented in Table 2 and Figure 5.

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Table 2: Post-Development Classified Vegetation as per AS 3959: 2018

Plot	Vegetation classification	Effective slope
1	Class A Forest	All upslopes and flat land (0 degrees)
2	Class D Scrub	Downslope >5 to 10 degrees
3	Class D Scrub	All upslopes and flat land (0 degrees)
4	Class C Shrubland	Downslope >5 to 10 degrees
5	Class C Shrubland	All upslopes and flat land (0 degrees)
6	Excluded - clause 2.2.3.2 (e)	-
7	Excluded - clause 2.2.3.2 (f)	-

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Figure 4: Pre-Development Vegetation Classification

N 0 25 50 75 100 m	PROJECT/REPORT NAME: Bushfire Management Plan- Development Application Lot 701 Armadale Road, Banjup	
SCALE: 1:2,800	SHEET SIZE: A3 COLOUR	CLIENT: Satterly Property Group
COORDINATE REFERENCE SYSTEM: GDA2020 / MGA zone 50	PROJECT NUMBER: A25.307	VERSION: 0
DATA SOURCE: Nearmap Imagery (16th August, 2025)	DRAWN BY / REVIEWED BY: JP/FW	DATE: 28/10/2025

Legend

- Subject Site
- Buffer 100m
- Buffer 150m
- Photos
- 2 metre contours (DPIRD-072)
- 2m
- 10m

Vegetation Classification

- Class A - Forest
- Class C - Shrubland
- Class D - Scrub
- Class G - Grassland
- Excluded AS 3959: 2018 2.2.3.2 (e)
- Excluded AS 3959: 2018 2.2.3.2 (f)

No	Description	Drawn	Approved	Date
A	Original issue	JP	FW	28/10/2025

NOTES:
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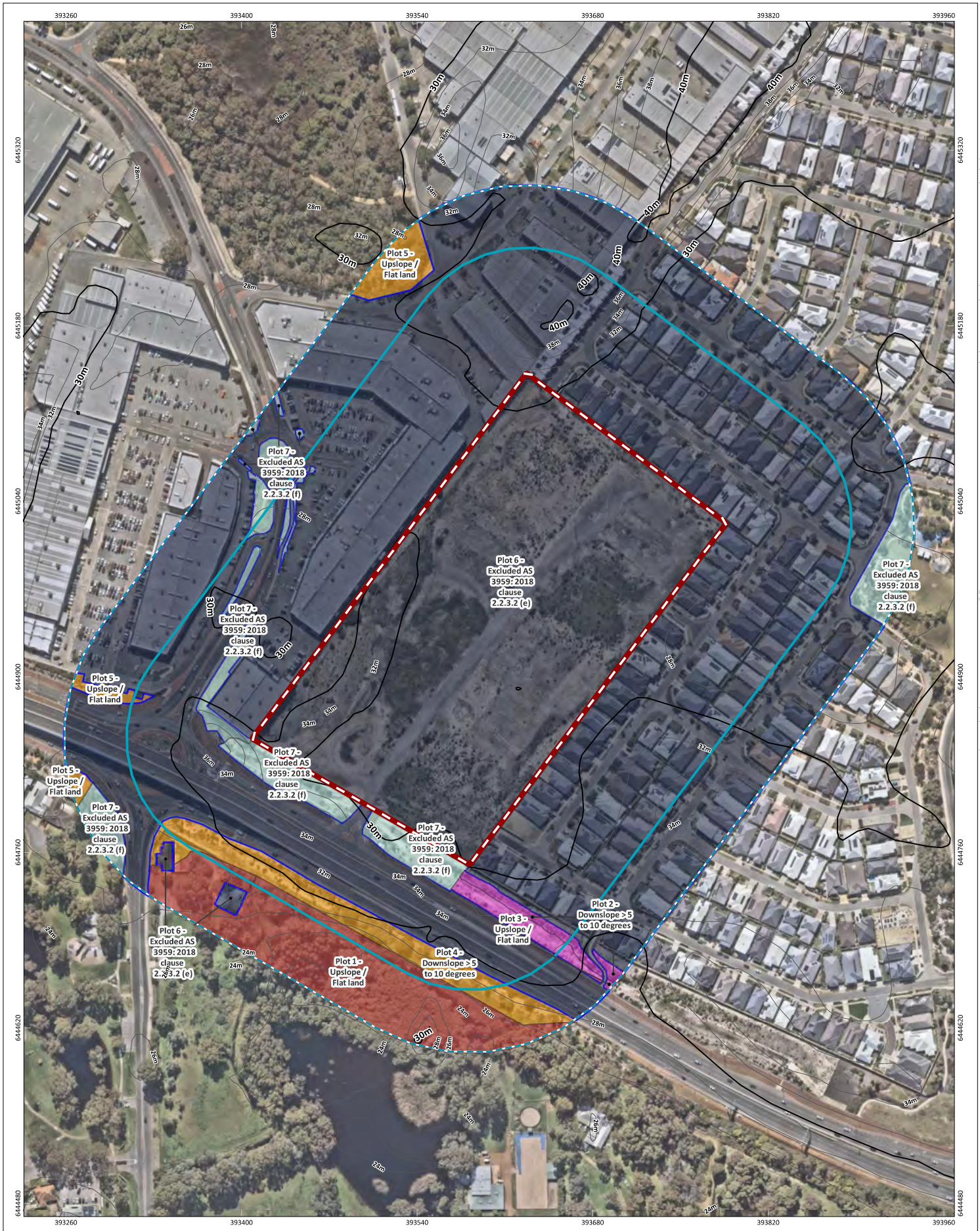


Figure 5: Post-Development Vegetation Classification

N

0 25 50 75 100 m

PROJECT/REPORT NAME	Bushfire Management Plan- Development Application Lot 701 Armadale Road, Banjup
SCALE	1:2,800
SHEET SIZE	A3 COLOUR
CLIENT	Satterly Property Group
COORDINATE REFERENCE SYSTEM	GDA2020 / MGA zone 50
PROJECT NUMBER	A25.307
VERSION	0
DATA SOURCE	Nearmap Imagery (16th August, 2025)
DRAWN BY / REVIEWED BY	JP/FW
DATE	28/10/2025

Legend

- Subject Site
- Buffer 100m
- Buffer 150m
- 2 metre contours (DPIRD-072)
  - 2m
  - 10m

Vegetation Classification

- Class A - Forest
- Class C - Shrubland
- Class D - Scrub
- Excluded AS 3959: 2018 2.2.3.2 (e)
- Excluded AS 3959: 2018 2.2.3.2 (f)

No	Description	Drawn	Approved	Date
A	Original issue	JP	FW	28/10/2025

NOTES:

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3.2 Bushfire Assessment Outputs

A Bushfire Attack Level (BAL) assessment has been undertaken in accordance with SPP 3.7, the Guidelines, AS 3959: 2018 and the bushfire assessment inputs in Section 3.1.

3.2.1 BAL Assessment

All land located within 100 m of the classified vegetation depicted in Figure 6 is considered bushfire prone and is subject to a BAL assessment in accordance with AS 3959: 2018.

A Method 1 BAL assessment (as outlined in AS 3959: 2018) has been completed for the proposed development and incorporates the following factors:

- Fire Danger Index (FDI) rating.
- Vegetation class.
- Slope under classified vegetation.
- Distance between proposed subdivision area and the classified vegetation.

Based on the identified BAL, construction requirements for relevant buildings/structures can then be assigned. The BAL rating gives an indication of the expected level of bushfire attack (i.e. radiant heat flux, flame contact and ember penetration) that may be received by proposed buildings and subsequently informs the standard of construction required to increase building survivability.

3.2.2 Method 1 BAL Assessment

Table 3 and Figure 6 display the Method 1 BAL assessment (in the form of BAL contours) that has been completed for the proposed development in accordance with AS 3959: 2018 methodology.

Post-development, all of the proposed commercial buildings will be subject to BAL ratings of ≤BAL-19.

Table 3: Method 1 BAL Calculation (BAL Contours)

Plot	Vegetation classification	Effective slope	Separation distances required (m)				
			BAL-FZ	BAL-40	BAL-29	BAL-19	BAL-12.5
1	Class A Forest	All upslopes and flat land (0 degrees)	<16	16-<21	21-<31	31-<42	42-<100
2	Class D Scrub	Downslope >5 to 10 degrees	<12	12-<17	17-<24	24-<35	35-<100
3	Class D Scrub	All upslopes and flat land (0 degrees)	<10	10-<13	13-<19	19-<27	27-<100
4	Class C Shrubland	Downslope >5 to 10 degrees	<8	8-<11	11-<17	17-<25	25-<100

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Plot	Vegetation classification	Effective slope	Separation distances required (m)				
			BAL-FZ	BAL-40	BAL-29	BAL-19	BAL-12.5
5	Class C Shrubland	All upslopes and flat land (0 degrees)	<7	7-<9	9-<13	13-<19	19-<100
6	Excluded - clause 2.2.3.2 (e)	-	No separation distances required - BAL-LOW				
7	Excluded - clause 2.2.3.2 (f)	-	No separation distances required - BAL-LOW				

Based on the site assessment inputs and BAL assessment, all proposed buildings are exposed to a radiant heat impact not exceeding 29 kW/m^2

Table 4: BAL Ratings for Assets Within the Subject Site

Proposed Building/Asset	Tenancy No	Plot Most Affecting BAL Rating	Separation Distance (m)	BAL Rating
Building 1	T11-T19	Plot 1	20.7 m	BAL-19
Building 2*	T18-T10	Plot 1	20.7 m	BAL-19
Building 3	T4-T7	No separation distances required - BAL-LOW		
Building 4	T25-T26	No separation distances required - BAL-LOW		
Building 5	T20-T22	No separation distances required - BAL-LOW		
Building 6	T1-T2	Plot 1	74.6 m	BAL-12.5
Building 7	T23	Plot 1	82.4 m	BAL-12.5

*Note: Building 2 is connected to Building 1 so it is treated as the same building and shares the same separation distance and BAL rating.

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4. Identification of Issues Arising from the BAL Assessment

The seven proposed commercial buildings will be subject to a radiant heat impact not exceeding 19 kW/m^2 (BAL- 19).

A reassessment of BAL ratings, through either a BMP addendum or revised BMP will be undertaken if changes to development design or classified vegetation within the assessment area which require a modified bushfire management response occur.

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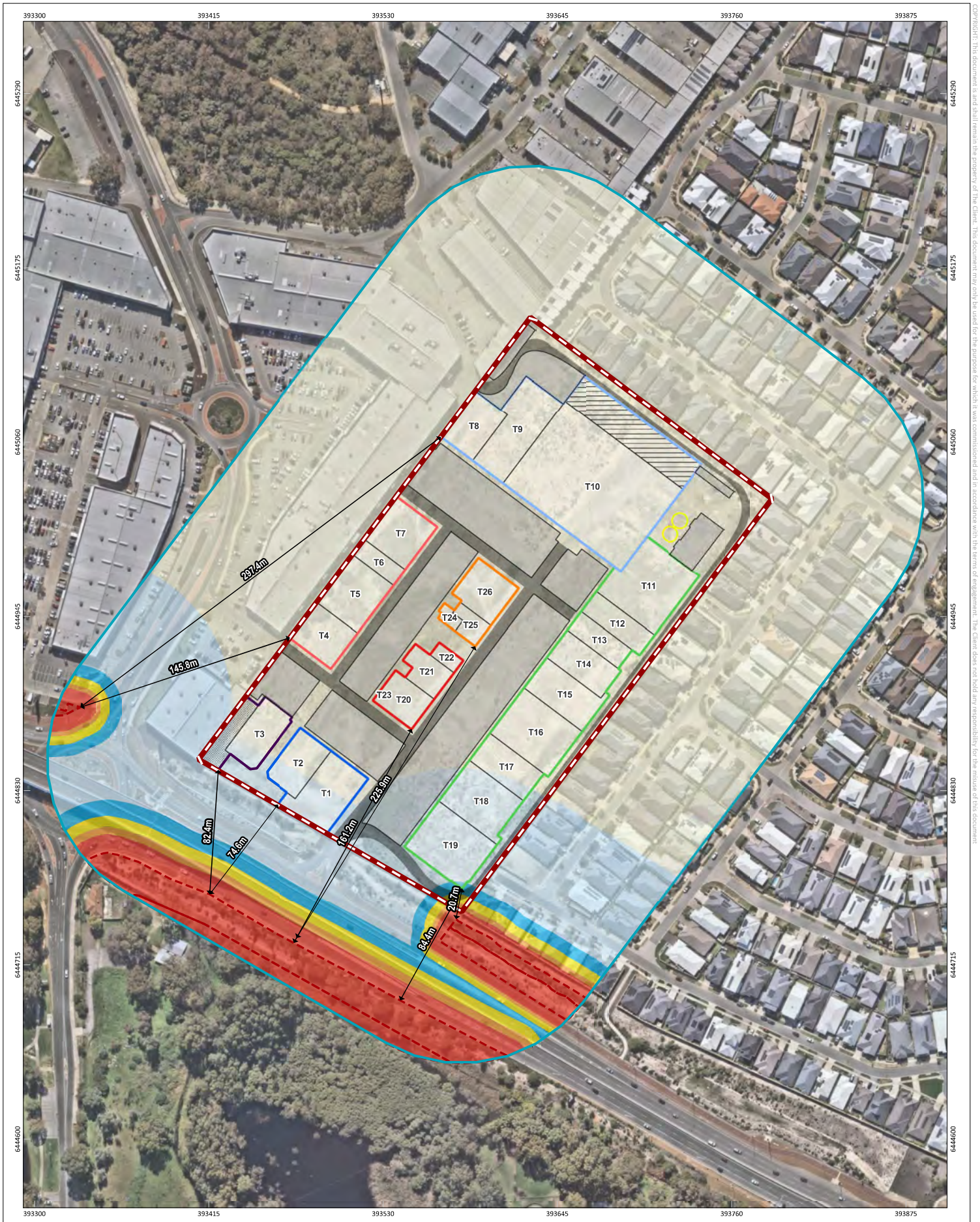


Figure 6: Bushfire Attack Level (BAL) Contours

N

0 20 40 60 80 m

PROJECT/REPORT NAME	Bushfire Management Plan- Development Application Lot 701 Armadale Road, Banjup
SCALE	1:2,300
SHEET SIZE	A3 COLOUR
CLIENT	Satterly Property Group
COORDINATE REFERENCE SYSTEM	GDA2020 / MGA zone 50
PROJECT NUMBER	A25.307
VERSION	0
DATA SOURCE	Nearmap Imagery (16th August, 2025)
DRAWN BY / REVIEWED BY	JP/FW
DATE	28/10/2025

Legend

- Subject Site
- Buffer 100m
- Building 1
- Building 2
- Building 3
- Building 4
- Building 5
- Building 6
- Building 7
- Lot
- BOH
- Road
- Car Park
- Warehouse
- Fire Tanks and Pumps
- Bushfire Hazard Interface

Bushfire Attack Level (BAL)

- BAL-FZ
- BAL-40
- BAL-29
- BAL-19
- BAL-12.5
- BAL-LOW

No	Description	Drawn	Approved	Date
A	Original Issue	JP	FW	28/10/2025

NOTES:
Cadastral boundary (LGATE-002). Label corresponds to the vegetation association number.

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5. Assessment Against the Bushfire Protection Criteria

5.1 Compliance

The proposed development is required to comply with policy measures 7.1 of SPP 3.7 and Bushfire Protection Criteria 7 in the Guidelines.

Table 5 outlines the Acceptable Solutions (AS) that are relevant to the proposal and summarises how the intent of each Bushfire Protection Criteria has been achieved through the application of bushfire risk management measures. No Outcomes-based Approach (OA) have been proposed for this development. These management measures are depicted in Figure 7 where relevant.

Implementation of this BMP is expected to meet objectives 5.1-5.4 of SPP 3.7.

Table 5: Assessment Against the Bushfire Protection Criteria 7

Bushfire Protection Criteria 7	AS	OA	N/A
Element 1: Location **A1.1 Development location**	☐	☐	✓
Not Applicable - This Element does not apply to commercial and industrial developments.			
Element 2: Siting and design **A2.1 Siting and design**	✓	☐	☐
Post-development, all proposed buildings will be subject to BAL ratings of ≤BAL-19 (refer to Figure 6, Figure 7). The proposed development is considered to be compliant with A2.1.			
A2.2 Asset Protection Zone (APZ)	☐	☐	✓
Not Applicable - No APZs are required.			
A2.3 Clearing of native vegetation	☐	☐	✓
Not Applicable - There is no native vegetation within the site.			
A2.4 Storage of hazardous, flammable and/or combustible materials	✓	☐	☐
Post-development, the entirety of the subject site will be exposed to BAL ratings of BAL-19 or lower. WEPL assumes any hazardous, flammable and/or combustible materials will be stored in accordance with the Work Health and Safety (General) Regulations 2022 and the Managing risks of hazardous chemicals in the workplace Code of Practice 2022. The proposed development is considered to be compliant with A2.4.			
Element 3: Vehicular access **A3.1 Private driveways**	✓	☐	☐
A loop style driveway which is accessible from three points is proposed within the subject site with minimum horizontal clearance of 6.5 m. The inner curve radius of each of the curves is a minimum of 8.5 m (refer to Figure 7; Appendix C). No turnaround is required given the driveway is a loop. The private driveway specifications will be determined in line with the Vehicular Access Technical Requirements set out in the Guidelines (refer to Appendix D). The proposed development is considered to be compliant with A3.1.			

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Bushfire Protection Criteria 7	AS	OA	N/A
Element 4: Water **A4.1 Water supply**	✓	☐	☐
Existing reticulated water is present within the area and the subject site will be connected to this water supply. The nearest existing hydrants are located on the southern boundary of the subject site (Figure 7). WEPL assumes the surrounding network of hydrants meet Water Corporation specifications given they are established and within the Perth metropolitan area. The proposed development is considered to be compliant with A4.1.			

Note: AS - Acceptable Solution, OA - Outcomes-based Approach, N/A - Not applicable.

5.2 Additional Bushfire Management Measures

As none of the proposed structures is a Class 1, 2 or 3 building and/or Class 10 a building or deck associated with a Class 1, 2 or 3 building, construction to AS 3959: 2018 is not required for this proposal. However, WEPL recommend that ember protection measures in sections 3 and 5 of AS 3959: 2018 are incorporated into the design and construction of the warehouse and office where possible.

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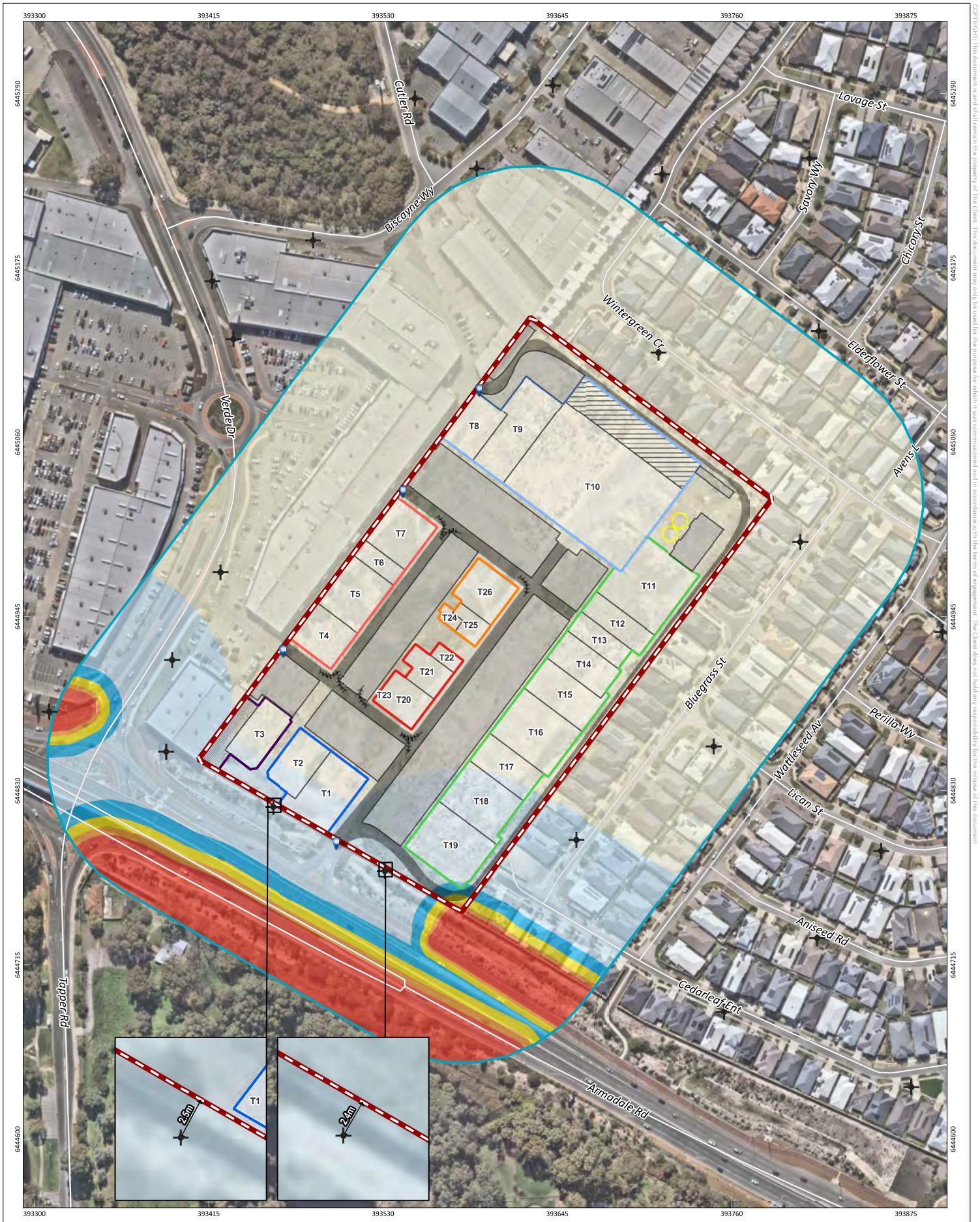


Figure 7: Spatial Representation of the Bushfire Management Strategies

N	0 20 40 60 80 m
SCALE	1:2,300
SHEET SIZE	A3 COLOUR
PROJECT/REPORT NAME	Bushfire Management Plan- Development Application Lot 701 Armadale Road, Banjup
CLIENT	Satterly Property Group
COORDINATE REFERENCE SYSTEM	GDA2020 / MGA zone 50
PROJECT NUMBER	A25.307
VERSION	0
DATA SOURCE	Nearmap Imagery (16th August, 2025)
DRAWN BY / REVIEWED BY	JP/FW
DATE	28/10/2025

Legend

- Subject Site
- Buffer 100m
- Building 1
- Building 2
- Building 3
- Building 4
- Building 5
- Building 6
- Building 7
- Lot
- BOH
- Road
- Car Park
- Warehouse
- Fire Tanks and Pumps
- Water Hydrant (WCORP-070)
- Access point
- 8.5m inner curve radius

Bushfire Attack Level (BAL)

- BAL-FZ
- BAL-40
- BAL-29
- BAL-19
- BAL-12.5
- BAL-LOW

No	Description	Drawn	Approved	Date
A	Original issue	JP	FW	28/10/2025

NOTES:
Cadastral boundary (LGATE-002). Label corresponds to the vegetation association number.

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6. Responsibilities for Implementation and Management of Bushfire Management Measures

Responsibility for implementation of the bushfire risk management measures outlined in Section 5 of this BMP applies to the developer, future owners/builders within the subject site and the local government. Table 6 provides a works program detailing these measures, timing of implementation and responsibility.

Table 6: Proposed Works Program

No.	Bushfire management measure
Developer responsibilities - Prior to issue of Titles	
1	Provide reticulated water supply to all lots and hydrants in accordance with Figure 7.
2	Construct private driveways in accordance with the Guidelines.

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7. Conclusion

In the professional opinion of the author, the proposed development satisfies the intent, aim and objectives of SPP 3.7 and the Guidelines and is recommended for approval.

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8. References

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REV	DATE	DWN	APP	DESCRIPTION
A	.....	AL	KD	LANTNG ALETTE
B	24.10.25	A	KD	LANTNG ALETTE
C	18.12.25	A	KD	LANTNG ALETTE
D	23.01.25	A	KD	LANTNG ALETTE RESSE

PLANTING IMAGES

TREES


EUCtod


BANgra


BANatt


EUCwan


EUCcae


EUCfor


BRApop


CUPana


EUCgom


EUCtor


AGOfle

NATIVE SHRUBS


MELinc


WESgre


MELtri


WESgre


PIMfer


GAScap


HIBsca


HYPang


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ADEser


DIAeme


WESnar


CONcan


ANIfla


ANIhum

GROUNDCOVERS


EREblu


MYOpar


SCAhum


ACAlas


HEMpun


DAMlin


KENpro


GREgin

LANDSCAPE CONCEPT IMAGES










BENCH SEATS


BOULDERS

PLANTING PALETTE

Symbol	Species	Common Name	Spacing	Size
Trees:				
AGOfle	Agonis flexuosa	WA Peppermint Tree	As Shown	100L
BANatt	Banksia attenuata	Candlestick Banksia	As Shown	100L
BANgra	Banksia grandis	Bull Banksia	As Shown	100L
BRApop	Brachychiton populneus	Kurrajong	As Shown	100L
CUPana	Cupaniopsis anacardioides	Tuckeroo	As Shown	100L
EUCcae	Eucalyptus ceasia	Silver Princess	As Shown	100L
EUCfor	Eucalyptus forrestiana	Fuschia Gum	As Shown	100L
EUCgom	Eucalyptus gomphocephala	Tuart	As Shown	100L
EUCtod	Eucalyptus todtiana	Coastal Blackbutt	As Shown	100L
EUCtor	Eucalyptus torquata	Coral Gum	As Shown	100L
EUCgom	Eucalyptus gomphocephala	Tuart	As Shown	100L
EUClan	Eucalyptus lane-poolei	Salmon white gum	As Shown	100L
EUCwan	Eucalyptus wandoo	Wandoo	As Shown	100L
HYMfla	Hymenosporum flavidus	Native Frangipani	As Shown	100L
XANpre	Xanthorrhoea preissii	Grass Tree	As Shown	100L
MIX 01: Groundcovers (max 500mm)				
ACAlas	Acacia lasiocarpa 'prostrate'	Panjang	3/m2	140mm
CORfir	Correa fire bells	Fire Bells	3/m2	140mm
DAMlin	Dampiera linearis	Blue Moon	3/m2	140mm
EREblu	Eremophila 'Blue Horizon'	Blue Horizon	3/m2	140mm
HEMpun	Hemiandra pungens	Snake Bush	4/m2	140mm
KENpro	Kennedia prostrata	Running Postman	3/m2	140mm
HIBsca	Hibbertia scandens	Snake Vine	2/m2	140mm
MYOpar	Myoporum parvifolium ''Yareena'	Yareena	3/m2	140mm
SCAhum	Scaevola humilis 'Purple Fusion'	Fan Flower	2/m2	140mm
MIX 02: Low Native Mix (max 800mm)				
ANIfla	Anigozanthus flavadis	Kangaroo Paws	3/m2	140mm
CONcan	Conostylis candicans	Grey Cottonheads	3/m2	140mm
DAMlin	Dampiera linearis	Blue Moon	3/m2	140mm
DIAeme	Dianella tasmanica 'Emerald Arch'	Emerald Arch	3/m2	140mm
DIArev	Dianella revoluta	Blue flax lilly	3/m2	140mm
FICnod	Ficinia nodosa	Knobby Club Rush	3/m2	140mm
GREgin	Grevillea 'Gin Gin Gem'	Gin Gin Gem	3/m2	200mm
LOMtan	Lomandra 'Tanika'	Tanika	3/m2	200mm
PATocc	Patersonia occidentalis	Purple Flag	3/m2	200mm
ORTlax	Orthrosanthus laxus	Morning Iris	3/m2	140mm
MIX 03:Grasses & Mixed Shrubs (max 1200mm)				
ACAlas	Acacia lasiocarpa 'Prostrate'	Panjang	3/m2	140mm
ANIman	Anigozanthos manglesii	Mangles Kangaroo Paw	3/m2	140mm
CONcan	Conostylis candicans	Grey Cottonheads	3/m2	140mm
GREgin	Grevillea 'Gin Gin Gem'	Gin Gin Gem	3/m2	140mm
GAScap	Gastrolobium capitatum	Bacon and Eggs	3/m2	140mm
HYPang	Hypocalymma angustifolium	White myrtle	3/m2	140mm
MELinc	Melaleuca incana nana	Dwaf Honey Myrtle	3/m2	140mm
MELtri	Melaleuca trichophylla	Melaleuca	3/m2	140mm
ORTlax	Orthrosanthus laxus	Morning Iris	3/m2	140mm
PIMfer	Pimelea ferruginea	Rice Flower	3/m2	140mm
WESgre	Westringia 'Grey Box'	Grey Box	3/m2	140mm
MIX 04: Screening Shrubs				
ADEser	Adenanthos sericeus	Woolly Bush	4/m2	140mm
MELinc	Melaleuca incana	Honey Myrtle	4/m2	140mm
MELtri	Melaleuca trichophylla	Melaleuca	3/m2	140mm
ORTlax	Orthrosanthus laxus	Morning Iris	3/m2	140mm
WESnar	Westringia 'Naringa'	Native Rosemary	4/m2	140mm

NOTES

GENERAL

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RRGATON

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RRGATON TO GAREN ES TO E NETA TELNE S SRAE RRGATON NSTALLE TO ANATRERS SEATON RRGATON TO TR TO E O SRNLERS ROTATORS OR SLAR RRGATON TO TREES TO E E LERS TORO LOO LERS OR SLAR
ASON RANGS ANALS AN ONT ARRANT SALL E SLE TE RRGATON ONTRATOR TO TE LENT ON RATAL OLETON
LEASE REER TO RRGATON RANG SET OR NAL LAOT AN SELE TO TRE ETAL

NOTE:
1 - TREES ARE SELECTED FROM THE CITY OF ARMADALES URBAN FOREST STRATEGY (SWAN COASTAL PLAIN PRECINCT) WHERE POSSIBLE
2 - ENDEMIC SPECIES HAVE BEEN CHOSEN WHERE POSSIBLE TO HELP COUNTER THE BIODIVERSITY LOSS ASSOCIATED WITH DEVELOPMENT

kdla.
kelsie davies
landscape architecture

A
:
:

FOR DEVELOPMENT APPLICATION

JOB No. 0586 PAGE 100 REV E

PROPOSED SOUTH CENTRAL 2: LARGE FORMAT RETAIL EXPANSION STAGE 2_ CONCEPT IMAGES

MEYER SHIRCORE
LOT 701 ARMADALE ROAD, TREEBY

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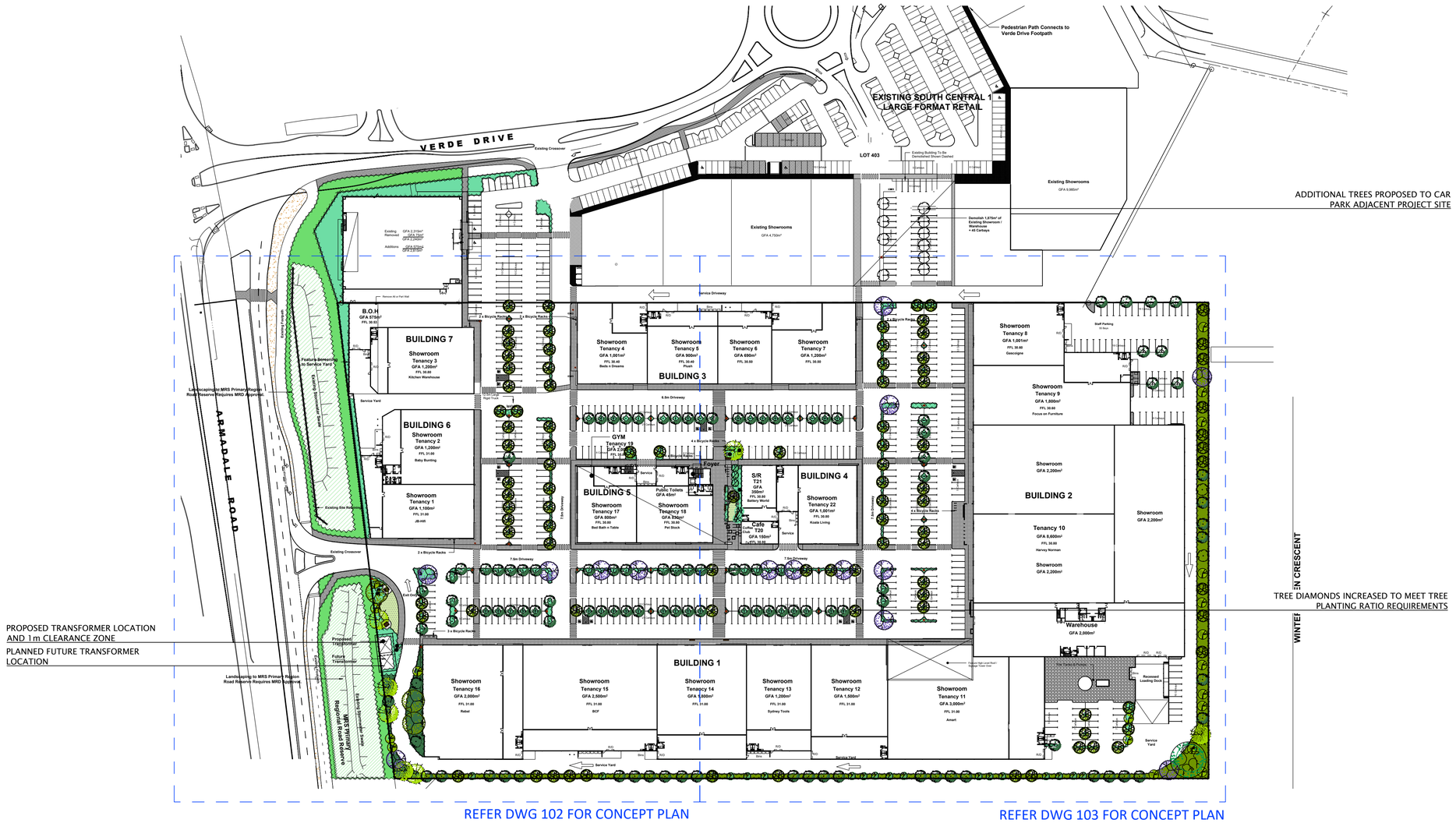
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REV	DATE	DWN	APP	DESCRIPTION
F	27.10.25	ALC	KD	UPDATED LANDSCAPE CALCS
G	19.12.25	AC/KD	KD	UPDATED LANDSCAPE CONCEPT PLAN
H	19.01.25	ALC	KD	UPDATED LANDSCAPE CONCEPT PLAN
I	23.01.26	ALC	KD	UPDATED LANDSCAPE CONCEPT PLAN
J	23.01.26	KD	KD	UPDATED CAFE LANDSCAPE



REFER DWG 102 FOR CONCEPT PLAN

REFER DWG 103 FOR CONCEPT PLAN

LEGEND

TREES

- SELECTED LARGE TREES EG. EUCALYPTUS GOMPHOCEPHALA
- SELECTED LARGE TREES EG. EUCALYPTUS WANDOO
- SELECTED LARGE TREES EG. AGONIS FLEXUOSA
- SELECTED LARGE TREES EG. EUCALYPTUS TODTIANA
- SELECTED SMALL TREES EG. BRACHYCHITON POPULNEUS
- SELECTED SMALL TREES EG. CORAL GUM / SILVER PRINCESS
- SELECTED SMALL TREES EG. BANKSIA GRANDIS OR BULL BANKSIA
- SELECTED FEATURE TREES EG. TUCKEROO
- SELECTED SMALL CARPARK TREES EG. BRACHYCHITON POPULNEUS (OUTSIDE OF PROJECT BOUNDARY)
- PROPOSED SMALL TREES EG. FUSCIA GUM
- PROPOSED NARROW TREES EG. NATIVE FRANGIPANI

FEATURE PLANTING

- FEATURE PLANTING EG. XANTHORRHOEA PREISSII

PLANTING

- EXISTING VERGE TREATMENT TO BE RETAINED (MRS PRIMARY REGION ROAD RESERVE)
- PLANTING MIX 01 GROUNDCOVERS
- PLANTING MIX 02 LOW CAR PARK MIX
- PLANTING MIX 03 STRAPPY/MIXED SHRUBS
- PLANTING MIX 04 SCREENING SHRUBS
- SELECTED LAWN SPECIES

LIGHTING

- PROPOSED LIGHT POLE LOCATIONS THROUGH CAR PARK (TBC)

LANDSCAPE AREA CALCULATIONS

SITE AREA
Total site area = 69,854m2
LANDSCAPE AREAS
Total Landscape areas = 3703m2 (5.3% of site)
CAR PARK TREES
Total Car parks = 656
Total number of trees in car parking zones = 167
Tree to car ratio = 1:4
CANOPY COVER
Trees to landscape buffer and parklets = 105
Additional trees proposed to adjacent site = 10
Total Trees = 282

TREES ARE SELECTED FROM THE CITY OF ARMADALES URBAN FOREST STRATEGY (SWAN COASTAL PLAIN PRECINCT) WHERE POSSIBLE

REFER TO PAGE 100 FOR PLANTING SCHEDULE, IMAGES AND NOTES

THIS DRAWING SHALL NOT BE USED FOR CONSTRUCTION UNLESS APPROVED BY CLIENT AND REVISED '0' ISSUED FOR CONSTRUCTION

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FOR DEVELOPMENT APPLICATION

PROPOSED SOUTH CENTRAL 2: LARGE FORMAT RETAIL EXPANSION STAGE 2_SITE PLAN

JOB No. 0586 PAGE 101 REV J

0 10 20 40 60 100m
SCALE 1:1000 @A1

MEYER SHIRCORE
LOT 701 ARMADALE ROAD, TREEBY

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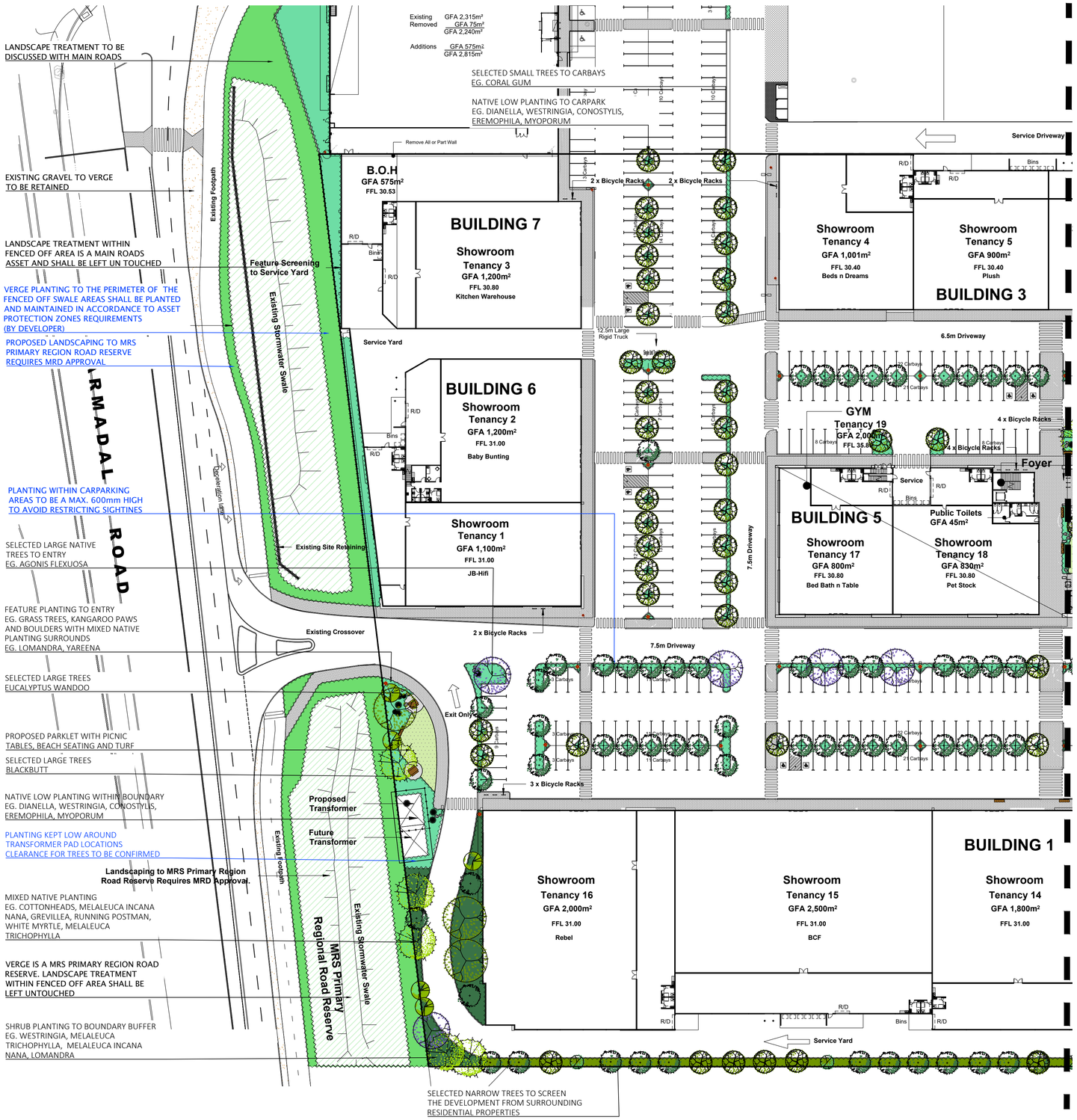
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D	24.10.25	AC	KD	UPDATED CAR PARKING LAYOUT
E	27.10.25	ALC	KD	UPDATED LANDSCAPE CALCS
F	19.12.25	AC/KD	KD	UPDATED LANDSCAPE CONCEPT PLAN
G	23.01.26	ALC	KD	UPDATED LANDSCAPE CONCEPT PLAN
H	23.01.26	KD	KD	UPDATED CAFE LANDSCAPE

LEGEND

TREES

- SELECTED LARGE TREES EG. EUCALYPTUS GOMPGOCEPHALA CANOPY: 15m
- SELECTED LARGE TREES EG. EUCALYPTUS WANDOO CANOPY: 10m
- SELECTED LARGE TREES EG. AGONIS FLEXUOSA CANOPY: 8m
- SELECTED LARGE TREES EG. EUCALYPTUS TODTIANA CANOPY: 8m
- SELECTED SMALL TREES EG. BRACHYCHITON POPULNEUS CANOPY: 5m
- SELECTED SMALL TREES EG. CORAL GUM / SILVER PRINCESS CANOPY: 5m
- SELECTED SMALL TREES EG. BANKSIA GRANDIS OR BULL BANKSIA CANOPY: 4m
- SELECTED FEATURE TREES EG. TUCKEROO CANOPY: 6m
- PROPOSED ADDITIONAL CARPARK TREES EG. BRACHYCHITON POPULNEUS CANOPY: 5m
- PROPOSED SMALL TREES EG. FUCHSIA GUM CANOPY: 4m
- PROPOSED NAROW TREES EG. NATIVE FRANGIPANI CANOPY: 4m

FEATURE PLANTING

- FEATURE PLANTING EG. XANTHORRHOEA PREISSII

PLANTING

- EXISTING VERGE (MRS PRIMARY REGION ROAD RESERVE)
- PLANTING MIX 01 GROUNDCOVERS/SHADE
- PLANTING MIX 02 LOW CARPARK MIX
- PLANTING MIX 03 STRAPPY/MIXED SHRUBS
- PLANTING MIX 04 SCREENING SHRUBS
- SELECTED LAWN SPECIES

MISC/ HARDSCAPES

- PEDESTRIAN WALKWAYS
- GRAVEL MULCH
- FEATURE BOULDERS
- BENCH SEATS AND PICNIC TABLES
- FEATURE TIMBER DAYBEDS TO POCKET PARK
- BIKE RACKS
- LIGHT POLE LOCATIONS

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FOR DEVELOPMENT APPLICATION

JOB No. 0586 PAGE 102 REV H

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PROPOSED SOUTH CENTRAL 2: LARGE FORMAT RETAIL EXPANSION STAGE 2_ WESTERN SECTION

MEYER SHIRCORE
LOT 701 ARMADALE ROAD, TREEBY

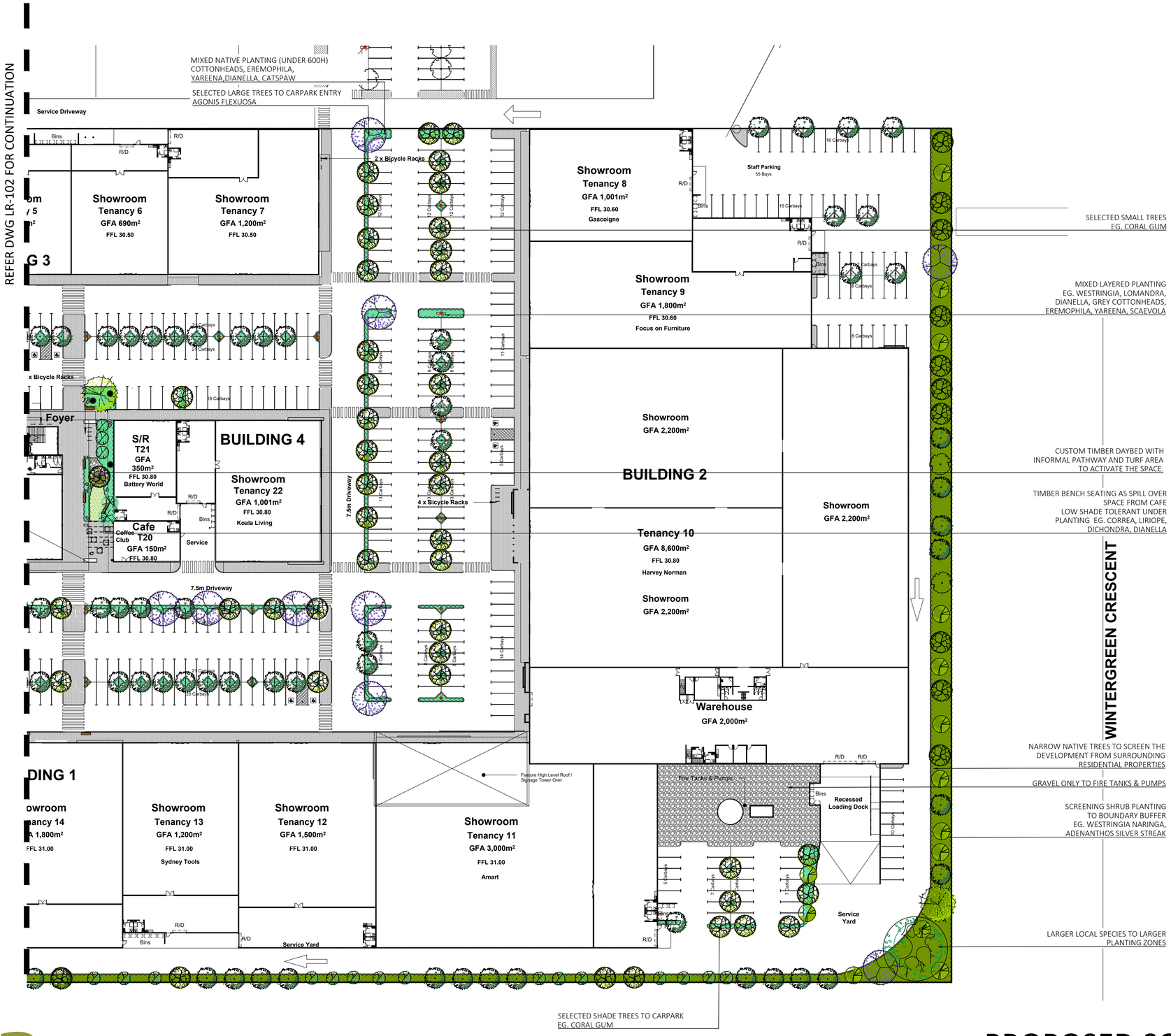
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PROPOSED SOUTH CENTRAL 2: LARGE FORMAT RETAIL EXPANSION STAGE 2_ EASTERN SECTION

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JOB No. 0586 PAGE 103 REV H

0 10 20 50m
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MEYER SHIRCORE
LOT 701 ARMADALE ROAD, TREEBY

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PROPOSED LARGE FORMAT RETAIL DEVELOPMENT
LOT 701 ARMADALE ROAD
TREEBY

ENVIRONMENTAL ACOUSTIC ASSESSMENT

JANUARY 2026

OUR REFERENCE: 35923-2-25372

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ENVIRONMENTAL ACOUSTIC ASSESSMENT

LARGE FORMAT RETAIL DEVELOPMENT
TREEBY

Job No: 25372

Document Reference: 35923-2-25372

FOR

SATTERLEY

DOCUMENT INFORMATION			
Author:	Tim Reynolds	**Checked By:**	Paul Daly
Date of Issue:	28 January 2026		

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Revision	Description	Date	Author	Checked
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1. INTRODUCTION

Herring Storer Acoustics were commissioned to undertake an acoustic assessment of noise emissions associated with the proposed large format retail development, located at Lot 701 Armadale Road, Treeby.

This report assesses noise emissions from the premises with regards to compliance with the requirements of the *Environmental Protection (Noise) Regulations 1997*. Noise sources considered as part of this assessment, include:

- Mechanical Services; and
- Delivery vehicles.

This report has also been updated to answer the following queries from council:

- Noise from roller doors, forklifts, loading / unloading needs to be considered.
- The carparking bays in the north east and north west corners must be included in the assessment.
- Reversing beepers require assessment. Council believes that these are not exempt from complying with the Noise Regulations and must be assessed as an amenity impact as part of the planning process.
- There is no detail on the material or height of the boundary interface with the residences.

Finally, a comment is also provided with regards to noise associated with waste collection.

The food tenancies and gym are noted, however, these tenancies are located within buildings 4 and 5, which are located in the centre of the development site. Thus, with Buildings 1 and 2 providing a significant barrier between buildings 4 and 5 and the neighbouring residences, compliance with the requirements of the Environmental Protection (Noise) Regulations 1997 would be achieved by some considerable margin.

For reference, the site plan for the proposed development is attached in Appendix A.

2. SUMMARY

As shown on Figure 3.1, the closest neighbouring residences to this development are to the south east and north east.

From the analysis undertaken, noise emissions from the proposed development have been assessed to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* at all times. However, the following are recommended to be imposed as conditions:

- The mechanical services design needs to be confirmed during design development phase. An acoustic study of the mechanical services to be undertaken once the design has been finalised, to ensure compliance is achieved.
- Waste collections to be undertaken under in accordance with the requirements of Regulation 14A – “Waste collection and other works”.

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- Deliveries by large trucks are restricted to the day (including Sundays and Public Holidays) and evenings (i.e. NO deliveries during the night period). This would also ensure that noise associated with any forklifts would also comply.

- Parking in the north west corner of the development needs to be restricted during the night period, as shown on Figure 4.1 in Section 5.

We note that there would be no restrictions on small delivery trucks or cars.

3. CRITERIA

3.1 ENVIRONMENTAL PROTECTION (NOISE) REGULATIONS 1997

The allowable noise level for noise sensitive premises in the vicinity of the proposed Large Format Retail development is prescribed by the *Environmental Protection (Noise) Regulations 1997*. Regulations 7 and 8 stipulate maximum allowable external noise levels or assigned noise levels that can be received at a premise from another premises. For residential premises, this noise level is determined by the calculation of an influencing factor, which is then added to the base levels shown below. The influencing factor is calculated for the usage of land within two circles, having radii of 100m and 450m from the premises of concern. The base noise levels for residential premises are listed in Table 3.1.

TABLE 3.1 - BASELINE ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises: highly sensitive area	0700 - 1900 hours Monday to Saturday (Day)	45 + IF	55 + IF	65 + IF
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	40 + IF	50 + IF	65 + IF
	1900 - 2200 hours all days (Evening)	40 + IF	50 + IF	55 + IF
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	35 + IF	45 + IF	55 + IF

Notes: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.
IF is the influencing factor.

It is a requirement that received noise be free of annoying characteristics (tonality, modulation and impulsiveness), defined below as per Regulation 9.

"impulsiveness" means a variation in the emission of a noise where the difference between L_{Apeak} and $L_{Amax(Slow)}$ is more than 15 dB when determined for a single representative event;

"modulation" means a variation in the emission of noise that –

(a) is more than 3 dB L_{AFast} or is more than 3 dB L_{AFast} in any one-third octave band;

(b) is present for more at least 10% of the representative assessment period; and

(c) is regular, cyclic and audible;

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"tonality" means the presence in the noise emission of tonal characteristics where the difference between –

(a) the A-weighted sound pressure level in any one-third octave band; and

(b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,

is greater than 3 dB when the sound pressure levels are determined as $L_{Aeq,T}$ levels where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as L_{ASlow} levels.

Where the noise emission is not music, if the above characteristics exist and cannot be practicably removed, then any measured level is adjusted according to Table 3.2 below.

TABLE 3.2 - ADJUSTMENTS TO MEASURED LEVELS

Where **tonality** is present	Where **modulation** is present	Where **impulsiveness** is present
+5 dB(A)	+5 dB(A)	+10 dB(A)

Note: These adjustments are cumulative to a maximum of 15 dB.

For this development, the closest residential premises of concern are shown on Figure 3.1 below. Each individual premises has been considered in our assessment, however, to simplify reporting, only the highest noise level for each scenario considered has been reported.

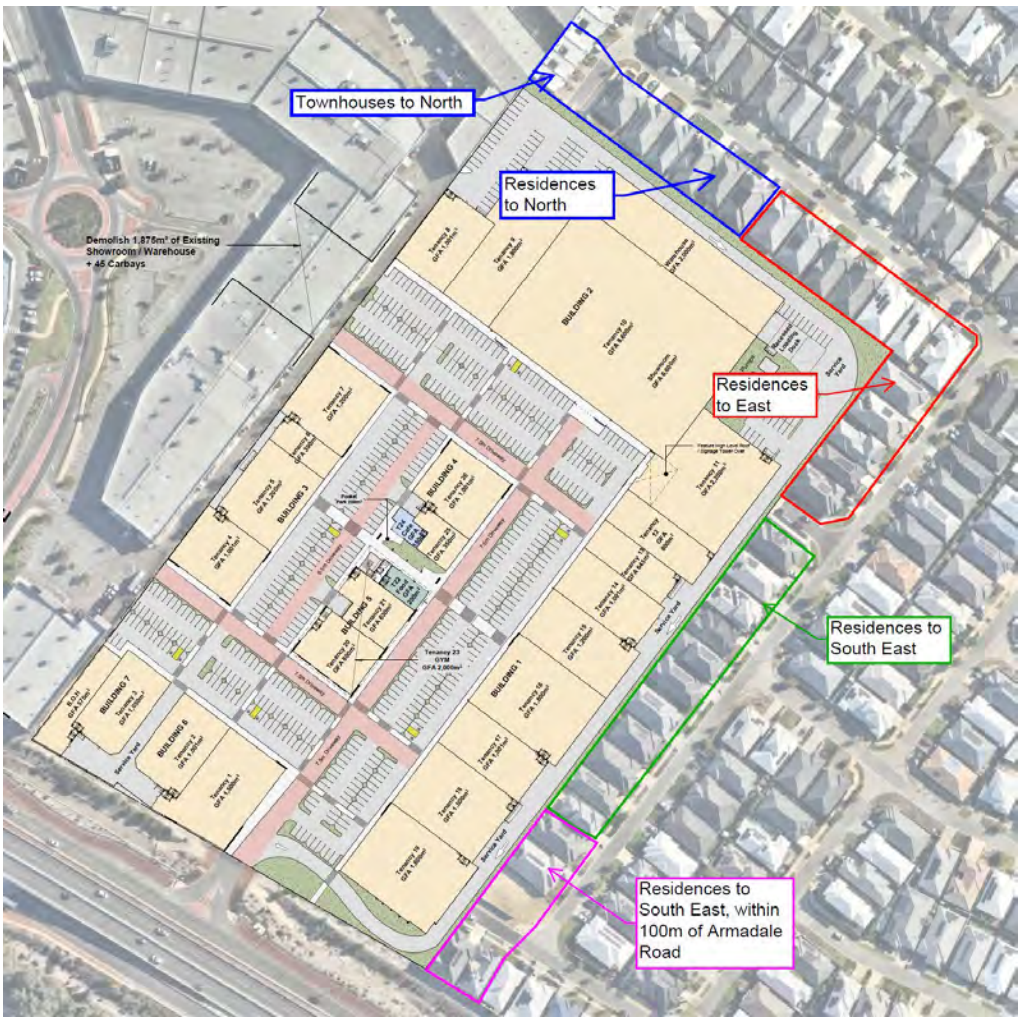


FIGURE 3.1 – AREA AROUND PROPOSED DEVELOPMENT

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The influencing factor at the nearest residential locations have been determined as summarised in Table 3.3.

TABLE 3.3 – INFLUENCING FACTOR

Influencing Factor Parameter	Influencing Factor (dB)			
	Residences to SE. Within 100m of Armadale Rd	Residences to South East	Residences to East	Residences to North
Commercial land use with inner circle	+1.25 (25%)	+2.5 (50%)	+1.2 (24%)	+2.0 (40%)
Commercial land use within outer circle	+1.0 (20%)	+1.0 (20%)	+0.9 (18%)	+1.0 (20%)
Industrial land use within outer circle	-	+0.3 (6%)	+0.9 (9%)	+1.5 (15%)
Major Road within 100m (Armadale Road)	+6	-	-	-
Major Road between 100 and 450m (Armadale Road)	-	+2	+2	+2
TOTAL IF	+8	+6	+5	+6

Based on the above, the assigned noise levels are as listed in Tables 3.4 to 3.6.

TABLE 3.4 - ASSIGNED OUTDOOR NOISE LEVEL FOR RESIDENCES TO SOUTH EAST, WITHIN 100M OF ARMADALE ROAD

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		$L_{A\ 10}$	$L_{A\ 1}$	$L_{A\ max}$
Noise sensitive premises: Highly sensitive area	0700 - 1900 hours Monday to Saturday	53	63	73
	0900 - 1900 hours Sunday and Public Holidays	48	58	73
	1900 - 2200 hours all days	48	58	63
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	43	53	63

Notes: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.

TABLE 3.5 - ASSIGNED OUTDOOR NOISE LEVEL FOR RESIDENCES TO SOUTH EAST AND NORTH

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		$L_{A\ 10}$	$L_{A\ 1}$	$L_{A\ max}$
Noise sensitive premises: Highly sensitive area	0700 - 1900 hours Monday to Saturday	51	61	71
	0900 - 1900 hours Sunday and Public Holidays	46	56	71
	1900 - 2200 hours all days	46	56	61
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	41	51	61

Notes: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.

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TABLE 3.6 - ASSIGNED OUTDOOR NOISE LEVEL FOR RESIDENCES TO EAST

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		$L_{A\ 10}$	$L_{A\ 1}$	$L_{A\ max}$
Noise sensitive premises: Highly sensitive area	0700 - 1900 hours Monday to Saturday	50	60	70
	0900 - 1900 hours Sunday and Public Holidays	45	55	70
	1900 - 2200 hours all days	45	55	60
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	40	50	60

Notes: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.

3.2 WASTE COLLECTION

It is noted that under the *Environmental Protection (Noise) Regulations 1997*, the noise received at a premise from the collection of waste does not need to comply with the Assigned Noise levels, provided it is carried out in accordance with Regulation 14A of the Regulations.

In summary, waste collection carried out during the following times do not need to comply with the Assigned noise levels:

- 0700 hours and 1900 hours on any day that is not a Sunday or a public holiday; or
- 0900 hours and 1900 hours on a Sunday or public holiday.

For information waste collection carried out during the above times is classified as ***class 1 works***. ***Class 2*** works means specified works carried out otherwise than between the hours specified in the definition of class 1 works.

Note: Class 2 works, also do not need to comply with the assigned noise levels, provided certain requirements, including operating under an approved Noise Management Plan, are followed.

For information it is also noted that, under the Regulations, the above requirements apply to "specified works". Specified works, includes:

(a) the collection of waste; or
(b) the cleaning of a road or the drains for a road; or
(c) the cleaning of public places, including footpaths, cycle paths, car parks and beaches; or
(d) the maintenance of road verges and public open space (including the collection of rubbish and the planting, trimming, watering or removal of trees); or
(e) the periodic collection of household items or other things placed on street verges by residents for the purpose of such a collection; or
(f) activities associated with hazard or emergency management.

Waste *means* waste from domestic or commercial sources and includes:

(a) putrescible waste; and
(b) non putrescible waste; and
(c) recyclable materials.

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Thus, based on the above, noise emissions from waste collections do not need to be assessed and does not form part of the acoustical assessment.

4. MODELLING

Modelling of the noise propagation from the proposed development was carried out using an environmental noise modelling computer program, "SoundPlan". Calculations were carried out using the EPA worst case weather conditions as stated in the Environmental Protection Authority's *"Draft Guideline on Environmental Noise for Prescribed Premises".*

The acoustic assessment has been undertaken for the following noise sources:

- Mechanical Services; and
- Delivery Trucks.

The food tenancies and gym are noted, however, these tenancies are located within buildings 4 and 5, which are located in the centre of the development site. Thus, with Buildings 1 and 2 providing a significant barrier between buildings 4 and 5 and the neighbouring residences, compliance with the requirements of the Environmental Protection (Noise) Regulations 1997 would be achieved by some considerable margin.

We note that the noise modelling has been based on a standard 1.8m colourbond fence. For this development, given the possible noise sources, a colourbond fence would be sufficient to act as a barrier.

4.1 MECHANICAL SERVICES

It is noted that mechanical services have not been selected at this stage of the development, thus, it is not possible to use actual equipment selections in our calculations. Hence, typical noise levels for air conditioners associated with tenancies of the size proposed has been utilized. The noise modelling is conservative, as it does not include any diversity in load, which would occur (particularly during the night period).

The calculations for the mechanical services were based upon the sound power levels listed in Tables 4.1.

TABLE 4.1 – SOUND POWER LEVELS
MECHANICAL SERVICES

Item of Equipment	Sound Power Level, (dB(A))
Building 1	AC - 13 @ 78 Exhaust Fans 9 @ 66
Building 2	AC - 7 @ 78 Exhaust Fan 4 @ 66
Building 3	AC 7 @ 78 Exhaust Fans 4 @ 66
Building 4	AC - 3 @ 78 Exhaust Fan 3 @ 66 and 1 @ 81
Building 5	AC - 3 @ 78 Exhaust 2 @ 66 and 1 @ 81
Building 6	AC - 4 @ 78 Exhaust Fans 2 @ 66
Building 7	AC - 2 @ 78 Exhaust Fans 2 @ 66

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It is noted equipment selected during the design phase of the development will need to have noise emissions confirmed in relation to the above assumed noise levels.
With regards to noise emissions associated with the mechanical services, the following are noted:

1 Noise associated with the mechanical services does not take into account any diversity of operation. Such diversity would occur during the evening and night periods (whilst cooler). Thus, this is a conservative assessment.

2 The location of the mechanical plant has been assumed to be on the roof of the tenancies, with screening to the plant.

4.2 DELIVERIES

The L_{A1} assigned noise level would be the pertinent prescribed noise level in this instance (for deliveries) as the duration of time that the noise of the deliveries is present is less than 10% of a representative time period. The noise associated with the delivery is the manoeuvring of the truck into place, upon which the truck is switched off – hence – even if the delivery takes some time (i.e. 30 – 60 minutes) the noise level associated with the truck is not present throughout the duration of the delivery.

The calculations for delivery trucks were based in the sound power levels listed in Tables 4.2. The large delivery truck being for furniture retailers etc; and the small delivery being for the other tenancies, such as clothing and homewares, etc.

TABLE 4.2 – GENERAL SOUND POWER LEVELS

Item of Equipment	Sound Power Level, (dB(A))
Large Delivery Truck	89
Small Delivery Truck	83

We note that the noise emission from delivery trucks were modelled using point sources spaced at approximately every 5 metre, to represent the worst case scenario. Thus, this would be a conservative assessment.

5. ADDITIONAL NOISE SOURCES, AS REQUESTED BY COUNCIL

5.1 REVERSING BEEPERS

With regards to reversing alarms, in accordance with the *Environmental Protection (Noise) Regulations 1997* noise from a reversing alarm is exempt if:

- The alarm is required under another written law; and
- It is not practicable to fit an alarm that complies with both the law which requires it and the Noise Regulations.

Reversing alarms, either beepers or broadband alarms, are considered likely to be required to be present when reversing to comply with Occupational Health and Safety Requirements. Herring Storer Acoustics are not qualified to suggest that beepers can be removed and replaced with broadband alarms – as this is outside our area of expertise and professional qualifications.

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However, we understand that reversing alarms are self-adjusting to the ambient noise environment, automatically adjusting to within 5 dB of the surrounding noise environment. Whilst compliance with the Regulations is not specifically required, a comparison of the noise impact of the reversing alarms with the Regulations has been undertaken to consider any effect on the amenity of the area. The noise impact that has been considered in this assessment based on a noise level of 77 dB(A) at 1m distance. This would have the most potential impact upon neighbouring premises, as this noise level would occur at times when background noise levels are at an absolute minimum, and the intrusive nature of the noise at its highest.

5.2 ROLLER DOORS

We note that rollers doors would for the majority of the time remain closed, with the usage occurring for less than 1% of the time. Thus, noise from this source would need to comply with the Assigned L_{AMax} criteria.

From measurements of a roller door, the sound power levels associate with the raising and lowering of a roller doors would be 79 dB(A).

5.3 FORKLIFTS

For this development, we do not believe that forklifts would be used, perhaps with the exception of Tenancy 10. The use of the forklift would be for less than 10% of the time. Thus, noise from this source would need to comply with the Assigned L_{A1} criteria. From measurements of a roller door, the pound power levels associate with the raising and lowering of a forklift would be 84 dB(A).

We note that the other tenancies could use small electric pallet trolleys. Thus, a pallet trolley have been modelled at the loading docks. We note that the noise emission from these trolleys is quite low, with a sound power level of 75 dB(A).

5.4 LOADING / UNLOADING ACTIVITIES

Other noise that would occur during loading and unloading would be people talking. They could talk in a loud voice, for which the sound power level would be 75 dB(A).

5.5 CAR DOORS

The car parking areas to the north west and north east of the site are noted. To assess noise received at the neighbouring residences, noise modelling was undertaken of a car door closing. Modelling was undertaken with a car located within each park bay, with a sound power level of 83 dB(A).

We note that from preliminary noise modelling, noise received at the first floor level of the townhouse to the north of the north west car park could with the inclusion of the +10 dB penalty for impulsiveness, exceed the L_{AMax} criteria during the night period. To comply at all times, parking restrictions on the parking bays, as shown on Figure 5.1 during the night period would be required.

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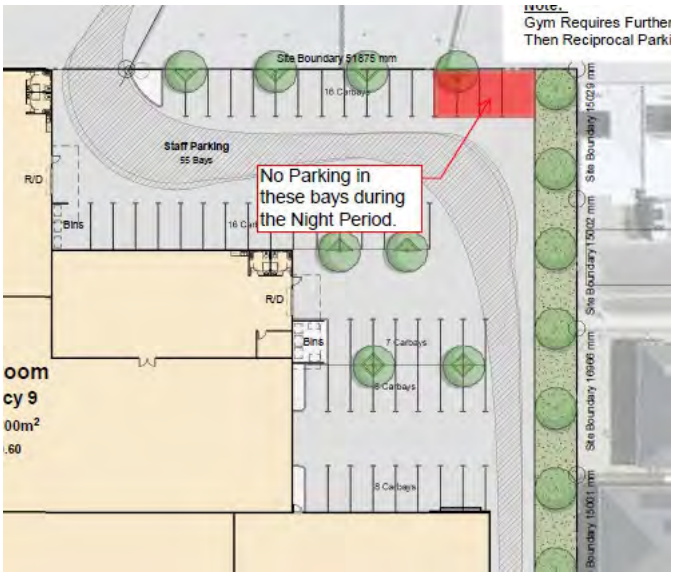


FIGURE 5.1 – PARKING RESTIRCTION TO NORTH WEST CAR PARK

6. PREDICTED NOISE EMISSIONS

Calculations were undertaken to all the residences noted on Figure 3.1. The resultant noise levels are listed in Table 5.1.

NOTE: Noise levels were calculated at all adjacent noise sensitive premises, however, for simplicity of reporting, only the highest noise levels have been included below.

TABLE 5.1 – CALCULATED NOISE LEVELS

Item	Residences (dB(A))			
	Residences to SE. Within 100m of Armadale Rd	Residences to South East	Residences to East	Residences to North
Mechanical services	34 L_{A10}	34 L_{A10}	33 L_{A10}	35 L_{A10}
Deliveries (Large Trucks)	54 L_{A1}	56 L_{A1}	55 L_{A1}	55 L_{A1}
Deliveries (Small Trucks)	48 L_{A1}	50 L_{A1}	49 L_{A1}	49 L_{A1}
Reversing beeper (Tenancy 10)	15 L_{AMax}	38 L_{AMax}	47 L_{AMax}	41 L_{AMax}
Roller Doors	43 L_{A1}	43 L_{A1}	42 L_{A1}	37 L_{A1}
Forklift (Tenancy 10)	9 L_{A10}	26 L_{A10}	40 L_{A10}	21 L_{A10}
Pallet Trolley	26 L_{A10}	26 L_{A10}	19 L_{A10}	19 L_{A10}
Voices	40 L_{A10}	39 L_{A10}	40 L_{A10}	29 L_{A10}
Car Door	19 L_{AMax}	39 L_{AMax}	42 L_{AMax}	49 L_{AMax}

7. ASSESSMENT

The following provided the acoustic assessment for the noise sources requiring compliance, as listed in Table 5.1.

7.1 MECHANCIAL SERVICES

Noise emissions from the mechanical services would be steady state and would operate for the majority of time. Hence noise received from the mechanical services needs to comply with the assigned L_{A10} noise level.

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Given the resultant noise level at the residences and likely background noise level in the area, we believe that noise emissions from the mechanical services could be tonal, hence, a +5 dB(A) penalty has been applied to the calculated noise level associated with these noise sources. Table 7.1 lists the characteristics that should be included in the assessable noise level.

TABLE 7.1 – APPLICABLE ADJUSTMENTS AND ASSESSABLE L_{A10} NOISE LEVELS, dB(A)
MECHANICAL SERVICES

Location	Calculated Noise Level, dB(A)	Applicable Adjustments to Measured Noise Levels, dB(A)			Assessable Noise Level, dB(A)
		Where Noise Emission is NOT music			
		Tonality	Modulation	Impulsiveness	
Residences to SE. Within 100m of Armadale Rd	34	+5	-	-	39
Residences to South East	34	+5	-	-	39
Residences to East	33	+5	-	-	38
Residences to North	35	+5	-	-	40

Table 7.2 shows the applicable Assigned Noise Levels, and assessable noise level emissions associated for the scenarios associated with the mechanical services.

TABLE 7.2 – ASSESSMENT OF L_{A10} NOISE LEVEL EMISSIONS
MECHANICAL SERVICES

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L_{A10} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residences to SE. Within 100m of Armadale Rd	39	Day Period	53	Complies
		Sunday Day Period	48	Complies
		Evenings	48	Complies
		Night	43	Complies
Residences to South East	39	Day Period	51	Complies
		Sunday Day Period	46	Complies
		Evenings	46	Complies
		Night	41	Complies
Residences to East	38	Day Period	50	Complies
		Sunday Day Period	45	Complies
		Evenings	45	Complies
		Night	40	Complies
Residences to North	40	Day Period	51	Complies
		Sunday Day Period	46	Complies
		Evenings	46	Complies
		Night	41	Complies

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7.2 DELIVERY NOISE

Noise emissions from deliveries would occur for less than 10% of the time and would be assessed under the L_{A1} criteria. However, to be conservative, the noise associated with deliveries (ie: fork lift for tenancy 10, pallet trolley and voices) have been assessed under the L_{A10} criteria.

Given the resultant noise level at the residences and likely background noise level in the area, we believe that noise emissions from forklifts and pallet trolleys could be tonal, hence, a +5 dB(A) penalty has been applied to the calculated noise level associated with these noise sources. However, noise associated with voice would not be tonal and no penalty would be applied to voices. Tables 7.3 and 7.4 lists the characteristics that should be included in the assessable noise level for a forklift and pallet trolleys.

TABLE 7.3 – APPLICABLE ADJUSTMENTS AND ASSESSABLE L_{A10} NOISE LEVELS, dB(A) FORKLIFT

Location	Calculated Noise Level, dB(A)	Applicable Adjustments to Measured Noise Levels, dB(A)			Assessable Noise Level, dB(A)
		Where Noise Emission is NOT music			
		Tonality	Modulation	Impulsiveness	
Residences to SE. Within 100m of Armadale Rd	9	+5	-	-	14
Residences to South East	26	+5	-	-	31
Residences to East	40	+5	-	-	45
Residences to North	21	+5	-	-	26

TABLE 7.4 – APPLICABLE ADJUSTMENTS AND ASSESSABLE L_{A10} NOISE LEVELS, dB(A) PALLET TROLLEY

Location	Calculated Noise Level, dB(A)	Applicable Adjustments to Measured Noise Levels, dB(A)			Assessable Noise Level, dB(A)
		Where Noise Emission is NOT music			
		Tonality	Modulation	Impulsiveness	
Residences to SE. Within 100m of Armadale Rd	26	+5	-	-	31
Residences to South East	26	+5	-	-	31
Residences to East	19	+5	-	-	24
Residences to North	19	+5	-	-	24

Tables 7.5 to 7.7 shows the applicable Assigned Noise Levels, and assessable noise level emissions associated for the scenarios associated with the forklift, pallet trolleys and voices.

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TABLE 7.5 – ASSESSMENT OF L_{A10} NOISE LEVEL EMISSIONS
FORKLIFT

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L_{A10} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residences to SE. Within 100m of Armadale Rd	14	Day Period	53	Complies
		Sunday Day Period	48	Complies
		Evenings	48	Complies
		Night	43	Complies
Residences to South East	31	Day Period	51	Complies
		Sunday Day Period	46	Complies
		Evenings	46	Complies
		Night	41	Complies
Residences to East	45	Day Period	50	Complies
		Sunday Day Period	45	Complies
		Evenings	45	Complies
		Night	40	+5
Residences to North	26	Day Period	51	Complies
		Sunday Day Period	46	Complies
		Evenings	46	Complies
		Night	41	Complies

TABLE 7.6 – ASSESSMENT OF L_{A10} NOISE LEVEL EMISSIONS
PALLET TROLLEY

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L_{A10} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residences to SE. Within 100m of Armadale Rd	31	Day Period	53	Complies
		Sunday Day Period	48	Complies
		Evenings	48	Complies
		Night	43	Complies
Residences to South East	31	Day Period	51	Complies
		Sunday Day Period	46	Complies
		Evenings	46	Complies
		Night	41	Complies
Residences to East	24	Day Period	50	Complies
		Sunday Day Period	45	Complies
		Evenings	45	Complies
		Night	40	Complies
Residences to North	24	Day Period	51	Complies
		Sunday Day Period	46	Complies
		Evenings	46	Complies
		Night	41	Complies

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TABLE 7.7 – ASSESSMENT OF L_{A10} NOISE LEVEL EMISSIONS
VOICES

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L_{A10} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residences to SE. Within 100m of Armadale Rd	40	Day Period	53	Complies
		Sunday Day Period	48	Complies
		Evenings	48	Complies
		Night	43	Complies
Residences to South East	39	Day Period	51	Complies
		Sunday Day Period	46	Complies
		Evenings	46	Complies
		Night	41	Complies
Residences to East	40	Day Period	50	Complies
		Sunday Day Period	45	Complies
		Evenings	45	Complies
		Night	40	Complies
Residences to North	29	Day Period	51	Complies
		Sunday Day Period	46	Complies
		Evenings	46	Complies
		Night	41	Complies

7.3 DELIVERY TRUCKS

Noise emissions from delivery vehicles would be present for less than 10% of a representative time period, hence noise received from this noise source needs to comply with the assigned L_{A1} noise level.

Based on the definitions of tonality, noise emissions from these sources, being an L_{A1} and being present for less than 10% of the time, would not be considered tonal. Thus, no penalties would be applicable to the noise associated with delivery trucks. Hence, Tables 7.8 and 7.9 shows the applicable Assigned Noise Levels, and assessable noise level emissions associated with large and small delivery trucks.

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TABLE 7.8 – ASSESSMENT OF L_{A1} NOISE LEVEL EMISSIONS DELIVERIES (LARGE TRUCKS)

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L_{A10} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residences to SE. Within 100m of Armadale Rd	54	Day Period	63	Complies
		Sunday Day Period	58	Complies
		Evenings	58	Complies
		Night	53	+1
Residences to South East	56	Day Period	61	Complies
		Sunday Day Period	56	Complies
		Evenings	56	Complies
		Night	51	+5
Residences to East	55	Day Period	60	Complies
		Sunday Day Period	55	Complies
		Evenings	55	Complies
		Night	50	+5
Residences to North	55	Day Period	61	Complies
		Sunday Day Period	56	Complies
		Evenings	56	Complies
		Night	51	+4

TABLE 7.9 – ASSESSMENT OF L_{A1} NOISE LEVEL EMISSIONS DELIVERIES (SMALL TRUCKS / VANS)

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L_{A10} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residences to SE. Within 100m of Armadale Rd	48	Day Period	63	Complies
		Sunday Day Period	58	Complies
		Evenings	58	Complies
		Night	53	Complies
Residences to South East	50	Day Period	61	Complies
		Sunday Day Period	56	Complies
		Evenings	56	Complies
		Night	51	Complies
Residences to East	49	Day Period	60	Complies
		Sunday Day Period	55	Complies
		Evenings	55	Complies
		Night	50	Complies
Residences to North	49	Day Period	61	Complies
		Sunday Day Period	56	Complies
		Evenings	56	Complies
		Night	51	Complies

7.4 ROLLER DOORS

Noise emissions from the roller doors opening and closing would be present for less than 10% of a representative time period, hence noise received from this noise source needs to comply with the assigned L_{A1} noise level.

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Based on the definitions of tonality, noise emissions from this source, being an L_{A1} and being present for less than 10% of the time, would not be considered tonal. Thus, no penalties would be applicable to the noise associated with roller door. Hence, Table 7.10 shows the applicable Assigned Noise Levels, and assessable noise level emissions associated with roller doors.

TABLE 7.10 – ASSESSMENT OF L_{A1} NOISE LEVEL EMISSIONS
ROLLER DOORS

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L_{A1} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residences to SE. Within 100m of Armadale Rd	43	Day Period	63	Complies
		Sunday Day Period	58	Complies
		Evenings	58	Complies
		Night	53	Complies
Residences to South East	43	Day Period	61	Complies
		Sunday Day Period	56	Complies
		Evenings	56	Complies
		Night	51	Complies
Residences to East	42	Day Period	60	Complies
		Sunday Day Period	55	Complies
		Evenings	55	Complies
		Night	50	Complies
Residences to North	37	Day Period	61	Complies
		Sunday Day Period	56	Complies
		Evenings	56	Complies
		Night	51	Complies

7.5 CAR DOORS

Noise emissions from car doors closing would occur for less than 1% of the time and would be assessed under the L_{AMax} criteria.

Based on the definitions of tonality, noise emissions from this source, being an L_{Amax} and being present for less than 10% of the time, would not be considered tonal. However, a car door closing could be impulsive. Thus, the +10 dB(A) penalty for impulsiveness could be applicable to the noise associated with car doors. Hence, Table 7.11 shows the applicable Assigned Noise Levels, and assessable noise level emissions associated with car doors.

TABLE 7.11 – APPLICABLE ADJUSTMENTS AND ASSESSABLE L_{AMAX} NOISE LEVELS, dB(A)
CAR DOOR

Location	Calculated Noise Level, dB(A)	Applicable Adjustments to Measured Noise Levels, dB(A)			Assessable Noise Level, dB(A)
		Where Noise Emission is NOT music			
		Tonality	Modulation	Impulsiveness	
Residences to SE. Within 100m of Armadale Rd	19	-	-	+10	29
Residences to South East	39	-	-	+10	49
Residences to East	42	-	-	+10	52
Residences to North	49	-	-	+10	59

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Table 7.12 shows the applicable Assigned Noise Levels, and assessable noise level emissions associated for the scenarios associated with car doors.

TABLE 7.12 – ASSESSMENT OF L_{AMAX} NOISE LEVEL EMISSIONS
CAR DOOR

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L_{Amax} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residences to SE. Within 100m of Armadale Rd	29	Day Period	73	Complies
		Sunday Day Period	73	Complies
		Evenings	63	Complies
		Night	63	Complies
Residences to South East	49	Day Period	71	Complies
		Sunday Day Period	71	Complies
		Evenings	61	Complies
		Night	61	Complies
Residences to East	52	Day Period	70	Complies
		Sunday Day Period	70	Complies
		Evenings	60	Complies
		Night	60	Complies
Residences to North	59	Day Period	71	Complies
		Sunday Day Period	71	Complies
		Evenings	61	Complies
		Night	61	Complies

7.6 REVERSING BEEPER

Noise emissions from a reversing would occur for less than 1% of the time and would be assessed under the L_{AMax} criteria.

Based on the definitions of tonality, noise emissions from this source, being an L_{A1} and being present for less than 10% of the time, would not be considered tonal. However, a reversing beeper could be impulsive. Thus, the +10 dB(A) penalty for impulsiveness could be applicable to the noise associated with a reversing beeper. Hence, Table 7.13 shows the applicable Assigned Noise Levels, and assessable noise level emissions associated with reversing beeper.

TABLE 7.13 – APPLICABLE ADJUSTMENTS AND ASSESSABLE L_{AMAX} NOISE LEVELS, dB(A)
REVERSING BEEPER

Location	Calculated Noise Level, dB(A)	Applicable Adjustments to Measured Noise Levels, dB(A)			Assessable Noise Level, dB(A)
		Where Noise Emission is NOT music			
		Tonality	Modulation	Impulsiveness	
Residences to SE. Within 100m of Armadale Rd	15	-	-	+10	25
Residences to South East	38	-	-	+10	48
Residences to East	47	-	-	+10	57
Residences to North	41	-	-	+10	51

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Table 7.14 shows the applicable Assigned Noise Levels, and assessable noise level emissions associated for the scenarios associated with a reversing beeper.

TABLE 7.14 – ASSESSMENT OF L_{AMAX} NOISE LEVEL EMISSIONS REVERSING BEEPER

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L_{A10} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residences to SE. Within 100m of Armadale Rd	25	Day Period	73	Complies
		Sunday Day Period	73	Complies
		Evenings	63	Complies
		Night	63	Complies
Residences to South East	48	Day Period	71	Complies
		Sunday Day Period	71	Complies
		Evenings	61	Complies
		Night	61	Complies
Residences to East	57	Day Period	70	Complies
		Sunday Day Period	70	Complies
		Evenings	60	Complies
		Night	60	Complies
Residences to North	51	Day Period	71	Complies
		Sunday Day Period	71	Complies
		Evenings	61	Complies
		Night	61	Complies

8. CONCLUSION

From the analysis undertaken, noise emissions from the proposed development have been assessed to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* at all times. However, the following are recommended to be imposed as conditions:

- The mechanical services design needs to be confirmed during design development phase. An acoustic study of the mechanical services be undertaken once the design has been finalised, to ensure compliance is achieved.

- Waste collections to be undertaken under in accordance with the requirements of Regulation 14A – "Waste collection and other works".

- Deliveries by large trucks are restricted to the day (including Sundays and Public Holidays) and evenings (i.e. NO deliveries during the night period). This would also ensure that noise associated with any forklifts would also comply.

- Parking in the north west corner of the development needs to be restricted during the night period, as shown on Figure 4.1 in Section 5.

We note that there would be no restrictions on small delivery trucks or cars.

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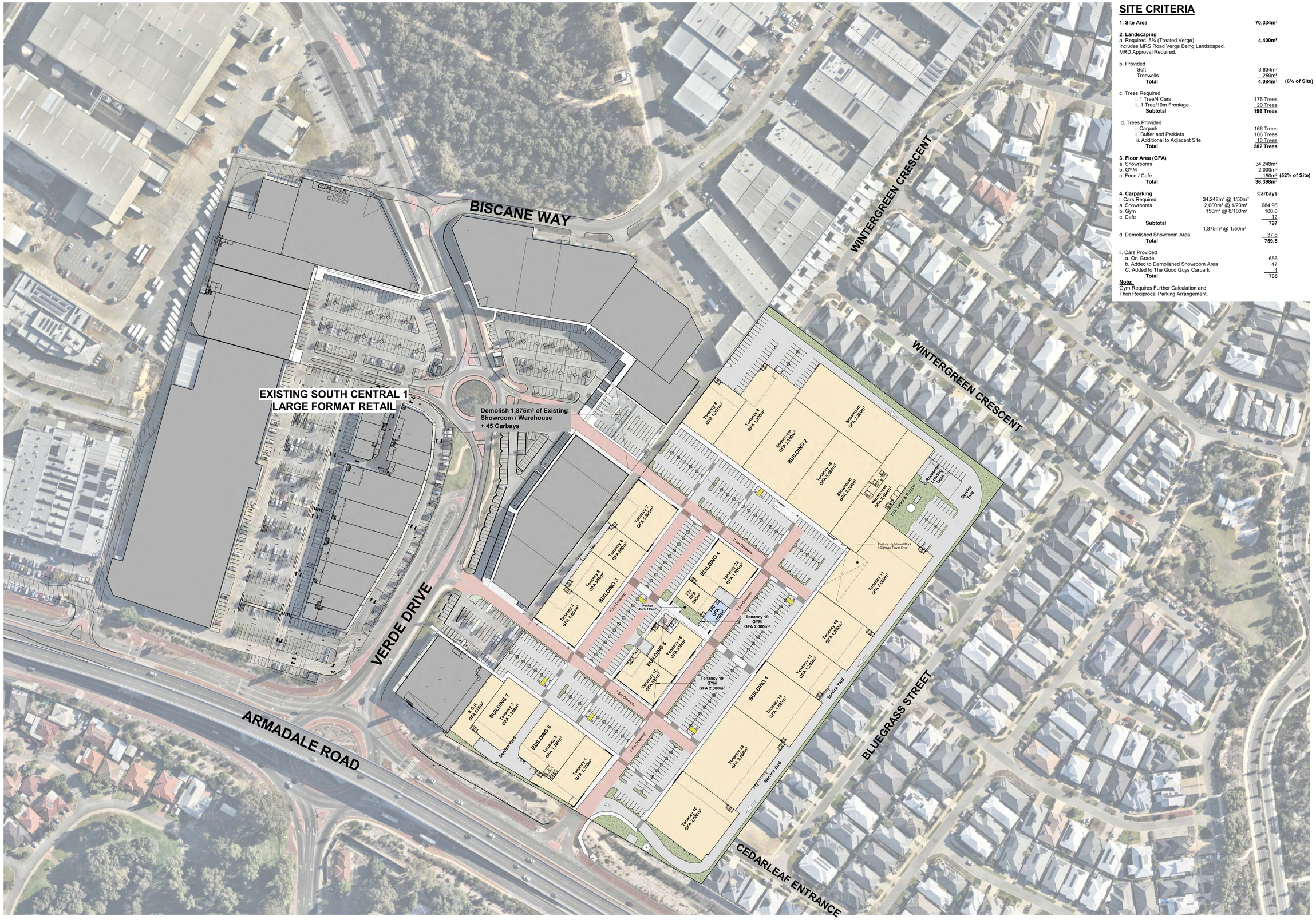
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APPENDIX A

SITE PLAN

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SITE CRITERIA

1. Site Area	**70,334m²**	
2. Landscaping		
a. Required 5% (Treated Verge)	**4,400m²**	
Includes MRS Road Verge Being Landscaped.		
MRD Approval Required.		
b. Provided		
Soft	3,834m²	
Treewells	250m²	
Total	**4,084m²**	**(6% of Site)**
c. Trees Required		
i. 1 Tree/4 Cars	176 Trees	
ii. 1 Tree/10m Frontage	20 Trees	
Subtotal	**196 Trees**	
d. Trees Provided		
i. Carpark	166 Trees	
ii. Buffer and Parklets	106 Trees	
iii. Additional to Adjacent Site	10 Trees	
Total	**282 Trees**	
3. Floor Area (GFA)		
a. Showrooms	34,248m²	
b. GYM	2,000m²	
c. Food / Cafe	150m²	**(52% of Site)**
Total	**36,398m²**	

4. Carparking		**Carbays**
i. Cars Required	34,248m² @ 1/50m²	
a. Showrooms	2,000m² @ 1/20m²	684.96
b. Gym	150m² @ 8/100m²	100.0
c. Cafe		12
Subtotal		**797**
	1,875m² @ 1/50m²	
d. Demolished Showroom Area		37.5
Total		**759.5**
ii. Cars Provided		
a. On Grade		656
b. Added to Demolished Showroom Area		47
C. Added to The Good Guys Carpark		4
Total		**705**

Note:
Gym Requires Further Calculation and
Then Reciprocal Parking Arrangement.

SITE AERIAL & SITE

SCALE: 1 : 1000

meyer shircore architects

PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

SATTERLEY Centuria

VEND PROPERTY

0 5 10 15 20 25 50

DATE: JAN 2026 PROJECT NUMBER 9361
REVISION: SK018
SHEET: 2
SCALE: As indicated@B1

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SITE CRITERIA

1. Site Area		**70,334m²**
2. Landscaping		
a. Required 5% (Treated Verge)		**4,400m²**
Includes MRS Road Verge Being Landscaped.		
MRD Approval Required.		
b. Provided		
Soft	3,834m²	
Treewells	250m²	
Total	**4,084m²**	**(6% of Site)**
c. Trees Required		
i. 1 Tree/4 Cars	176 Trees	
ii. 1 Tree/10m Frontage	20 Trees	
Subtotal	**196 Trees**	
d. Trees Provided		
i. Carpark	166 Trees	
ii. Buffer and Parklets	106 Trees	
iii. Additional to Adjacent Site	10 Trees	
Total	**282 Trees**	
3. Floor Area (GFA)		
a. Showrooms	34,248m²	
b. GYM	2,000m²	
c. Food / Cafe	150m²	**(52% of Site)**
Total	**36,398m²**	

4. Carparking		**Carbays**
i. Cars Required	34,248m² @ 1/50m²	
a. Showrooms	2,000m² @ 1/20m²	684.96
b. Gym	150m² @ 8/100m²	100.0
c. Cafe		12
Subtotal		**797**
	1,875m² @ 1/50m²	37.5
d. Demolished Showroom Area		**759.5**
Total		
ii. Cars Provided		
a. On Grade		656
b. Added to Demolished Showroom Area		47
C. Added to The Good Guys Carpark		4
Total		**705**

Note:
Gym Requires Further Calculation and
Then Reciprocal Parking Arrangement.

SITE PLAN

SCALE: 1 : 500

meyer shircore architects

PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

SATTERLEY Centuria

VEND PROPERTY

0 5 10 15 20 25 50

DATE: JAN 2026
REVISION: SK018
SHEET: 3
SCALE: 1 : 500 @B1

PROJECT NUMBER 9361

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SITE CRITERIA

1. Site Area	**70,334m²**	
2. Landscaping		
a. Required 5% (Treated Verge) Includes MRS Road Verge Being Landscaped. MRD Approval Required.	**4,400m²**	
b. Provided		
Soft	3,834m²	
Treewells	250m²	
Total	**4,084m²**	**(6% of Site)**
c. Trees Required		
i. 1 Tree/4 Cars	176 Trees	
ii. 1 Tree/10m Frontage	20 Trees	
Subtotal	**196 Trees**	
d. Trees Provided		
i. Carpark	166 Trees	
ii. Buffer and Parklets	106 Trees	
iii. Additional to Adjacent Site	10 Trees	
Total	**282 Trees**	
3. Floor Area (GFA)		
a. Showrooms	34,248m²	
b. GYM	2,000m²	
c. Food / Cafe	150m²	**(52% of Site)**
Total	**36,398m²**	

4. Carparking		**Carbays**
i. Cars Required		
a. Showrooms	34,248m² @ 1/50m²	
	2,000m² @ 1/20m²	684.96
b. Gym	150m² @ 8/100m²	100.0
c. Cafe		12
Subtotal		**797**
	1,875m² @ 1/50m²	37.5
d. Demolished Showroom Area		
Total		**759.5**
ii. Cars Provided		
a. On Grade		656
b. Added to Demolished Showroom Area		47
C. Added to The Good Guys Carpark		4
Total		**705**

Note:
Gym Requires Further Calculation and Then Reciprocal Parking Arrangement.

TRUCK PATHS

12.5m Large Rigid

19m Semi-Trailer

TRUCK SERVICE PLAN

SCALE: 1 : 500

PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

meyer shircore architects

SATTERLEY Centuria

VEND PROPERTY

DATE: JAN 2026 PROJECT NUMBER 9361

REVISION: SK018

SHEET: 4

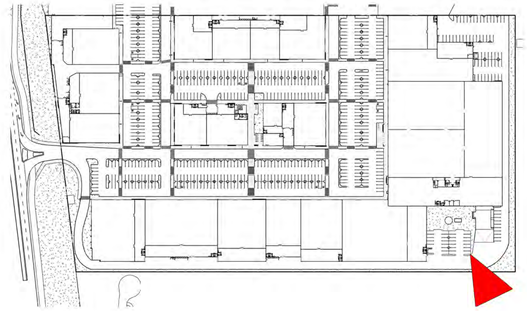
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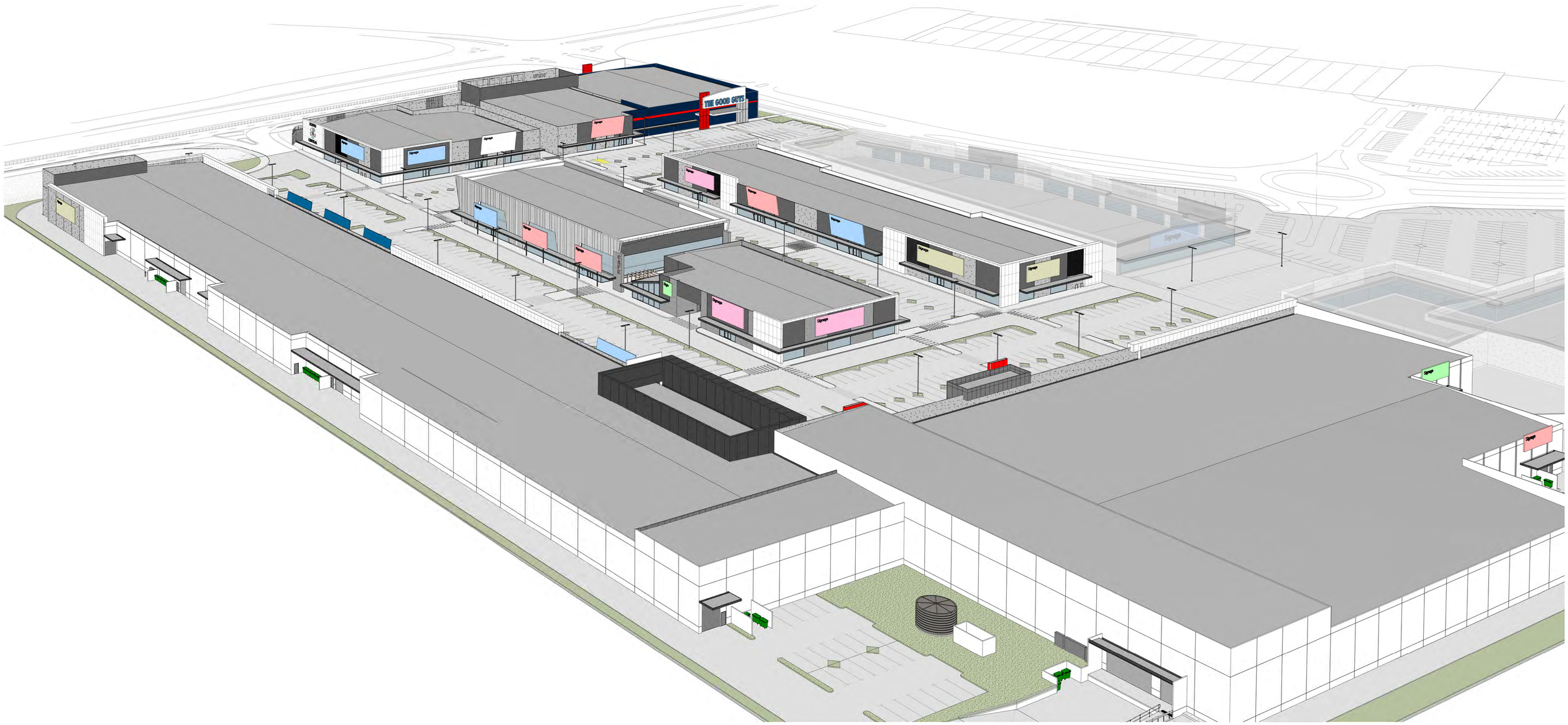
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OVERALL PERSPECTIVE VIEW

SCALE:

meyer shircore architects

PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

SATTERLEY Centuria

VEND PROPERTY

0 5 10 15 20 25 50

DATE: JAN 2026
REVISION: SK018
SHEET: 25
SCALE: 1 : 2000 @B1

PROJECT NUMBER 9361

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HERRING STORER ACOUSTICS

EMAIL TRANSMITTAL

REF: 36094-1-25372

TO: ROWE GROUP

ATTENTION: George Hajigabriel

ADDRESS: George.Hajigabriel@rowegroup.com.au

FROM: Tim Reynolds

DATE: 04 March 2026

SUBJECT: **PROPOSED LARGE RETAIL EXPANSION - JANDAKOT**
ACOUSTICS – ADDITIONAL INFORMATION AS RESPONSE TO COUNCIL QUERIES

George,

As requested, we have reviewed the latest set of comments from council and provide the following responses relating to noise associated with the development.

From your Email of 03 March 2026, within the council's request for additional information, relating to the following:

Acoustics

The City's Health services have concerns that the noise emissions from this development will significantly contribute to a level of noise that exceeds the assigned level when received at the surrounding noise sensitive premises. A noise emission is taken to significantly contribute to a level of noise if the noise emission exceeds a value which is 5dB below the assigned level. In this case, the following times/day are those which match or exceed a level of noise that is 5dB below the assigned noise level and therefore will be significantly contributing to the received noise levels.

TABLE 7.5 – ASSESSMENT OF L_{A10} NOISE LEVEL EMISSIONS FORKLIFT

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L_{A10} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residences to SE. Within 100m of Armadale Rd	14	Day Period	53	Complies
		Sunday Day Period	48	Complies
		Evenings	48	Complies
		Night	43	Complies
Residences to South East	31	Day Period	51	Complies
		Sunday Day Period	46	Complies
		Evenings	46	Complies
		Night	41	Complies
Residences to East	45	Day Period	50	Complies
		Sunday Day Period	45	Complies
		Evenings	45	Complies
		Night	40	+5
Residences to North	26	Day Period	51	Complies
		Sunday Day Period	46	Complies
		Evenings	46	Complies
		Night	41	Complies

Rochdale Holdings Pty Ltd A.B.N. 85 009 049 067 trading as:
HERRING STORER ACOUSTICS
P.O. Box 219, Como, W.A. 6952
(08) 9367 6200
hsa@hsacoustics.com.au

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TABLE 7.8 – ASSESSMENT OF L_{A1} NOISE LEVEL EMISSIONS DELIVERIES (LARGE TRUCKS)

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L_{A10} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residences to SE, Within 100m of Armadale Rd	54	Day Period	63	Complies
		Sunday Day Period	58	Complies
		Evenings	58	Complies
		Night	53	+1
Residences to South East	56	Day Period	61	Complies
		Sunday Day Period	56	Complies
		Evenings	56	Complies
		Night	51	+5
Residences to East	55	Day Period	60	Complies
		Sunday Day Period	55	Complies
		Evenings	55	Complies
		Night	50	+5
Residences to North	55	Day Period	61	Complies
		Sunday Day Period	56	Complies
		Evenings	56	Complies
		Night	51	+4

TABLE 7.14 – ASSESSMENT OF L_{AMAX} NOISE LEVEL EMISSIONS REVERSING BEEPER

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L_{A10} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residences to SE, Within 100m of Armadale Rd	25	Day Period	73	Complies
		Sunday Day Period	73	Complies
		Evenings	63	Complies
		Night	63	Complies
Residences to South East	48	Day Period	71	Complies
		Sunday Day Period	71	Complies
		Evenings	61	Complies
		Night	61	Complies
Residences to East	57	Day Period	70	Complies
		Sunday Day Period	70	Complies
		Evenings	60	Complies
		Night	60	Complies
Residences to North	51	Day Period	71	Complies
		Sunday Day Period	71	Complies
		Evenings	61	Complies
		Night	61	Complies

The City's health services believe there is a lack of detail in the revised acoustic report to give confidence that the amenity impact from the overall cumulative effect from all the potential noise emissions from the development can be mitigated or sufficiently managed.

- *There has been no assessment of the general banging that occurs with loading and unloading bulky goods.*
- *There is no detail to show that a large truck driving along the delivery route has been assessed as well as the location that the trucks have been modelled at the loading points.*
- *Similarly, there are no figures provided to show the modelling location of the other noise sources.*
- *There is no assessment on the cumulative effect of all the noises sources and the effect on amenity. Each noise source has been assessed individually. In practice complaints are received about the noise from the site as a whole and the number of different sources rather than one noise source.*

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- *There is no justification that delivery truck engines will be turned off during loading and unloading thereby limiting the noise duration and making the LA1 the applicable assigned noise level. Without a delivery management plan there is no justification on how the driver behaviour can be managed.*

1. *Requesting a further revised acoustic report in the second FIR to address the points above and give consideration to providing improved boundary fence attenuation.*
   - *If you refuse to provide a revised acoustic report the City will likely look to condition the following*

   i. *Condition that deliveries, inclusive of loading/unloading activities (i.e. forklift usage), are permitted between the hours of 7am to 7pm Monday to Saturday (excluding public holidays) only. No deliveries and associated activities would be permitted between the hours of 7pm and 7am, and not at all on Sundays or Public Holidays.*

   ii. *Condition the requirement for a Noise Management Plan that addresses all potential noise sources, including a Delivery Management Plan, prior to the OP, as well as a revised acoustic report prior to the BP to assess the mechanical plant.*

RESPONSE

SIGNIFICANTLY CONTRIBUTING / CUMMULATIVE

We think that the council is using "Significantly contributing", when they mean the "cumulative" noise.

Significantly contributing relates to the noise received from different premises, when combined together lead to an exceedance. However, we understand that this development is the single premises and Significantly contributing" would not occur, as there are no other premises that would contribute to the noise received at the neighbours.

With regards to cumulative noise, we note the councils comment about the noise received as a whole. However, when considering the nose received at a residence from the different noise sources, that are assessed under the different Regulatory criteria, we note that they do not affect compliance. With there being 10 dB(A) difference between the L_{A10} criteria and the L_{A1} criteria; and again 10 dB(A) difference between the L_{A1} and L_{Amax} criteria, the addition of an L_{A10} noise to an L_{A1} or an L_{A1} noise to an L_{AMax} source, being 10 dB(A) or more difference, there is no change in the assessable noise level.

Further we, note that if by some chance two L_{A1} noise sources occurred at the same time, they would occur for less than 1% of the time and would be assessed under the L_{AMax} criteria and thus, would easily comply. Also the L_{AMax} noise levels would not occur at the same time and additionally, they would emanate from different loading areas, and as the assessments have been made at the worst case location for each source, the combined maximum for each loading area would be in the middle of the two loading areas and the noise from each source would be less than that used in the assessment and compliance would still be maintaining.

The only possible combination would be the L_{A10} noise level associated with the forklift operation and voice, however, if the forklift is operating, they would not be talking thus, they would not combine, and if they did, they would be for less than 10% of the time, and would no longer be considered tonal, thus would still comply with the Regulatory criteria.

We understand the council concerns, however, in this case, we believe that the noise can be managed and agree that an Operational Management Plan should be developed for the delivery of goods to these premises.

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SOURCE LOCATIONS

We confirm that noise modelling for the delivery trucks was undertaken for the trucks travelling on the delivery route and within the loading areas. We note that the highest noise level associated with the delivery trucks is associated with the trucks travelling along the delivery route. Thus, this noise would be the dominant noise and cumulative noise associated with trucks would not occur.

Obviously, the noise associated with roller doors, was at the locations of the roller doors, with other noise sources associated with delivery being in the delivery zone area for each tenancy (ie near the roller door).

BANGS AND CLANGS

From data we have, bangs and clangs from a delivery would be around 80 dB(A) at 1 metre. Based on this noise level, we have undertaken noise modelling and provide the following.

Table 1, lists the noise received at the neighbouring residences, with Table 2 including the +10 dB(A) penalty for impulsiveness. Finally, Table 3 provided the assessment of noise levels.

TABLE 1 – CALCULATED NOISE LEVEL

Item of Equipment	Sound Power Level, (dB(A))
Residences to SE. Within 100m of Armadale Rd	48
Residences to South East	48
Residences to East	46
Residences to North	45

TABLE 2 – APPLICABLE ADJUSTMENTS AND ASSESSABLE L_{AMAX} NOISE LEVELS, dB(A)
BANGS and CLANGS

Location	Calculated Noise Level, dB(A)	Applicable Adjustments to Measured Noise Levels, dB(A)			Assessable Noise Level, dB(A)
		Where Noise Emission is NOT music			
		Tonality	Modulation	Impulsiveness	
Residences to SE. Within 100m of Armadale Rd	48	-	-	+10	58
Residences to South East	48	-	-	+10	58
Residences to East	46	-	-	+10	56
Residences to North	45	-	-	+10	55

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TABLE 3 – ASSESSMENT OF L_{AMAX} NOISE LEVEL EMISSIONS
BANGS and CLANGS

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L_{Amax} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residences to SE. Within 100m of Armadale Rd	58	Day Period	73	Complies
		Sunday Day Period	73	Complies
		Evenings	63	Complies
		Night	63	Complies
Residences to South East	58	Day Period	71	Complies
		Sunday Day Period	71	Complies
		Evenings	61	Complies
		Night	61	Complies
Residences to East	56	Day Period	70	Complies
		Sunday Day Period	70	Complies
		Evenings	60	Complies
		Night	60	Complies
Residences to North	55	Day Period	71	Complies
		Sunday Day Period	71	Complies
		Evenings	61	Complies
		Night	61	Complies

Thus, noise associated with the Bangs and Clangs would also comply with he assigned noise levels.

Given the above, we believe that allowing deliveries during the day and evening periods, with NO deliveries during the night period would be appropriate for this development.

CONDITIONS

Additional to the above, we believe that a condition requiring an acoustical assessment of the mechanical services for submission at building permit would also be appropriate.

We trust this answers the council's queries.

Yours faithfully,
For **HERRING STORER ACOUSTICS**

Tim Reynolds

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Waste Management Plan

Lot 701 Armadale Road, Treeby

Prepared for Satterley Property Group Pty Ltd

28 October 2025

Project Number: WMP25116

Document Set ID: 12502360
Version: 1, Version Date: 10/11/2026

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DOCUMENT CONTROL					
Version	**Description**	**Date**	**Author**	**Reviewer**	**Approver**
1.0	First Approved Release	28/10/2025	JL	AB	AB

Approval for Release

Name	**Position**	**File Reference**
Ann Brouwer	Project Manager – Waste Management Plan Lead (WA)	WMP25116-01_Waste Management Plan_1.0
Signature		

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Executive Summary

Satterley Property Group Pty Ltd is seeking development approval for the proposed Large Format Retail Expansion Stage II located at Lot 701 Armadale Road, Treeby (the Proposal).

To satisfy the conditions of the development application the City of Cockburn (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the City's requirements.

A summary of the bin size, numbers, collection frequency and collection method is provided in the below table.

A private contractor will service the Proposal onsite, directly from the respective Bin Storage Area. The private contractor's waste collection vehicle will enter and exit the Proposal in forward gear via Biscayne Way to service Buildings 1 and 2, and Verde Drive/Armadale Road to service Buildings 3-7.

A building manager/caretaker will oversee the relevant aspects of waste management at the Proposal.

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Proposed Waste Collection Summary

Waste Type	Generation (L/week)	Bin Size (L)	Number of Bins	Collection Frequency	Collection
Bin Storage Area 1					
Refuse	5,280	1,100L	Three	Twice each week	Private Contractor
Recycling	1,320	1,100L	One	Twice each week	Private Contractor
Bin Storage Area 2					
Refuse	8,750	1,100L	Four	Twice each week	Private Contractor
Recycling	2,188	1,100L	One	Twice each week	Private Contractor
Bin Storage Area 3					
Refuse	14,642	1,100L	Seven	Twice each week	Private Contractor
Recycling	3,661	1,100L	Two	Twice each week	Private Contractor
Bin Storage Area 4					
Refuse	19,440	1,100L	Nine	Twice each week	Private Contractor
Recycling	7,560	1,100L	Four	Twice each week	Private Contractor
Bin Storage Area 5					
Refuse	4,320	1,100L	Two	Twice each week	Private Contractor
Recycling	1,080	1,100L	One	Twice each week	Private Contractor
Bin Storage Area 6					
Refuse	2,402	1,100L	Two	Twice each week	Private Contractor
Recycling	601	1,100L	One	Twice each week	Private Contractor
Bin Storage Area 7					
Refuse	9,098	1,100L	Five	Twice each week	Private Contractor
Recycling	2,275	1,100L	Two	Twice each week	Private Contractor
Bin Storage Area 8					
Refuse	6,392	1,100L	Three	Twice each week	Private Contractor
Recycling	2,911	1,100L	Two	Twice each week	Private Contractor
Bin Storage Area 9					
Refuse	8,832	1,100L	Five	Twice each week	Private Contractor
Recycling	4,858	1,100L	Three	Twice each week	Private Contractor
Bin Storage Area 10					
Refuse	6,000	1,100L	Three	Twice each week	Private Contractor
Recycling	1,500	1,100L	One	Twice each week	Private Contractor
Bin Storage Area 11					
Refuse	2,402	1,100L	Two	Twice each week	Private Contractor
Recycling	601	1,100L	One	Twice each week	Private Contractor

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Figures

Figure 1: Locality Plan

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1 Introduction

Satterley Property Group Pty Ltd is seeking development approval for the proposed Large Format Retail Expansion Stage II located at Lot 701 Armadale Road, Treeby (the Proposal).

To satisfy the conditions of the development application the City of Cockburn (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the City's requirements.

The Proposal is bordered by commercial properties to the north and west, residential properties to the east and Armadale Road/Verde Drive to the south, as shown in Figure 1.

1.1 Objectives and Scope

The objective of this WMP is to outline the equipment and procedures that will be adopted to manage waste (refuse and recyclables) at the Proposal. Specifically, the WMP demonstrates that the Proposal is designed to:

- Adequately cater for the anticipated volume of waste to be generated;
- Provide an adequately sized Bin Storage Area, including appropriate bins; and
- Allow for efficient collection of bins by appropriate waste collection vehicles.

To achieve the objective, the scope of the WMP comprises:

- Section 2: Construction and Demolition Waste
- Section 3: Waste Generation;
- Section 4: Waste Storage;
- Section 5: Waste Collection;
- Section 6: Waste Management; and
- Section 7: Conclusion.

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2 Construction and Demolition Waste

The below section presents the required communication and waste disposal considerations for Construction and Demolition waste generated during the Proposals development.

2.1 Demolition

The Proposal is currently free of buildings and structures; therefore any demolition works are unlikely to occur ensuring demolition waste is not generated at the Proposal.

2.2 Construction

Appropriate waste management procedures that aim to reduce waste and encourage recycling of excess materials should be considered as part of the construction phase of the Proposal. The tendering of the construction of the building and the tender assessment scoring should consider applicants that have effective waste minimisation strategies.

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3 Waste Generation

The following section shows the waste generation rates used and the estimated waste volumes to be generated at the Proposal.

3.1 Proposed Tenancies

The anticipated volume of refuse and recyclables is based on the floor area (m^2) of the commercial tenancies at the Proposal. The Proposal consists of the following:

Building 1:

- Tenancy 11 (Showroom) – 2,200m^2;
- Tenancy 12 (Showroom) – 800m^2;
- Tenancy 13 (Showroom) – 645m^2;
- Tenancy 14 (Showroom) – 1,001m^2;
- Tenancy 15 (Showroom) – 1,200m^2;
- Tenancy 16 (Showroom) – 1,800m^2;
- Tenancy 17 (Showroom) – 1,001m^2;
- Tenancy 18 (Showroom) – 1,500m^2; and
- Tenancy 19 (Showroom) – 1,800m^2.

Building 2:

- Tenancy 10 (Warehouse) – 2,000m^2;
- Tenancy 10 (Showroom) – 6,600m^2;
- Tenancy 9 (Showroom) – 1,800m^2; and
- Tenancy 8 (Showroom) – 1,001m^2.

Building 3:

- Tenancy 7 (Showroom) – 1,200m^2;
- Tenancy 6 (Showroom) – 390m^2;
- Tenancy 5 (Showroom) – 1,200m^2; and
- Tenancy 4 (Showroom) – 1,001m^2.

Building 4:

- Tenancy 26 (Showroom) – 1,001m^2;
- Tenancy 25 (Showroom) – 350m^2; and
- Tenancy 24 (Café) – 150m^2.

Building 5:

- Tenancy 20 (Showroom) – 800m^2;
- Tenancy 21 (Showroom) – 630m^2;
- Tenancy 22 (Food) – 200m^2; and
- Tenancy 23 (Gym) – 2,000m^2.

Building 6:

- Tenancy 1 (Showroom) – 1,400m^2; and
- Tenancy 2 (Showroom) – 1,100m^2.

Building 7:

- Tenancy 3 (Showroom) – 1,001m^2.

3.2 Waste Generation Rates

In order to achieve an accurate projection of waste volumes for the Proposal, consideration was given to the City of Melbourne's Guidelines for Waste Management Plans (2021) and Western Australian Local Government Association's (WALGA) Commercial and Industrial Waste Management Plan Guidelines (2014), with consideration given to Randwick City Council *Waste Management Guidelines for Proposed Developments, Annexure A, Waste Generation Rates* (2004) as they contain contemporary estimates of waste generated from workshops/warehouses.

Table 3-1 shows the waste generation rates which have been applied to the Proposal.

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Table 3-1: Waste Generation Rates

Tenancy Use Types	Guideline Reference	Refuse Generation Rate	Recycling Generation Rate	Floor Area Required (m^2)	Floor Area Calculations
Showroom	WALGA – Showrooms	30L/100m^2/day	30L/100m^2/day	2m^2/200m^2/GFA	(31,421/200)*2
Warehouse	Randwick – Warehouse	40L/100m^2/day	10L/100m^2/day	2m^2/200m^2/GFA	(2,000/200)*2
Café	Melbourne – Café	300L/100m^2/day	200L/100m^2/day	1m^2/20 seats	((150/100))*50)/20
Food	Melbourne – Café	300L/100m^2/day	200L/100m^2/day	1m^2/20 seats	((200/100))*50)/20
Gym	WALGA – Offices	10L/100m^2/day	10L/100m^2/day	1m^2/200m^2/GFA	(1,200/200)*1
				Total Floor Area Required	**187.35m^2**

**It has been assumed that there are approximately 50 seats per 100m^2 in the Café/Food areas.*

3.3 Waste Generation Volumes

Waste generation is estimated by volume in litres (L) as this is generally the influencing factor when considering bin size, numbers and storage space required.

3.3.1 Bin Storage Area 1 Waste Generation

Waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 3-2. It is estimated that Bin Storage Area 1 will generate 5,280L of refuse and 1,320L of recyclables each week.

Table 3-2: Estimated Waste Generation – Bin Storage Area 1

Tenancy 11 - Showroom	Area (m^2)	Waste Generation Rate (L/100m^2/day)	Waste Generation (L/week)
Refuse	2,200	40	5,280
Recyclables	2,200	10	1,320
		Total	**6,600**

3.3.2 Bin Storage Area 2 Waste Generation

Waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 3-3. It is estimated that Bin Storage Area 2 will generate 8,750L of refuse and 2,188L of recyclables each week.

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Table 3-3: Estimated Waste Generation – Bin Storage Area 2

Tenancy Use Types	Area (m^2)	Waste Generation Rate (L/100m^2/day)	Waste Generation (L/week)
Refuse			
Tenancy 12 - Showroom	800	40	1,920
Tenancy 13 - Showroom	645	40	1,548
Tenancy 14 - Showroom	1,001	40	2,402
Tenancy 15 - Showroom	1,200	40	2,880
		Total	**8,750**
Recyclables			
Tenancy 12 - Showroom	800	10	480
Tenancy 13 - Showroom	645	10	387
Tenancy 14 - Showroom	1,001	10	601
Tenancy 15 - Showroom	1,200	10	720
		Total	**2,188**

3.3.3 Bin Storage Area 3 Waste Generation

Waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 3-4. It is estimated that Bin Storage Area 3 will generate 14,642L of refuse and 3,661L of recyclables each week.

Table 3-4: Estimated Waste Generation – Bin Storage Area 3

Tenancy Use Types	Area (m^2)	Waste Generation Rate (L/100m^2/day)	Waste Generation (L/week)
Refuse			
Tenancy 16 - Showroom	1,800	40	4,320
Tenancy 17 - Showroom	1,001	40	2,402
Tenancy 18 - Showroom	1,500	40	3,600
Tenancy 19 - Showroom	1,800	40	4,320
		Total	**14,642**
Recyclables			
Tenancy 16 - Showroom	1,800	10	1,080
Tenancy 17 - Showroom	1,001	10	601
Tenancy 18 - Showroom	1,500	10	900
Tenancy 19 - Showroom	1,800	10	1,080
		Total	**3,661**

3.3.4 Bin Storage Area 4 Waste Generation

Waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 3-5. It is estimated that Bin Storage Area 4 will generate 19,440L of refuse and 7,560L of recyclables each week.

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Table 3-5: Estimated Waste Generation – Bin Storage Area 4

Tenancy Use Types	Area (m^2)	Waste Generation Rate (L/100m^2/day)	Waste Generation (L/week)
Refuse			
Tenancy 10 – Warehouse	2,000	30	3,600
Tenancy 10 – Showroom	6,600	40	15,840
		Total	**19,440**
Recyclables			
Tenancy 10 – Warehouse	2,000	30	3,600
Tenancy 10 – Showroom	6,600	10	3,960
		Total	**7,560**

3.3.5 Bin Storage Area 5 Waste Generation

Waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 3-6. It is estimated that Bin Storage Area 5 will generate 4,320L of refuse and 1,080L of recyclables each week.

Table 3-6: Estimated Waste Generation – Bin Storage Area 5

Tenancy 9 - Showroom	Area (m^2)	Waste Generation Rate (L/100m^2/day)	Waste Generation (L/week)
Refuse	1,800	40	4,320
Recyclables	1,800	10	1,080
		Total	**5,400**

3.3.6 Bin Storage Area 6 Waste Generation

Waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 3-7. It is estimated that Bin Storage Area 6 will generate 2,402L of refuse and 601L of recyclables each week.

Table 3-7: Estimated Waste Generation – Bin Storage Area 6

Tenancy 8 - Showroom	Area (m^2)	Waste Generation Rate (L/100m^2/day)	Waste Generation (L/week)
Tenancy 8 - Showroom	1,001	40	2,402
Tenancy 8 - Showroom	1,001	10	601
		Total	**3,003**

3.3.7 Bin Storage Area 7 Waste Generation

Waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 3-8. It is estimated that Bin Storage Area 7 will generate 9,098L of refuse and 2,275L of recyclables each week.

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Table 3-8: Estimated Waste Generation – Bin Storage Area 7

Building 3	Area (m^2)	Waste Generation Rate (L/100m^2/day)	Waste Generation (L/week)
Refuse			
Tenancy 4 - Showroom	1,001	40	2,402
Tenancy 5 - Showroom	1,200	40	2,880
Tenancy 6 - Showroom	390	40	936
Tenancy 7 - Showroom	1,200	40	2,880
		Total	**9,098**
Recyclables			
Tenancy 4 - Showroom	1,001	10	601
Tenancy 5 - Showroom	1,200	10	720
Tenancy 6 - Showroom	390	10	234
Tenancy 7 - Showroom	1,200	10	720
		Total	**2,275**

3.3.8 Bin Storage Area 8 Waste Generation

Waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 3-9. It is estimated that Bin Storage Area 8 will generate 6,392L of refuse and 2,911L of recyclables each week.

Table 3-9: Estimated Waste Generation – Bin Storage Area 8

Building 4	Area (m^2)	Waste Generation Rate (L/100m^2/day)	Waste Generation (L/week)
Refuse			
Tenancy 24 – Café	150	300	3,150
Tenancy 25 - Showroom	350	40	2402
Tenancy 26 - Showroom	1,001	40	840
		Total	**6,392**
Recyclables			
Tenancy 24 – Café	150	200	2,100
Tenancy 25 - Showroom	350	10	601
Tenancy 26 - Showroom	1,001	10	210
		Total	**2,911**

3.3.9 Bin Storage Area 9 Waste Generation

Waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 3-10. It is estimated that Bin Storage Area 9 will generate 8,832L of refuse and 4,858L of recyclables each week.

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Table 3-10: Estimated Waste Generation – Bin Storage Area 9

Building 5	Area (m^2)	Waste Generation Rate (L/100m^2/day)	Waste Generation (L/week)
Refuse			
Tenancy 20 - Showroom	800	40	1,920
Tenancy 21 - Showroom	630	40	1,512
Tenancy 22 – Food	200	300	4,200
Tenancy 23 – Gym	2,000	10	1,200
		Total	**8,832**
Recyclables			
Tenancy 20 - Showroom	800	10	480
Tenancy 21 - Showroom	630	10	378
Tenancy 22 – Food	200	200	2,800
Tenancy 23 – Gym	2,000	10	1,200
		Total	**4,858**

3.3.10 Bin Storge Area 10 Waste Generation

Waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 3-11. It is estimated that Bin Storage Area 10 will generate 6,000L of refuse and 1,500L of recyclables each week.

Table 3-11: Estimated Waste Generation – Bin Storage Area 10

Building 6	Area (m^2)	Waste Generation Rate (L/100m^2/day)	Waste Generation (L/week)
Refuse			
Tenancy 1 - Showroom	1,400	40	3,360
Tenancy 2 - Showroom	1,100	40	2,640
		Total	**6,000**
Recyclables			
Tenancy 1 - Showroom	1,400	10	840
Tenancy 2 - Showroom	1,100	10	660
		Total	**1,500**

3.3.11 Bin Storage Area 11 Waste Generation

Waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 3-12. It is estimated that Bin Storage Area 11 will generate 2,402L of refuse and 601L of recyclables each week.

Table 3-12: Estimated Waste Generation – Bin Storage Area 11

Tenancy 3 Showroom	Area (m^2)	Waste Generation Rate (L/100m^2/day)	Waste Generation (L/week)
Refuse	1,001	40	2,402
Recyclables	1,001	10	601
		Total	**3,003**

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4 Waste Storage

Waste materials generated within the Proposal will be collected in the bins located in the Bin Storage Areas, as shown in Diagram 1, and discussed in the following sub-sections.

Diagram 1: Bin Storage Area Locations



4.1 Internal Transfer of Waste

To promote positive recycling behaviour and maximise diversion from landfill, internal bins will be available throughout the tenancies at the Proposal for the source separation of refuse and recycling.

These internal bins will be collected by the staff/cleaners and transferred to the respective Bin Storage Area for consolidation into the appropriate bins. This internal servicing method may be conducted outside of main operational hours to mitigate disturbances to staff/visitors.

All bins will be colour coded and labelled in accordance with Australian Standards (AS 4123.7) to assist staff and cleaners to dispose of their separate waste materials in the correct bins.

4.2 Bin Sizes

Table 4-1 gives the typical dimensions of standard bins sizes that may be utilised at the Proposal. It should be noted that these bin dimensions are approximate and can vary slightly between suppliers.

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Table 4-1: Typical Bin Dimensions

Dimensions (m)	Bin Sizes	
	660L	1,100L
Depth	0.780	1.070
Width	1.260	1.240
Height	1.200	1.330

Reference: SULO Bin Specification Data Sheets

4.3 Bin Storage Area 1 Size

To ensure sufficient area is available for storage of bins, the amount of bins required for Bin Storage Area 1 was modelled utilising the estimated waste generation in Table 3-2, bin sizes in Table 4-1 and based on collection of refuse and recyclables twice each week.

Based on the results shown in Table 4-2, Bin Storage Area 1 has been sized to accommodate:

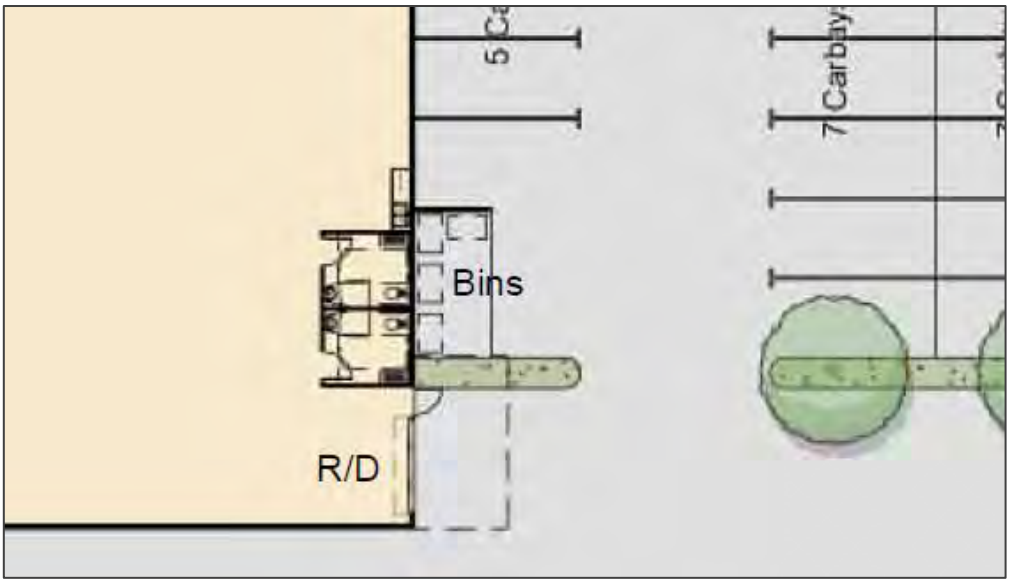
- Three 1,100L refuse bins; and
- One 1,100L recycling bin.

Table 4-2: Bin Requirements for Bin Storage Area – Bin Storage Area 1

Waste Stream	Waste Generation (L/week)	Number of Bins Required	
		660L	1,100L
Refuse	5,280	4	3
Recycling	1,320	1	1

The configuration of these bins within Bin Storage Area 1 is shown in Diagram 2. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 2 represents the maximum requirements assuming two collections each week of refuse and recyclables.

Diagram 2: Bin Storage Area 1



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4.4 Bin Storage Area 2 Size

To ensure sufficient area is available for storage of bins, the amount of bins required for Bin Storage Area 2 was modelled utilising the estimated waste generation in Table 3-3, bin sizes in Table 4-1 and based on collection of refuse and recyclables twice each week.

Based on the results shown in Table 4-3, Bin Storage Area 2 has been sized to accommodate:

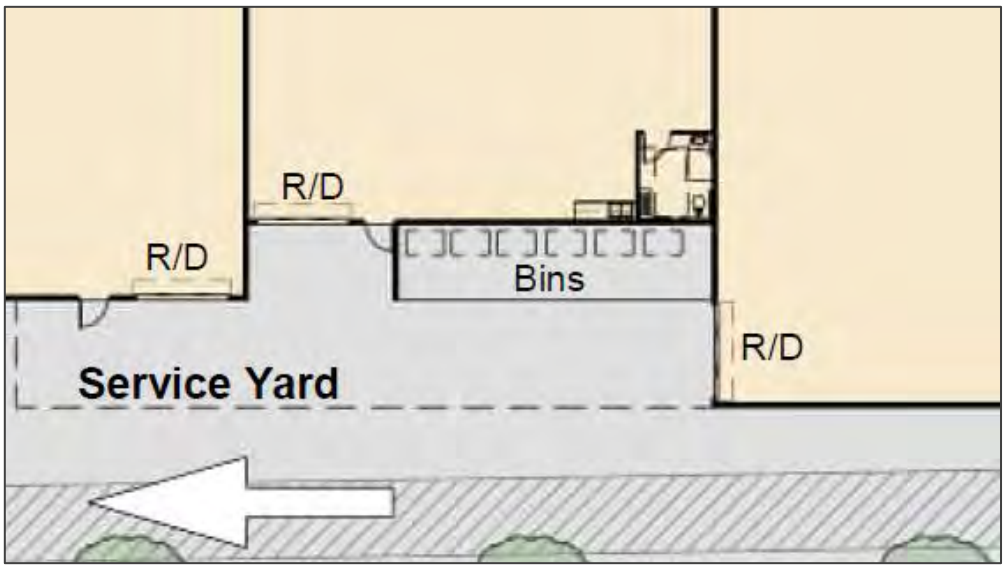
- Four 1,100L refuse bins; and
- One 1,100L recycling bin.

Table 4-3: Bin Requirements for Bin Storage Area – Bin Storage Area 2

Waste Stream	Waste Generation (L/week)	Number of Bins Required	
		660L	1,100L
Refuse	8,750	7	4
Recycling	2,188	2	1

The configuration of these bins within Bin Storage Area 2 is shown in Diagram 3. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 3 represents the maximum requirements assuming two collections each week of refuse and recyclables.

Diagram 3: Bin Storage Area 2



4.5 Bin Storage Area 3 Size

To ensure sufficient area is available for storage of bins, the amount of bins required for Bin Storage Area 3 was modelled utilising the estimated waste generation in Table 3-4, bin sizes in Table 4-1 and based on collection of refuse and recyclables twice each week.

Based on the results shown in Table 4-4, Bin Storage Area 3 has been sized to accommodate:

- Seven 1,100L refuse bins; and
- Two 1,100L recycling bins.

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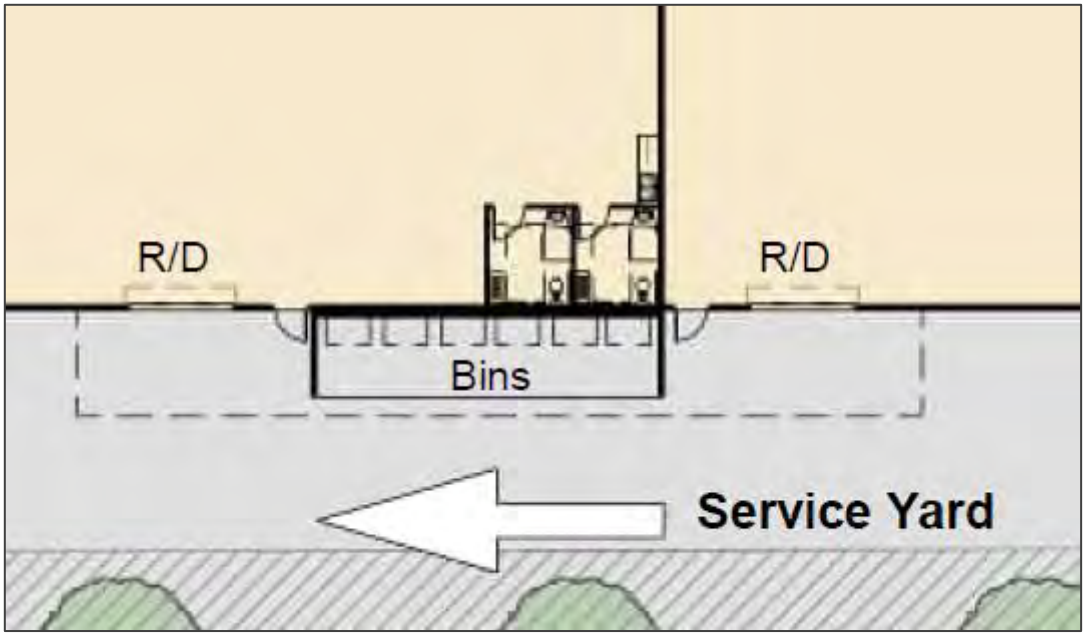
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Table 4-4: Bin Requirements for Bin Storage Area – Bin Storage Area 3

Waste Stream	Waste Generation (L/week)	Number of Bins Required	
		660L	1,100L
Refuse	14,642	12	7
Recycling	3,661	3	2

The configuration of these bins within Bin Storage Area 3 is shown in Diagram 4. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 4 represents the maximum requirements assuming two collections each week of refuse and recyclables.

Diagram 4: Bin Storage Area 3



4.6 Bin Storage Area 4 Size

To ensure sufficient area is available for storage of bins, the amount of bins required for Bin Storage Area 4 was modelled utilising the estimated waste generation in Table 3-5, bin sizes in Table 4-1 and based on collection of refuse and recyclables twice each week.

Based on the results shown in Table 4-5, Bin Storage Area 4 has been sized to accommodate:

- Nine 1,100L refuse bins; and
- Four 1,100L recycling bins.

Table 4-5: Bin Requirements for Bin Storage Area – Bin Storage Area 4

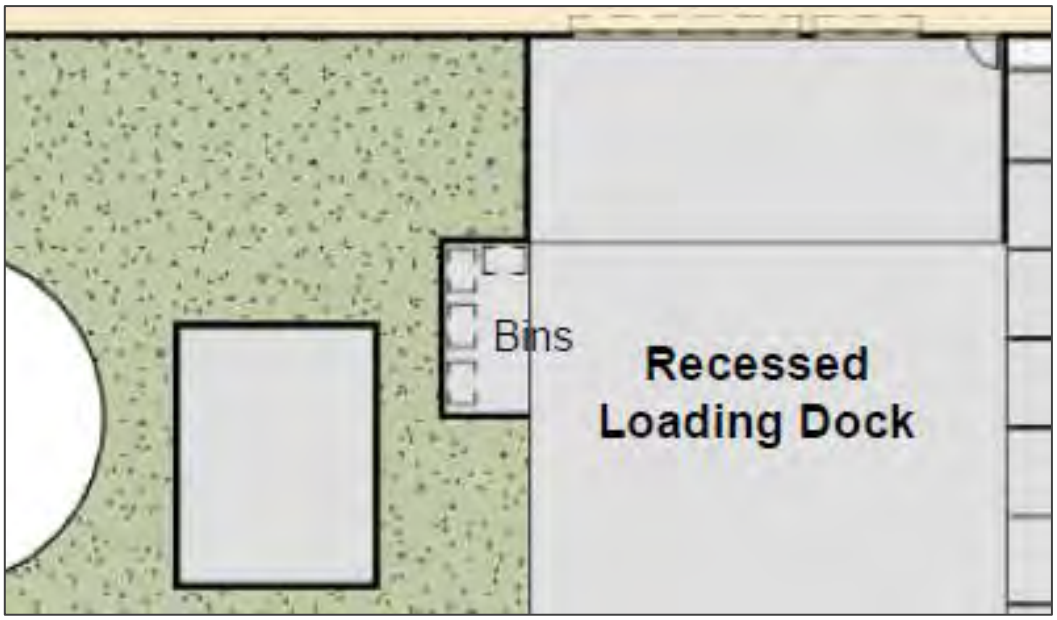
Waste Stream	Waste Generation (L/week)	Number of Bins Required	
		660L	1,100L
Refuse	19,440	15	9
Recycling	7,560	6	4

The configuration of these bins within Bin Storage Area 4 is shown in Diagram 5. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 5 represents the maximum requirements assuming two collections each week of refuse and recyclables.

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Diagram 5: Bin Storage Area 4



4.7 Bin Storage Area 5 Size

To ensure sufficient area is available for storage of bins, the amount of bins required for Bin Storage Area 5 was modelled utilising the estimated waste generation in Table 3-6, bin sizes in Table 4-1 and based on collection of refuse and recyclables twice each week.

Based on the results shown in Table 4-6, Bin Storage Area 5 has been sized to accommodate:

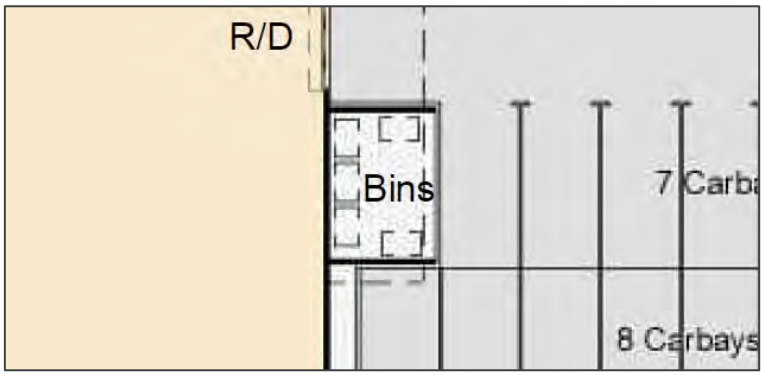
- Two 1,100L refuse bins; and
- One 1,100L recycling bin.

Table 4-6: Bin Requirements for Bin Storage Area – Bin Storage Area 5

Waste Stream	Waste Generation (L/week)	Number of Bins Required	
		660L	1,100L
Refuse	4,320	4	2
Recycling	1,080	1	1

The configuration of these bins within Bin Storage Area 5 is shown in Diagram 6. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 6 represents the maximum requirements assuming two collections each week of refuse and recyclables.

Diagram 6: Bin Storage Area 5



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4.8 Bin Storage Area 6 Size

To ensure sufficient area is available for storage of bins, the amount of bins required for Bin Storage Area 6 was modelled utilising the estimated waste generation in Table 3-7, bin sizes in Table 4-1 and based on collection of refuse and recyclables twice each week.

Based on the results shown in Table 4-7, Bin Storage Area 6 has been sized to accommodate:

- Two 1,100L refuse bins; and
- One 1,100L recycling bin.

Table 4-7: Bin Requirements for Bin Storage Area – Bin Storage Area 6

Waste Stream	Waste Generation (L/week)	Number of Bins Required	
		660L	1,100L
Refuse	2,402	2	2
Recycling	601	1	1

The configuration of these bins within Bin Storage Area 6 is shown in Diagram 7. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 7 represents the maximum requirements assuming two collections each week of refuse and recyclables.

Diagram 7: Bin Storage Area 6



4.9 Bin Storage Area 7 Size

To ensure sufficient area is available for storage of bins, the amount of bins required for Bin Storage Area 7 was modelled utilising the estimated waste generation in Table 3-8, bin sizes in Table 4-1 and based on collection of refuse and recyclables twice each week.

Based on the results shown in Table 4-8, Bin Storage Area 7 has been sized to accommodate:

- Five 1,100L refuse bins; and
- Two 1,100L recycling bins.

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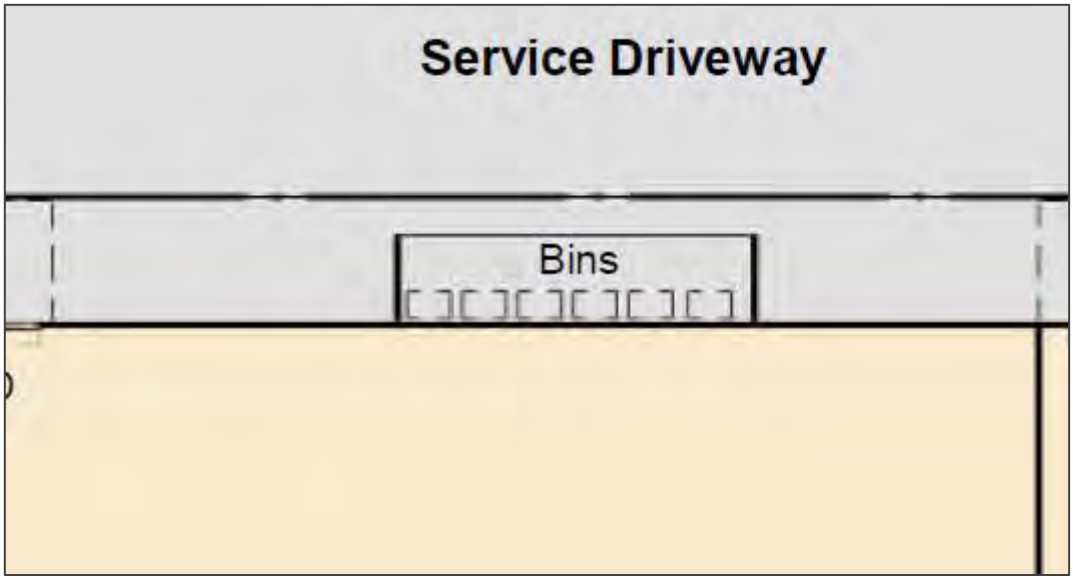
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Table 4-8: Bin Requirements for Bin Storage Area – Bin Storage Area 7

Waste Stream	Waste Generation (L/week)	Number of Bins Required	
		660L	1,100L
Refuse	9,098	7	5
Recycling	2,275	2	2

The configuration of these bins within Bin Storage Area 7 is shown in Diagram 8. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 8 represents the maximum requirements assuming two collections each week of refuse and recyclables.

Diagram 8: Bin Storage Area 7



4.10 Bin Storage Area 8 Size

To ensure sufficient area is available for storage of bins, the amount of bins required for Bin Storage Area 8 was modelled utilising the estimated waste generation in Table 3-9, bin sizes in Table 4-1 and based on collection of refuse and recyclables twice each week.

Based on the results shown in Table 4-9, Bin Storage Area 8 has been sized to accommodate:

- Three 1,100L refuse bins; and
- Two 1,100L recycling bins.

Table 4-9: Bin Requirements for Bin Storage Area – Bin Storage Area 8

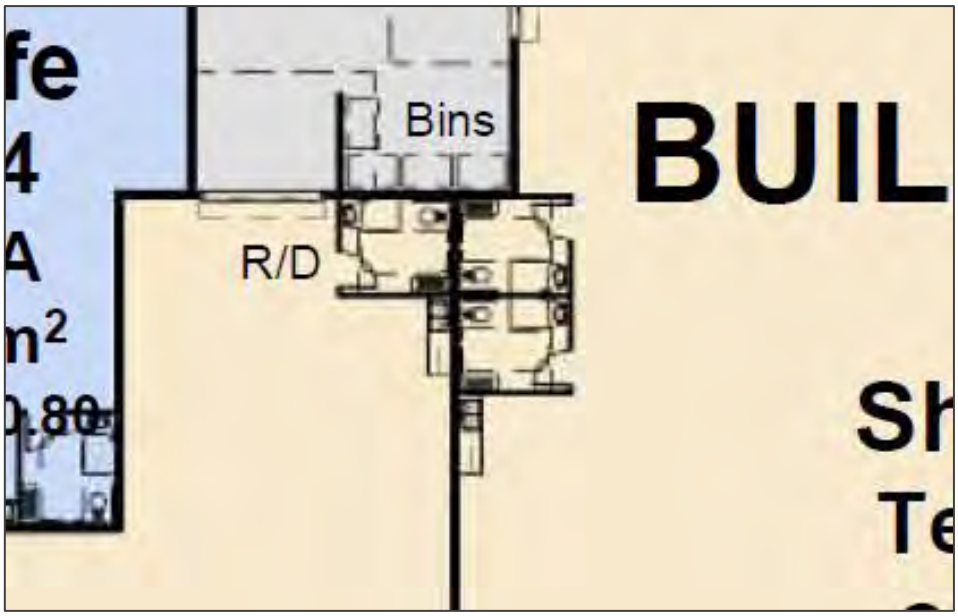
Waste Stream	Waste Generation (L/week)	Number of Bins Required	
		660L	1,100L
Refuse	6,392	5	3
Recycling	2,911	3	2

The configuration of these bins within Bin Storage Area 8 is shown in Diagram 9. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 9 represents the maximum requirements assuming two collections each week of refuse and recyclables.

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Diagram 9: Bin Storage Area 8



4.11 Bin Storage Area 9 Size

To ensure sufficient area is available for storage of bins, the amount of bins required for Bin Storage Area 9 was modelled utilising the estimated waste generation in Table 3-10, bin sizes in Table 4-1 and based on collection of refuse and recyclables twice each week.

Based on the results shown in Table 4-10, Bin Storage Area 9 has been sized to accommodate:

- Five 1,100L refuse bins; and
- Three 1,100L recycling bins.

Table 4-10: Bin Requirements for Bin Storage Area – Bin Storage Area 9

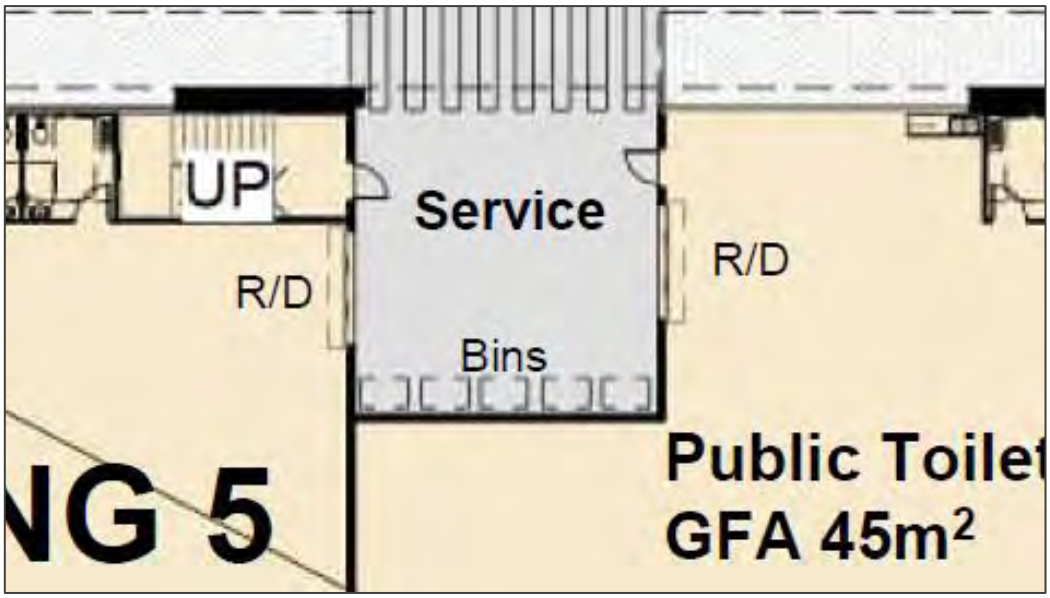
Waste Stream	Waste Generation (L/week)	Number of Bins Required	
		660L	1,100L
Refuse	8,832	7	5
Recycling	4,858	4	3

The configuration of these bins within Bin Storage Area 5 is shown in Diagram 10. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 10 represents the maximum requirements assuming two collections each week of refuse and recyclables.

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Diagram 10: Bin Storage Area 9



4.12 Bin Storage Area 10 Size

To ensure sufficient area is available for storage of bins, the amount of bins required for Bin Storage Area 10 was modelled utilising the estimated waste generation in Table 3-11, bin sizes in Table 4-1 and based on collection of refuse and recyclables twice each week.

Based on the results shown in Table 4-11, Bin Storage Area 10 has been sized to accommodate:

- Three 1,100L refuse bins; and
- One 1,100L recycling bin.

Table 4-11: Bin Requirements for Bin Storage Area – Bin Storage Area 10

Waste Stream	Waste Generation (L/week)	Number of Bins Required	
		660L	1,100L
Refuse	6,000	5	3
Recycling	1,500	2	1

The configuration of these bins within Bin Storage Area 10 is shown in Diagram 11. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 11 represents the maximum requirements assuming two collections each week of refuse and recyclables.

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Diagram 11: Bin Storage Area 10



4.13 Bin Storage Area 11 Size

To ensure sufficient area is available for storage of bins, the amount of bins required for Bin Storage Area 11 was modelled utilising the estimated waste generation in Table 3-12, bin sizes in Table 4-1 and based on collection of refuse and recyclables twice each week.

Based on the results shown in Table 4-12, Bin Storage Area 11 has been sized to accommodate:

- Two 1,100L refuse bins; and
- One 1,100L recycling bin.

Table 4-12: Bin Requirements for Bin Storage Area – Bin Storage Area 11

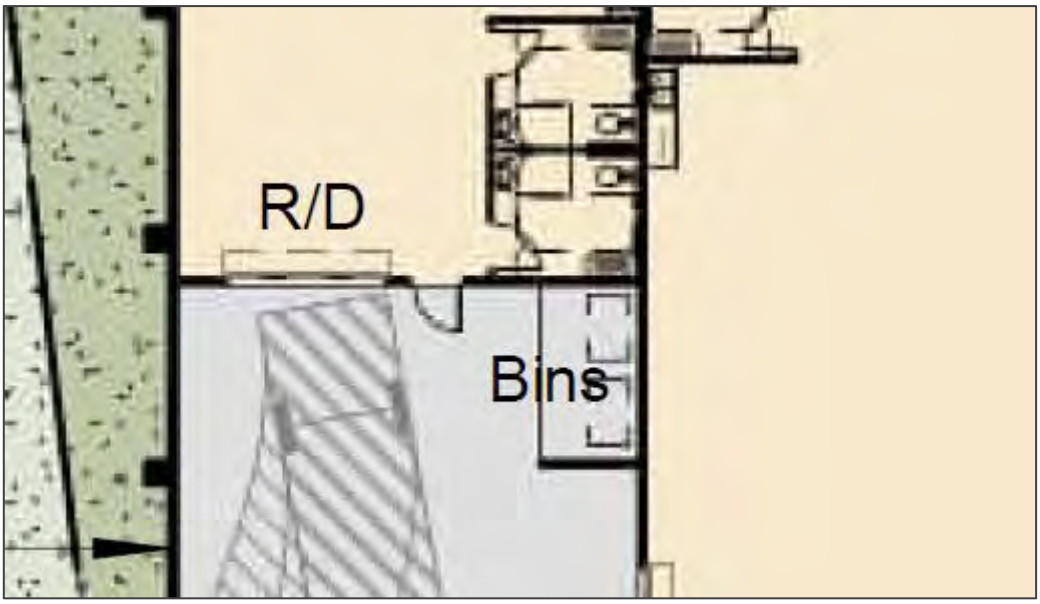
Waste Stream	Waste Generation (L/week)	Number of Bins Required	
		660L	1,100L
Refuse	2,402	2	2
Recycling	601	1	1

The configuration of these bins within Bin Storage Area 11 is shown in Diagram 12. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 12 represents the maximum requirements assuming two collections each week of refuse and recyclables.

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Diagram 12: Bin Storage Area 11



4.14 Contingency Waste Storage Area

Whilst this WMP indicates that waste collections will be conducted two times each week, the City's Policy requires that the Proposal must have the capacity to store one weeks' worth of waste and recyclables.

Based on the calculated waste generation rates, a total storage area of approximately 187.36m² is required to accommodate one week's worth of refuse and recyclables. Given the large-scale commercial nature of the Proposal and the extensive on-site car parking area, sufficient space is available within the Proposals car park to use as additional space for contingency waste storage.

4.15 Bin Storage Area Design

The Bin Storage Areas will align with the requirements of the City's Health Laws and consider noise, odour, hygiene, vermin, security, health and safety and the environment.

The design of the Bin Storage Area will take into consideration:

- The collection point will be flat, with the travel path between the bin store and collection point/vehicle clear of steps or kerbs;
- External bin stores will be surrounded by 1.8 metre high walls or fencing with a self-closing gate;
- Bin stores will be designed and erected in a manner that has regard for the design and appearance of the development of which they are a part;
- Bin stores will have 75mm concrete floors grading to a 100mm industrial floor waste (including a charged 'water-trap' connected to sewer or an approved septic system), with a hose cock to enable bins and/or the enclosure to be washed out;
- Bin store internal walls will be cement rendered (solid and impervious) to enable easy cleaning. Ceilings in bin stores shall be finished with a smooth faced, non-absorbent material capable of being easily cleaned;
- Bin store walls will be finished or painted in a light colour;

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- Bin stores will be constructed in a manner that prevents the entry of vermin;
- Bin stores will be provided with artificial lighting, sensor controlled to the area. All lighting in open areas is to comply with AS4282-1997 (Control of Obtrusive Outdoor Lighting);
- Bin stores will have the following signs and/or information displayed:
    - A sign stating “NO STANDING” at the entrance to the room/area; and
    - A clearly visible “DANGER” sign in the vicinity of the entrance to the room/area.

Bin numbers and storage space within the Bin Storage Area will be monitored by the building manager/caretaker during the operation of the Proposal to ensure that the number of bins and collection frequency is sufficient.

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5 Waste Collection

A private contractor will collect waste from the Proposal utilising a rear loader waste collection vehicle and provide the required bin numbers and collection frequencies as outlined in Section 4.3 to Section 4.13.

The private contractor will collect refuse and recyclables twice each week utilising a rear loader waste collection vehicle.

The private contractor's waste collection vehicle will service the bins onsite, directly from the Bin Storage Areas. The private contractors rear loader waste collection vehicle will travel with left hand lane traffic flow on Verde Drive/Armadale Road/Biscayne Way, turn into the Proposal in forward gear and pull up adjacent to the respective Bin Storage Areas for servicing.

The private contractor's staff will ferry bins to and from the rear loader waste collection vehicle and the Bin Storage Areas during servicing. The private contractor staff will be provided with key/PIN code access to the Bin Storage Areas and security access gates to facilitate servicing, if required.

Once servicing is complete the private contractor's front loader waste collection vehicle will exit in a forward motion, turning left onto Verde Drive/Armadale Road/Biscayne Way moving with traffic flow.

The above servicing method will preserve the amenity of the area by removing the requirement for bins to be presented to the street on collection days. In addition, servicing of bins onsite will reduce the noise generated in the area during collection. Noise from waste vehicles must comply with the Environmental Protection (Noise) Regulations and such vehicles should not service the site before 7.00am or after 7.00pm Monday to Saturday, or before 9.00am or after 7.00pm on Sundays and Public Holidays.

The ability of waste collection vehicles to access the Proposal has been assessed by qualified traffic engineers and will be included within their Traffic Impact Assessment.

5.1 Bulk and Speciality Waste

Adequate space may be allocated throughout the Proposal for placement of cabinets/containers for collection and storage of bulk and specialty wastes that are unable to be disposed of within the bins in the Bin Storage Area. These may include items such as:

- Batteries and E-wastes;
- White goods/appliances;
- Used Cooking Oil;
- Cleaning chemicals; and
- Commercial Light globes.

These materials will be removed from the Proposal once sufficient volumes have been accumulated to warrant disposal. Collection will be monitored by centre management who will assist to organise their transport to the appropriate waste facility, as required.

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6 Waste Management

A building manager/caretaker will be engaged to complete the following tasks:

- Monitoring and maintenance of bins and the Bin Storage Areas;
- Cleaning of bins and Bin Storage Areas, when required;
- Ensure all tenants/staff/cleaners at the Proposal are made aware of this WMP and their responsibilities thereunder;
- Monitor tenant/staff/cleaner behaviour and identify requirements for further education and/or signage;
- Monitor bulk and speciality waste accumulation and assist with its removal, as required;
- Regularly engage with tenants/staff/cleaners to develop opportunities to reduce waste volumes and increase resource recovery; and
- Regularly engage with the private contractors to ensure efficient and effective waste service is maintained.

This WMP will form part of the building management agreement and will continue to be applied in perpetuity across the life of the Proposal.

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7 Conclusion

As demonstrated within this WMP, the Proposal provides sufficiently sized Bin Storage Areas for storage of refuse and recyclables, based on the estimated waste generation volumes and suitable configuration of bins. This indicates that adequately designed Bin Storage Areas have been provided, and collection of refuse and recyclables can be completed from the Proposal.

A private contractor will service the Proposal onsite, directly from the respective Bin Storage Area. The private contractor's waste collection vehicle will enter and exit the Proposal in forward gear via Biscayne Way to service Buildings 1 and 2, and Verde Drive/Armadale Road to service Buildings 3-7.

A building manager/caretaker will oversee the relevant aspects of waste management at the Proposal.

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Figures

Figure 1: Locality Plan

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393,200 393,400 393,600 393,800

6,445,200 6,445,000 6,444,800

Biscayne Way
Cutler Rd
Hiba View
Elderflower St
Savory Way
Lovage St
Chicory St
Yarrow St
Wintergreen Gr
Bark Lane
Avens Lane
Clementine Blvd
Cilantro Pwy
Ghostgum Av
Perilla Way
Armadale Rd
Bluegrass St
Wattleseed Av
Lican St
Aniseed Rd
Cedarleaf Ent
Verde Dr
Tapper Rd
Joult Mews

Data source: Roads, Cadastre - Landgate, 2025. Imagery: Nearmap, 2025.

LEGEND

- Freehold

Cadastre

- Crown Allotment
- Freehold
- Road
- Strata Plan or Lot
- Easement
- Reserve

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LOCALITY



0 2 4 6 8 km

LOCALITY

Lot 701 Armadale Road
Banjup WA 6164

Meyer Shirecore on behalf of
Satterley Property Group Pty Ltd

N 0 20 40 60 80 100 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:2,500

Prepared:	P Atahan	Date:	22/10/2025
Reviewed:	J Logothetis	Revision:	A
Project:	WMP25116		

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Figure 01

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Your Ref: 10039

8 April 2025

Mr George Hajigabriel
Rowe Group
Level 3, 369 Newcastle Street
Northbridge 6003 WA

Response to Request to Waive Structure Plan Requirement – Proposed Large Format Retail Development

Lot 701 Armadale Road, Treeby

Dear George,

Thank you for your letter regarding the proposed development of Lot 701 Armadale Road, and for providing a summary of your client's intended approach, following my meeting with the Eastcourt Property Group on 25 March 2025.

The City acknowledges your client's intention to pursue a development application for the site to accommodate large format retail buildings, and we appreciate the rationale provided in support of progressing the application in the absence of a Structure Plan.

In principle, the City is prepared to consider a development application for the land under Clause 27(2) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, acknowledging that the site is in single ownership, is bounded by fully developed land, and that a public consultation process will be undertaken as part of the development application stage.

To assist in facilitating a robust pre-lodgement process and to ensure comprehensive planning advice can be provided, we recommend the submission of a high-level concept drawing illustrating the proposed development intent, and range of intended land uses. This will allow the City to more effectively assess the proposal's alignment with orderly and proper planning principles (including protection of the Activity Centre network and hierarchy) and potential matters to be addressed via the development application process.

9 Coleville Crescent, Spearwood WA 6163, PO Box 1215, Bibra Lake DC WA 6965
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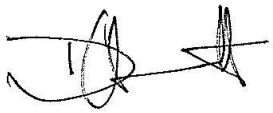
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It should be noted that any consideration of land uses as part of the development application should carefully consider a potential shift in land use permissibility, as identified in the City's *Draft Local Planning Scheme No. 13* (also likely to be subject to changes required by the WAPC prior to advertising), as this may influence the long-term viability and appropriateness of the proposed land use.

Notwithstanding, we look forward to working collaboratively with you and your client as this proposal progresses. Please don't hesitate to contact us should you require any further information or clarification.

Should you require further information, please contact **Lucia Dunstan** on 9411 3657 – Service Manager of Development Services.

Sincerely,



Daniel Arndt
Director Sustainable Development and Safety

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ATTACHMENT 9

Transport Impact Assessment

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Engineering a better future for over 20 years!

Large Format Retail Expansion Stage II

Lot 701 Armadale Road, Treeby

Transport Impact Assessment

PREPARED FOR:
Satterley & Centuria Joint Venture

October 2025

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Document history and status

Author	Revision	Approved by	Date approved	Revision type
M Rasouli	1	B Bordbar	27/10/2024	Draft

File name: t25.187-mr-r01.docx

Author: Mohammad Rasouli

Project manager: Mohammad Rasouli

Client: Satterley & Centuria Joint Venture

Project: Lot 701 Armadale Road, Treeby

Document revision: r01

Project number: t25.187

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1 Introduction

This Transport Impact Assessment (TIA) has been prepared by Transcore on behalf of Satterley & Centuria Joint Venture in relation to the proposed large format retail to be located at Lot 701 Armadale Road in Treeby. The subject site is located to the east of Verde Drive along Armadale Road as shown in **Figure 1**.

The proposed development involves the expansion of the existing South-Central large format retail site. The subject area is currently vacant and features an existing left in/left out crossover on Armadale Road. Residential dwellings in the Calleya Estate are located immediately to the north and east of the site and the existing South-Central development occupies the area to the west.

The proposed development would connect to the existing South-Central large format retail via two proposed access points on Verde Drive. Verde Drive connects to Armadale Road to the south via a roundabout intersection.

This TIA will evaluate the trip generation and distribution resulting from the proposed development and its impact on the surrounding road network. It will assess the expected traffic movements, including those of service vehicles, to ensure efficient access/egress and circulation. Additionally, a SIDRA network analysis will be undertaken for the crossovers on Armadale Road and Verde Drive, as well as for the roundabout intersection of Armadale Road/Verde Drive/Tapper Road.

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Figure 1: Site location

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2 Development Proposal

The proposal is for the expansion of the existing South-Central large format retail site on Lot 701 Armadale Road in Treeby. The proposed development plan is provided in **Appendix A** and entails the following land uses:

- Showroom: 33,996 m² GFA;
- Gym: 2,000 m² GFA; and,
- Food/Café: 350 m² GFA.

The proposed food/ café land use is expected to be used primarily by the staff and patrons of South-Central development.

The Site Plan indicates the provision of 705 car bays on-site, which is anticipated to be sufficient for the proposed development. This expectation is based on the significant cross-trade between the various land uses within the site, as well as the potential for reciprocal parking arrangements among these uses. This arrangement will help maximise parking efficiency and accommodate the needs of visitors across the different components of the development.

The subject site currently features a left in/left out crossover on Armadale Road (service road). As part of the proposal, some existing tenancies and car bays within South Central will be removed to facilitate two connections via internal driveways to Verde Drive, including the roundabout located to the northwest of the site. The southern proposed internal driveway connects to the existing left in/left out crossover on Verde Drive. The combination of the existing crossover on Armadale Road and the two connections to Verde Drive would facilitate effective traffic circulation of the general traffic and service vehicles.

Turn path analysis undertaken and documented in **Appendix B** confirm satisfactory movements of the service vehicles. The 19m semi-trailer accessing the service area for the building along the northern and eastern boundaries of the site will enter via the existing gated crossover on Biscayne Way, located at the northwest corner of the site and exit via Armadale Road crossover. This crossover will be used for service vehicles only.

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3 Existing Situation

3.1 Existing Land Use

The subject site is currently a vacant land and is situated to the north-east corner of Armadale Road and Verde Drive intersection. The existing land uses immediately to the east and north of the site are primarily residential, while commercial properties are located to the west. Armadale Road forms the southern boundary of the site.

3.2 Existing Road Network

The existing road network and its classification in accordance with the Main Roads WA functional road hierarchy is illustrated in **Figure 2**.

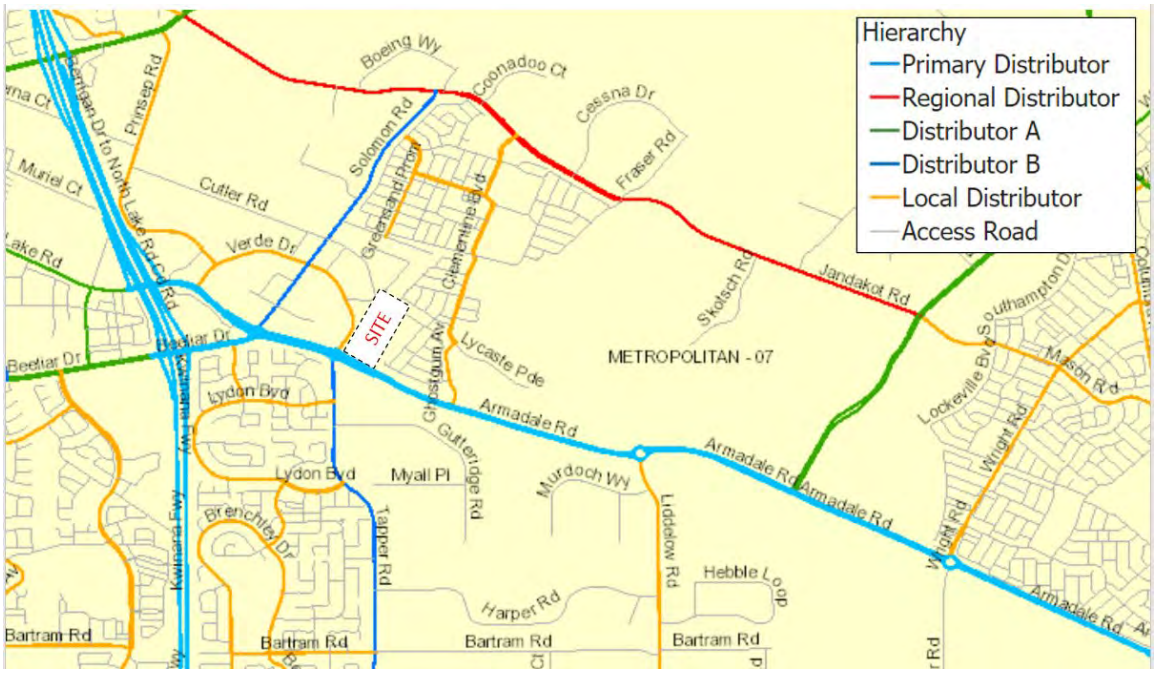


Figure 2: Existing Road Hierarchy

Armadale Road has recently undergone upgrades as part of the Armadale Road to North Lake Road Bridge Project. This project has introduced grade-separated roundabout intersections at the intersections of Armadale Road with Verde Drive and Solomon Road. Notably, Armadale Road is elevated to pass over the roundabout intersection at Verde Drive (refer **Figure 3**). The posted speed limit on the Armadale Road near the subject site is 60 km/h.

Armadale Road is classified as a Primary Distributor Road in the Main Roads Metropolitan Functional Road Hierarchy. It is covered by a Primary Regional Road reservation (i.e. *Red Road)* in the Metropolitan Region Scheme (MRS) and is a declared State Road under the care and control of Main Roads WA.

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Tapper Road is a two-lane two-way road (one lane in each direction) that connects to Armadale Road at the Tapper Road / Verde Drive roundabout intersection. The posted speed limit along Tapper Road in the vicinity of the intersection is 60 km/h. Tapper Road is classified as Distributer B in the Main Roads Metropolitan Functional Road Hierarchy.

Verde Drive is a single carriageway divided road with one lane in each direction, connecting to Armadale Road at the roundabout intersection of Armadale Road, Tapper Road, and Verde Drive. The road loops around the South-Central area and connects to Solomon Road. The posted speed limit along Verde Drive in the vicinity of the site is 50 km/h. Verde Drive is classified as a Local Distributor Road within Main Roads Metropolitan Functional Road Hierarchy.



Figure 3: Existing roundabout intersection of Armadale Rd/ Verde Dr/ Tapper Rd

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3.3 Existing Traffic Volume on Roads

The latest available reported traffic counts on the surrounding roads have been sourced from Main Roads WA and presented in **Figure 4**.

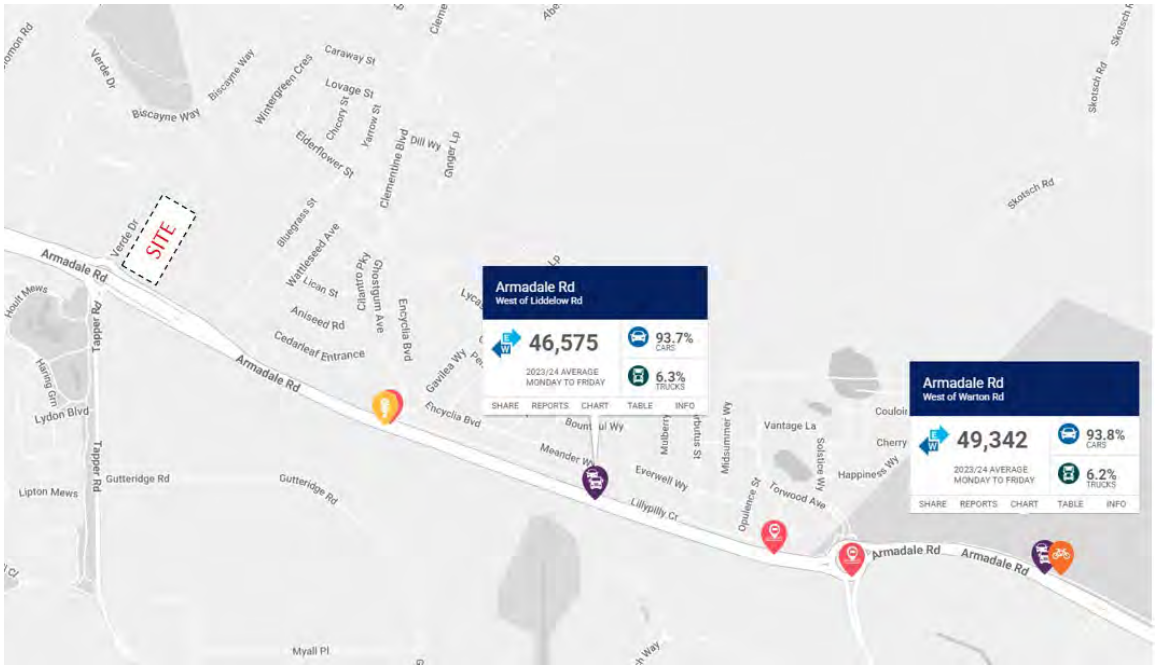


Figure 4: Existing traffic counts (Source: Main Roads WA)

Transcore organised video traffic count survey at the existing roundabout intersection of Armadale Road / Tapper Road / Verde Drive and the internal roundabout intersection on Verde Drive on Friday and Saturday 19th and 20th of September 2025. The peak hour traffic volumes at the roundabout intersection are shown in **Figure 5**.

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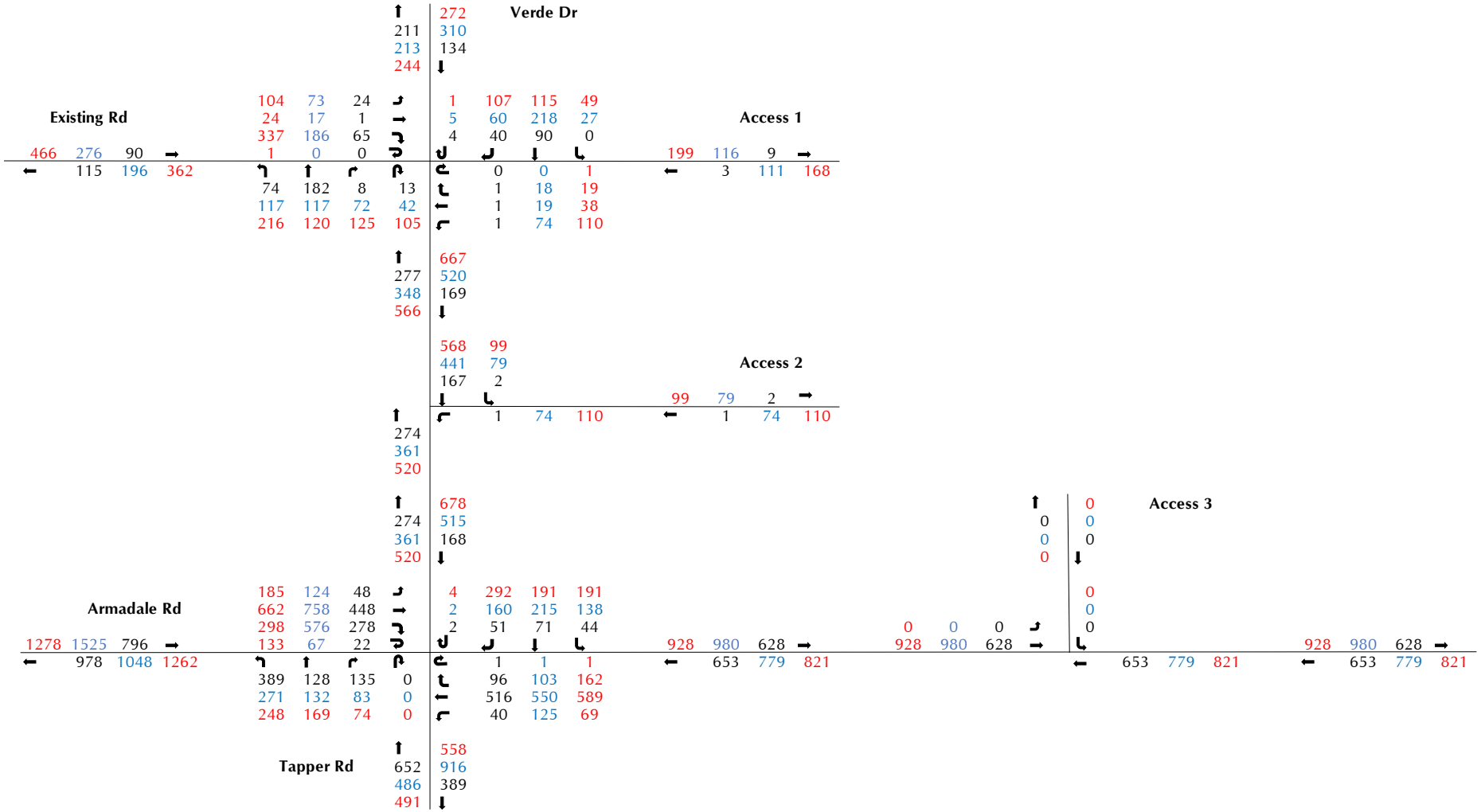


Figure 5: Existing peak hour traffic flows, AM, PM and Saturday PM peak hours

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3.4 Crash Records

Information available on the Main Roads WA website indicates a total of 70 crashes at the roundabout intersection of Tapper Road and Verde Drive during the five-year period ending December 2024 (refer **Figure 6**).

Review of the crashes indicates there were no fatal accidents, but one incident resulted in a hospital visit, and 21 were classified as medical incidents. The majority of crashes were property damage only (PDO), with 30 categorized as major and 18 as minor. In terms of nature, the predominant type of crash was rear-end collisions, accounting for 38 incidents (54.29%), followed by right-angle crashes with 16 incidents (22.86%).

Similar analysis for the section of Verde Drive fronting the subject site indicates total of 4 incidents, with no fatalities or hospitalisations reported (refer **Figure 7**). Of these, 1 incident was classified as a medical case, while 3 were categorised as minor property damage only (PDO). The majority of crashes occurred in 2020, accounting for 75% of the total, with a single incident in 2023. In terms of nature, the crashes included 2 rear-end collisions (50%) and 1 right-angle collision (25%), alongside an unspecified incident classified as "other." The majority of incidents occurred during daylight conditions (75%) and on dry roads (75%), with half of the crashes occurring on straight road alignments.

It should be noted that the five-year crash period extends over the period prior to the upgrading and realignment of Armadale Road project. It is expected that this project will generally improve safety in the area.

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Severity	No.	%
Fatal	0	0
Hospital	1	1.43
Medical	21	30.00
PDO Major	30	42.86
PDO Minor	18	25.71

Year	No.	%
2021	10	14.29
2022	23	32.86
2023	16	22.86
2024	21	30.00

Nature	No.	%
Head On	0	0
Hit Animal	0	0
Hit Object	0	0
Hit Pedestrian	0	0
Non Collision	0	0
Not Known	0	0
Rear End	38	54.29
Right Angle	16	22.86
Right Turn Thru	1	1.43
Sideswipe Opposite Dirn	0	0
Sideswipe Same Dirn	15	21.43

Light	No.	%
Dark - Street Lights Not Provided	0	0
Dark - Street Lights Off	0	0
Dark - Street Lights On	3	4.29
Dawn Or Dusk	1	1.43
Daylight	53	75.71
Not Known	0	0
Other / Unknown	13	18.57

Conditions	No.	%
Dry	61	87.14
Not Known	0	0
Other / Unknown	3	4.29
Wet	6	8.57

Alignment	No.	%
Curve	26	37.14
Not Known	0	0
Other / Unknown	41	58.57
Straight	3	4.29

Total	70



Figure 6: Crash analysis results for the intersection of Verde Drive/ Tapper Road

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Severity	No.	%
Fatal	0	0
Hospital	0	0
Medical	1	25.00
PDO Major	0	0
PDO Minor	3	75.00

Year	No.	%
2020	3	75.00
2023	1	25.00

Nature	No.	%
Head On	0	0
Hit Animal	0	0
Hit Object	0	0
Hit Pedestrian	0	0
Non Collision	0	0
Not Known	0	0
Other / Unknown	1	25.00
Rear End	2	50.00
Right Angle	1	25.00
Right Turn Thru	0	0
Sideswipe Opposite Dirn	0	0
Sideswipe Same Dirn	0	0

Light	No.	%
Dark - Street Lights Not Provided	0	0
Dark - Street Lights Off	0	0
Dark - Street Lights On	1	25.00
Dawn Or Dusk	0	0
Daylight	3	75.00
Not Known	0	0

Conditions	No.	%
Dry	3	75.00
Not Known	0	0
Other / Unknown	1	25.00
Wet	0	0

Alignment	No.	%
Curve	0	0
Not Known	0	0
Other / Unknown	2	50.00
Straight	2	50.00

Total	4

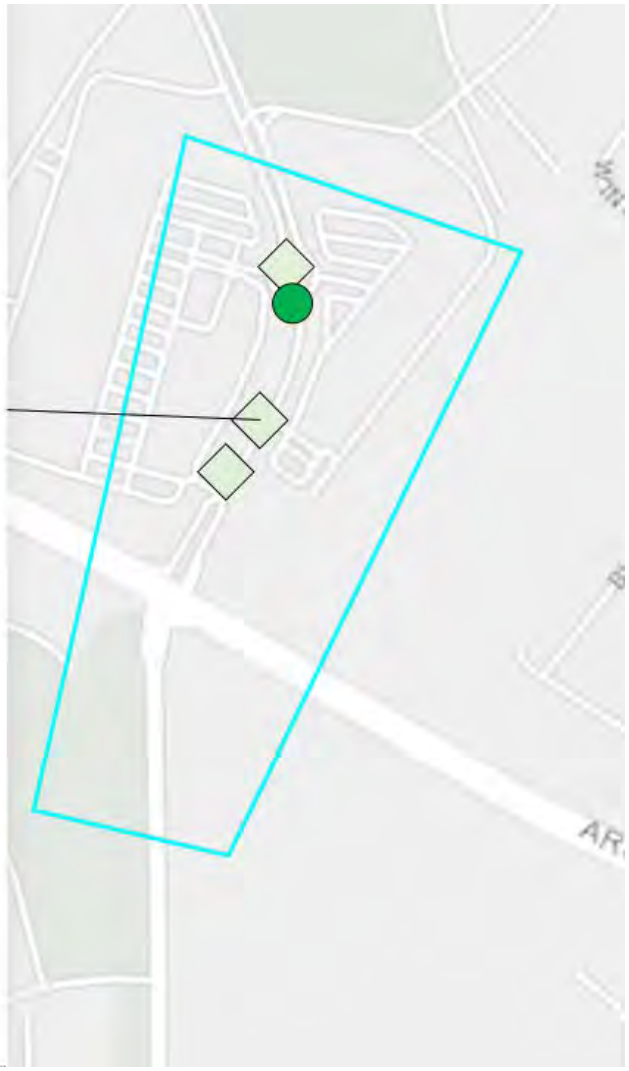


Figure 7: Crash analysis results for the Verde Drive fronting the subject site

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3.5 Public Transport Access

Figure 8 illustrates the existing local public transport services in the vicinity of the subject site.

At present, Verde Drive is not directly served by any bus routes. However, several public transport options are accessible along Armadale Road and Tapper Road, providing convenient connectivity for commuters.

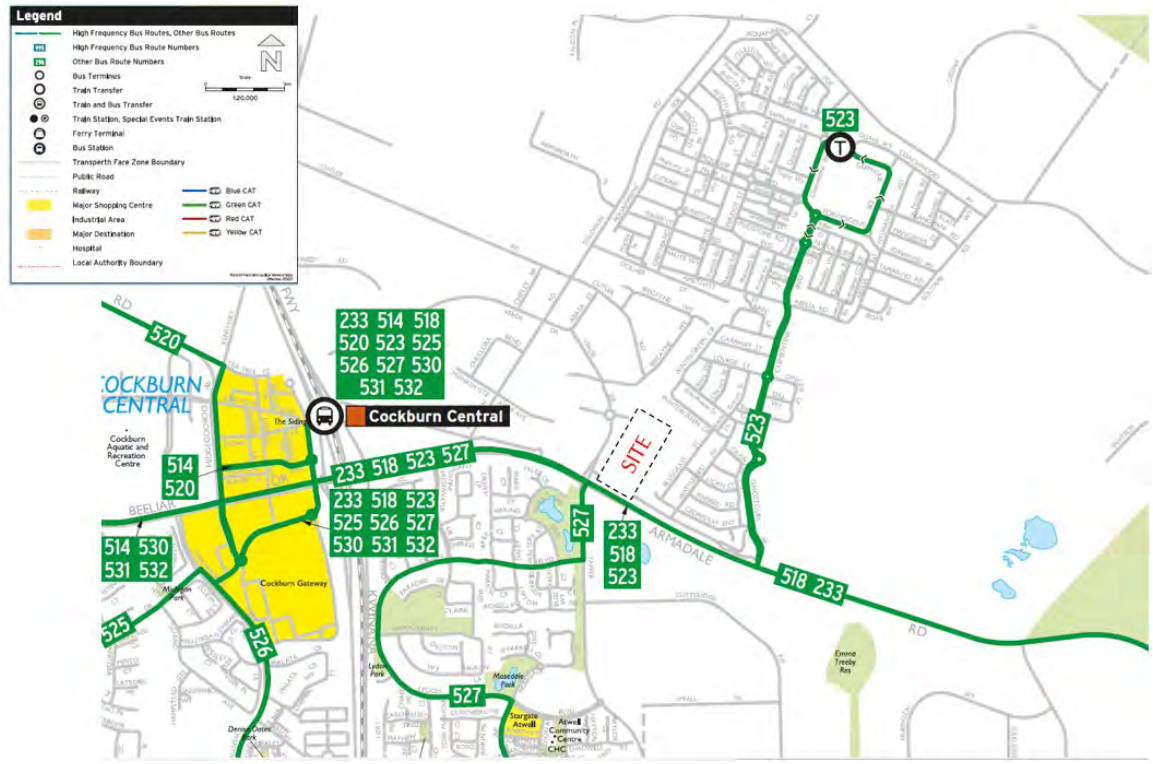


Figure 8: Existing local public transport

Figure 9 shows the estimated shortest walking distances from the site to the nearest bus stops. As shown in Figure 9, the site is well served by public transport, with the nearest bus stops located along Armadale Road and Tapper Road at distances ranging from approximately 305 to 380 metres. These are all within a comfortable walking range (generally up to 400–500 metres), providing good accessibility to the site, although no bus stops are located on Verde Drive.

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Figure 9: Estimated walking distances from the site to the nearest bus stops

3.6 Pedestrian and Cyclist Facilities

The pedestrian and cyclists' connectivity to the site is currently available via the existing shared paths along Armadale Road and Verde Drive.

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4 Changes to Surrounding Transport Networks

The proposed changes primarily involve creating new access points for the site onto Verde Drive. This includes western connections that link the site directly to the existing roundabout and the left in/left out crossover on Verde Drive. These upgrades are designed to integrate the site with the surrounding road network while effectively utilising the existing infrastructure.

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5 Integration with Surrounding Area

The proposed development involves the expansion of the existing South-Central large format retail site and is designed to integrate seamlessly with the surrounding land uses. By connecting to Armadale Road and Verde Drive, the development enhances accessibility for both vehicles and pedestrians, making it easier for customers to reach the site.

Furthermore, by connecting with neighbouring land uses, the development creates a cohesive retail environment that complements the existing commercial and residential areas, potentially attracting more visitors and increasing economic activity. Overall, this integration supports local amenities and transition between the existing retail and residential development.

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6 Traffic Assessment

6.1 Assessment Period

Due to the nature of the proposed development, the greatest demand on the local road network capacity is expected to occur during the combined peak business activity of the development and the peak commuter traffic during the weekday afternoon and Saturday midday periods. However, an assessment of the AM peak hour has also been undertaken, as required by the WAPC Guidelines.

The traffic assessments have been carried out for two horizon years - 2026, which is assumed to represent the post-development scenario, and 2036, which is assumed as the 10-year post-development assessment year.

6.2 Trip Generation

In order to establish the appropriate trip rates for the proposed large format retail reference was made to the "The Guide to Transport Impact Assessment Technical guidance for transport practitioners TS 00085 | Version 1.1". This Guide supersedes the Guide to Traffic Generating Developments (GTGD 2002) and Updated Traffic Surveys Technical Direction (TDT 2013/04a). The applicable land use from the latest Guideline is Hardware and bulky goods stores include categories such as furniture, white goods, electrical equipment, bedding and Manchester, lighting, automotive parts, camping and outdoor equipment, tools, building materials and large hardware warehouses specialised in a variety of hand, paint, garden, domestic, outdoor furniture, timber and building products. The trip rates for the proposed gym were sourced from the ITE 11 Guidelines.

Significant cross trade between the proposed land uses within the development is expected. Accordingly, a cross trade of 30% is assumed to be reasonable to allow for internal trips between the proposed land uses within the site. Other data source and other assumptions are as follows:

- Food/ cafe trips are expected to be internal to the development;
- Pass-by rates from ITE Trip Generation Handbook 3rd Ed; Lands use 816 (Hardware/ Paint Store for proposed showroom tenancies).
- Trip in and out split of 50/50 for peak hours.

Table 1 summarises the daily and peak hour trip generation of the proposed development. **Table 2** shows the passing and non-passing trade components of the trip generation.

Accordingly, it is estimated that the proposed development would generate approximately 8,371 trips per regular weekday with approximately 599vph and 695 vph (both inbound and outbound) during the weekday AM and PM peak hours respectively and about 1,316vph during the Saturday mid-day peak hour.

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Table 1: Trip generation of the proposed subdivision

Land use	Quantity	Daily Rate	Weekday-AM	Sat-Midday	Weekday-PM	Cross Trade	Daily Trips	Weekday-AM Trips	Sat-Midday Trips	Weekday-PM Trips	AM		Sat-PM		PM	
											IN	OUT	IN	OUT	IN	OUT
Gym	2000	0.371	0.014	0.034	0.037	0.30	520	28	48	52	14	14	24	24	26	26
Showroom (Hardware)	33996	0.330	0.017	0.053	0.027	0.30	7851	571	1268	643	286	286	634	634	321	321
Total traffic							**8371**	**599**	**1316**	**695**	**300**	**300**	**658**	**658**	**347**	**347**

Table 2: Passing trade and non-passing trade component of the trip generation

Passing Trip Component

%	Daily Trips	AM		Sat-Midday		PM	
		IN	OUT	IN	OUT	IN	OUT
0%	0	0	0	0	0	0	0
26%	2041	74	74	165	165	84	84
	2041	**74**	**74**	**165**	**165**	**84**	**84**

Primary Trip Component

Daily Trips	AM		Sat-Midday		PM	
	IN	OUT	IN	OUT	IN	OUT
520	14	14	24	24	26	26
5810	212	212	469	469	237	237
6330	**226**	**226**	**493**	**493**	**263**	**263**

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6.3 Trip Distribution

The distribution of trips that will be attracted to the proposed development has been estimated based on the distribution of surrounding residential areas and the catchment area of the proposed development. The resulting modelled traffic distribution of the proposed development is summarised in Table 3.

Table 3: Traffic distribution

Roads	Primary trips	Pass by trips
North approach at the existing northern roundabout on Verde Drive	5%	0%
West approach at the existing northern roundabout on Verde Drive	5%	0%
Armadale Road, West	30%	20%
Armadale Road, East	30%	70%
Tapper Road, South	30%	10%

The traffic movements generated by the proposed development have been manually assigned on the adjacent road network and the resulting traffic movements generated by this development are shown in Figure 10.

6.4 Traffic Flow

Future year base traffic flows have been estimated by factoring up the current through traffic flows on Armadale Road (service road), Tapper Road and Verde Drive by 2% annually. It should be noted that traffic on Armadale Road has increased significantly in recent years, reflecting an unusual short-term spike in the annual growth rate. However, the 2% annual growth rate for Armadale Road aligns with the Main Roads WA ROM 2041 projections. Consequently, this same 2% growth rate was utilised for the purpose of the analysis.

Figure 11 illustrates 2026 base traffic plus development traffic and Figure 12 reflects 2036 base traffic plus development traffic.

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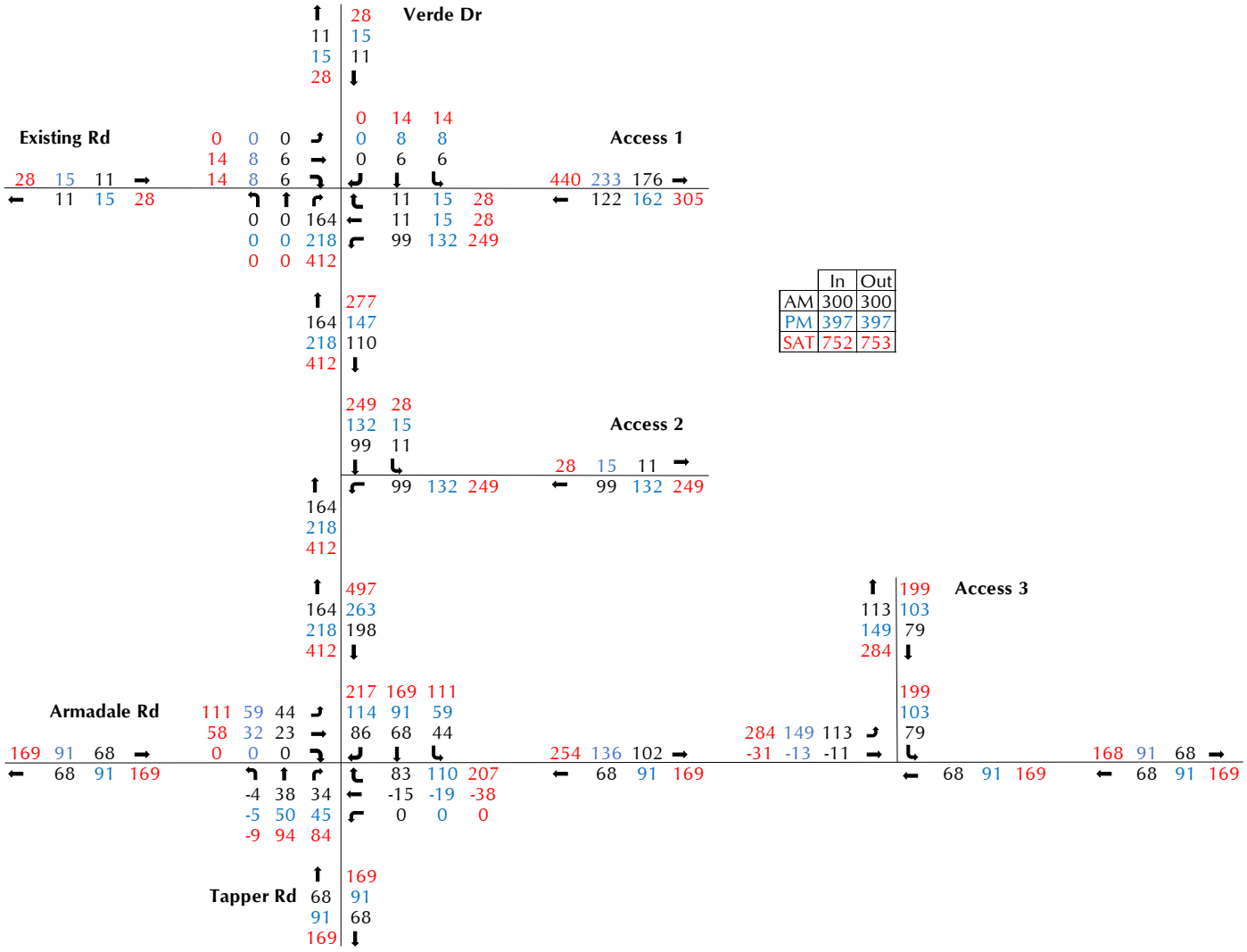


Figure 10: Proposed development traffic (AM/ PM/ Sat Mid-day)

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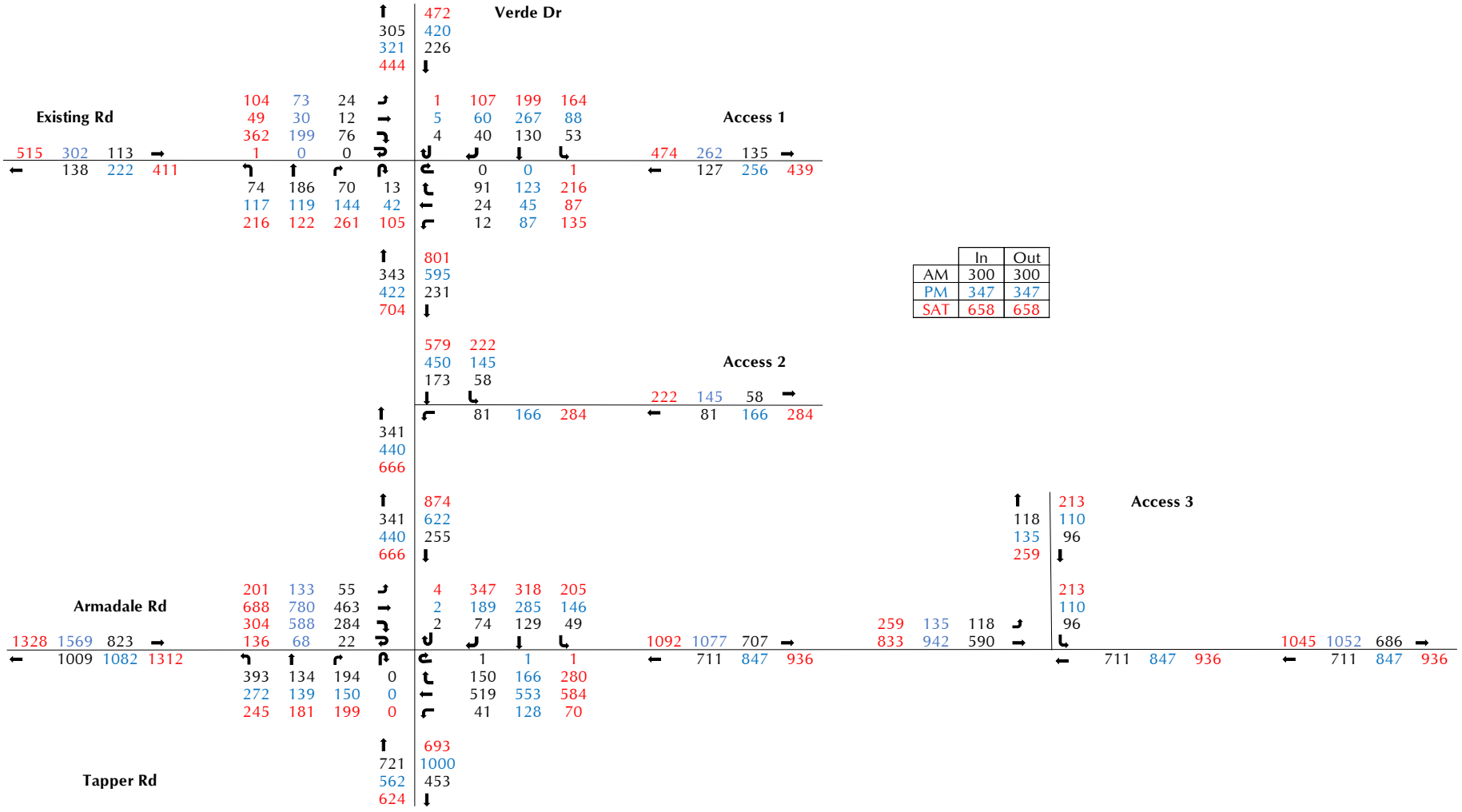


Figure 11: 2026 total traffic volumes (AM/ PM/ Sat Mid-day)

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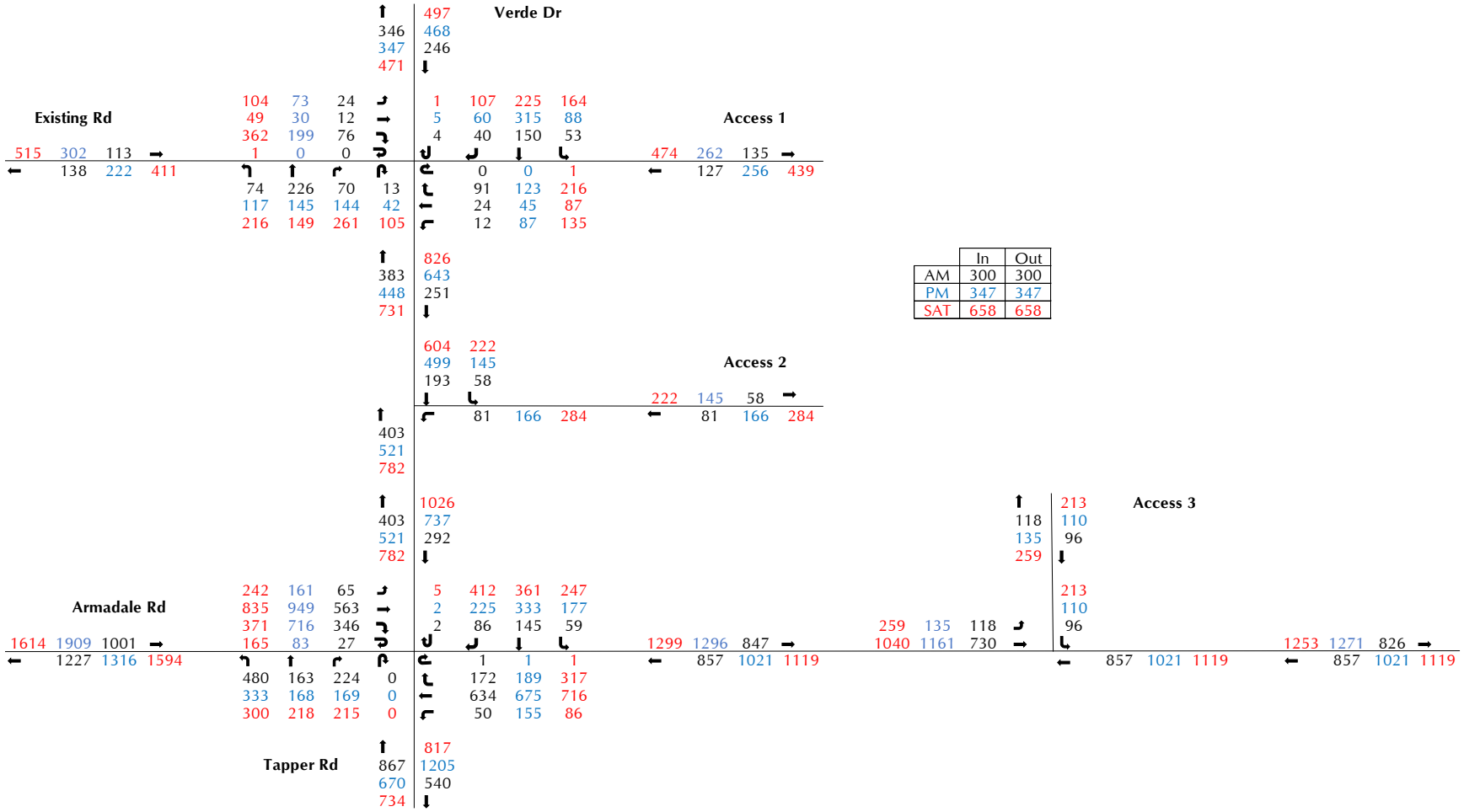


Figure 12: 2036 total traffic volumes (AM/ PM/ Sat Mid-day)

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6.5 Analysis of Local Intersection & Proposed Crossovers

The development crossovers on Armadale Road and Verde Drive and the roundabout intersection on Armadale Road/ Verde Drive/ Tapper Road have been analysed as a network using Network analysis in the SIDRA computer software package (Version 10) for the weekday AM and PM peak hours and Saturday peak hour traffic flows.

SIDRA is an intersection modelling tool commonly used by traffic engineers for all types of intersections. SIDRA outputs are presented in the form of Degree of Saturation, Level of Service, Average Delay and 95% Queue. These characteristics are defined as follows:

- Degree of Saturation is the ratio of the arrival traffic flow to the capacity of the approach during the same period. The Degree of Saturation ranges from close to zero for infrequent traffic flow up to one for saturated flow or capacity.
- Level of Service is the qualitative measure describing operational conditions within a traffic stream and the perception by motorists and/or passengers. In general, there are 6 levels of service, designated from A to F, with Level of Service A representing the best operating condition (i.e. free flow) and Level of Service F the worst (i.e. forced or breakdown flow).
- Average Delay is the average of all travel time delays for vehicles through the intersection.
- 95% Queue is the queue length below which 95% of all observed queue lengths fall.

Figure 13 illustrates the intersection network and layout modelled in SIDRA.

The SIDRA Network analysis has been undertaken in accordance with current MRWA operational modelling guidelines including separate input of different classes of heavy vehicles and the parameters specified by MRWA for those vehicle classes.

The results of the SIDRA analysis are summarised in **Appendix C**.

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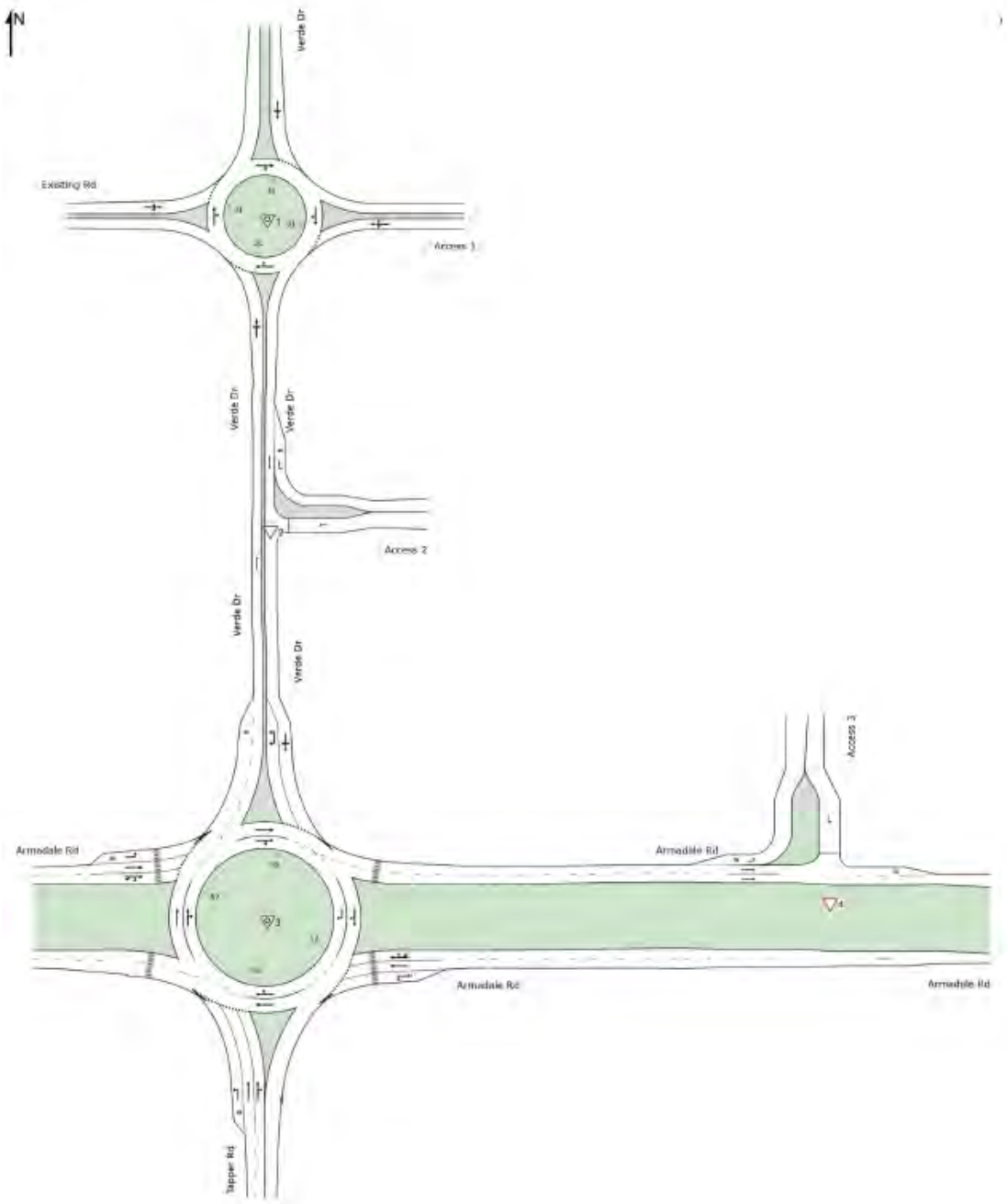


Figure 13: Intersection network and layouts modelled in SIDRA

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6.5.1 *Existing roundabout intersection of Armadale Road / Verde Drive / Tapper Road*

The SIDRA results in **Appendix C** indicate that the existing roundabout intersection on Armadale Road / Verde Drive / Tapper Road is currently operating satisfactory with overall LoS of A during AM, PM and Saturday mid-day peak hours, with minimum queues and delays for all approaches of the intersection during typical peak conditions.

The addition of the development traffic in 2026 would not change the overall LoS of the intersection. In 2036, the overall LoS will remain as A during the AM peak hour but will reduce to B for the PM and Saturday mid-day peak hours. The critical leg of the intersection is Verde Drive as the majority of the development traffic would be distributed to this road. **Table 4** summarise the traffic operation of the Verde Drive leg of the intersection for existing, 2026 and 2036 scenarios.

Table 4: Verde Drive traffic operation

Verde Drive Approach		DoS	LoS	95% Back of Queue (m)
Existing	**AM**	0.10	A	2.9
	PM	0.43	A	20.4
	Sat	0.41	A	17.5
2026	**AM**	0.16	A	5.2
	PM	0.58	A	33.1
	Sat	0.62	A	34.9
2036	**AM**	0.21	A	7.6
	PM	0.91	C	104.6
	Sat	0.91	C	95.9

In the existing scenario, Verde Drive DoS values of 0.10 in the AM peak, 0.43 in the PM peak, and 0.41 on Saturdays, all resulting in a Level of Service of A. This indicates excellent traffic operations, with minimal delays and short queues, as evidenced by the 95th percentile back of queue measurements being relatively low (2.9m in the AM, 20.4m in the PM, and 17.5m on Saturday). The SIDRA model outputs align with site observations during peak hours. It is important to note that there are currently signalised pedestrian crossings on both sides of Armadale Road at the roundabout. These crossings were not included in the SIDRA model, as they are activated on demand and are not frequently used. Additionally, when activated, the pedestrian

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signalised crossings create larger gaps in traffic at the roundabout, allowing for smoother vehicle flow.

By 2026 and with the development traffic, the AM peak DoS increases to 0.16, still maintaining a Level of Service A, but indicating a slight increase in demand and queue lengths, with the back of queue growing to 5.2m. The PM peak sees a more significant increase to a DoS of 0.58, leading to longer queues (33.1m), although still within acceptable limits for Level of Service A. The Saturday peak also reflects a rise to 0.62, with a back of queue of 34.9m.

By year 2036, the situation worsens as expected during the PM peak, where the DoS escalates to 0.91, resulting in a Level of Service C and with longer queues of 104.6m. The Saturday peak mirrors this trend with a DoS of 0.91 and a back of queue of 95.9m. This change is a direct result of background traffic growth.

The projected 95% queue in 2036 is expected to extend just before the existing left in/left out crossover on Verde Drive, without obstructing access to this crossover. Additionally, the SIDRA results for the left in/left out crossover on Verde Drive indicate satisfactory traffic operations in 2036, with no internal queues reported.

It should also be noted that if the southbound approach of Verde Drive towards the roundabout becomes congested during peak hours in the future, some drivers may choose to travel north on Verde Drive to access Solomon Road, allowing them to head west towards Cockburn Central or utilise the existing left in/left out crossover on Armadale Road depending on the direction of travel..

6.5.2 Existing northern roundabout on Verde Drive

The result of the SIDRA analysis for the existing northern roundabout on Verde Drive confirms satisfactory traffic operations with overall LoS A during the AM and PM peak hours for 2026 and 2036 scenarios. The Saturday peak hour is reported to have overall LoS A in 2026 and overall LoS B in 2036. The reported 95% queue would not extend back to the roundabout intersection of Armadale Road/ Verde Drive/ Tapper Road.

6.5.3 Existing left in/ left out crossover on Armadale Road

The result of the SIDRA analysis for the existing left in/ left out crossover on Armadale Road confirm that all movements would operate satisfactorily with LoS A indicating very good operations in 2026 and 2036.

6.5.4 Existing left in/ left out crossover on Verde Drive

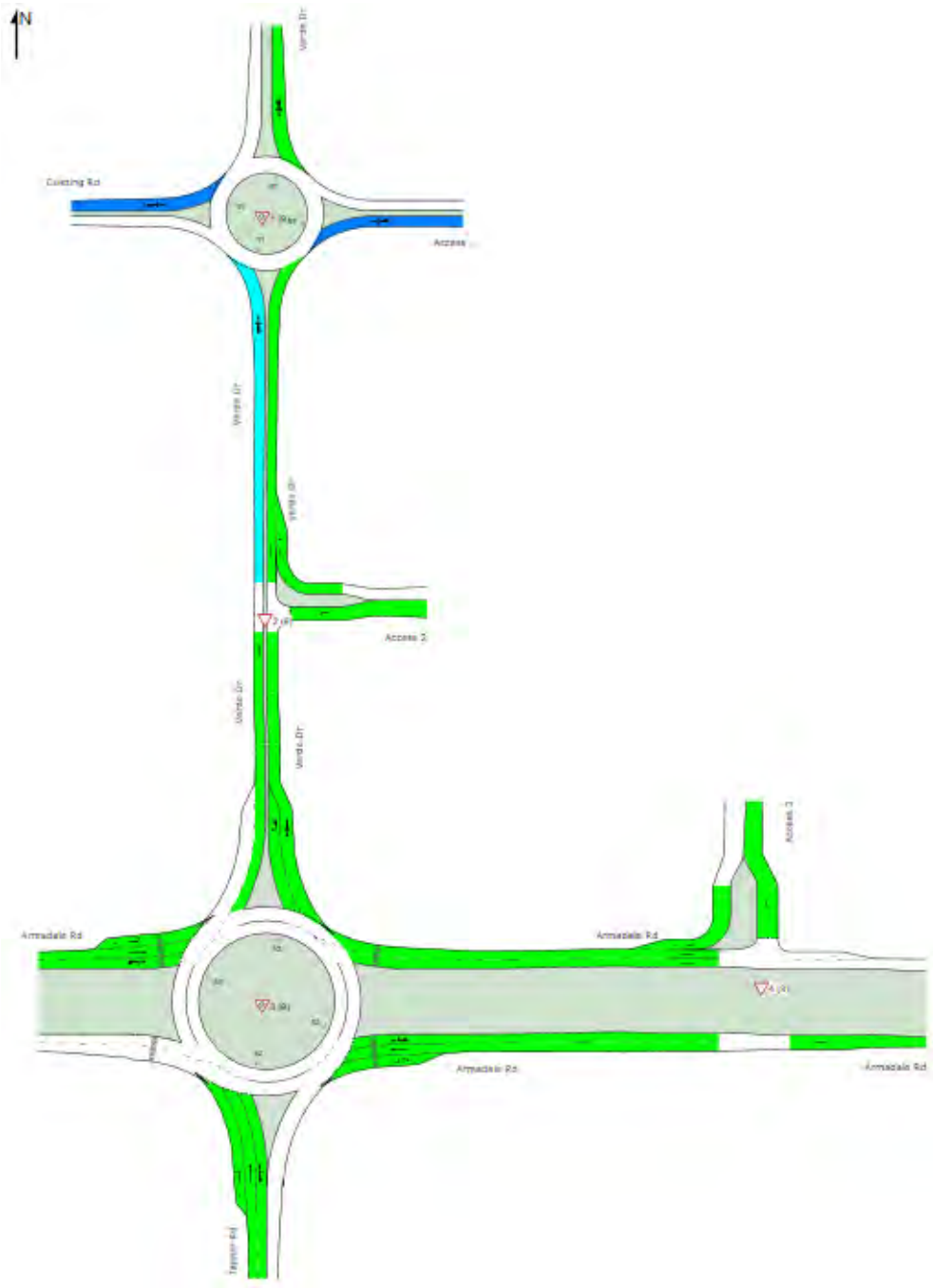
The result of the SIDRA analysis for the existing left in/ left out crossover on Verde Drive confirm that all movements would operate satisfactorily with LoS A indicating very good operations in 2026 and 2036.

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6.5.5 Network operations

Relevant SIDRA network outputs for the critical Saturday peak hour were reviewed to evaluate the operation of the existing crossovers on Armadale Road and Verde Drive, along with the roundabout intersections, as part of an integrated network system. As illustrated in **Figure 14** and **Figure 15**, the analysis indicates that there are no queue backs reported from the Armadale Road roundabout intersection extending to development crossovers during the critical Saturday peak period during the 2026 and 2036 assessment years. Additionally, no queue back from the development crossover on Armadale Road to the Armadale Road roundabout intersection have been reported during the critical Saturday peak hour during the 2026 and 2036 assessment years.



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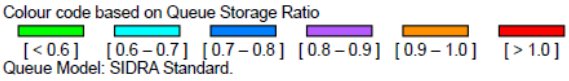


Figure 14: Saturday critical peak hour network analysis – queue storage ratio (2026)

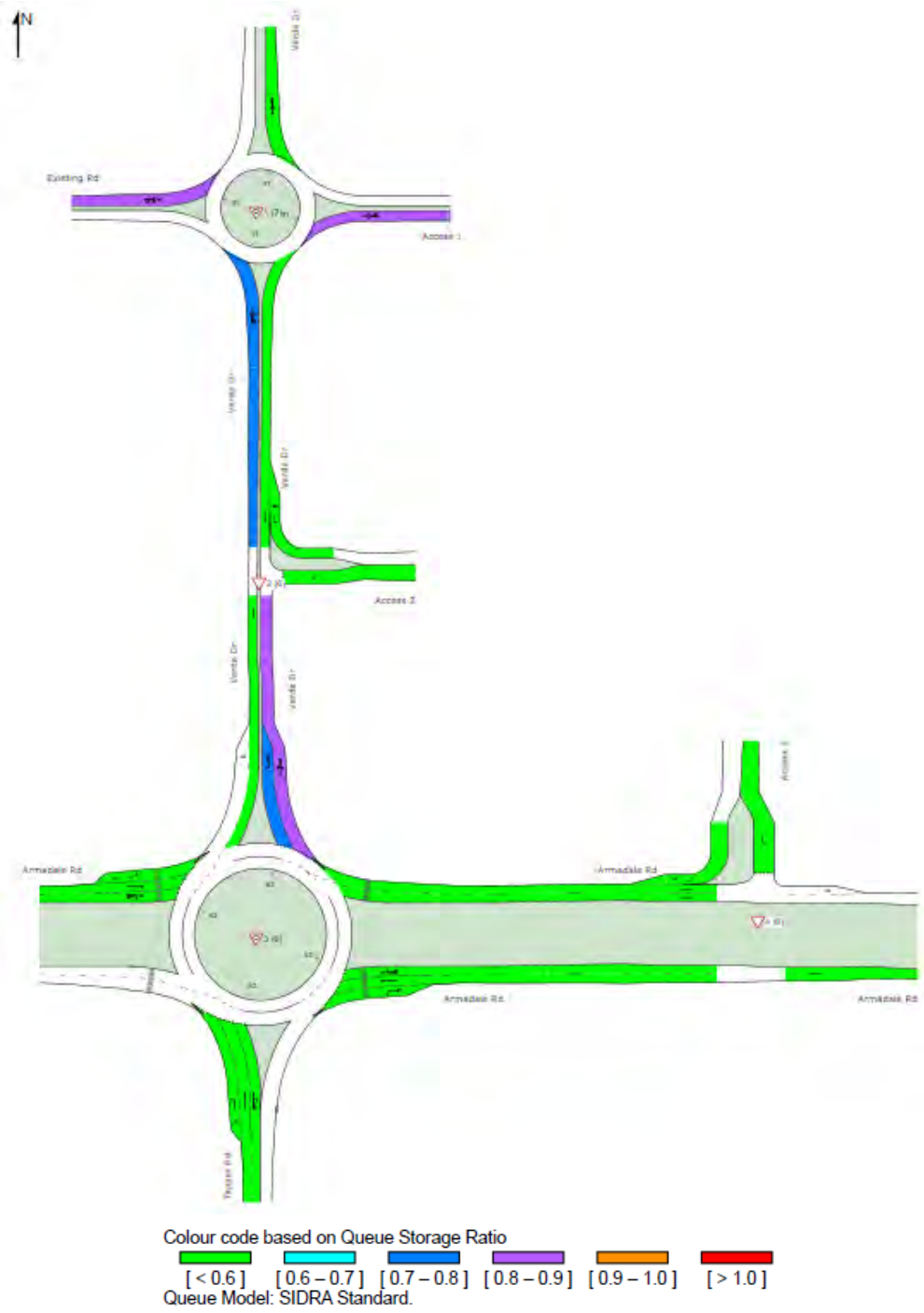


Figure 15: Saturday critical peak hour network analysis – queue storage ratio (2036)

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6.6 Impact on Surrounding Roads and Neighbouring Areas

The section of Verde Drive between the existing northern roundabout on Verde Drive and the existing Armadale Road roundabout intersection is expected to experience the highest traffic impact. This is because the majority of the development traffic is expected to be distributed towards Armadale Road.

However, SIDRA analysis undertaken indicated that the existing standard of Verde Drive and Armadale Road roundabout intersection would be able to accommodate the additional development traffic.

6.7 Traffic Noise and Vibration

The WAPC's *State Planning Policy 5.4: Road and Rail Transport Noise and Freight Considerations in Land Use Planning* requires assessment of noise impact on noise-sensitive developments when a road carries more than 20,000vpd in an urban area or 5,000vpd in a rural area.

The traffic generation of the proposed development will not increase the traffic volumes on the surrounding roads more than 20,000vpd, so no significant noise impacts on surrounding areas are anticipated.

6.8 Road Safety

Other than the crash records reported, no particular road safety issues have been identified in relation to the proposed development.

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7 Parking Assessment

The Site Plan indicates the provision of 705 new car bays on-site, which is anticipated to be sufficient for the proposed development. This expectation is based on the significant cross-trade between the various land uses within the site, as well as the potential for reciprocal parking arrangements among these uses. This arrangement will help maximise parking efficiency and accommodate the needs of visitors across the different components of the development.

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8 Provision of Heavy Vehicles

The largest service vehicle that would visit the site is a 19m semi-trailer. This size service vehicle is only expected to use the loading bay behind building 2. The 19m semi-trailer visiting the proposed loading bay will enter the site through the existing gated crossover on Biscayne Way, located at the northwest corner of the site and would exit via the existing left in/ left out crossover on Armadale Road (refer Sk05 in **Appendix B**).

The other showroom tenancies would be serviced by service vehicles up to 12.5m long. The 12.5m service vehicle can enter vie the roundabout intersection on Verde Drive and exit via the existing left in/ left out crossover on Armadale Road. The 12.5m service vehicle can also entre the site via the existing gated crossover on Biscayne Way (refer Sk06 and Sk07 in **Appendix B**).

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9 Public Transport Access

Public transport services in the area are addressed in Section 3.5 of this report.

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10 Pedestrian and Cyclist Access

Pedestrian and Cyclist facilities in the area are addressed in Section 3.6 of the report. The pedestrian and cyclist can use the existing shared paths along Armadale Road and Verde Drive to access the proposed development.

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11 Conclusions

This Transport Impact Assessment (TIA) has been prepared by Transcore on behalf of Satterley & Centuria Joint Venture in relation to the proposed large format retail to be located at Lot 701 Armadale Road in Treeby.

The proposed development involves the expansion of the existing South-Central large format retail site to the west over the existing vacant land. The subject area features an existing left in/left out crossover on Armadale Road. As part of this proposal, some existing tenancies and car bays will be removed to create an internal driveway connecting the development to the existing roundabout intersection on Verde Drive. Additionally, the existing left in/left out crossover on Verde Drive will be linked to the development by extending the current internal driveway. Together, the existing crossover on Armadale Road and the two connections to Verde Drive will facilitate effective traffic circulation for both general and service vehicles.

Turn path analysis undertaken in Appendix B confirm satisfactory traffic movements of the service vehicles.

It is estimated that the proposed development would generate approximately 8,371 trips per regular weekday with approximately 599vph and 695vph (both inbound and outbound) during the weekday AM and PM peak hours respectively and about 1,316vph during the Saturday mid-day peak hour.

The SIDRA network outputs for the critical Saturday peak hour demonstrate satisfactory operations with no queue backs reported from the Armadale Road roundabout intersection extending to the development crossover and Verde Drive northern roundabout intersection during the critical Saturday peak period for both the 2026 and 2036 assessment years. Furthermore, no queue back from the development crossover on Armadale Road is reported to the Armadale Road roundabout intersection during the critical Saturday peak hour for the same assessment years.

The Site Plan indicates the provision of 705 car bays on-site, which is anticipated to be sufficient for the proposed development. This expectation is based on the significant cross-trade between the various land uses within the site, as well as the potential for reciprocal parking arrangements among these uses. This arrangement will help maximise parking efficiency and accommodate the needs of visitors across the different components of the development

In conclusion, the findings of this Transport Impact Assessment are supportive of the proposed development.

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Appendix A

PROPOSED SITE PLAN

Engineering a better future for over 20 years!

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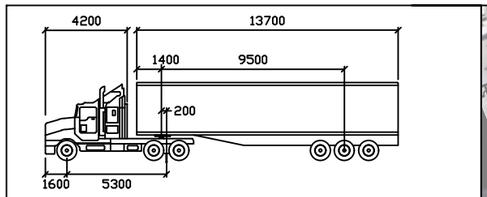
Appendix B

TURN PATH ANALYSIS

Engineering a better future for over 20 years!

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PM S 19M

	mm		
Tractor Width	2500	Lock to Lock Time	6.0
Trailer Width	2500	Steering Angle	27.8
Tractor Track	2500	Articulating Angle	70.0
Trailer Track	2500		

Lot 701 Armadale Road, Banjup

19m Semi-Trailer

Site Circulation

LEGEND

Vehicle Body

Wheel Path

500mm Clearance

t25.187.sk05

16/10/2025

Scale: 1:1400 @ A3

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Lot 701 Armadale Road, Banjup

12.5m Service Vehicle

Service Yard Access

LEGEND

Vehicle Body

Wheel Path

500mm Clearance

t25.187.sk06

16/10/2025

Scale: 1:1000 @ A3

transcore

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Lot 701 Armadale Road, Banjup

12.5m Service Vehicle

Service Yard Egress

LEGEND

Vehicle Body

Wheel Path

500mm Clearance

t25.187.sk07

16/10/2025

Scale: 1:1000 @ A3

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EXISTING

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MOVEMENT SUMMARY

Site: [3] Armadale Rd & Tapper Rd & Verde Dr - Existing - AM
(Existing - AM)
Network: [1] AM (Existing)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Roundabout
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Tapper Rd															
4	L2	All MCs	409	6.0	409	6.0	0.257	4.0	LOS A	1.2	10.0	0.52	0.48	0.52	52.5
2	T1	All MCs	135	6.0	135	6.0	0.139	3.5	LOS A	0.6	4.6	0.49	0.39	0.49	50.3
6	R2	All MCs	142	6.0	142	6.0	0.139	11.0	LOS B	0.6	4.6	0.50	0.67	0.50	32.3
6u	U	All MCs	1	6.0	1	6.0	0.139	13.7	LOS B	0.6	4.6	0.50	0.67	0.50	49.1
Approach			687	6.0	687	6.0	0.257	5.4	LOS A	1.2	10.0	0.51	0.50	0.51	46.7
East: Armadale Rd															
7	L2	All MCs	42	6.0	42	6.0	0.032	3.9	LOS A	0.1	1.1	0.41	0.46	0.41	51.9
8	T1	All MCs	543	10.9	543	10.9	0.237	3.3	LOS A	1.2	10.0	0.46	0.37	0.46	50.6
6	R2	All MCs	101	6.0	101	6.0	0.237	11.0	LOS B	1.1	9.0	0.48	0.50	0.48	37.5
9u	U	All MCs	1	6.0	1	6.0	0.237	13.8	LOS B	1.1	9.0	0.48	0.50	0.48	41.5
Approach			687	9.9	687	9.9	0.237	4.5	LOS A	1.2	10.0	0.46	0.40	0.46	49.7
North: Verde Dr															
7	L2	All MCs	46	6.0	46	6.0	0.101	2.8	LOS A	0.4	2.9	0.48	0.28	0.48	42.7
8	T1	All MCs	75	6.0	75	6.0	0.101	1.6	LOS A	0.4	2.9	0.48	0.28	0.48	51.8
9	R2	All MCs	54	6.0	54	6.0	0.063	9.1	LOS A	0.2	1.6	0.49	0.70	0.49	42.1
9u	U	All MCs	2	6.0	2	6.0	0.063	11.2	LOS B	0.2	1.6	0.49	0.70	0.49	31.0
Approach			177	6.0	177	6.0	0.101	4.3	LOS A	0.4	2.9	0.48	0.41	0.48	46.5
West: Armadale Rd															
10	L2	All MCs	51	6.0	51	6.0	0.038	4.0	LOS A	0.1	1.1	0.35	0.44	0.35	50.5
2	T1	All MCs	472	7.3	472	7.3	0.272	2.8	LOS A	1.3	10.2	0.40	0.30	0.40	51.3
3	R2	All MCs	293	6.0	293	6.0	0.272	10.7	LOS B	1.2	9.4	0.43	0.64	0.43	48.0
3u	U	All MCs	23	6.0	23	6.0	0.272	13.4	LOS B	1.2	9.4	0.43	0.64	0.43	47.2
Approach			838	6.7	838	6.7	0.272	5.9	LOS A	1.3	10.2	0.41	0.43	0.41	49.5
All Vehicles			2389	7.4	2389	7.4	0.272	5.2	LOS A	1.3	10.2	0.46	0.44	0.46	48.4

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MOVEMENT SUMMARY

Site: [1] Verde Dr & Access 1 - Existing - AM (Existing - AM)
Network: [1] AM (Existing)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Roundabout
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Verde Dr															
4	L2	All MCs	78	6.0	78	6.0	0.198	4.9	LOS A	0.9	7.0	0.15	0.35	0.15	27.5
2	T1	All MCs	192	6.0	192	6.0	0.198	1.9	LOS A	0.9	7.0	0.15	0.35	0.15	45.8
6	R2	All MCs	8	6.0	8	6.0	0.198	10.7	LOS B	0.9	7.0	0.15	0.35	0.15	30.2
6u	U	All MCs	14	6.0	14	6.0	0.198	9.7	LOS A	0.9	7.0	0.15	0.35	0.15	36.2
Approach			292	6.0	292	6.0	0.198	3.3	LOS A	0.9	7.0	0.15	0.35	0.15	42.0
East: Access 1															
7	L2	All MCs	1	6.0	1	6.0	0.004	0.9	LOS A	0.0	0.1	0.36	0.15	0.36	18.5
8	T1	All MCs	1	6.0	1	6.0	0.004	0.9	LOS A	0.0	0.1	0.36	0.15	0.36	19.2
6	R2	All MCs	1	6.0	1	6.0	0.004	0.9	LOS A	0.0	0.1	0.36	0.15	0.36	37.3
9u	U	All MCs	1	6.0	1	6.0	0.004	0.9	LOS A	0.0	0.1	0.36	0.15	0.36	19.0
Approach			4	6.0	4	6.0	0.004	0.9	LOS A	0.0	0.1	0.36	0.15	0.36	26.5
North: Verde Dr															
7	L2	All MCs	1	6.0	1	6.0	0.107	5.0	LOS A	0.4	3.1	0.18	0.45	0.18	40.4
8	T1	All MCs	95	6.0	95	6.0	0.107	2.0	LOS A	0.4	3.1	0.18	0.45	0.18	44.0
9	R2	All MCs	42	6.0	42	6.0	0.107	10.8	LOS B	0.4	3.1	0.18	0.45	0.18	37.7
9u	U	All MCs	4	6.0	4	6.0	0.107	9.8	LOS A	0.4	3.1	0.18	0.45	0.18	45.7
Approach			142	6.0	142	6.0	0.107	4.9	LOS A	0.4	3.1	0.18	0.45	0.18	41.8
West: Existing Rd															
10	L2	All MCs	25	6.0	25	6.0	0.078	0.8	LOS A	0.3	2.6	0.31	0.18	0.31	35.3
2	T1	All MCs	1	6.0	1	6.0	0.078	0.8	LOS A	0.3	2.6	0.31	0.18	0.31	19.3
3	R2	All MCs	68	6.0	68	6.0	0.078	0.8	LOS A	0.3	2.6	0.31	0.18	0.31	19.1
3u	U	All MCs	1	6.0	1	6.0	0.078	0.8	LOS A	0.3	2.6	0.31	0.18	0.31	19.4
Approach			96	6.0	96	6.0	0.078	0.8	LOS A	0.3	2.6	0.31	0.18	0.31	26.5
All Vehicles			534	6.0	534	6.0	0.198	3.3	LOS A	0.9	7.0	0.19	0.35	0.19	39.4

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MOVEMENT SUMMARY

Site: [2] Verde Dr & Access 2 - Existing - AM (Existing - AM)
Network: [1] AM (Existing)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Verde Dr															
2	T1	All MCs	288	6.0	288	6.0	0.159	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			288	6.0	288	6.0	0.159	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
East: Access 2															
7	L2	All MCs	1	6.0	1	6.0	0.001	0.6	LOS A	0.0	0.0	0.27	0.09	0.27	18.3
Approach			1	6.0	1	6.0	0.001	0.6	LOS A	0.0	0.0	0.27	0.09	0.27	18.3
North: Verde Dr															
7	L2	All MCs	2	6.0	2	6.0	0.001	6.4	LOS A	0.0	0.0	0.00	0.60	0.00	30.8
8	T1	All MCs	176	6.0	176	6.0	0.097	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Approach			178	6.0	178	6.0	0.097	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.4
All Vehicles			467	6.0	467	6.0	0.159	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.6

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MOVEMENT SUMMARY

Site: [3 (2)] Armadale Rd & Tapper Rd & Verde Dr - Existing - PM (Existing - PM)

Network: [2] PM (Existing)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Roundabout

Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Tapper Rd															
4	L2	All MCs	285	6.0	285	6.0	0.209	4.4	LOS A	1.2	9.4	0.65	0.53	0.65	51.9
2	T1	All MCs	139	6.0	139	6.0	0.134	4.0	LOS A	0.6	5.0	0.61	0.46	0.61	49.0
6	R2	All MCs	87	6.0	87	6.0	0.134	11.4	LOS B	0.6	5.0	0.62	0.65	0.62	32.6
6u	U	All MCs	1	6.0	1	6.0	0.134	14.1	LOS B	0.6	5.0	0.62	0.65	0.62	49.6
Approach			513	6.0	513	6.0	0.209	5.5	LOS A	1.2	9.4	0.63	0.53	0.63	47.0
East: Armadale Rd															
7	L2	All MCs	132	6.0	132	6.0	0.125	5.9	LOS A	0.7	5.9	0.72	0.66	0.72	50.1
8	T1	All MCs	579	10.9	579	10.9	0.342	5.7	LOS A	2.4	20.4	0.80	0.60	0.80	47.7
6	R2	All MCs	108	6.0	108	6.0	0.342	13.8	LOS B	2.0	16.3	0.78	0.72	0.78	33.5
9u	U	All MCs	1	6.0	1	6.0	0.342	16.5	LOS B	2.0	16.3	0.78	0.72	0.78	38.3
Approach			820	9.5	820	9.5	0.342	6.8	LOS A	2.4	20.4	0.78	0.63	0.78	47.1
North: Verde Dr															
7	L2	All MCs	145	6.0	145	6.0	0.434	5.7	LOS A	2.5	20.4	0.80	0.70	0.92	39.0
8	T1	All MCs	226	6.0	226	6.0	0.434	4.4	LOS A	2.5	20.4	0.80	0.70	0.92	49.2
9	R2	All MCs	168	6.0	168	6.0	0.261	11.0	LOS B	1.1	8.9	0.71	0.84	0.71	41.2
9u	U	All MCs	2	6.0	2	6.0	0.261	13.2	LOS B	1.1	8.9	0.71	0.84	0.71	29.6
Approach			542	6.0	542	6.0	0.434	6.8	LOS A	2.5	20.4	0.77	0.74	0.85	44.4
West: Armadale Rd															
10	L2	All MCs	131	6.0	131	6.0	0.098	4.1	LOS A	0.4	3.1	0.36	0.44	0.36	50.5
2	T1	All MCs	798	7.3	798	7.3	0.475	2.9	LOS A	2.7	21.9	0.46	0.30	0.46	51.0
3	R2	All MCs	606	6.0	606	6.0	0.550	11.2	LOS B	3.4	26.9	0.54	0.67	0.56	47.2
3u	U	All MCs	71	6.0	71	6.0	0.550	13.9	LOS B	3.4	26.9	0.54	0.67	0.56	46.4
Approach			1605	6.6	1605	6.6	0.550	6.6	LOS A	3.4	26.9	0.48	0.47	0.49	48.7
All Vehicles			3480	7.1	3480	7.1	0.550	6.5	LOS A	3.4	26.9	0.62	0.56	0.64	47.5

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MOVEMENT SUMMARY

Site: [1 (2)] Verde Dr & Access 1 - Existing - PM (Existing - PM)

Network: [2] PM (Existing)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Roundabout

Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Verde Dr															
4	L2	All MCs	123	6.0	123	6.0	0.266	5.2	LOS A	1.3	10.5	0.25	0.50	0.25	25.7
2	T1	All MCs	123	6.0	123	6.0	0.266	2.2	LOS A	1.3	10.5	0.25	0.50	0.25	43.6
6	R2	All MCs	76	6.0	76	6.0	0.266	11.0	LOS B	1.3	10.5	0.25	0.50	0.25	27.5
6u	U	All MCs	44	6.0	44	6.0	0.266	9.9	LOS A	1.3	10.5	0.25	0.50	0.25	31.1
Approach			366	6.0	366	6.0	0.266	5.9	LOS A	1.3	10.5	0.25	0.50	0.25	35.1
East: Access 1															
7	L2	All MCs	78	6.0	78	6.0	0.129	3.0	LOS A	0.7	5.8	0.61	0.44	0.61	16.4
8	T1	All MCs	20	6.0	20	6.0	0.129	3.0	LOS A	0.7	5.8	0.61	0.44	0.61	18.2
6	R2	All MCs	19	6.0	19	6.0	0.129	3.0	LOS A	0.7	5.8	0.61	0.44	0.61	37.8
9u	U	All MCs	1	6.0	1	6.0	0.129	3.0	LOS A	0.7	5.8	0.61	0.44	0.61	17.6
Approach			118	6.0	118	6.0	0.129	3.0	LOS A	0.7	5.8	0.61	0.44	0.61	24.2
North: Verde Dr															
7	L2	All MCs	28	6.0	28	6.0	0.287	6.0	LOS A	1.3	10.6	0.42	0.49	0.42	39.8
8	T1	All MCs	229	6.0	229	6.0	0.287	3.0	LOS A	1.3	10.6	0.42	0.49	0.42	43.3
9	R2	All MCs	63	6.0	63	6.0	0.287	11.8	LOS B	1.3	10.6	0.42	0.49	0.42	37.2
9u	U	All MCs	5	6.0	5	6.0	0.287	10.8	LOS B	1.3	10.6	0.42	0.49	0.42	45.4
Approach			326	6.0	326	6.0	0.287	5.1	LOS A	1.3	10.6	0.42	0.49	0.42	41.6
West: Existing Rd															
10	L2	All MCs	77	6.0	77	6.0	0.245	1.1	LOS A	1.2	9.7	0.41	0.25	0.41	35.2
2	T1	All MCs	18	6.0	18	6.0	0.245	1.1	LOS A	1.2	9.7	0.41	0.25	0.41	19.1
3	R2	All MCs	196	6.0	196	6.0	0.245	1.1	LOS A	1.2	9.7	0.41	0.25	0.41	18.8
3u	U	All MCs	1	6.0	1	6.0	0.245	1.1	LOS A	1.2	9.7	0.41	0.25	0.41	19.2
Approach			292	6.0	292	6.0	0.245	1.1	LOS A	1.2	9.7	0.41	0.25	0.41	26.3
All Vehicles			1102	6.0	1102	6.0	0.287	4.1	LOS A	1.3	10.6	0.38	0.43	0.38	34.5

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MOVEMENT SUMMARY

Site: [2 (2)] Verde Dr & Access 2 - Existing - PM (Existing - PM)

Network: [2] PM (Existing)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Verde Dr															
2	T1	All MCs	380	6.0	380	6.0	0.209	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			380	6.0	380	6.0	0.209	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
East: Access 2															
7	L2	All MCs	78	6.0	78	6.0	0.084	2.3	LOS A	0.3	2.5	0.49	0.40	0.49	16.8
Approach			78	6.0	78	6.0	0.084	2.3	LOS A	0.3	2.5	0.49	0.40	0.49	16.8
North: Verde Dr															
7	L2	All MCs	83	6.0	83	6.0	0.049	6.4	LOS A	0.0	0.0	0.00	0.60	0.00	30.8
8	T1	All MCs	464	6.0	464	6.0	0.255	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			547	6.0	547	6.0	0.255	1.0	NA	0.0	0.0	0.00	0.09	0.00	44.0
All Vehicles			1005	6.0	1005	6.0	0.255	0.7	NA	0.3	2.5	0.04	0.08	0.04	43.1

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MOVEMENT SUMMARY

Site: [3 (3)] Armadale Rd & Tapper Rd & Verde Dr - Existing - SAT (Existing - SAT)

Network: [3] SAT (Existing)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Roundabout

Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Tapper Rd															
4	L2	All MCs	261	6.0	261	6.0	0.215	5.5	LOS A	1.4	11.1	0.78	0.66	0.78	51.4
2	T1	All MCs	178	6.0	178	6.0	0.177	5.2	LOS A	0.9	6.9	0.69	0.55	0.69	48.3
6	R2	All MCs	78	6.0	78	6.0	0.177	12.6	LOS B	0.9	6.9	0.70	0.68	0.70	32.5
6u	U	All MCs	1	6.0	1	6.0	0.177	15.3	LOS B	0.9	6.9	0.70	0.68	0.70	49.7
Approach			518	6.0	518	6.0	0.215	6.4	LOS A	1.4	11.1	0.74	0.63	0.74	46.8
East: Armadale Rd															
7	L2	All MCs	73	6.0	73	6.0	0.056	4.6	LOS A	0.3	2.3	0.61	0.55	0.61	50.7
8	T1	All MCs	620	10.9	620	10.9	0.348	4.4	LOS A	2.1	17.7	0.70	0.49	0.70	48.6
6	R2	All MCs	171	6.0	171	6.0	0.348	12.5	LOS B	1.8	14.8	0.70	0.68	0.70	34.2
9u	U	All MCs	1	6.0	1	6.0	0.348	15.2	LOS B	1.8	14.8	0.70	0.68	0.70	38.7
Approach			864	9.5	864	9.5	0.348	6.1	LOS A	2.1	17.7	0.69	0.53	0.69	47.1
North: Verde Dr															
7	L2	All MCs	201	6.0	201	6.0	0.412	4.3	LOS A	2.2	17.5	0.71	0.55	0.78	39.9
8	T1	All MCs	201	6.0	201	6.0	0.412	3.1	LOS A	2.2	17.5	0.71	0.55	0.78	49.9
9	R2	All MCs	307	6.0	307	6.0	0.412	10.9	LOS B	2.2	17.5	0.70	0.86	0.79	41.0
9u	U	All MCs	4	6.0	4	6.0	0.412	13.1	LOS B	1.9	15.6	0.70	0.86	0.79	29.2
Approach			714	6.0	714	6.0	0.412	6.9	LOS A	2.2	17.5	0.71	0.68	0.78	43.4
West: Armadale Rd															
10	L2	All MCs	195	6.0	195	6.0	0.151	4.6	LOS A	0.6	5.1	0.42	0.47	0.42	50.0
2	T1	All MCs	697	7.3	697	7.3	0.407	3.1	LOS A	2.2	18.0	0.48	0.33	0.48	50.5
3	R2	All MCs	314	6.0	314	6.0	0.407	11.1	LOS B	2.0	16.5	0.52	0.67	0.52	47.5
3u	U	All MCs	140	6.0	140	6.0	0.407	13.8	LOS B	2.0	16.5	0.52	0.67	0.52	46.7
Approach			1345	6.7	1345	6.7	0.407	6.3	LOS A	2.2	18.0	0.49	0.46	0.49	48.9
All Vehicles			3441	7.1	3441	7.1	0.412	6.4	LOS A	2.2	18.0	0.62	0.55	0.64	47.1

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MOVEMENT SUMMARY

Site: [1 (3)] Verde Dr & Access 1 - Existing - SAT (Existing - SAT)

Network: [3] SAT (Existing)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Roundabout

Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	HV %	Arrival Flows [Total veh/h]	HV %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh]	Dist m	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Verde Dr															
4	L2	All MCs	227	6.0	227	6.0	0.455	5.6	LOS A	2.9	23.1	0.41	0.55	0.41	24.8
2	T1	All MCs	126	6.0	126	6.0	0.455	2.6	LOS A	2.9	23.1	0.41	0.55	0.41	42.5
6	R2	All MCs	132	6.0	132	6.0	0.455	11.4	LOS B	2.9	23.1	0.41	0.55	0.41	26.3
6u	U	All MCs	111	6.0	111	6.0	0.455	10.4	LOS B	2.9	23.1	0.41	0.55	0.41	29.0
Approach			596	6.0	596	6.0	0.455	7.2	LOS A	2.9	23.1	0.41	0.55	0.41	31.5
East: Access 1															
7	L2	All MCs	116	6.0	116	6.0	0.226	4.6	LOS A	1.4	11.4	0.75	0.57	0.75	14.8
8	T1	All MCs	40	6.0	40	6.0	0.226	4.6	LOS A	1.4	11.4	0.75	0.57	0.75	17.3
6	R2	All MCs	20	6.0	20	6.0	0.226	4.6	LOS A	1.4	11.4	0.75	0.57	0.75	36.8
9u	U	All MCs	1	6.0	1	6.0	0.226	4.6	LOS A	1.4	11.4	0.75	0.57	0.75	16.4
Approach			177	6.0	177	6.0	0.226	4.6	LOS A	1.4	11.4	0.75	0.57	0.75	21.0
North: Verde Dr															
7	L2	All MCs	52	6.0	52	6.0	0.309	7.6	LOS A	1.7	13.6	0.63	0.69	0.63	37.7
8	T1	All MCs	121	6.0	121	6.0	0.309	4.6	LOS A	1.7	13.6	0.63	0.69	0.63	40.7
9	R2	All MCs	113	6.0	113	6.0	0.309	13.4	LOS B	1.7	13.6	0.63	0.69	0.63	35.5
9u	U	All MCs	1	6.0	1	6.0	0.309	12.3	LOS B	1.7	13.6	0.63	0.69	0.63	43.8
Approach			286	6.0	286	6.0	0.309	8.6	LOS A	1.7	13.6	0.63	0.69	0.63	37.8
West: Existing Rd															
10	L2	All MCs	109	6.0	109	6.0	0.452	2.1	LOS A	2.8	22.8	0.60	0.42	0.60	34.7
2	T1	All MCs	25	6.0	25	6.0	0.452	2.1	LOS A	2.8	22.8	0.60	0.42	0.60	18.7
3	R2	All MCs	355	6.0	355	6.0	0.452	2.1	LOS A	2.8	22.8	0.60	0.42	0.60	18.3
3u	U	All MCs	1	6.0	1	6.0	0.452	2.1	LOS A	2.8	22.8	0.60	0.42	0.60	18.9
Approach			491	6.0	491	6.0	0.452	2.1	LOS A	2.8	22.8	0.60	0.42	0.60	24.8
All Vehicles			1549	6.0	1549	6.0	0.455	5.5	LOS A	2.9	23.1	0.55	0.54	0.55	30.3

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MOVEMENT SUMMARY

Site: [2 (3)] Verde Dr & Access 2 - Existing - SAT (Existing - SAT)

Network: [3] SAT (Existing)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Verde Dr															
2	T1	All MCs	547	6.0	547	6.0	0.301	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach			547	6.0	547	6.0	0.301	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.8
East: Access 2															
7	L2	All MCs	116	6.0	116	6.0	0.154	3.6	LOS A	0.6	4.5	0.57	0.54	0.57	15.4
Approach			116	6.0	116	6.0	0.154	3.6	LOS A	0.6	4.5	0.57	0.54	0.57	15.4
North: Verde Dr															
7	L2	All MCs	104	6.0	104	6.0	0.061	6.4	LOS A	0.0	0.0	0.00	0.60	0.00	30.8
8	T1	All MCs	598	6.0	598	6.0	0.329	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach			702	6.0	702	6.0	0.329	1.0	NA	0.0	0.0	0.00	0.09	0.00	44.1
All Vehicles			1365	6.0	1365	6.0	0.329	0.8	NA	0.6	4.5	0.05	0.09	0.05	42.5

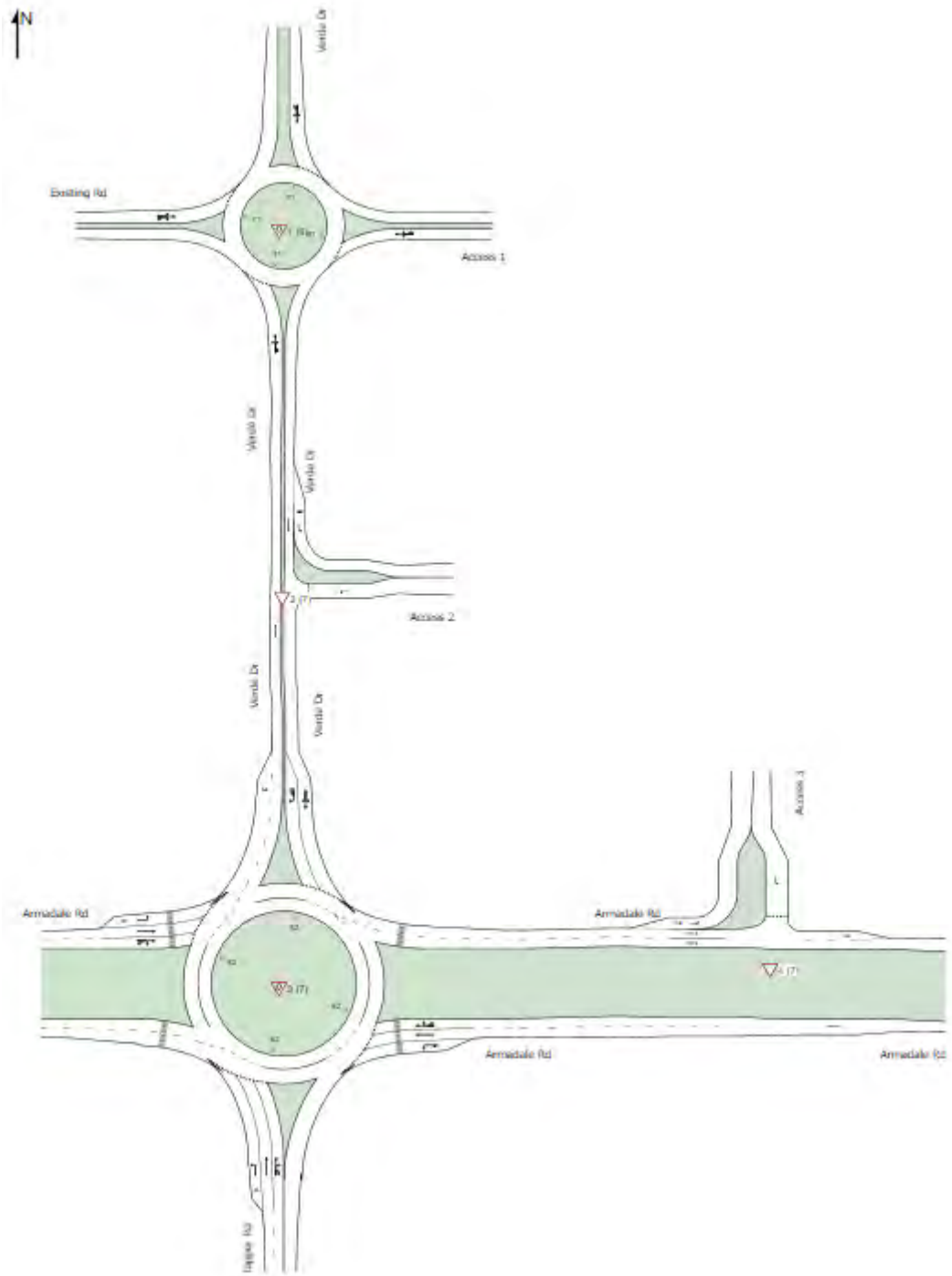
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MOVEMENT SUMMARY

Site: [4 (7)] Armadale Rd & Access 3 - 2026 - AM (2026 - AM)
Network: [7] AM (2026)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
East: Armadale Rd															
2	T1	All MCs	748	10.9	748	10.9	0.399	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach			748	10.9	748	10.9	0.399	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.7
North: Access 3															
7	L2	All MCs	101	6.0	101	6.0	0.076	1.7	LOS A	0.3	2.5	0.28	0.15	0.28	42.5
Approach			101	6.0	101	6.0	0.076	1.7	LOS A	0.3	2.5	0.28	0.15	0.28	42.5
West: Armadale Rd															
7	L2	All MCs	124	6.0	124	6.0	0.073	7.6	LOS A	0.0	0.0	0.00	0.64	0.00	33.6
8	T1	All MCs	621	7.3	621	7.3	0.252	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			745	7.1	745	7.1	0.252	1.5	NA	0.0	0.0	0.00	0.11	0.00	57.2
All Vehicles			1595	8.8	1595	8.8	0.399	0.9	NA	0.3	2.5	0.02	0.06	0.02	57.0

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MOVEMENT SUMMARY

Site: [3 (7)] Armadale Rd & Tapper Rd & Verde Dr - 2026 - AM
(2026 - AM)
Network: [7] AM (2026)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Roundabout
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Tapper Rd															
4	L2	All MCs	414	6.0	414	6.0	0.271	4.2	LOS A	1.3	10.8	0.56	0.50	0.56	52.3
2	T1	All MCs	141	6.0	141	6.0	0.188	3.9	LOS A	0.8	6.5	0.53	0.36	0.53	50.9
6	R2	All MCs	204	6.0	204	6.0	0.188	11.3	LOS B	0.8	6.5	0.55	0.73	0.55	44.7
6u	U	All MCs	1	6.0	1	6.0	0.188	14.0	LOS B	0.8	6.5	0.55	0.73	0.55	48.3
Approach			760	6.0	760	6.0	0.271	6.0	LOS A	1.3	10.8	0.55	0.53	0.55	50.3
East: Armadale Rd															
7	L2	All MCs	43	6.0	43	6.0	0.033	4.1	LOS A	0.1	1.1	0.45	0.49	0.45	51.6
8	T1	All MCs	546	10.9	546	10.9	0.266	3.5	LOS A	1.4	11.8	0.51	0.40	0.51	50.1
6	R2	All MCs	158	6.0	158	6.0	0.266	11.4	LOS B	1.3	10.4	0.53	0.58	0.53	36.0
9u	U	All MCs	1	6.0	1	6.0	0.266	14.1	LOS B	1.3	10.4	0.53	0.58	0.53	36.0
Approach			748	9.6	748	9.6	0.266	5.2	LOS A	1.4	11.8	0.51	0.44	0.51	48.5
North: Verde Dr															
7	L2	All MCs	52	6.0	52	6.0	0.165	3.1	LOS A	0.7	5.2	0.54	0.29	0.54	36.6
8	T1	All MCs	136	6.0	136	6.0	0.165	1.9	LOS A	0.7	5.2	0.54	0.29	0.54	51.3
9	R2	All MCs	78	6.0	78	6.0	0.095	9.3	LOS A	0.3	2.7	0.53	0.72	0.53	41.9
9u	U	All MCs	2	6.0	2	6.0	0.095	11.5	LOS B	0.3	2.7	0.53	0.72	0.53	30.7
Approach			267	6.0	267	6.0	0.165	4.4	LOS A	0.7	5.2	0.54	0.42	0.54	46.7
West: Armadale Rd															
10	L2	All MCs	58	6.0	58	6.0	0.044	4.3	LOS A	0.2	1.4	0.41	0.46	0.41	50.0
2	T1	All MCs	487	7.3	487	7.3	0.291	3.1	LOS A	1.4	11.6	0.47	0.32	0.47	49.7
3	R2	All MCs	299	6.0	299	6.0	0.291	11.1	LOS B	1.3	10.5	0.50	0.67	0.50	47.7
3u	U	All MCs	23	6.0	23	6.0	0.291	13.8	LOS B	1.3	10.5	0.50	0.67	0.50	46.9
Approach			867	6.7	867	6.7	0.291	6.2	LOS A	1.4	11.6	0.47	0.46	0.47	48.6
All Vehicles			2643	7.3	2643	7.3	0.291	5.7	LOS A	1.4	11.8	0.51	0.47	0.51	48.9

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MOVEMENT SUMMARY

Site: [1 (6)] Verde Dr & Access 1 - 2026 - AM (2026 - AM)
Network: [7] AM (2026)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Roundabout
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Verde Dr															
4	L2	All MCs	78	6.0	78	6.0	0.279	5.4	LOS A	1.4	11.3	0.33	0.47	0.33	26.0
2	T1	All MCs	196	6.0	196	6.0	0.279	2.4	LOS A	1.4	11.3	0.33	0.47	0.33	44.0
6	R2	All MCs	74	6.0	74	6.0	0.279	11.2	LOS B	1.4	11.3	0.33	0.47	0.33	26.2
6u	U	All MCs	14	6.0	14	6.0	0.279	10.2	LOS B	1.4	11.3	0.33	0.47	0.33	31.9
Approach			361	6.0	361	6.0	0.279	5.2	LOS A	1.4	11.3	0.33	0.47	0.33	38.2
East: Access 1															
7	L2	All MCs	13	6.0	13	6.0	0.119	1.4	LOS A	0.6	5.0	0.44	0.27	0.44	18.7
8	T1	All MCs	25	6.0	25	6.0	0.119	1.4	LOS A	0.6	5.0	0.44	0.27	0.44	19.2
6	R2	All MCs	96	6.0	96	6.0	0.119	1.4	LOS A	0.6	5.0	0.44	0.27	0.44	35.1
9u	U	All MCs	1	6.0	1	6.0	0.119	1.4	LOS A	0.6	5.0	0.44	0.27	0.44	19.2
Approach			135	6.0	135	6.0	0.119	1.4	LOS A	0.6	5.0	0.44	0.27	0.44	32.0
North: Verde Dr															
7	L2	All MCs	56	6.0	56	6.0	0.191	5.3	LOS A	0.8	6.1	0.28	0.45	0.28	37.8
8	T1	All MCs	137	6.0	137	6.0	0.191	2.3	LOS A	0.8	6.1	0.28	0.45	0.28	43.9
9	R2	All MCs	42	6.0	42	6.0	0.191	11.1	LOS B	0.8	6.1	0.28	0.45	0.28	37.5
9u	U	All MCs	4	6.0	4	6.0	0.191	10.1	LOS B	0.8	6.1	0.28	0.45	0.28	45.7
Approach			239	6.0	239	6.0	0.191	4.7	LOS A	0.8	6.1	0.28	0.45	0.28	41.0
West: Existing Rd															
10	L2	All MCs	25	6.0	25	6.0	0.108	1.5	LOS A	0.5	4.0	0.44	0.30	0.44	35.0
2	T1	All MCs	13	6.0	13	6.0	0.108	1.5	LOS A	0.5	4.0	0.44	0.30	0.44	19.2
3	R2	All MCs	80	6.0	80	6.0	0.108	1.5	LOS A	0.5	4.0	0.44	0.30	0.44	18.7
3u	U	All MCs	1	6.0	1	6.0	0.108	1.5	LOS A	0.5	4.0	0.44	0.30	0.44	19.2
Approach			119	6.0	119	6.0	0.108	1.5	LOS A	0.5	4.0	0.44	0.30	0.44	24.8
All Vehicles			854	6.0	854	6.0	0.279	3.9	LOS A	1.4	11.3	0.35	0.41	0.35	36.3

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MOVEMENT SUMMARY

Site: [2 (7)] Verde Dr & Access 2 - 2026 - AM (2026 - AM)
Network: [7] AM (2026)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Verde Dr															
2	T1	All MCs	359	6.0	359	6.0	0.198	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			359	6.0	359	6.0	0.198	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
East: Access 2															
7	L2	All MCs	85	6.0	85	6.0	0.065	0.7	LOS A	0.3	2.1	0.29	0.16	0.29	18.2
Approach			85	6.0	85	6.0	0.065	0.7	LOS A	0.3	2.1	0.29	0.16	0.29	18.2
North: Verde Dr															
7	L2	All MCs	61	6.0	61	6.0	0.036	6.4	LOS A	0.0	0.0	0.00	0.60	0.00	30.8
8	T1	All MCs	182	6.0	182	6.0	0.100	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Approach			243	6.0	243	6.0	0.100	1.6	NA	0.0	0.0	0.00	0.15	0.00	41.3
All Vehicles			687	6.0	687	6.0	0.198	0.7	NA	0.3	2.1	0.04	0.07	0.04	41.7

MOVEMENT SUMMARY

Site: [4 (8)] Armadale Rd & Access 3 - 2026 - PM (2026 - PM)
Network: [8] PM (2026)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
East: Armadale Rd															
2	T1	All MCs	892	10.9	892	10.9	0.476	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
Approach			892	10.9	892	10.9	0.476	0.2	NA	0.0	0.0	0.00	0.00	0.00	59.6
North: Access 3															
7	L2	All MCs	116	6.0	116	6.0	0.097	3.8	LOS A	0.4	3.1	0.37	0.24	0.37	42.2
Approach			116	6.0	116	6.0	0.097	3.8	LOS A	0.4	3.1	0.37	0.24	0.37	42.2
West: Armadale Rd															
7	L2	All MCs	142	6.0	142	6.0	0.084	7.6	LOS A	0.0	0.0	0.00	0.64	0.00	33.6
8	T1	All MCs	992	7.3	992	7.3	0.402	0.8	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			1134	7.1	1134	7.1	0.402	1.6	NA	0.0	0.0	0.00	0.08	0.00	57.8
All Vehicles			2141	8.6	2141	8.6	0.476	1.1	NA	0.4	3.1	0.02	0.06	0.02	57.3

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MOVEMENT SUMMARY

Site: [3 (8)] Armadale Rd & Tapper Rd & Verde Dr - 2026 - PM
(2026 - PM)

Network: [8] PM (2026)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Roundabout

Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Tapper Rd															
4	L2	All MCs	286	6.0	286	6.0	0.225	4.6	LOS A	1.4	11.0	0.72	0.56	0.72	51.6
2	T1	All MCs	146	6.0	146	6.0	0.209	4.5	LOS A	1.0	8.2	0.66	0.46	0.66	48.8
6	R2	All MCs	158	6.0	158	6.0	0.209	11.9	LOS B	1.0	8.2	0.68	0.75	0.68	45.0
6u	U	All MCs	1	6.0	1	6.0	0.209	14.6	LOS B	1.0	8.2	0.68	0.75	0.68	48.5
Approach			592	6.0	592	6.0	0.225	6.5	LOS A	1.4	11.0	0.70	0.58	0.70	49.5
East: Armadale Rd															
7	L2	All MCs	135	6.0	135	6.0	0.132	6.5	LOS A	0.8	6.8	0.78	0.68	0.78	49.7
8	T1	All MCs	582	10.9	582	10.9	0.411	6.7	LOS A	3.2	26.9	0.88	0.70	0.91	46.8
6	R2	All MCs	175	6.0	175	6.0	0.411	15.4	LOS B	2.7	21.9	0.84	0.84	0.93	30.9
9u	U	All MCs	1	6.0	1	6.0	0.411	18.1	LOS B	2.7	21.9	0.84	0.84	0.93	30.9
Approach			893	9.2	893	9.2	0.411	8.4	LOS A	3.2	26.9	0.86	0.72	0.89	45.4
North: Verde Dr															
7	L2	All MCs	154	6.0	154	6.0	0.583	7.8	LOS A	4.1	33.1	0.88	0.95	1.16	28.7
8	T1	All MCs	300	6.0	300	6.0	0.583	6.5	LOS A	4.1	33.1	0.88	0.95	1.16	46.9
9	R2	All MCs	199	6.0	199	6.0	0.333	11.8	LOS B	1.6	12.6	0.77	0.89	0.82	40.7
9u	U	All MCs	2	6.0	2	6.0	0.333	13.9	LOS B	1.6	12.6	0.77	0.89	0.82	29.0
Approach			655	6.0	655	6.0	0.583	8.4	LOS A	4.1	33.1	0.85	0.93	1.05	42.6
West: Armadale Rd															
10	L2	All MCs	140	6.0	140	6.0	0.106	4.4	LOS A	0.4	3.6	0.43	0.47	0.43	49.9
2	T1	All MCs	821	7.3	821	7.3	0.506	3.3	LOS A	3.1	24.7	0.55	0.33	0.55	49.0
3	R2	All MCs	619	6.0	619	6.0	0.602	12.2	LOS B	4.2	34.0	0.65	0.76	0.74	46.6
3u	U	All MCs	72	6.0	72	6.0	0.602	14.9	LOS B	4.2	34.0	0.65	0.76	0.74	45.7
Approach			1652	6.6	1652	6.6	0.602	7.2	LOS A	4.2	34.0	0.58	0.52	0.62	47.5
All Vehicles			3791	7.0	3791	7.0	0.602	7.6	LOS A	4.2	34.0	0.71	0.65	0.77	46.6

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MOVEMENT SUMMARY

Site: [1 (8)] Verde Dr & Access 1 - 2026 - PM (2026 - PM)
Network: [8] PM (2026)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Roundabout
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Verde Dr															
4	L2	All MCs	123	6.0	123	6.0	0.369	5.9	LOS A	2.2	17.4	0.46	0.58	0.46	24.7
2	T1	All MCs	125	6.0	125	6.0	0.369	2.9	LOS A	2.2	17.4	0.46	0.58	0.46	42.4
6	R2	All MCs	152	6.0	152	6.0	0.369	11.7	LOS B	2.2	17.4	0.46	0.58	0.46	24.8
6u	U	All MCs	44	6.0	44	6.0	0.369	10.6	LOS B	2.2	17.4	0.46	0.58	0.46	28.7
Approach			444	6.0	444	6.0	0.369	7.5	LOS A	2.2	17.4	0.46	0.58	0.46	32.0
East: Access 1															
7	L2	All MCs	92	6.0	92	6.0	0.317	4.0	LOS A	2.0	16.4	0.73	0.55	0.73	17.1
8	T1	All MCs	47	6.0	47	6.0	0.317	4.0	LOS A	2.0	16.4	0.73	0.55	0.73	18.2
6	R2	All MCs	129	6.0	129	6.0	0.317	4.0	LOS A	2.0	16.4	0.73	0.55	0.73	34.4
9u	U	All MCs	1	6.0	1	6.0	0.317	4.0	LOS A	2.0	16.4	0.73	0.55	0.73	18.1
Approach			269	6.0	269	6.0	0.317	4.0	LOS A	2.0	16.4	0.73	0.55	0.73	28.5
North: Verde Dr															
7	L2	All MCs	93	6.0	93	6.0	0.415	6.8	LOS A	2.2	18.1	0.55	0.56	0.55	37.0
8	T1	All MCs	281	6.0	281	6.0	0.415	3.7	LOS A	2.2	18.1	0.55	0.56	0.55	42.7
9	R2	All MCs	63	6.0	63	6.0	0.415	12.5	LOS B	2.2	18.1	0.55	0.56	0.55	36.8
9u	U	All MCs	5	6.0	5	6.0	0.415	11.5	LOS B	2.2	18.1	0.55	0.56	0.55	45.0
Approach			442	6.0	442	6.0	0.415	5.7	LOS A	2.2	18.1	0.55	0.56	0.55	40.3
West: Existing Rd															
10	L2	All MCs	77	6.0	77	6.0	0.306	2.2	LOS A	1.7	13.7	0.57	0.41	0.57	34.8
2	T1	All MCs	32	6.0	32	6.0	0.306	2.2	LOS A	1.7	13.7	0.57	0.41	0.57	18.9
3	R2	All MCs	209	6.0	209	6.0	0.306	2.2	LOS A	1.7	13.7	0.57	0.41	0.57	18.4
3u	U	All MCs	1	6.0	1	6.0	0.306	2.2	LOS A	1.7	13.7	0.57	0.41	0.57	19.0
Approach			319	6.0	319	6.0	0.306	2.2	LOS A	1.7	13.7	0.57	0.41	0.57	25.2
All Vehicles			1475	6.0	1475	6.0	0.415	5.2	LOS A	2.2	18.1	0.56	0.53	0.56	32.9

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MOVEMENT SUMMARY

Site: [2 (8)] Verde Dr & Access 2 - 2026 - PM (2026 - PM)
Network: [8] PM (2026)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Verde Dr															
2	T1	All MCs	463	6.0	463	6.0	0.255	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			463	6.0	463	6.0	0.255	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
East: Access 2															
7	L2	All MCs	175	6.0	175	6.0	0.192	2.6	LOS A	0.8	6.0	0.52	0.45	0.52	16.4
Approach			175	6.0	175	6.0	0.192	2.6	LOS A	0.8	6.0	0.52	0.45	0.52	16.4
North: Verde Dr															
7	L2	All MCs	153	6.0	153	6.0	0.090	6.4	LOS A	0.0	0.0	0.00	0.60	0.00	30.8
8	T1	All MCs	474	6.0	474	6.0	0.261	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			626	6.0	626	6.0	0.261	1.6	NA	0.0	0.0	0.00	0.15	0.00	41.4
All Vehicles			1264	6.0	1264	6.0	0.261	1.1	NA	0.8	6.0	0.07	0.13	0.07	39.5

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MOVEMENT SUMMARY

Site: [4 (9)] Armadale Rd & Access 3 - 2026 - SAT (2026 - SAT)

Network: [9] SAT (2026)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
East: Armadale Rd															
2	T1	All MCs	985	10.9	985	10.9	0.526	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.5
Approach			985	10.9	985	10.9	0.526	0.2	NA	0.0	0.0	0.00	0.00	0.00	59.5
North: Access 3															
7	L2	All MCs	224	6.0	224	6.0	0.182	3.5	LOS A	0.8	6.3	0.37	0.24	0.37	42.2
Approach			224	6.0	224	6.0	0.182	3.5	LOS A	0.8	6.3	0.37	0.24	0.37	42.2
West: Armadale Rd															
7	L2	All MCs	273	6.0	273	6.0	0.161	7.6	LOS A	0.0	0.0	0.00	0.64	0.00	33.6
8	T1	All MCs	877	7.3	877	7.3	0.356	0.7	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			1149	7.0	1149	7.0	0.356	2.3	NA	0.0	0.0	0.00	0.15	0.00	55.8
All Vehicles			2359	8.5	2359	8.5	0.526	1.6	NA	0.8	6.3	0.03	0.10	0.03	55.5

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MOVEMENT SUMMARY

Site: [3 (9)] Armadale Rd & Tapper Rd & Verde Dr - 2026 - SAT (2026 - SAT)

Network: [9] SAT (2026)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Roundabout
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Tapper Rd															
4	L2	All MCs	258	6.0	258	6.0	0.246	6.2	LOS A	1.8	14.3	0.88	0.74	0.88	50.9
2	T1	All MCs	191	6.0	191	6.0	0.372	6.9	LOS A	2.0	16.4	0.79	0.64	0.80	47.7
6	R2	All MCs	209	6.0	209	6.0	0.372	14.5	LOS B	2.0	16.4	0.81	0.88	0.88	43.6
6u	U	All MCs	1	6.0	1	6.0	0.372	17.2	LOS B	2.0	16.4	0.81	0.88	0.88	47.6
Approach			659	6.0	659	6.0	0.372	9.1	LOS A	2.0	16.4	0.83	0.76	0.86	48.0
East: Armadale Rd															
7	L2	All MCs	74	6.0	74	6.0	0.062	5.2	LOS A	0.4	3.1	0.75	0.63	0.75	49.9
8	T1	All MCs	615	10.9	615	10.9	0.465	5.8	LOS A	3.6	30.4	0.85	0.64	0.94	47.4
6	R2	All MCs	295	6.0	295	6.0	0.465	14.4	LOS B	3.0	24.1	0.81	0.87	0.94	31.0
9u	U	All MCs	1	6.0	1	6.0	0.465	17.1	LOS B	3.0	24.1	0.81	0.87	0.94	31.0
Approach			984	9.1	984	9.1	0.465	8.3	LOS A	3.6	30.4	0.83	0.71	0.92	44.3
North: Verde Dr															
7	L2	All MCs	216	6.0	216	6.0	0.623	6.3	LOS A	4.3	34.9	0.84	0.82	1.09	29.6
8	T1	All MCs	335	6.0	335	6.0	0.623	5.1	LOS A	4.3	34.9	0.84	0.82	1.09	47.6
9	R2	All MCs	365	6.0	365	6.0	0.565	12.5	LOS B	3.1	25.2	0.79	0.97	1.00	39.8
9u	U	All MCs	4	6.0	4	6.0	0.565	14.7	LOS B	3.1	25.2	0.79	0.97	1.00	27.7
Approach			920	6.0	920	6.0	0.623	8.4	LOS A	4.3	34.9	0.82	0.88	1.05	41.9
West: Armadale Rd															
10	L2	All MCs	212	6.0	212	6.0	0.174	5.4	LOS A	0.8	6.8	0.55	0.54	0.55	48.8
2	T1	All MCs	724	7.3	724	7.3	0.466	3.8	LOS A	3.0	24.2	0.65	0.40	0.66	47.8
3	R2	All MCs	320	6.0	320	6.0	0.466	12.3	LOS B	2.8	22.2	0.67	0.77	0.73	46.8
3u	U	All MCs	143	6.0	143	6.0	0.466	15.0	LOS B	2.8	22.2	0.67	0.77	0.73	46.0
Approach			1399	6.7	1399	6.7	0.466	7.1	LOS A	3.0	24.2	0.64	0.54	0.67	47.3
All Vehicles			3962	7.0	3962	7.0	0.623	8.0	LOS A	4.3	34.9	0.76	0.70	0.85	45.5

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MOVEMENT SUMMARY

Site: [1 (9)] Verde Dr & Access 1 - 2026 - SAT (2026 - SAT)
Network: [9] SAT (2026)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Roundabout
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Verde Dr															
4	L2	All MCs	227	6.0	227	6.0	0.730	10.1	LOS B	8.5	68.1	0.87	0.85	1.08	21.8
2	T1	All MCs	128	6.0	128	6.0	0.730	7.1	LOS A	8.5	68.1	0.87	0.85	1.08	38.9
6	R2	All MCs	275	6.0	275	6.0	0.730	15.9	LOS B	8.5	68.1	0.87	0.85	1.08	21.9
6u	U	All MCs	111	6.0	111	6.0	0.730	14.9	LOS B	8.5	68.1	0.87	0.85	1.08	23.0
Approach			741	6.0	741	6.0	0.730	12.5	LOS B	8.5	68.1	0.87	0.85	1.08	26.3
East: Access 1															
7	L2	All MCs	142	6.0	142	6.0	0.697	14.7	LOS B	8.4	67.7	1.00	1.36	1.53	12.4
8	T1	All MCs	92	6.0	92	6.0	0.697	14.7	LOS B	8.4	67.7	1.00	1.36	1.53	14.6
6	R2	All MCs	227	6.0	227	6.0	0.697	14.7	LOS B	8.4	67.7	1.00	1.36	1.53	29.6
9u	U	All MCs	1	6.0	1	6.0	0.697	14.7	LOS B	8.4	67.7	1.00	1.36	1.53	14.5
Approach			462	6.0	462	6.0	0.697	14.7	LOS B	8.4	67.7	1.00	1.36	1.53	23.5
North: Verde Dr															
7	L2	All MCs	173	6.0	173	6.0	0.671	14.4	LOS B	6.9	55.4	0.93	0.99	1.31	32.7
8	T1	All MCs	209	6.0	209	6.0	0.671	11.4	LOS B	6.9	55.4	0.93	0.99	1.31	36.4
9	R2	All MCs	113	6.0	113	6.0	0.671	20.2	LOS C	6.9	55.4	0.93	0.99	1.31	32.6
9u	U	All MCs	1	6.0	1	6.0	0.671	19.2	LOS B	6.9	55.4	0.93	0.99	1.31	41.1
Approach			496	6.0	496	6.0	0.671	14.5	LOS B	6.9	55.4	0.93	0.99	1.31	34.0
West: Existing Rd															
10	L2	All MCs	109	6.0	109	6.0	0.711	10.4	LOS B	8.3	66.8	0.97	1.22	1.40	31.0
2	T1	All MCs	52	6.0	52	6.0	0.711	10.4	LOS B	8.3	66.8	0.97	1.22	1.40	16.0
3	R2	All MCs	381	6.0	381	6.0	0.711	10.4	LOS B	8.3	66.8	0.97	1.22	1.40	14.3
3u	U	All MCs	1	6.0	1	6.0	0.711	10.4	LOS B	8.3	66.8	0.97	1.22	1.40	16.1
Approach			543	6.0	543	6.0	0.711	10.4	LOS B	8.3	66.8	0.97	1.22	1.40	20.0
All Vehicles			2242	6.0	2242	6.0	0.730	12.9	LOS B	8.5	68.1	0.93	1.08	1.30	26.3

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MOVEMENT SUMMARY

Site: [2 (9)] Verde Dr & Access 2 - 2026 - SAT (2026 - SAT)
Network: [9] SAT (2026)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Verde Dr															
2	T1	All MCs	701	6.0	701	6.0	0.386	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach			701	6.0	701	6.0	0.386	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.8
East: Access 2															
7	L2	All MCs	299	6.0	299	6.0	0.406	5.3	LOS A	2.1	16.7	0.64	0.84	0.88	13.8
Approach			299	6.0	299	6.0	0.406	5.3	LOS A	2.1	16.7	0.64	0.84	0.88	13.8
North: Verde Dr															
7	L2	All MCs	234	6.0	234	6.0	0.138	6.4	LOS A	0.0	0.0	0.00	0.60	0.00	30.8
8	T1	All MCs	609	6.0	609	6.0	0.335	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach			843	6.0	843	6.0	0.335	1.8	NA	0.0	0.0	0.00	0.17	0.00	40.6
All Vehicles			1843	6.0	1843	6.0	0.406	1.7	NA	2.1	16.7	0.10	0.21	0.14	37.0

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2036

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MOVEMENT SUMMARY

Site: [4 (4)] Armadale Rd & Access 3 - 2036 - AM (2036 - AM)
Network: [4] AM (2036)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
East: Armadale Rd															
2	T1	All MCs	902	10.9	902	10.9	0.481	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
Approach			902	10.9	902	10.9	0.481	0.2	NA	0.0	0.0	0.00	0.00	0.00	59.6
North: Access 3															
7	L2	All MCs	101	6.0	101	6.0	0.079	2.3	LOS A	0.3	2.6	0.31	0.18	0.31	42.3
Approach			101	6.0	101	6.0	0.079	2.3	LOS A	0.3	2.6	0.31	0.18	0.31	42.3
West: Armadale Rd															
7	L2	All MCs	124	6.0	124	6.0	0.073	7.6	LOS A	0.0	0.0	0.00	0.64	0.00	33.6
8	T1	All MCs	768	7.3	768	7.3	0.312	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			893	7.1	893	7.1	0.312	1.4	NA	0.0	0.0	0.00	0.09	0.00	57.6
All Vehicles			1896	8.9	1896	8.9	0.481	0.9	NA	0.3	2.6	0.02	0.05	0.02	57.4

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MOVEMENT SUMMARY

Site: [3 (4)] Armadale Rd & Tapper Rd & Verde Dr - 2036 - AM
(2036 - AM)

Network: [4] AM (2036)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Roundabout

Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Tapper Rd															
4	L2	All MCs	505	6.0	505	6.0	0.362	4.6	LOS A	2.1	17.0	0.69	0.55	0.69	51.7
2	T1	All MCs	172	6.0	172	6.0	0.235	4.1	LOS A	1.1	8.8	0.60	0.38	0.60	50.1
6	R2	All MCs	236	6.0	236	6.0	0.235	11.6	LOS B	1.1	8.8	0.63	0.75	0.63	44.4
6u	U	All MCs	1	6.0	1	6.0	0.235	14.3	LOS B	1.1	8.8	0.63	0.75	0.63	48.1
Approach			914	6.0	914	6.0	0.362	6.3	LOS A	2.1	17.0	0.66	0.57	0.66	49.8
East: Armadale Rd															
7	L2	All MCs	53	6.0	53	6.0	0.041	4.3	LOS A	0.2	1.5	0.51	0.52	0.51	51.3
8	T1	All MCs	667	10.9	667	10.9	0.336	3.9	LOS A	2.0	16.7	0.60	0.43	0.60	49.4
6	R2	All MCs	181	6.0	181	6.0	0.336	11.8	LOS B	1.8	14.4	0.61	0.61	0.61	35.3
9u	U	All MCs	1	6.0	1	6.0	0.336	14.5	LOS B	1.8	14.4	0.61	0.61	0.61	35.3
Approach			902	9.6	902	9.6	0.336	5.5	LOS A	2.0	16.7	0.60	0.47	0.60	47.9
North: Verde Dr															
7	L2	All MCs	62	6.0	62	6.0	0.213	3.6	LOS A	0.9	7.6	0.64	0.37	0.64	35.1
8	T1	All MCs	153	6.0	153	6.0	0.213	2.4	LOS A	0.9	7.6	0.64	0.37	0.64	50.6
9	R2	All MCs	91	6.0	91	6.0	0.122	9.8	LOS A	0.5	3.7	0.61	0.76	0.61	41.6
9u	U	All MCs	2	6.0	2	6.0	0.122	12.0	LOS B	0.5	3.7	0.61	0.76	0.61	30.3
Approach			307	6.0	307	6.0	0.213	4.9	LOS A	0.9	7.6	0.63	0.49	0.63	45.9
West: Armadale Rd															
10	L2	All MCs	68	6.0	68	6.0	0.052	4.5	LOS A	0.2	1.7	0.45	0.48	0.45	49.7
2	T1	All MCs	593	7.3	593	7.3	0.365	3.3	LOS A	2.0	16.1	0.54	0.34	0.54	49.0
3	R2	All MCs	364	6.0	364	6.0	0.365	11.4	LOS B	1.8	14.3	0.57	0.70	0.57	47.4
3u	U	All MCs	28	6.0	28	6.0	0.365	14.1	LOS B	1.8	14.3	0.57	0.70	0.57	46.6
Approach			1054	6.7	1054	6.7	0.365	6.4	LOS A	2.0	16.1	0.54	0.48	0.54	48.1
All Vehicles			3177	7.3	3177	7.3	0.365	6.0	LOS A	2.1	17.0	0.60	0.51	0.60	48.4

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MOVEMENT SUMMARY

Site: [1 (4)] Verde Dr & Access 1 - 2036 - AM (2036 - AM)
Network: [4] AM (2036)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Roundabout
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Verde Dr															
4	L2	All MCs	78	6.0	78	6.0	0.310	5.5	LOS A	1.6	13.0	0.34	0.46	0.34	26.1
2	T1	All MCs	238	6.0	238	6.0	0.310	2.4	LOS A	1.6	13.0	0.34	0.46	0.34	44.2
6	R2	All MCs	74	6.0	74	6.0	0.310	11.3	LOS B	1.6	13.0	0.34	0.46	0.34	26.3
6u	U	All MCs	14	6.0	14	6.0	0.310	10.2	LOS B	1.6	13.0	0.34	0.46	0.34	32.2
Approach			403	6.0	403	6.0	0.310	4.9	LOS A	1.6	13.0	0.34	0.46	0.34	39.1
East: Access 1															
7	L2	All MCs	13	6.0	13	6.0	0.121	1.5	LOS A	0.6	5.1	0.45	0.28	0.45	18.7
8	T1	All MCs	25	6.0	25	6.0	0.121	1.5	LOS A	0.6	5.1	0.45	0.28	0.45	19.2
6	R2	All MCs	96	6.0	96	6.0	0.121	1.5	LOS A	0.6	5.1	0.45	0.28	0.45	35.1
9u	U	All MCs	1	6.0	1	6.0	0.121	1.5	LOS A	0.6	5.1	0.45	0.28	0.45	19.1
Approach			135	6.0	135	6.0	0.121	1.5	LOS A	0.6	5.1	0.45	0.28	0.45	32.0
North: Verde Dr															
7	L2	All MCs	56	6.0	56	6.0	0.207	5.4	LOS A	0.8	6.7	0.28	0.44	0.28	37.9
8	T1	All MCs	158	6.0	158	6.0	0.207	2.3	LOS A	0.8	6.7	0.28	0.44	0.28	44.0
9	R2	All MCs	42	6.0	42	6.0	0.207	11.1	LOS B	0.8	6.7	0.28	0.44	0.28	37.6
9u	U	All MCs	4	6.0	4	6.0	0.207	10.1	LOS B	0.8	6.7	0.28	0.44	0.28	45.8
Approach			260	6.0	260	6.0	0.207	4.5	LOS A	0.8	6.7	0.28	0.44	0.28	41.3
West: Existing Rd															
10	L2	All MCs	25	6.0	25	6.0	0.111	1.7	LOS A	0.5	4.2	0.47	0.32	0.47	35.0
2	T1	All MCs	13	6.0	13	6.0	0.111	1.7	LOS A	0.5	4.2	0.47	0.32	0.47	19.1
3	R2	All MCs	80	6.0	80	6.0	0.111	1.7	LOS A	0.5	4.2	0.47	0.32	0.47	18.6
3u	U	All MCs	1	6.0	1	6.0	0.111	1.7	LOS A	0.5	4.2	0.47	0.32	0.47	19.1
Approach			119	6.0	119	6.0	0.111	1.7	LOS A	0.5	4.2	0.47	0.32	0.47	24.8
All Vehicles			917	6.0	917	6.0	0.310	3.9	LOS A	1.6	13.0	0.36	0.41	0.36	37.0

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MOVEMENT SUMMARY

Site: [2 (4)] Verde Dr & Access 2 - 2036 - AM (2036 - AM)
Network: [4] AM (2036)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Verde Dr															
2	T1	All MCs	424	6.0	424	6.0	0.233	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			424	6.0	424	6.0	0.233	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
East: Access 2															
7	L2	All MCs	85	6.0	85	6.0	0.067	0.8	LOS A	0.3	2.1	0.31	0.17	0.31	18.1
Approach			85	6.0	85	6.0	0.067	0.8	LOS A	0.3	2.1	0.31	0.17	0.31	18.1
North: Verde Dr															
7	L2	All MCs	61	6.0	61	6.0	0.036	6.4	LOS A	0.0	0.0	0.00	0.60	0.00	30.8
8	T1	All MCs	203	6.0	203	6.0	0.112	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Approach			264	6.0	264	6.0	0.112	1.5	NA	0.0	0.0	0.00	0.14	0.00	41.8
All Vehicles			774	6.0	774	6.0	0.233	0.6	NA	0.3	2.1	0.03	0.07	0.03	42.4

MOVEMENT SUMMARY

Site: [4 (5)] Armadale Rd & Access 3 - 2036 - PM (2036 - PM)
Network: [5] PM (2036)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
East: Armadale Rd															
2	T1	All MCs	1075	10.9	1075	10.9	0.573	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	59.4
Approach			1075	10.9	1075	10.9	0.573	0.3	NA	0.0	0.0	0.00	0.00	0.00	59.4
North: Access 3															
7	L2	All MCs	116	6.0	116	6.0	0.105	6.0	LOS A	0.4	3.3	0.41	0.30	0.41	42.0
Approach			116	6.0	116	6.0	0.105	6.0	LOS A	0.4	3.3	0.41	0.30	0.41	42.0
West: Armadale Rd															
7	L2	All MCs	142	6.0	142	6.0	0.084	7.6	LOS A	0.0	0.0	0.00	0.64	0.00	33.6
8	T1	All MCs	1222	7.3	1222	7.3	0.496	1.3	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach			1364	7.2	1364	7.2	0.496	1.9	NA	0.0	0.0	0.00	0.07	0.00	58.0
All Vehicles			2555	8.7	2555	8.7	0.573	1.4	NA	0.4	3.3	0.02	0.05	0.02	57.6

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MOVEMENT SUMMARY

Site: [3 (5)] Armadale Rd & Tapper Rd & Verde Dr - 2036 - PM
(2036 - PM)
Network: [5] PM (2036)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Roundabout
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Tapper Rd															
4	L2	All MCs	351	6.0	351	6.0	0.325	5.4	LOS A	2.3	18.3	0.86	0.65	0.86	51.0
2	T1	All MCs	177	6.0	177	6.0	0.280	5.1	LOS A	1.5	11.9	0.76	0.51	0.76	48.0
6	R2	All MCs	178	6.0	178	6.0	0.280	12.4	LOS B	1.5	11.9	0.78	0.78	0.78	44.7
6u	U	All MCs	1	6.0	1	6.0	0.280	15.1	LOS B	1.5	11.9	0.78	0.78	0.78	48.3
Approach			706	6.0	706	6.0	0.325	7.1	LOS A	2.3	18.3	0.81	0.65	0.81	49.0
East: Armadale Rd															
7	L2	All MCs	163	6.0	163	6.0	0.197	8.7	LOS A	1.6	12.5	0.96	0.75	0.96	48.1
8	T1	All MCs	711	10.9	711	10.9	0.636	15.3	LOS B	8.0	67.4	0.99	1.08	1.49	40.8
6	R2	All MCs	199	6.0	199	6.0	0.636	23.7	LOS C	5.8	47.2	0.98	1.06	1.46	23.9
9u	U	All MCs	1	6.0	1	6.0	0.636	26.4	LOS C	5.8	47.2	0.98	1.06	1.46	23.9
Approach			1074	9.2	1074	9.2	0.636	15.8	LOS B	8.0	67.4	0.99	1.03	1.40	39.7
North: Verde Dr															
7	L2	All MCs	186	6.0	186	6.0	0.911	31.9	LOS C	13.0	104.6	1.00	1.65	2.63	13.6
8	T1	All MCs	351	6.0	351	6.0	0.911	30.7	LOS C	13.0	104.6	1.00	1.65	2.63	32.4
9	R2	All MCs	237	6.0	237	6.0	0.511	15.7	LOS B	2.9	23.2	0.88	1.02	1.11	38.1
9u	U	All MCs	2	6.0	2	6.0	0.511	17.8	LOS B	2.9	23.2	0.88	1.02	1.11	25.6
Approach			776	6.0	776	6.0	0.911	26.3	LOS C	13.0	104.6	0.96	1.46	2.16	30.9
West: Armadale Rd															
10	L2	All MCs	169	6.0	169	6.0	0.131	4.7	LOS A	0.6	4.7	0.48	0.49	0.48	49.5
2	T1	All MCs	999	7.3	999	7.3	0.633	4.1	LOS A	5.1	41.1	0.66	0.46	0.73	47.9
3	R2	All MCs	754	6.0	754	6.0	0.768	14.5	LOS B	7.7	62.0	0.81	0.91	1.08	45.2
3u	U	All MCs	87	6.0	87	6.0	0.768	17.2	LOS B	7.7	62.0	0.81	0.91	1.08	44.2
Approach			2009	6.6	2009	6.6	0.768	8.6	LOS A	7.7	62.0	0.71	0.65	0.85	46.2
All Vehicles			4565	7.0	4565	7.0	0.911	13.1	LOS B	13.0	104.6	0.83	0.88	1.20	42.3

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MOVEMENT SUMMARY

Site: [1 (5)] Verde Dr & Access 1 - 2036 - PM (2036 - PM)
Network: [5] PM (2036)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Roundabout
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Verde Dr															
4	L2	All MCs	123	6.0	123	6.0	0.392	5.9	LOS A	2.4	19.0	0.47	0.57	0.47	24.8
2	T1	All MCs	153	6.0	153	6.0	0.392	2.9	LOS A	2.4	19.0	0.47	0.57	0.47	42.5
6	R2	All MCs	152	6.0	152	6.0	0.392	11.7	LOS B	2.4	19.0	0.47	0.57	0.47	24.9
6u	U	All MCs	44	6.0	44	6.0	0.392	10.7	LOS B	2.4	19.0	0.47	0.57	0.47	28.9
Approach			472	6.0	472	6.0	0.392	7.2	LOS A	2.4	19.0	0.47	0.57	0.47	32.9
East: Access 1															
7	L2	All MCs	92	6.0	92	6.0	0.334	4.5	LOS A	2.2	17.8	0.77	0.59	0.77	16.8
8	T1	All MCs	47	6.0	47	6.0	0.334	4.5	LOS A	2.2	17.8	0.77	0.59	0.77	18.0
6	R2	All MCs	129	6.0	129	6.0	0.334	4.5	LOS A	2.2	17.8	0.77	0.59	0.77	34.2
9u	U	All MCs	1	6.0	1	6.0	0.334	4.5	LOS A	2.2	17.8	0.77	0.59	0.77	17.9
Approach			269	6.0	269	6.0	0.334	4.5	LOS A	2.2	17.8	0.77	0.59	0.77	28.2
North: Verde Dr															
7	L2	All MCs	93	6.0	93	6.0	0.464	6.9	LOS A	2.7	21.3	0.58	0.57	0.58	37.0
8	T1	All MCs	332	6.0	332	6.0	0.464	3.9	LOS A	2.7	21.3	0.58	0.57	0.58	42.7
9	R2	All MCs	63	6.0	63	6.0	0.464	12.7	LOS B	2.7	21.3	0.58	0.57	0.58	36.8
9u	U	All MCs	5	6.0	5	6.0	0.464	11.6	LOS B	2.7	21.3	0.58	0.57	0.58	45.0
Approach			493	6.0	493	6.0	0.464	5.7	LOS A	2.7	21.3	0.58	0.57	0.58	40.5
West: Existing Rd															
10	L2	All MCs	77	6.0	77	6.0	0.313	2.3	LOS A	1.8	14.3	0.59	0.43	0.59	34.8
2	T1	All MCs	32	6.0	32	6.0	0.313	2.3	LOS A	1.8	14.3	0.59	0.43	0.59	18.9
3	R2	All MCs	209	6.0	209	6.0	0.313	2.3	LOS A	1.8	14.3	0.59	0.43	0.59	18.3
3u	U	All MCs	1	6.0	1	6.0	0.313	2.3	LOS A	1.8	14.3	0.59	0.43	0.59	18.9
Approach			319	6.0	319	6.0	0.313	2.3	LOS A	1.8	14.3	0.59	0.43	0.59	25.1
All Vehicles			1553	6.0	1553	6.0	0.464	5.3	LOS A	2.7	21.3	0.58	0.54	0.58	33.4

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MOVEMENT SUMMARY

Site: [2 (5)] Verde Dr & Access 2 - 2036 - PM (2036 - PM)
Network: [5] PM (2036)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Verde Dr															
2	T1	All MCs	548	6.0	548	6.0	0.302	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach			548	6.0	548	6.0	0.302	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.8
East: Access 2															
7	L2	All MCs	175	6.0	175	6.0	0.215	3.0	LOS A	0.8	6.5	0.55	0.50	0.55	15.9
Approach			175	6.0	175	6.0	0.215	3.0	LOS A	0.8	6.5	0.55	0.50	0.55	15.9
North: Verde Dr															
7	L2	All MCs	153	6.0	153	6.0	0.090	6.4	LOS A	0.0	0.0	0.00	0.60	0.00	30.8
8	T1	All MCs	525	6.0	525	6.0	0.300	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach			678	6.0	678	6.0	0.300	1.5	NA	0.0	0.0	0.00	0.13	0.00	41.9
All Vehicles			1401	6.0	1401	6.0	0.302	1.1	NA	0.8	6.5	0.07	0.13	0.07	40.1

MOVEMENT SUMMARY

Site: [4 (6)] Armadale Rd & Access 3 - 2036 - SAT (2036 - SAT)
Network: [6] SAT (2036)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
East: Armadale Rd															
2	T1	All MCs	1178	10.9	1178	10.9	0.628	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	59.3
Approach			1178	10.9	1178	10.9	0.628	0.4	NA	0.0	0.0	0.00	0.00	0.00	59.3
North: Access 3															
7	L2	All MCs	224	6.0	224	6.0	0.195	5.4	LOS A	0.8	6.7	0.41	0.30	0.41	42.0
Approach			224	6.0	224	6.0	0.195	5.4	LOS A	0.8	6.7	0.41	0.30	0.41	42.0
West: Armadale Rd															
7	L2	All MCs	273	6.0	273	6.0	0.161	7.6	LOS A	0.0	0.0	0.00	0.64	0.00	33.6
8	T1	All MCs	1095	7.3	1095	7.3	0.444	1.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach			1367	7.0	1367	7.0	0.444	2.4	NA	0.0	0.0	0.00	0.13	0.00	56.5
All Vehicles			2769	8.6	2769	8.6	0.628	1.8	NA	0.8	6.7	0.03	0.09	0.03	56.0

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MOVEMENT SUMMARY

Site: [3 (6)] Armadale Rd & Tapper Rd & Verde Dr - 2036 - SAT (2036 - SAT)

Network: [6] SAT (2036)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Roundabout

Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Tapper Rd															
4	L2	All MCs	316	6.0	316	6.0	0.376	8.1	LOS A	3.1	25.2	1.00	0.82	1.00	50.4
2	T1	All MCs	229	6.0	229	6.0	0.529	9.4	LOS A	3.5	27.8	0.88	0.83	0.95	46.1
6	R2	All MCs	226	6.0	226	6.0	0.529	18.7	LOS B	3.5	27.8	0.91	1.00	1.16	40.5
6u	U	All MCs	1	6.0	1	6.0	0.529	21.4	LOS C	3.5	27.8	0.91	1.00	1.16	45.5
Approach			773	6.0	773	6.0	0.529	11.6	LOS B	3.5	27.8	0.94	0.87	1.03	46.6
East: Armadale Rd															
7	L2	All MCs	91	6.0	91	6.0	0.085	6.2	LOS A	0.7	5.2	0.87	0.71	0.87	49.2
8	T1	All MCs	754	10.9	754	10.9	0.663	10.6	LOS B	7.4	62.6	0.99	1.02	1.39	42.8
6	R2	All MCs	334	6.0	334	6.0	0.663	19.1	LOS B	5.5	44.6	0.93	1.04	1.34	26.6
9u	U	All MCs	1	6.0	1	6.0	0.663	21.8	LOS C	5.5	44.6	0.93	1.04	1.34	26.6
Approach			1179	9.1	1179	9.1	0.663	12.6	LOS B	7.4	62.6	0.97	1.00	1.34	40.1
North: Verde Dr															
7	L2	All MCs	260	6.0	260	6.0	0.906	20.7	LOS C	11.9	95.9	1.00	1.50	2.29	17.4
8	T1	All MCs	380	6.0	380	6.0	0.906	19.5	LOS B	11.9	95.9	1.00	1.50	2.29	37.3
9	R2	All MCs	434	6.0	434	6.0	0.850	22.1	LOS C	7.1	57.1	0.94	1.28	1.75	34.4
9u	U	All MCs	5	6.0	5	6.0	0.850	24.3	LOS C	7.1	57.1	0.94	1.28	1.75	21.3
Approach			1079	6.0	1079	6.0	0.906	20.9	LOS C	11.9	95.9	0.97	1.41	2.07	33.1
West: Armadale Rd															
10	L2	All MCs	255	6.0	255	6.0	0.216	6.1	LOS A	1.1	9.2	0.62	0.56	0.62	48.3
2	T1	All MCs	879	7.3	879	7.3	0.601	5.1	LOS A	5.2	41.8	0.77	0.58	0.90	46.6
3	R2	All MCs	391	6.0	391	6.0	0.601	13.8	LOS B	4.5	36.4	0.78	0.87	0.96	45.8
3u	U	All MCs	174	6.0	174	6.0	0.601	16.5	LOS B	4.5	36.4	0.78	0.87	0.96	44.9
Approach			1698	6.7	1698	6.7	0.601	8.4	LOS A	5.2	41.8	0.75	0.67	0.87	46.2
All Vehicles			4728	7.0	4728	7.0	0.906	12.8	LOS B	11.9	95.9	0.89	0.96	1.29	41.6

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MOVEMENT SUMMARY

Site: [1 (7)] Verde Dr & Access 1 - 2036 - SAT (2036 - SAT)
Network: [6] SAT (2036)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Roundabout
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	HV %	Arrival Flows [Total veh/h]	HV %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh]	Dist m]	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Verde Dr															
4	L2	All MCs	227	6.0	227	6.0	0.758	10.7	LOS B	9.4	75.7	0.89	0.88	1.14	21.6
2	T1	All MCs	157	6.0	157	6.0	0.758	7.7	LOS A	9.4	75.7	0.89	0.88	1.14	38.7
6	R2	All MCs	275	6.0	275	6.0	0.758	16.5	LOS B	9.4	75.7	0.89	0.88	1.14	21.6
6u	U	All MCs	111	6.0	111	6.0	0.758	15.5	LOS B	9.4	75.7	0.89	0.88	1.14	22.6
Approach			769	6.0	769	6.0	0.758	12.9	LOS B	9.4	75.7	0.89	0.88	1.14	26.7
East: Access 1															
7	L2	All MCs	142	6.0	142	6.0	0.722	16.8	LOS B	9.2	73.5	1.00	1.47	1.62	11.7
8	T1	All MCs	92	6.0	92	6.0	0.722	16.8	LOS B	9.2	73.5	1.00	1.47	1.62	14.1
6	R2	All MCs	227	6.0	227	6.0	0.722	16.8	LOS B	9.2	73.5	1.00	1.47	1.62	28.8
9u	U	All MCs	1	6.0	1	6.0	0.722	16.8	LOS B	9.2	73.5	1.00	1.47	1.62	14.0
Approach			462	6.0	462	6.0	0.722	16.8	LOS B	9.2	73.5	1.00	1.47	1.62	22.8
North: Verde Dr															
7	L2	All MCs	173	6.0	173	6.0	0.716	15.7	LOS B	8.0	63.9	0.96	1.04	1.42	32.2
8	T1	All MCs	237	6.0	237	6.0	0.716	12.7	LOS B	8.0	63.9	0.96	1.04	1.42	35.6
9	R2	All MCs	113	6.0	113	6.0	0.716	21.5	LOS C	8.0	63.9	0.96	1.04	1.42	32.1
9u	U	All MCs	1	6.0	1	6.0	0.716	20.5	LOS C	8.0	63.9	0.96	1.04	1.42	40.6
Approach			523	6.0	523	6.0	0.716	15.6	LOS B	8.0	63.9	0.96	1.04	1.42	33.5
West: Existing Rd															
10	L2	All MCs	109	6.0	109	6.0	0.745	12.4	LOS B	9.3	74.8	1.00	1.35	1.52	30.2
2	T1	All MCs	52	6.0	52	6.0	0.745	12.4	LOS B	9.3	74.8	1.00	1.35	1.52	15.4
3	R2	All MCs	381	6.0	381	6.0	0.745	12.4	LOS B	9.3	74.8	1.00	1.35	1.52	13.6
3u	U	All MCs	1	6.0	1	6.0	0.745	12.4	LOS B	9.3	74.8	1.00	1.35	1.52	15.5
Approach			543	6.0	543	6.0	0.745	12.4	LOS B	9.3	74.8	1.00	1.35	1.52	19.2
All Vehicles			2298	6.0	2298	6.0	0.758	14.2	LOS B	9.4	75.7	0.95	1.15	1.39	26.0

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MOVEMENT SUMMARY

Site: [2 (6)] Verde Dr & Access 2 - 2036 - SAT (2036 - SAT)
Network: [6] SAT (2036)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Verde Dr															
2	T1	All MCs	823	6.0	823	6.0	0.453	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.7
Approach			823	6.0	823	6.0	0.453	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.7
East: Access 2															
7	L2	All MCs	299	6.0	299	6.0	0.430	5.8	LOS A	2.2	17.6	0.66	0.89	0.94	13.4
Approach			299	6.0	299	6.0	0.430	5.8	LOS A	2.2	17.6	0.66	0.89	0.94	13.4
North: Verde Dr															
7	L2	All MCs	234	6.0	234	6.0	0.138	6.4	LOS A	0.0	0.0	0.00	0.60	0.00	30.8
8	T1	All MCs	636	6.0	636	6.0	0.354	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach			869	6.0	869	6.0	0.354	1.7	NA	0.0	0.0	0.00	0.16	0.00	40.8
All Vehicles			1992	6.0	1992	6.0	0.453	1.7	NA	2.2	17.6	0.10	0.20	0.14	37.5

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Design Review Report

Large Format Retail
Lot 701 Armadale Road, Treeby

City of Cockburn

September 2025

Document Set ID: 12647855
Version: 1, Version Date: 10/09/2025
Print Date: 10 March 2026, 4:42 PM

This information is provided by the City of Cockburn

Design Review Report		
Subject	**Large Format Retail – Lot 701 Armadale Road Treeby**	
Date	24/9/2025	
Time	2:00PM – 3:15PM	
Location	City of Cockburn	
Design Reviewers	Simon Venturi Brett Wood-Gush Annelise Safstrom	Panel Chair Panel Member Panel Member
Proponent	George Hajigabriel	Rowe Group
Project Team	Stephen Shircore Greg Pearce Kelsie Davies	Meyer Shircore Windsor Knight KDLA
Planning Authority	City of Cockburn	
City of Cockburn	Lorenzo Santoriello Lucia Dunstan Gayle O'Leary Lachlan Compton Riley Awa Morgan Adshead	Group Manager Development and Safety Service Manager Development Services Planning Officer Planning Officer Assistant Planning Officer Assistant Planning Officer
Declarations	None	
Design Review Report Endorsement		
Chair Signature		

Introductory Comments

The Panel thanks the applicant for presenting the proposal which generally includes a number of positive aspects not always integrated into this typology. Commentary and recommendations are provided below to inform the proposal's design development moving forward.

Design quality evaluation

		Supported
		Pending further attention
		Not supported
		Insufficient information provided by applicant to assess

Strengths of the Proposal		• Integration with and links to the adjoining west side large format retail site are logical • The inclusion of a cafe, pocket parks and pedestrian arcade establish a social aspect for the development • A legible pedestrian pathway network has been established through the site • Fire tanks and pumps are positioned concealed from view from the public realm • A good proportion of the delivery, loading and service areas are separated from the customer parking area • A Landscape Architect has been engaged • The landscaping incorporates native and endemic planting species • The majority of the carpark has trees providing shade in continuous planters. Wandoo trees are supported • A landscaped buffer is positioned on the north and east edge interfaces to the adjacent single residential properties
Principle 1 **Context and character**		*Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.*
		a) The west side Armadale Road streetscape interface currently generates limited streetscape interactivity with blank rear tenancy walls and services areas facing the streetscape. This is not the preferred arrangement of built form and as such landscaping should be employed more effectively to screen and soften this interface b) The adjoining residential estates will have cul-de-sac terminations. Consider what these will be like and how the proposal impacts on the adjoining residential estates a) The Verde Street pedestrian connection is not clear
Recommendations		**1. Soften the western end of the Armadale Road streetscape interface using generous landscaping. If Main Roads don't support generous landscaping on the verge introduce a setback to the built form so a generous landscaping buffer can be provided within the site** **2. Provide a high level Masterplan showing the arrangement of the future residential estates including cul-de-sac terminations on the adjoining north and east side properties. Illustrate how the proposed development will interface with the adjoining single storey houses and terminating roads in an attractive manner** **3. Strengthen the pedestrian connection to Verde Street**
Principle 2 **Landscape quality**		*Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.*
		a) Liaise with Main Roads in relation to what landscaping they will support on the Armadale Road verge. This impacts on the proposal's ability to soften and screen the inactive west end of the Armadale Road streetscape as noted

		in the Context & Character Principle but also the ability to use the verge in order to achieve the City's landscaping policy requirements b) The landscaping buffer on the east side of the site facing single residential properties is not as generous as the north side buffer. The generosity of this buffer as well as the feasibility of trees surviving with truck movement in close proximity is questioned c) The pocket park on the Armadale Road streetscape interface near Tenancy 19 could be an asset for the site but no public space infrastructure is currently shown in this space d) Hard landscape materiality on the site can also play a role in establishing a unique sense of 'place' for the development
Recommendations		**1. Liaise with Main Roads to confirm what landscaping they will support on the Armadale Road verge area** **2. Increase the width of the landscape buffer on the east edge of the site to match the generosity of the buffer on the north side of the site** **3. Consider treating the full width of the buffer planting strips for habitat and screen planting with a greater mix of species** **4. Select screen planting to block views of the rear walls of the large format development from adjacent residential properties and cul de sacs** **5. Add public space infrastructure in the pocket park on the Armadale Road streetscape interface including seating, tables, bike racks, shade etc. to accommodate use of this space** **6. Illustrate how hard landscaping materiality will be utilised to play a role in defining a unique sense of 'place' for the development**
Principle 3 **Built form and scale**		*Good design ensures that the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.*
		a) The built form is appropriate for a large format retail site
Recommendations		**None**
Principle 4 **Functionality and build quality**		*Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full life-cycle.*
		a) The proposal is a highly functionally driven outcome
Recommendations		**None**
Principle 5 **Sustainability**		*Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.*
		a) The ESD narrative / strategy for the site is currently a little vague and non-committal b) PV solar systems are noted as an initiative however no information is provided in relation to the number and sizes of the systems c) Bicycle racks are noted as an initiative in the ESD Report however they are not shown on the drawings d) Consider integrating further active ESD initiatives such as EV charging, energy monitoring, heat pump HWSs etc.
Recommendations		**1. Strengthen the ESD narrative / strategy for the site by providing commitments in relation to the active initiatives that will be integrated and detailing how materiality selections can assist in carbon reduction** **2. Provide details in relation to the number and size of the PV solar systems that will be installed on the site upfront** **3. Ensure initiatives in the ESD Report are co-ordinated with and shown on the architectural drawings including the bicycle racks** **4. Consider integrating further active ESD initiatives into the proposal**
Principle 6		*Good design optimises internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and healthy.*

Amenity		
		a) The inclusion of a pocket park and public arcade located centrally in the site is supported however it will be in shadow for a high proportion of each day with built form on both sides b) Consider positioning the cafe closer to Armadale Road and the access link off Verde Drive to increase its visibility as you enter the site c) The extent of glazing to the Gym discussed in the meeting is not clear on the drawings
Recommendations		**1. Ensure the café and pocket park are positioned and orientated to receive adequate natural light and achieve good visibility within the site** **2. Look for all opportunities to maximise glazing to the showroom tenancies and the Gym**
Principle 7 **Legibility**		*Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.*
		a) Legibility is generally well considered however the likelihood of customers using of the service road is unclear with the entry remote from the site off Biscayne Way
Recommendations		**1. Review the legibility and ease of access to the rear service road for customers collecting items**
Principle 8 **Safety**		*Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.*
		a) Ensure wheel stops are provided to maximise the functionality of the pedestrian pathways adjoining the buildings b) Refer to comments in the Amenity Principle in relation to looking for all opportunities to increase glazing to the tenancies including the Gym in order to maximise passive surveillance of the carpark areas within the site
Recommendations		**1. Consider all opportunities to increase passive surveillance of the internal carpark areas, pocket park and pedestrian arcade through increasing the extent of windows to the tenancies**
Principle 9 **Community**		*Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people and facilitate social interaction.*
		a) The proposal will have a Percent for Art requirement
Recommendations		**1. Provide a Public Art Strategy for the site at an early stage illustrating the locations and forms of public art that will contribute to the development in a meaningful and positive way**
Principle 10 **Aesthetics**		*Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.*
		a) The proposal's architectural language and external materiality requires further development particularly near the entrance to the development and around the central café, pocket park as well as pedestrian arcade areas of the site b) Signage typically plays a strong role in defining the architectural language and experience of visiting large format retail sites
Recommendations		**1. Provide further information in relation to the proposal's architectural language and materiality to establish a unique sense of 'place' for the development** **2. Provided a Signage Strategy for the development illustrating that signage will be integrated in a sensitive and cohesive way whilst still achieving adequate levels of commercial visibility for tenants**

Concluding Remarks

The Proposal includes a number of positive aspects including the overall site organisation and is generally working towards a supportable outcome. The applicant is encouraged to soften the Armadale Road streetscape interface with

landscaping, strengthen the Sustainability narrative and respond to the other recommendations provided above to ensure the positive aspects of the proposal result in meaningful and usable benefits for workers, visitors as well as the surrounding community.

The proposal will be required to return to the DRP to address the above noted recommendations.

Design Review progress

	Supported
	Pending further attention
	Not yet supported
	Insufficient information provided by applicant to assess

	DR1 – 24/09/25	***DR2***	***DR3***
Principle 1 - **Context and character**			
Principle 2 - **Landscape quality**			
Principle 3 - **Built form and scale**			
Principle 4 - **Functionality and build quality**			
Principle 5 - **Sustainability**			
Principle 6 - **Amenity**			
Principle 7 - **Legibility**			
Principle 8 - **Safety**			
Principle 9 - **Community**			
Principle 10 - **Aesthetics**			

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Enquiries: Sophie Trinh on (08) 9323 4758
Our Ref: 25/8200 (D25#1427460)
Your Ref: DAP25/003 (DAP/25/03002)

17 December 2025

Chief Executive Officer
City of Cockburn
PO Box 1215
BIBRA LAKE DC WA 6965

Email: customer@cockburn.wa.gov.au (via email)

Dear Sir/Madam,

INFORMATION REQUEST – DAP APPLICATION – PROPOSED LARGE FORMAT RETAIL DEVELOPMENT – DAP25/003 (DAP/25/03002) – LOT 403 (NO. 87) AND LOT 701 ARMADALE ROAD, TREEBY

In response to your correspondence received on 18 November 2025, Main Roads has reviewed the application and is unable to provide comments and recommendations until the following further information has been provided:

1. Amended Traffic Impact Assessment

- Traffic data collected on Fridays may not accurately represent typical conditions of the area. Given the development is retail focus and has extended Thursday trading hours, the traffic model should be updated using a Thursday survey that is not affected by end-of-year holiday volumes.
- The use of Hardware/Paint Store (ITE 816) does not seem to align with the proposed retail development and results in significantly lower trip volumes. Trip generation for Food/Café uses was not included. Further justification is required for the adopted trip rates, discounts, and treatment of Food/Café trips.
- The assumed 50/50 in/out trip split may not reflect staff movements, which create tidal flows during AM and PM peaks. Justification for assumed trip distribution is required.
- Applicant to explain why 2026 total traffic volumes on Armadale Road (Figure 11) are less than the sum of existing peak hour flows (Figure 5) and proposed development traffic (Figure 10). This suggests the 2026 volumes may not fully represent development impacts or base traffic conditions. Forecast turning volumes and SIDRA modelling should be updated accordingly.

2. Amended Landscape Plan

- Please be advised that no future planting will be approved in the area between the PSP and the sump fencing (Lot 701). The width of this area is limited, and clearance is required at the edge of the PSP. This area must remain mulch only. Any infill landscaping must have a maximum mature height of 500 mm, with a 2 m clearance from the back of the kerb and 2 m from the sump fence.

This information is provided by the City of Cockburn

- For Lot 403, there is a small area of mulch in front of the Cockburn East sign and a small area of compacted laterite around services. These areas must remain untouched.

Please provide the above information at your earliest convenience, noting that Main Roads will require 30 days to review this information once received.

As stated above, Main Roads is unable to provide comments and recommendations on the development application until the above information has been received and assessed.

Please forward all emails, including the requested information relating to the proposal to planninginfo@mainroads.wa.gov.au. If you have any further queries, please do not hesitate to contact Sophie Trinh on (08) 9323 4758.

Yours sincerely

Jana Jegathesan
Planning Assessment Coordinator

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This information is provided by the City of Cockburn

Enquiries: Chase Rampant on (08) 9475 8346
Our Ref: 25/8200 (D26#191330)
Your Ref: DAP25/003 (DAP/25/03002)

23 February 2026

Chief Executive Officer
City of Cockburn
PO Box 1215
BIBRA LAKE DC WA 6965

Email: customer@cockburn.wa.gov.au (via email)

Dear Sir/Madam,

DEVELOPMENT ASSESSMENT PANEL APPLICATION – PROPOSED LARGE FORMAT RETAIL DEVELOPMENT – LOT 403 (NO.87) & LOT 701 ARMADALE ROAD, TREEBY – DAP25/003 & DAP/25/03002

In response to correspondence received on 20 January 2026, please be advised Main Roads supports the development proposal and recommends that if development approval is granted, the following conditions be imposed:

Conditions

1. No additional vehicle access points are to be provided from the 7.5m wide internal driveway between the edge of the Armadale Road Reserve 50m into the subject lot in accordance with the attached Marked Up Plan dated 23 February 2026.

   Justification for Non-Standard Condition

   To ensure free-flowing traffic movements within the site and to prevent potential vehicle queue spillback onto Armadale Road.

2. The signage component is not approved as part of this application.

   Justification for Condition

   Due to the absence of the signage content within the referral package, an assessment against Main Roads "*Policy and Application Guidelines for Advertising Signs Within and Beyond State Road Reserves*" is unable to be undertaken.

   In accordance with *Planning and Development (Local Planning Schemes) Regulations 2015, Schedule 2, Part 9, Clause 67(2) (f)* it is appropriate to exclude the signage component as assessment against the relevant state policy is unable to be executed.

3. Stormwater discharge shall not exceed pre-development discharge to Armadale Road Reserve.

Main Roads Western Australia
Don Aitken Centre, Waterloo Crescent, East Perth WA 6004
PO Box 6202, East Perth WA 6892

mainroads.wa.gov.au
enquiries@mainroads.wa.gov.au
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Justification for Condition

To ensure there is sufficient capacity in the Armadale Road stormwater network to accommodate its requirements. This is a standard requirement for development adjacent to a State Road.

4. No part of the development, other than approved landscaping is to be located within the land requirement for Armadale Road as detailed in the attached Land Requirement Plan Extract No.1.7103.

Justification for Condition

This development must not compromise the ultimate road design. No form of the development should encroach upon the identified land requirement. This includes but is not limited to car parking, building anchors, awnings, retaining walls and any associated infrastructure services.

Advice

a) The upgrading/widening of Armadale Road is not in Main Roads current 4-year forward estimated construction program and all projects not listed are subject to change without notice, and Main Roads assumes no liability for the information provided.

b) Prior to undertaking works within the Armadale Road Reserve, a Working on Roads Permit must be obtained from Main Roads.

c) The 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.

Main Roads encourages local government in liaising with applicants to promote and capitalise on our pre-lodgement consultation service, prior to lodgement of planning proposals, especially where development plans involve land adjacent to or have the potential to impact on the State road network.

Further information on the pre-lodgement consultation process can be found on Main Roads website at mainroads.wa.gov.au > Technical & Commercial > Planning & Development

Should the City disagree with the above conditions or require further information please do not hesitate to contact Chase Rampant on (08) 9475 8346 prior to the submission of the City's Responsible Authority Report.

Please ensure a copy of the JDAP's final determination is sent to planninginfo@mainroads.wa.gov.au.

Yours sincerely

CFudge

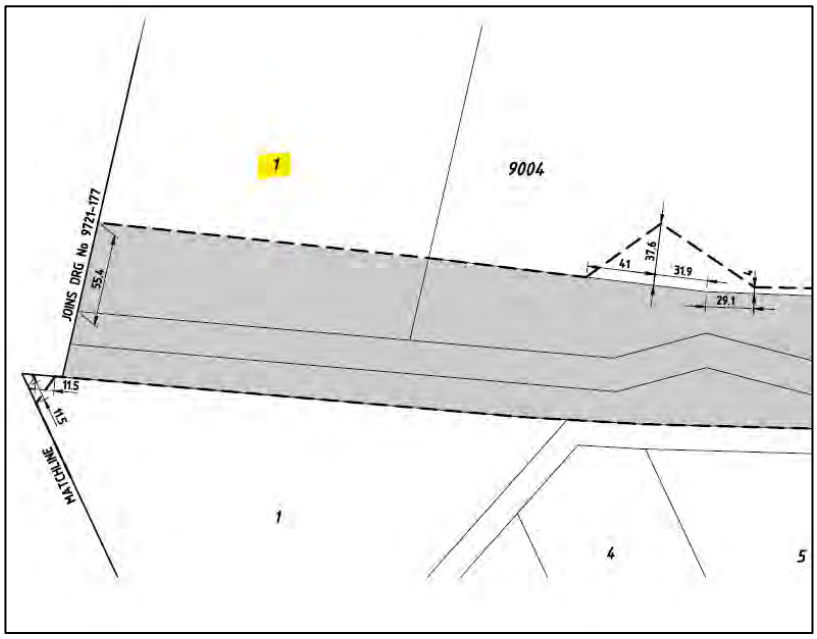
Chris Fudge
A/Road Access and Planning Manager

Encl: Extract of Land Protection Plan Extract No.1.7103
Marked Up Plan dated 23 February 2026

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mainroads WESTERN AUSTRALIA

Extract of Land Protection Plan Extract No.1.7103



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SITE CRITERIA

1. Site Area		**70,334m²**
2. Landscaping		
a. Required 5% (Treated Verge)		**4,400m²**
Includes MRS Road Verge Being Landscaped.		
MRD Approval Required.		
b. Provided		
Soft	3,963m²	
Treewells	250m²	
Total	**4,213m²**	**(6% of Site)**
c. Trees Required		
i. 1 Tree/3 Cars	235 Trees	
ii. 1 Tree/10m Frontage	20 Trees	
Subtotal	**255 Trees**	
d. Trees Provided		
i. Carpark	126 Trees	
ii. Boundary	143 Trees	
Total	**269 Trees**	
3. Floor Area (GFA)		
a. Showrooms	33,996m²	
b. GYM	2,000m²	
c. Food / Cafe	350m²	
Total	**36,346m² (52% of Site)**	

4. Carparking		**Carbays**
i. Cars Required		
a. Showrooms	33,996m² @ 1/50m²	679.94
b. Gym	2,000m² @ 1/20m²	100.0
c. Food / Cafe	350m² @ 8/100m²	28
Subtotal		**808**
d. Demolished Showroom Area	1,875m² @ 1/50m²	37.5
Total		**771**
ii. Cars Provided		
a. On Grade		656
b. Added to Demolished Showroom Area		45
C. Added to The Good Guys Carpark		4
Total		**705**

Note:-
Gym Requires Further Calculation and
Then Reciprocal Parking Arrangement.

Refer to Condition 1

No further vehicular access is to be provided at this location.

MAIN ROADS MARKED-UP PLAN
AMENDED IN RED 23 February 2026

SITE PLAN
SCALE: 1 : 500

PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II
LOCATION : LOT 701 ARMADALE ROAD, TREEBY
FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

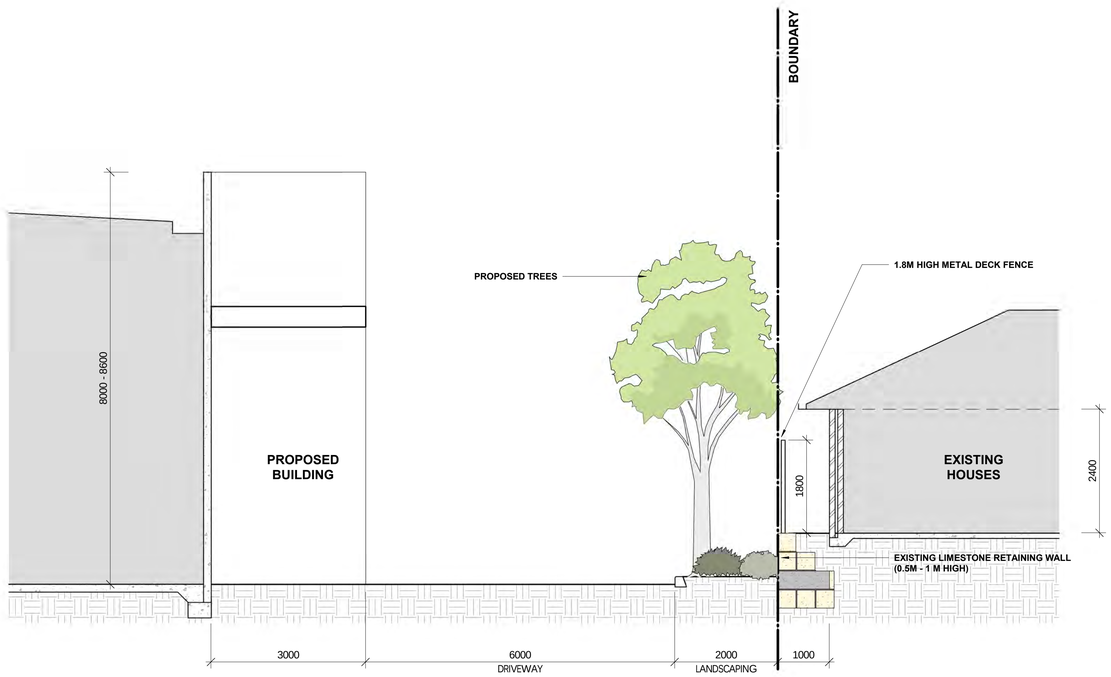
DATE: OCT 2025
REVISION: SK014
SHEET: 3
SCALE: 1 : 500 @B1
PROJECT NUMBER 9361

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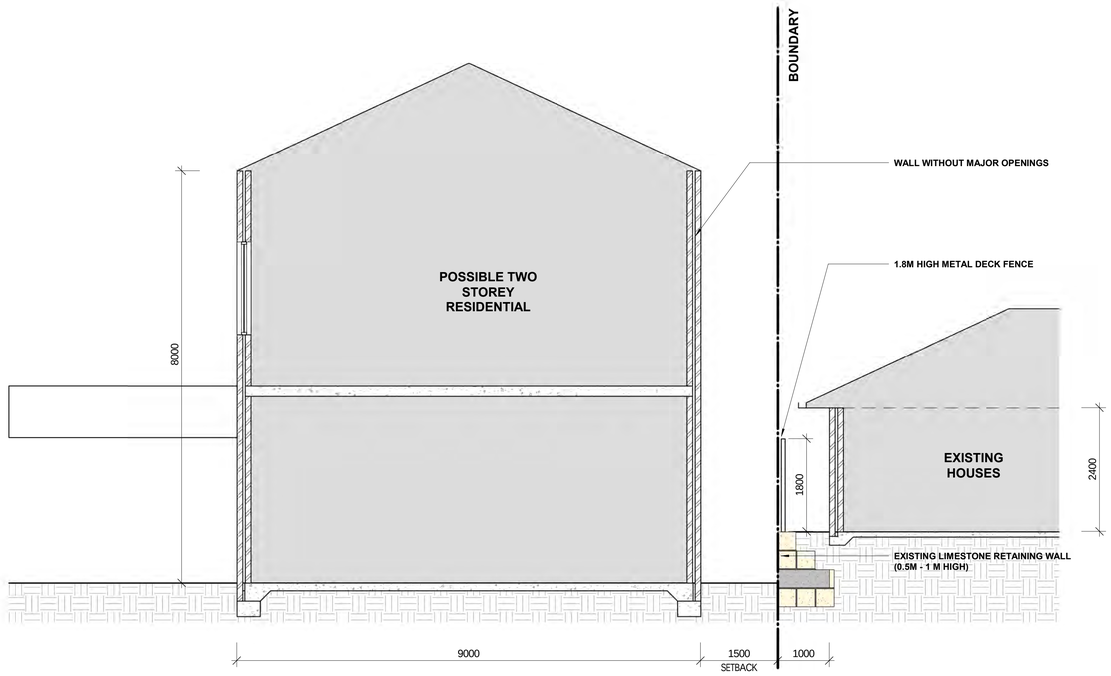
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BOUNDARY SECTION - PROPOSED COMMERCIAL DEVELOPMENT



BOUNDARY SECTION - RESIDENTIAL DEVELOPMENT

RESIDENTIAL / COMMERCIAL RELATIONSHIP: EAST BOUNDARY

meyer shircore architects

PROPOSED SOUTH CENTRAL 2 : LARGE FORMAT RETAIL EXPANSION STAGE II

LOCATION : LOT 701 ARMADALE ROAD, TREEBY

FOR: SATTERLEY & CENTURIA JOINT VENTURE BY: VEND PROPERTY

SATTERLEY Centuria

VEND PROPERTY

DATE: JAN 2026 PROJECT NUMBER 9361

REVISION: SK018

SHEET: 38

SCALE: 1 : 50 @B1

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Applicant's Response to Schedule of Submissions

(DAP23/001 87 & 701 Armadale Road Jandakot)

Issue(s) Raised		Applicant's Response
1.	We strongly object the retail development as we believe it is too close to the residential areas of Treeby. This will negatively impact the current character of Treeby.	The proposed development has been designed to ensure an appropriate interface with existing residential lots. Landscaped buffers are proposed along the northern and eastern boundaries of the site which will be sensitively planted with appropriate tree species to provide a visual buffer to the proposed buildings. A Landscape Plan was submitted in support of the proposed development and has been updated to address specific matters raised by the City which include further treatment of the landscaped buffer areas. The proposed buildings are also generously setback a minimum distance of 10m from the northern boundary and a minimum distance of 8m from the eastern boundary to provide additional separation to existing residential lots. This is a significantly greater setback than would otherwise be achieved with residential development. Use of the setback areas will be limited to staff parking and delivery vehicle movements only. Deliveries will be undertaken in accordance with a Delivery Management Plan which will restrict delivery times and operating practices to accord with the *Environmental Protection (Noise) Regulations 1997*. No direct movement of vehicles is proposed between the site and the existing adjoining residential area with all traffic generated by the proposed development to be directed along Verde Drive, Armadale Road and Biscayne Way.

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		Land uses proposed as part of the development predominantly include showrooms and warehouses which only operate during retail trading hours and are typically low noise-generating. Provision has been made for a Cafe and Health Studio (gym) to operate on the site however these land uses have been sited centrally within the site so as not to generate any off-site impacts.
2.	Looks great overall – however would be good to see some better integration into the surrounding community with footpaths etc to allow easier access for residents to walk or cycle. Based on the current designs – it appears residents would have to exit the estate onto the main path along Armadale Road and then enter the new area. Additionally, it would be good to see something other than pure retail – some type of entertainment facilities and restaurants would be a great amenity for locals.	Pedestrian footpaths are currently provided along Armadale Road and Verde Drive which provide pedestrian connection between the site and adjoining residential areas. No further direct pedestrian or vehicular integration is proposed. Provision has been made Cafe to be accommodated centrally within the site to service customers, employees and the surrounding community.
3.	Concerned about tall walls behind us on Bluegrass street with our property backing onto the proposed development. Can there be increased restrictions around building height and how far set back it is. In that case would support. Also, any restrictions around delivery times of reversing trucks etc disturbing the residential area which is in extremely close proximity in the current plans.	No modifications are proposed to the existing fencing located along the northern and eastern boundaries of the site adjoining the existing residential areas. The proposed buildings are setback a minimum distance of 8m from these boundaries and the setback areas will include landscaping in accordance with a Landscape Plan to be approved by the City. Use of the setback areas will be limited to landscaping, staff parking and delivery vehicle movements only. Deliveries will be undertaken in accordance with a Delivery Management Plan which will restrict delivery times and operating practices to accord with the *Environmental Protection (Noise) Regulations 1997*.
4.	Dear Members of the Panel,	

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	The City of Cockburn has recently received a planning application for 701L Armadale Rd. As a local resident I would like to raise my concerns in opposition of the proposed application. Please consider using your influence to significantly change the proposal. In your role balancing your technical knowledge with local planning concerns, I know you must be aware of the macro planning challenges which our city faces. Geographically, we are one of the largest cities in the world, but we have a very low population density. We face legacy planning decisions which have made us completely reliant on car ownership and led to significant urban spawl. Our infrastructure is sprawling and costly, and lacks connectivity enjoyed by other cities across the planet. There is community consensus that there is a housing crisis, and our population is set to keep growing for decades. Climate change looms over all these issues. **The Proposal for 701L Armadale Road, Jandakot** 701L Armadale Road, Jandakot is a vacant block owned by South Central WA Pty Ltd. The block is approx. 7.033ha. South Central WA Pty Ltd has engaged Rowe Group to lodge an Application for Development Approval. The owner wishes to construct a large commercial development. I refer to the reports prepared by Rowe Group on behalf of South Central WA Pty Ltd, which I sourced from the Comment on Cockburn website.	

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Figure 1 – 701L Armadale Road marked in red

South Central WA Pty Ltd proposes to turn the 7.033ha of land into a big box commercial site, which are ubiquitous in the Perth suburbs. It follows a similar pattern of development as the big box stores to the west of the site (also owned by South Central WA Pty Ltd).



Figure 2: Existing Box big development marked in green

The current proposal plans only one way for customers to access the site: the private car. That means parking, and a lot of it too – at 705 surface car parking spaces, most of the land would be turned to pavement. Even Rowe Group

The proposed development accommodates for all modes of transport including private cars, motorcycles, bicycles, pedestrians and public transport users. However, the nature of 'bulky good retail' uses is that they offer large (typically household) items for sale which

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	admitted there's too much parking in their proposal[1]. Yet customers are only able to access the site with a "one road in – one road out" model.  *Figure 3: a snip of the proposal. Access points marked in red. Note the amount of parking proposed.*	are often only transportable by private car or delivery vehicle. Locating these types of land uses together enables customers to access multiple stores in a single vehicle trip which reduces vehicle movements. The number of parking bays required to support the proposed development is guided by standards contained within the City's local planning scheme and the *WA Planning Manual – Non-Residential Car Parking Rates in Perth and Peel Guidelines*. There is a significant difference between the standards contained within these two (2) documents, as discussed in section 5.7.6 of the Town Planning Report. Significant tree planting is proposed throughout the parking areas to assist in reducing the 'heat effect' generated by hardstand areas and to improve amenity for pedestrians. Tree species used within parking areas are specifically selected to provide shade without damaging the parking surface or restricting the safe flow of vehicle movements. There are three (3) points of vehicle entry/exit to the site – one (1) via an existing slip lane and crossover to Armadale Road and another two (2) via existing crossovers to Verde Drive. A TIA has been prepared in support of the proposed development to demonstrate that vehicles can safety enter and exit the site without compromising the safety or efficient operation of these existing crossovers and adjoining roads. The TIA has been assessed by both the City's traffic engineers and MRWA.

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	The proposal ignores entirely access points to 701L Armadale Road were provided for when Treeby was planned – with three connections off Cedarleaf road, Bluegrass St, and Wintergreen crescent.  *Figure 4: Existing access points for the 701L Armadale Road marked in red.* Not even paths or cycle ways are provisioned in the plan, meaning residents of Treeby must take a circuitous route in their private vehicle onto Armadale Rd or Verde drive to access the site. This results in more demand on existing infrastructure and implying yet more parking.	A decision was made in consultation with technical Officers from the City of Cockburn to restrict direct movement between the site and the adjoining residential area in order to protect residential amenity. The existing footpath network along Armadale Road provides for pedestrian connection between the site and adjoining residential areas to the east.

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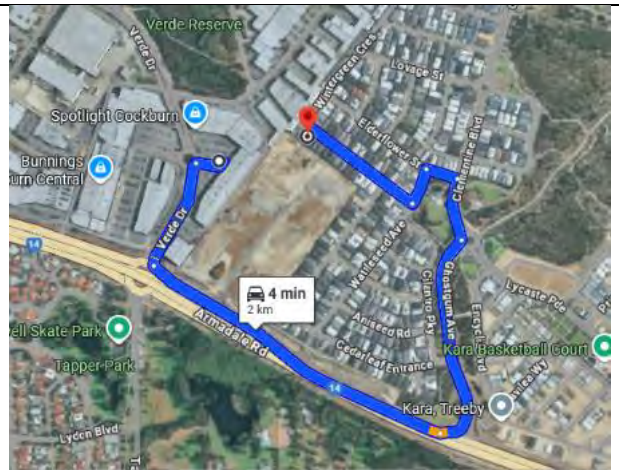


Figure 5: a circuitous route increasing demand on roads and parking

There is an opportunity cost to this pattern of development. It's in this context which I feel the proposed development on 701L Armadale Road should be significantly changed.

A better proposal

The site has excellent connection with Cockburn Train Station and is only 1.2Km away. There is existing cycle path along Armadale Road. The site is also serviced by the freeway at the same distance. The site itself is only a short commute from major employment centres in Murdoch, Cockburn shops, Perth, and several industrial areas (Jandakot, Jandakot airport, Canning Vale etc). The recent Cockburn-Thornlie link has made the commute even easier and provided more connectivity from Cockburn train station. All this is especially important given the Cook government's

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	recent announcement of increased development around ten train stations within an 800 metre radius[2].  *Figure 6: 701L Armadale Road is 1.2km from Cockburn Train station* The site abuts new development in Treeby which has provided a higher density and subsequent housing yield for land. In short, **the site is too valuable to be simply turned into low value big box retail and parking**. Members of the Panel, I respectfully ask you to use your influence to encourage housing on the site. As the site is currently zoned Urban under the Metropolitan Region Scheme, there is provision to provide a mixed use pattern of urban development. New residents could take advantage of the existing amenities and connectivity to employment centres. From a macro perspective, this site is ideal for urban infill to provide housing to a growing Perth. Which points us in the direction which a proposal for this site should take. There's an opportunity here to create a "main street" style of development. I suggest a main street with a simple grid format. The streets would have multistorey development which includes residential apartments (preferably 3 to 4 bedrooms to accommodate families) to around six stories. Parking is kept to a minimum as walking	The site's 'Urban' zoning under the MRS does not prohibit the consideration and approval of non-residential land uses, noting that the 'Urban' Zone is defined under the MRS as providing *"for residential development and associated local employment, recreation and open space, shopping, schools and other community facilities*". The land uses proposed by the development are consistent with the above definition. Similarly, the site is zoned 'Development' under the provisions of the City's local planning scheme which is defined as providing *"for future residential, industrial or commercial development"*. The land uses proposed by the development are consistent with the above definition. Higher order retail land uses are intentionally focused in Cockburn Central forming the retail core of the Activity Centre. The Western Australian Planning Commission State Planning Policy 4.2 deals with Activity Centres and promotes the location of bulky goods showrooms in service commercial sub-precincts outside the retail core recognising that good vehicle access is necessary for these types of land uses. The subject site is suitably located on the edge of the Activity Centre.

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	and cycling are the preferred options. Street trees and pocket parks are utilised. Commercial space would be provided on the ground floor with shop fronts directly addressing the street. Large sidewalks allow cafes and restaurants to spill into outdoor settings in the summer months. Commercial space would service new residents as well as existing residents in Treeby. My suggested uses for the commercial space include café and restaurants, medical services, gym, retail spaces. The development would provide extra housing to accommodate Perth's growing population. Our focus on natural forms of transportation (walking) reduces the reliance on the private vehicle and relieve congestion on Armadale Road. Early incorporation of social housing provides opportunity, through access to major employment centres and local services in the Cockburn area. We have examples already in Perth. Less than 1.5km from this site is Cockburn station with apartments. Subiaco was redeveloped by the then Metropolitan Redevelopment Authority. It can be done in Perth!	

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Figure 7: a sketch of an idea for the urban development. Orange is mixed use apartments, Blue is paths/cycle routes/roads, green is housing, and teal green space.[3]

The opportunity is now

There is an opportunity to act now.

If we do not act to change this proposal, we are left with another legacy planning decision where cars are prioritised over people. Our population is pushed to the urban fridge requiring more infrastructure and taking up more land (for example, Lakelands land releases[4], or Byford train station or the Tonkin highway extension[5]).

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5.	With my house backing right onto this area. I don't want to be looking at the back of showroom centres. I also don't like the fact at all the delivery sections for these showrooms back right onto my house with it having the potential to create extra noise that wasn't previously there. Knowing how most air-conditioning units work this will create a lot more noise near my house that I will not appreciate and lastly this will lower the value of my house being backed onto a commercial area.	Refer to the Applicants responses to Items 1 and 3 above.
6.	Our house will back straight onto whatever you build and by the looks of it, we will be staring at a concrete wall that will also block out any afternoon sun and sunsets to our house.	Refer to the Applicants responses to Items 1 and 3 above. An overshadowing assessment of the proposed development has been undertaken and is included within the development proposal plans. The assessment demonstrates that the shadow generated by the proposed development does not extend beyond the site's eastern boundary at 12 noon on 21 June 2025.
7.	I am writing to express my strong opposition to the proposed large format retail development planned for construction directly behind my property. As a resident of this community, I am deeply concerned about the negative impacts this development will have on my quality of life, property values, and the overall environment of our neighbourhood. The proposed development is likely to generate a significant increase in traffic, noise, and light pollution. The increased traffic will not only create safety hazards for pedestrians and cyclists but also diminish the peaceful enjoyment of our homes and yards. The constant noise from delivery trucks, parking lot activity, and potential 24-hour operations will disrupt the tranquillity of our neighbourhood. Additionally, the bright lights associated with large retail operations will	Refer to the Applicants responses to Items 1, 3 and 6 above. The proposed development will operate in accordance with WA's retail trading hours which, for large format retail uses, does not provide for 24-hour trading. The Applicant is agreeable to a Lighting Management Plan (or similar) being prepared and implemented as a condition of Development Approval to ensure any potential light-related nuisance is controlled and monitored. A revised Acoustic Assessment has been prepared in support of the proposed development and demonstrates that noise emissions from the proposed development will comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* at all times, subject to a number of mitigation measures being implemented.

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	negatively impact our ability to enjoy our properties at night and may disrupt local wildlife. A significant concern is the sheer size of the proposed building, which will effectively create a massive concrete wall directly visible from my living area and backyard. This will severely block natural light from entering my home, creating a dark and uninviting living environment. Natural light is essential for our well-being, and the loss of it will have a detrimental impact on our daily lives. Furthermore, I am concerned about the potential decrease in property values. Large retail developments can often detract from the aesthetic appeal of residential areas, making homes less desirable to potential buyers. The increased congestion and noise can also make our neighbourhood less attractive to families and individuals seeking a peaceful and quiet environment. I urge you to carefully consider these concerns and reject the proposed development. I believe that this project is not in the best interest of our community and will have a detrimental impact on our quality of life and property values. I request that you take my opposition into account during your deliberations and seek alternative solutions that are more compatible with the residential nature of our neighbourhood.	These measures are discussed in section 5.3.1 of the Town Planning Report. The proposed development is supported by a TIA which assesses traffic related impacts on the adjacent road network, with a focus on capacity, access, safety, and car parking requirements and has been prepared in accordance with the WAPC's *Transport Impact Assessment Guidelines for Developments: Volume 4 – Individual Developments* (2016). The TIA demonstrates that the local road network and proposed access points are capable of accommodating traffic associated with the proposed development. It is also noted that there is no proposed vehicular connection between the proposed development and the adjoining residential area.
8.	Submission of Objection – Establishment of Large Retail Development DAP25/003 – 701L Armadale Road, Jandakot To: Chairperson & Members, Outer Metro Joint Development Assessment Panel	

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	Mayor & Planning Division, City of Cockburn 1. Introduction & Basis of Objection I lodge this formal objection to the proposed Establishment of Large Retail Development (DAP25/003) at 701L Armadale Road, Jandakot. My submission is made on behalf of my household and the immediately affected Treeby community. The proposal, in its current form, will result in unreasonable, material, and unacceptable adverse impacts on residential amenity, environmental health, traffic safety, and the established character of the neighbourhood. This objection is grounded in valid planning considerations and supported by the applicant's own technical reports. It is assessed against the following statutory and strategic frameworks: - *Planning & Development (Local Planning Schemes) Regulations 2015* – Schedule 2, Clause 67 - City of Cockburn TPS 3 & LPS 3 - *SPP 4.2 – Activity Centres* - *Environmental Protection (Noise) Regulations 1997* - *SPP 5.4 – Road and Rail Noise* As residents directly adjoining Lot 701, we form the most affected interface, and the current proposal does not satisfactorily mitigate the significant impacts on our homes and community.	Refer to the Applicants responses to Items 1, 3 and 6 above. The proposed development is demonstrated to comply with the matters to be considered under Clause 67 of the Deemed Provisions contained within Schedule 1 of the *Planning and Development (Local Planning Schemes) Regulations 2015* as documented in section 5.7.8 of the Town Planning report. The proposed development is demonstrated to comply with the provisions of the City's existing and draft local planning schemes as documented in sections 5.5.2, 5.5.3, 5.6 and 5.7 of the Town Planning report. The proposed development is demonstrated to comply with the *Environmental Protection (Nosie) Regulations 1997* as documented in section 5.3.1 of the Town Planning report. The proposed development is demonstrated to comply with the provisions of SPP 4.2 as documented in sections 5.2.3 of the Town Planning Report. The proposed development is demonstrated to comply with the provisions of SPP 5.4 as documented in section 5.2.4 of the Town Planning Report.

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	2. Major Planning Concerns & Objections 2.1 Excessive Noise Impacts on Residential Homes 2.1.1 Delivery Truck Noise (including 19m Semi-Trailers) The Acoustic Assessment confirms that 19m semi-trailers will access the site via Biscayne Way—an entry point immediately adjacent to homes on Wintergreen Crescent. The report also acknowledges that large truck deliveries must be restricted to daytime hours due to otherwise unacceptable noise levels, particularly from reversing beepers and loading operations. This demonstrates that the proposed design places industrial-scale service activities unacceptably close to established residential properties. 2.1.2 Eleven Waste Storage Compounds Causing Frequent Noise Impacts The Waste Management Plan identifies: - 11 bin storage compounds - Twice-weekly collections - Continuous movement of heavy waste vehicles across the week These waste areas are located near the northern residential interface, where noise from metal bins, manoeuvring, lifting, and emptying will be intrusive and incompatible with	The Acoustic Assessment has been updated to address a number of queries raised by the City's Environmental Officers. The updated Acoustic Assessment demonstrates that noise generated by the proposed development will comply with the *Environmental Protection (Noise) Regulations 1997* subject to a number of mitigation measures being implemented. These measures include a restriction on delivery times. The Waste Management Plan that has been prepared and submitted with the proposal, demonstrates that waste can be collected in a manner that causes minimal impact. The updated Acoustic Assessment demonstrates that the operational characteristics of the proposed development will comply with the *Environmental Protection (Noise) Regulations 1997*.

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	residential amenity. 2.1.3 Mechanical Plant Noise – Non-Finalized Design The Acoustic Report confirms that mechanical services design is incomplete and further analysis is required to confirm compliance. Without a fully assessed and compliant design, approval cannot be justified. 2.2 Traffic & Safety Impacts on Wintergreen Crescent and Surrounding Residential Roads 2.2.1 Significant Traffic Increases Affecting Local Streets The Transport Impact Assessment (TIA) indicates substantial traffic increases during peak hours affecting: - Verde Drive roundabout - Tapper Road intersection - Armadale Road slip lane - Biscayne Way service access These routes directly interact with local residential streets—creating congestion, queuing, and spill-over traffic that will reduce safety and amenity. 2.2.2 Biscayne Way Used as an Industrial Service Entry The TIA states that heavy service vehicles—including 19m semi-trailers—will access the site via Biscayne Way, which feeds into a quiet residential street network. This is inconsistent with:	Please refer to the above comments in relation to the provision of the updated Acoustic Assessment. The proposed development is supported by a TIA which assesses traffic related impacts on the adjacent road network, with a focus on capacity, access, safety, and car parking requirements and has been prepared in accordance with the WAPC's *Transport Impact Assessment Guidelines for Developments: Volume 4 – Individual Developments* (2016). The TIA demonstrates that the local road network and proposed access points are capable of accommodating traffic associated with the proposed development. Biscayne Way serves the adjoining industrial area and does not intersect with any local residential streets.

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	- LPP Vehicle Access - TPS 3 amenity protection - Safe design principles for residential communities 2.2.3 Increased Road Safety Risks for Children & Pedestrians Treeby is a family-oriented community with many young children, pedestrians, and cyclists. Introducing heavy vehicles into this environment creates unacceptable safety hazards. 2.3 Overdevelopment & Excessive Bulk Adjacent to Homes Large-format retail buildings, loading areas, and service yards are positioned directly on the residential boundary along Wintergreen Crescent. This results in: - visual intrusion - overshadowing - loss of privacy - loss of residential character - unacceptable commercial dominance at the interface This conflicts with TPS 3 and SPP 4.2 requirements for appropriate transitions between commercial and residential land uses. 2.4 Unacceptable Light Spill The proposal includes:	During preliminary design and pre-lodgement consultation, it was agreed that restricting direct vehicle movement between the site and the adjoining residential area was appropriate in order to protect residential amenity. Refer to the Applicants responses to Items 1, 3 and 6 above. The Applicant is agreeable to a Lighting Management Plan (or similar) being prepared and implemented as a condition of Development Approval to ensure any potential light-related nuisance is controlled.

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	- extensive carpark lighting - illuminated signage - long operating hours - high-lux security lighting No lighting impact report has been submitted. Light spill into nearby homes is highly likely and unacceptable. 2.5 Environmental & Groundwater Risks The site has: - historic use as a contractor laydown area - unknown fill materials - groundwater levels around RL 27.0 AHD Intensive commercial use risks contamination, hydrocarbon runoff, and drainage problems for nearby residential properties. Environmental investigations should be required prior to any approval—not as a conditional requirement later. 2.6 Relevant Precedents in WA Other DAP, JDAP, and SAT decisions consistently refuse proposals where: - bulky goods or retail loading docks adjoin residential land - heavy vehicle access is routed through residential interfaces - noise, bulk, and traffic impacts cannot be satisfactorily	A search of the DWER's Contaminated Sites Database indicates that the site is not classified as a known or suspected contaminated site. The servicing report undertaken by Colliers notes that the site was historically utilised as a Contractors laydown for the Armadale Road upgrade, which consisted of limestone hardstands, asphalt access roads, stockpiles and dewatering ponds. The remnants of these former land uses may be present on site. The previous use of the site is not considered to pose any environmental risk. Each Application must be considered on its merits. This development proposal complies with the following specific considerations: - Noise - Traffic/Access - Parking - Amenity - Residential Interface

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	mitigated The same planning principles apply here. 3. Planning Framework Non-Compliances 3.1 Clause 67 Non-Compliance The proposal fails Clause 67 (m), (n), (r), (s), and (y) due to: - unmitigated noise - traffic hazards - excessive bulk - inadequate buffers - environmental risk 3.2 TPS 3 & Local Policy Failures The proposal does not meet TPS 3 requirements for: - residential protection - appropriate setbacks - interface treatment - traffic design 3.3 SPP 4.2 Non-Compliance SPP 4.2 requires careful protection of residential interfaces and avoidance of commercial servicing near homes. These requirements are not met. 4. Conclusion & Requested Determination	The proposed development is demonstrated to comply with the matters to be considered under Clause 67 of the Deemed Provisions contained within Schedule 1 of the *Planning and Development (Local Planning Schemes) Regulations 2015* as documented in section 5.7.8 of the Town Planning report. The proposed development is demonstrated to comply with the provisions of the City's existing and draft local planning schemes as documented in sections 5.5.2, 5.5.3, 5.6 and 5.7 of the Town Planning report. The proposed development is demonstrated to comply with the provisions of SPP 4.2 as documented in sections 5.2.3 of the Town Planning Report.

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	Given the clear and significant adverse impacts on homes along Wintergreen Crescent and the broader Treeby community, **this proposal is fundamentally unsuitable for this location**. The scale, traffic movements, noise, lighting, environmental risks, and built-form impacts cannot be rectified through conditions or amendments. For these reasons, REFUSAL is the only appropriate decision. There are no reasonable modifications that could make the proposal compatible with the adjoining residential neighbourhood. 5. Final Statement This objection is submitted in good faith to protect the safety and wellbeing of the Treeby community. When I purchased my land, I contacted the City of Cockburn to understand the future development intentions for the adjoining parcel. I was clearly advised that the area would be used for **residential** or **residential with mixed business**, consistent with the surrounding neighbourhood. The current proposal for large retail buildings—located directly behind our homes—contradicts those expectations entirely. A residential or residential–mixed business outcome would	The site's 'Urban' zoning under the MRS does not prohibit the consideration of non-residential land uses, noting that the 'Urban' Zone is defined under the MRS as providing *"for residential development and associated local employment, recreation and open space, shopping, schools and other community facilities*". The land uses proposed by the development are consistent with the above definition. Similarly, the site is zoned 'Development' under the provisions of the City's local planning scheme which is defined as providing *"for future residential, industrial or commercial development"*. The land uses proposed by the development are consistent with the above definition.

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	have continued the existing street network (Hiba View and Cedarleaf Entrance) towards Armadale Road, supporting a cohesive community. Instead, the proposal seeks to introduce tall commercial buildings and intensive retail operations immediately behind residential homes, which is completely unacceptable. I respectfully request the JDAP to protect the integrity, safety, and amenity of the Treeby neighbourhood by **refusing the application in full**.	
9.	I live at 26 Wintergreen Cres, Treeby 6164 and recently received a letter from City of Cockburn welcoming feedback for the proposed retail area at 87 Armadale Road. My feedback is as follows. 1/ Hiba View which joins at the junction of Wintergreen Cres, should be closed off from having any through traffic in/out the new proposed retail area. If there is a roadway through to the new retail area, this will increase traffic drastically into the estate and there are many young kids that live along Wintergreen Cres and in the adjoining streets. I would hate to see a kid get hit by a speeding car that is cutting through from Armadale Road via Hiba View to avoid the heavy traffic along Armadale Road during rush hour. This already happens with speeding cars cutting through from Ghostgum Av to Jandakot Road. There needs to be speed humps along Ghostgum Av and Celementine Blvd to stop this happening. It's really got out of control with cars speeding through the estate. Simply having a sign saying "local traffic only" doesn't seem to do a lot as people generally ignore the signage.	Noted. No direct movement of vehicles is proposed between the site and the existing adjoining residential area with all traffic generated by the proposed development to be directed along Verde Drive, Armadale Road and Biscayne Way.

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	2/ We would prefer there is no walkway through to/from Hiba View to the new retail area. There has already been lots of crime along Wintergreen Cres and having a thoroughfare via Hiba View would only increase the crime rate giving criminals an easy route in/out of the estate making it a more easier target. I am the admin for the Operation Crimewatch 6164 page on Facebook therefore I am very well informed about what crimes are happening in the estate and what streets they are happening on.	Pedestrian footpaths are currently provided along Armadale Road and Verde Drive which provide pedestrian connection between the site and adjoining residential areas. No further direct pedestrian or vehicular integration is proposed.
10.	The proposal to have retail showroom in backyard will affect sunlight, air flow and will suffer from regular noise of freight trucks. I think consideration should be give to developing residential house instead as the area is in need of more houses.	Refer to the Applicants responses to Items 1, 3 and 6 above.
11.	Hello, I am writing to formally object to the proposed Large Format Retail Expansion at Lot 701 Armadale Road. I am a homeowner immediately north of the proposed development, residing at 19 Wintergreen Crescent, Treeby, and I have significant concerns regarding the scale, location, and likely impacts of this proposal on the adjoining residential community. When we built our home in 2021, I contacted the City of Cockburn to understand the long-term intent for the vacant land behind our property. At that time, I was advised that the land was being prepared for future residential expansion, including potential connecting entry points. The current development application is therefore unexpected and	Refer to the Applicants responses to Items 1, 3, 6 and 8 above.

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	inconsistent with the zoning information provided to us when choosing to live in this area. **Excessive Building Height & Inadequate Setback** The proposal places buildings only 10 metres from our rear boundary with a height ranging from 8.1 to 9.6 metres. This means the structure will stand approximately 4.5 times higher than our existing rear fence, creating an imposing mass directly behind our property. Given the orientation of our block, the proposed height will significantly reduce natural afternoon light into our home and outdoor areas. The visual impact of a large, blank external wall in such close proximity is also unacceptable for a residential interface. If the development is approved, I request that the panel require: · Reduced building height for all structures adjoining residential properties. · Substantially increased setbacks along the northern and eastern boundaries. · Enhanced landscaping beyond semi-mature trees (which will not compensate for the loss of sunlight). **Noise Impacts – Delivery Vehicles & Operational Noise** While I acknowledge the acoustic assessment and the restriction on large delivery vehicles during night-time hours, the proposal still allows smaller delivery vehicles to operate adjacent to residential homes. The plans show a loading dock	

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	directly facing the northern and eastern residential boundary. Night-time small-vehicle deliveries will still generate: · Reverse alarms · Roller door noises · Ute/van door slams · Pallet jacks and unloading noise These will negatively impact sleep, amenity and health. If approved, I strongly request that: · All deliveries, regardless of vehicle size, are restricted to daytime hours only. · Loading dock locations are reconsidered so they are not positioned directly adjacent to residential areas. · Setbacks are increased to provide greater acoustic buffering. · Consideration be given to acoustic walls or barriers that exceed the minimum standard. **Zoning & Strategic Planning Concerns** My understanding of the previous zoning, confirmed in correspondence with Daniel Arndt, Chief of Built and Natural Environment (City of Cockburn) was that the land was intended to include an appropriate mix of residential and non-residential uses. It was not designated for a large format retail development. I appreciate that zoning can evolve, however this change is substantial and materially impacts the expectations and	

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	amenity of existing residents. The developer acknowledges that this proposal is not currently supported by an adopted structure plan, meaning approval relies solely on the Development Assessment Panel's discretion. Given this, I urge the panel to consider: · The lack of prior consultation with directly affected residents · The inconsistency with the originally communicated intent for the precinct · The significant and irreversible change to the character of the residential interface **Lighting** I have been unable to locate clear information within the application regarding the type, intensity, positioning, or operational hours of the proposed external lighting. This is a significant concern, as large format retail developments typically require substantial illumination for car parks, loading docks, pedestrian areas, signage, and security. In the absence of detailed lighting specifications, I must assume that the development may include: · High-output pole lighting · Illuminated signage · Security floodlighting · 24-hour operational lights for safety and surveillance Given the close proximity to residential homes, uncontrolled lighting has the potential to:	

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	· Spill into bedrooms and living areas, disrupting sleep · Create glare and reflections visible from indoor spaces · Illuminate backyards throughout the night · Reduce the privacy and amenity expected in a residential environment If the panel is considering approval, I request that strict lighting controls be imposed as conditions, including: · All external lighting to be fully shielded and directed downward · No light spill beyond the boundary of the commercial site · Automatic timers or motion sensors to limit overnight illumination · A requirement for a formal Lighting Impact Assessment to be prepared and approved before construction · Restrictions on illuminated signage facing residential areas Given the uncertainty around the proposed lighting plan, it is critical that this issue is addressed before any form of approval is granted. I respectfully request that the Development Assessment Panel give full and careful consideration to the significant negative impacts this proposal will have on the adjoining residential area. The excessive building height, minimal setbacks, anticipated noise issues, zoning inconsistencies, and the lack of clear information regarding external lighting	

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	collectively create a development outcome that is incompatible with the established residential character of this neighbourhood. Given these issues, I ask that the proposal be rejected in its current form. However, if approval is contemplated, I strongly urge that stringent conditions be imposed to protect residents, including increased setbacks, reduced building height, limitations on delivery hours for all vehicles, enhanced acoustic and visual screening, and strict lighting controls supported by a formal Lighting Impact Assessment. Thank you for considering my submission and for taking into account the considerable impact this development will have on the homes and lives of neighbouring residents.	
12.	**To the City of Cockburn / Development Assessment Panel** I am lodging a strong objection to the proposed Large Format Retail Expansion at Lot 701 Armadale Road. My property directly borders the northern boundary (21 Wintergreen Crescent, Treeby), and the current design poses unacceptable impacts on surrounding homes. **Building Height & Setbacks** Buildings up to 9.6 m high are proposed only 10 metres from our rear fence. This will create significant overshadowing, loss of natural light, and an overwhelming visual impact. This is not an appropriate interface with residential properties. I request:	Refer to the Applicants responses to Items 1, 3, 6 and 8 above.

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	• Reduced building heights along residential boundaries • Increased setbacks • More effective landscaping to address visual bulk **Planning Intent** Residents were previously advised this land would support a balanced mix of uses, not a large-scale retail precinct. With no adopted structure plan, approval relies entirely on discretion. The proposal does not align with what existing residents were told to expect or what is suitable for this location. **Noise Impacts** The loading bay faces homes, and the proposal still allows smaller deliveries overnight. Even “light” deliveries produce noise that will directly affect residential amenity. If the development proceeds, conditions must include: • No nighttime deliveries of any kind • Relocation of loading areas away from residences • Enhanced acoustic treatments **Conclusion** The proposal, as submitted, is incompatible with the adjacent residential neighbourhood due to excessive height, inadequate setbacks, noise risks, and major departures from previously communicated planning outcomes. I request that the application be refused. If approval is considered, substantial modifications and strict conditions are essential to protect nearby residents.	

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13.	I oppose DAP25/003 for 701L Armadale Road, Jandakot. A large-format commercial precinct is inconsistent with local planning objectives, risks amenity and groundwater values, and wastes land that should be prioritised for urgently needed housing — including the estimated need for around 30,000 new homes in the broader growth area. Key objections - Incompatible land use — The proposal is for a large-format retail precinct with a gross floor area of about 36,346 m², 26 tenancies and 705 on-site parking bays adjacent to established residential lots, which will increase noise, traffic and light spill into nearby homes. - Local planning and environmental risk — The site sits within an area subject to the Jandakot/Treeby Urban Expansion planning framework and sensitive environmental and groundwater considerations; commercial intensification here conflicts with the District Structure Plan's staged, integrated approach to urbanisation. - Community amenity and traffic — Armadale Road and surrounding local streets already serve residential catchments; adding a major retail hub will generate heavy vehicle movements and peak-hour congestion that undermine liveability for Calleya Estate and neighbouring suburbs. Planning context and evidence - The City's public materials show the application adjoins the existing Cockburn East development and proposes direct vehicle access from Armadale Road and Verde Drive, highlighting the immediate interface with residential areas. - The Jandakot/Treeby District Structure Plan emphasises coordinated urban expansion, staged residential release	Refer to the Applicants responses to Items 1, 3, 6 and 8 above.

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	and protection of environmental assets; ad-hoc commercial sprawl undermines that strategic sequencing and the long-term objective of delivering housing and community infrastructure in a planned way. Housing need and land-use priorities - The pressing need for housing in the southern corridor means this site should be considered for residential development or mixed-use that prioritises homes, community facilities and local services rather than large-format retail. The Jandakot/Treeby DSP is part of the State and local response to accommodate growth and deliver new dwellings in a structured manner. - Redeploying this land for housing could contribute to the broader target of delivering tens of thousands of homes across the region; converting this parcel to residential or mixed-use would better align with housing supply objectives and reduce pressure on greenfield sites elsewhere. Recommendations and requested outcomes - Reject DAP25/003 in its current form and require the applicant to demonstrate how the proposal aligns with the DSP and groundwater protections. - Prioritise residential or mixed-use rezoning for this parcel to support the delivery of new homes and community infrastructure rather than a large-format retail park. - Require a comprehensive traffic, groundwater and amenity impact assessment and a masterplan that integrates with the Jandakot/Treeby DSP before any approval is considered. - Engage the community and City of Cockburn to ensure local concerns about amenity, water protection and long-	

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	term planning are central to any decision — consistent with recent council objections to incompatible rezoning proposals in the area. Conclusion: Approving a large-format commercial development at 701L Armadale Road would be short-sighted. The site should be retained for uses that directly address the urgent housing shortfall and respect the Jandakot/Treeby strategic plan and local amenity	
14.	Chairperson & Members Outer Metro Joint Development Assessment Panel. Mayor & Planning Division City of Cockburn 1. Introduction & Basis of Objection I am a resident of Wintergreen Crescent, Treeby, located directly north of the proposed development site. I submit this formal objection (opposing establishment of large retail development DAP25/003 - 701L Armadale Road, Jandakot) on behalf of my household and immediate community as the development poses unacceptable, material and unreasonable adverse impacts on our residential amenity, environment, traffic safety, and neighbourhood character. My objection is based entirely on valid planning considerations, supported by evidence from the applicant's own technical documents, and aligned with the assessment criteria under: • Planning & Development (Local Planning Schemes) Regulations 2015 – Schedule 2 Clause 67 • City of Cockburn TPS 3 & LPS 3 • SPP 4.2 Activity Centres	Refer to the Applicants responses to Items 1, 3, 6 and 8 above.

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	• Environmental Protection (Noise) Regulations 1997 • SPP 5.4 Road and Rail Noise As residents immediately adjoining Lot 701, we are the most affected cohort, and the proposal in its current form fails to adequately manage impacts on our homes and local streets. 2. Major Planning Concerns & Objections 2.1 Excessive Noise Impacts on Residential Homes 2.1.1 Delivery Truck Noise (19m Semi-Trailers) The Acoustic Assessment confirms that 19m semi-trailers will access the site via Biscayne Way, immediately adjacent to residential areas, including Wintergreen Crescent . Further, the same report acknowledges the need to restrict large truck deliveries to daytime only due to the high noise levels likely to be generated, especially during reversing and loading operations . This is a clear indication that the development's design places large-scale commercial servicing infrastructure unacceptably close to established homes. 2.1.2 Eleven Waste Storage Compounds Generating Frequent Truck Noise The Waste Management Plan confirms the development includes:	

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	• 11 bin storage areas, • All serviced twice weekly, • Collectively generating heavy truck movements across the entire week . Given the proximity of these compounds to the northern boundary of Lot 701, the likelihood of continuous waste truck noise, including metal bins being moved and emptied, is unavoidable and incompatible with residential amenity. 2.1.3 Mechanical Plant Noise The Acoustic Report states that mechanical services design is not finalised, and further acoustic analysis must be done to confirm compliance . DAP decisions have repeatedly refused applications where acoustic compliance is uncertain at DA stage. This proposal should be no different. 2.2 Traffic & Safety Impacts on Wintergreen Crescent & Local Residential Roads 2.2.1 Significant Traffic Increase Affecting Local Streets The Transport Impact Assessment (TIA) confirms that the development generates high volumes of trips in peak weekend and weekday periods, changing the flow and pressure at: • Verde Drive roundabout • Tapper Road intersection • Armadale Road slip lane	

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	• Biscayne Way servicing These roads directly connect with residential streets such as Wintergreen Crescent. 2.2.2 Biscayne Way being used as an industrial service entry The TIA states clearly that service vehicles including 19m semi-trailers will enter via the gated access on Biscayne Way, which leads directly into the residential road network immediately north of the site . This is fundamentally inappropriate and inconsistent with: • Local Planning Policy – Vehicle Access • TPS 3 objectives protecting residential amenity • Safe active street design principles 2.2.3 Road safety risks to children & local pedestrians Wintergreen Crescent and nearby streets contain: • large numbers of families, • high pedestrian and cycling activity, • playgrounds and quiet cul-de-sacs. Introducing regular freight movements and additional commercial vehicles directly adjacent to this residential interface significantly heightens road safety risks—an unacceptable burden on the community. 2.3 Overdevelopment & Excessive Bulk Adjacent to	

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	Residential Homes Multiple large-format retail buildings (including Buildings 1, 2 and service yards) are located directly on the northern boundary, neighbouring homes on Wintergreen Crescent. From the Site Plan: • Significant building massing, • Multiple service yards, • High façade walls are positioned immediately behind residential backyards . This represents: • a substantial visual bulk impact, • potential overshadowing, • loss of residential character, • a jarring interface between industrial-scale retail and low-density residential. This directly conflicts with TPS 3 residential interface requirements and SPP 4.2—which requires graduated transitions between commercial and residential zones, not abrupt back-to-back layouts. 2.4 Unacceptable Light Spill Into Residential Homes The development introduces: • large carparks, • extended operating hours, • high-lux security lighting, and • illuminated signage towers.	

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	Given the site's immediate proximity to homes north of the boundary, the night-time light spill will be intrusive, eroding residential amenity and preventing rightful enjoyment of outdoor living spaces. The applicant has provided no night-lighting impact analysis, breaching common JDAP expectations for sensitive interface developments. 2.5 Environmental & Groundwater Risks The Town Planning Report confirms the site was historically used as a contractor's laydown area, containing limestone hardstands, stockpiles and possibly remnant fill material, with groundwater levels around RL 27.0 AHD . Intensive commercial use, including: • waste compounds, • vehicle movement, • potential hydrocarbon runoff, presents unassessed contamination and drainage risks to surrounding residential areas, especially those downhill or adjacent to stormwater channels. This requires comprehensive environmental investigation prior to approval, not as a condition.	

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	**2.6 Precedent in Western Australia: When Large-Format Retail Near Housing is Rejected. Across WA, similar proposals have been refused or significantly modified due to impacts on neighbouring homes. Examples include: • City of Cockburn JDAP refusals involving bulky commercial immediately adjoining residential zones (lack of transition buffers). • Stirling DAP decisions where loading docks too close to homes resulted in refusal due to noise and amenity impact. • Wanneroo SAT decisions emphasising unacceptable noise, traffic, and interface conflicts between LFR and R20/R30 residential. The consistent principle: “Where commercial bulk, noise, traffic and service functions materially impact adjoining residential homes, refusal or major redesign is warranted.” The current Treeby proposal follows the same pattern of unacceptable conflict. 3. Planning Framework Non-Compliances 3.1 Clause 67 (m), (n), (r), (s), (y) – Adverse Impacts on Amenity	

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	The proposal fails to satisfy: • Noise (service vehicles, mechanicals, waste) • Traffic safety • Visual bulk • Interface transition • Environmental risk 3.2 TPS 3 & LPP Requirements Fails interface and amenity protection requirements relating to: • Residential boundary transitions • Noise attenuation • Traffic access and safety • Built form setbacks and massing 3.3 SPP 4.2 – Activity Centres Requires: • Sensitive residential interfaces to be protected • Negative amenity impacts minimised • Access to be located away from residential areas None of which have been adequately demonstrated. 4. Conclusion & Requested Determination In conclusion, the proposal presents clear, significant, and unmitigated adverse impacts on the residential community north of the site, particularly those on Wintergreen Crescent. Given the scale, intensity and design shortcomings of this	

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	proposal, and based on evidence from the applicant's own technical reports, I respectfully request the Development Assessment Panel to: REFUSE the application in its current form or, at minimum: Require a complete redesign of the northern interface to eliminate residential impacts, including: • relocating service yards away from residential boundaries, • relocating waste compounds, • banning heavy vehicles on Biscayne Way, • providing full acoustic walls and buffers, • undertaking full lighting, environmental and traffic impact modelling, • providing genuine transition zones between residential and commercial land uses. 5. Final Statement This objection is made in good faith and in the interest of preserving the safety, amenity, and wellbeing of our Treeby community. Large-format retail can be appropriate when properly planned—but not when placed in a way that transfers unacceptable impacts onto neighbouring families, as well as turning a beautiful community of residential area into industrial area. This area more suited to be utilised as residential development to keep the community vibe & young families to raise their kids in this beautiful residential community of Treeby. Also our kids deserve an environment	

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	without continuous noise(before & after school) & busi ness in order to nurture & grow & without their little systems getting loaded with continuous noise & a view from backyard where they can wind down, play, relax & grow. This development shall also block our view from our backyard. I urge the department & city of Cockburn to consider the evidence presented and protect the integrity of our residential neighbourhood by refusing this application of development.	
15.	The development would have huge noise impact especially on houses on Wintergreen Crescent. Also, the residential area would look like prison with noise walls on west(existing) & south of wintergreen cr with high walls going up & if noise walls are not put then the noise would cause high stress to not just young families & also on young kids which is damaging for young kids development. Also, there would be privacy issues for the houses from the retails development. This area is better suited to be residential area rather than commercial retail development.	Refer to the Applicants responses to Items 1, 3, 6 and 8 above.
16.	The vacant land behind my property with shops will lack privacy to my property and block a lot of natural light for my property. I believe that this development will expose me to a lack of security and privacy to my property and there will be increased noise to that area.	Refer to the Applicants responses to Items 1, 3, 6 and 8 above.

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17.	The traffic on Armadale Road is terrible to start without adding more cars trying to get onto an already heavily congested road. The traffic crawls along here everyday backing up past the existing exit of the retail park. The exit here is badly designed and should have 3 lanes -right, straight and left. The exiting traffic backs up to the round about most days with cars trapped in the stupid 3 ways left lane. Liddlow Road roundabout should be an up and over roundabout like Tapper Road. And Warton Road! A pedestrian entrance - with enforced resident only parking in the Calleya estate - would be good. What is the times for allowed deliveries/loading? This could be extremely disruptive for residents if trucks are allowed in and reversing (beepers), loading or unloading early and late.	Refer to the Applicants responses to Items 1, 3, 6 and 8 above.
18.	I am lodging a strong objection to the proposed Large Format Retail Expansion at Lot 701 Armadale Road. My property directly borders the northern boundary (23 Wintergreen Crescent, Treeby), and the current design poses unacceptable impacts on surrounding homes. Safety and Risk The proposed development includes a driveway intended for use by commercial delivery trucks. I am concerned that, in the event of an accident, a truck could collide with the boundary fence and enter my backyard, posing significant risk to people, pets, and property. Given the foreseeable risk posed by heavy vehicle access, it is standard practice in similar developments to include physical/mechanical protection (e.g. reinforced barriers,	Refer to the Applicants responses to Items 1, 3, 6 and 8 above.

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	bollards, or safety fencing) to prevent vehicles from encroaching onto adjoining residential properties. This is consistent with the duty of care obligations under the Occupiers' Liability Act 1985 (WA). If the development proceeds, I request that the proposal include mechanical protection along the boundary of my property sufficient to prevent heavy vehicles from leaving the driveway and entering my backyard. This protection should be designed to withstand potential collisions with commercial trucks. Additional measures such as traffic management and vehicle speed restrictions should also be implemented. The safety of residents and protection of private property should be a primary consideration. I urge the council to ensure that mechanical protection measures are incorporated as a condition of approval to mitigate the foreseeable risks posed by the commercial driveway. Building Height & Setbacks Buildings up to 9.6 m high are proposed only 10 metres from our rear fence. This will create significant overshadowing, loss of natural light, and an overwhelming visual impact for homes along Wintergreen Crescent. This is not an appropriate interface with residential properties. I request: - Reduced building heights along residential boundaries - Increased setbacks - More effective landscaping to address visual bulk	

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	Planning Intent Residents were previously advised this land would support a balanced mix of uses, not a large-scale retail precinct. With no adopted structure plan, approval relies entirely on discretion. The proposal does not align with what existing residents were led to expect or what is suitable for this location. Noise Impacts The loading bay faces homes, and the proposal still allows smaller deliveries overnight. Even “light” deliveries produce noise that will directly affect residential amenity, particularly for properties such as mine at 23 Wintergreen Crescent. If the development proceeds, conditions must include: - No night-time deliveries of any kind - Relocation of loading areas away from residences - Enhanced acoustic treatments The proposal, as submitted, is incompatible with the adjacent residential neighbourhood due to excessive height, inadequate setbacks, noise risks, and major departures from previously communicated planning outcomes. I request that the application be refused. If approval is considered, substantial modifications and strict conditions are essential to protect nearby residents.	

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	Thank you for your consideration.	

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Schedule of Submissions (DAP23/001 87 & 701 Armadale Road Jandakot)

	Issue Raised	Officer comments
1.	We strongly object the retail development as we believe it is too close to the residential areas of Treeby. This will negatively impact the current character of Treeby.	The proposed development has been adequately setback further than what any large scale residential would have been with landscaping of trees and other vegetation. This area although was intended to have a structure plan approved with a mixture of residential and non-residential uses the uses and development proposed is are uses that are either permitted or can be considered in a Mixed-Use Zone what can consider light industrial and commercial land uses which are what are being proposed.
2.	Looks great overall – however would be good to see some better integration into the surrounding community with footpaths ect to allow easier access for residents tot walk or cycle. Based on the current designs – it appears residents would have to exit the estate onto the main path along Armadale Road and then enter the new area. Additionally it would be good to see something other than pure retail – some type of entertainment facilities and restaurants would be a great amenity for locals.	This would likely cause worse outcomes in regard to traffic such as creating rat runs and further stress through local roads in Treeby. These types of developments are best accessed from a main road such as Armadale Road.
3.	Concerned about tall walls behind us on Bluegrass street with our property backing onto the proposed development. Can their be increased restrictions around building height and how far set back it is. In that case would support. Also any restrictions around	A cross section of the proposed development and 2 storey residential shows that there is an increase in setbacks with the proposed development compared to

	delivery times of reversing trucks etc disturbing the residential area which is in extremely close proximity in the current plans.	residential development. With setback randing from 8-10m closest to residential with 2m-5m landscaping strips that propose large trees this can lessen the height and building bulk perceived. A Delivery Management Plan will conditioned to restrict truck deliveries and servicing to comply with noise regs
4.	Dear Members of the Panel, The City of Cockburn has recently received a planning application for 701L Armadale Rd. As a local resident I would like to raise my concerns in opposition of the proposed application. Please consider using your influence to significantly change the proposal. In your role balancing your technical knowledge with local planning concerns, I know you must be aware of the macro planning challenges which our city faces. Geographically, we are one of the largest cities in the world, but we have a very low population density. We face legacy planning decisions which have made us completely reliant on car ownership and led to significant urban spawl. Our infrastructure is sprawling and costly, and lacks connectivity enjoyed by other cities across the planet. There is community consensus that there is a housing crisis, and our population is set to keep growing for decades. Climate change looms over all these issues. **The Proposal for 701L Armadale Road, Jandakot** 701L Armadale Road, Jandakot is a vacant block owned by South Central WA Pty Ltd. The block is approx. 7.033ha. South Central WA Pty Ltd has engaged Rowe Group to lodge an Application for Development Approval. The owner wishes to construct a large commercial development. I refer to the reports prepared by Rowe Group on behalf of South Central WA Pty	Agree with applicants response to this submission

	Ltd, which I sourced from the Comment on Cockburn website.  *Figure 1 – 701L Armadale Road marked in red* South Central WA Pty Ltd proposes to turn the 7.033ha of land into a big box commercial site, which are ubiquitous in the Perth suburbs. It follows a similar pattern of development as the big box stores to the west of the site (also owned by South Central WA Pty Ltd).  *Figure 2: Existing Box big development marked in green* The current proposal plans only one way for customers to access the site: the private car. That means parking, and a lot of it too – at 705 surface car parking spaces, most of the land would be turned to pavement. Even Rowe Group admitted there's too much parking in their proposal[1]. Yet customers are only able to access the site with a "one road in – one road out" model.	



Figure 3: a snip of the proposal. Access points marked in red. Note the amount of parking proposed.

The proposal ignores entirely access points to 701L Armadale Road were provided for when Treeby was planned – with three connections off Cedarleaf road, Bluegrass St, and Wintergreen crescent.



Figure 4: Existing access points for the 701L Armadale Road marked in red.

Not even paths or cycle ways are provisioned in the plan, meaning residents of Treeby must take

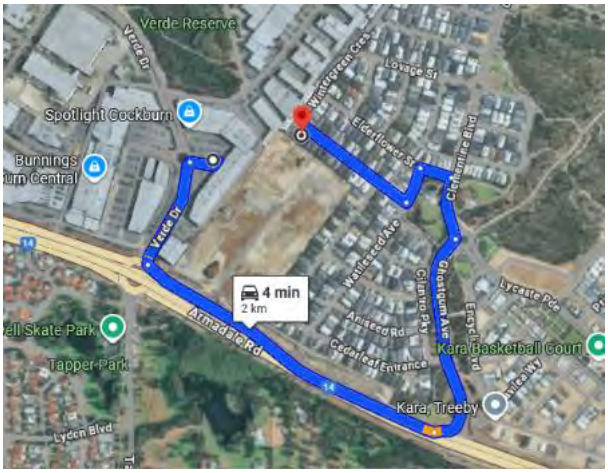
	a circuitous route in their private vehicle onto Armadale Rd or Verde drive to access the site. This results in more demand on existing infrastructure and implying yet more parking.  *Figure 5: a circuitous route increasing demand on roads and parking* There is an opportunity cost to this pattern of development. It's in this context which I feel the proposed development on 701L Armadale Road should be significantly changed. **A better proposal** The site has excellent connection with Cockburn Train Station and is only 1.2Km away. There is existing cycle path along Armadale Road. The site is also serviced by the freeway at the same distance. The site itself is only a short commute from major employment centres in Murdoch, Cockburn shops, Perth, and several industrial areas (Jandakot, Jandakot airport, Canning Vale etc). The recent Cockburn-Thornlie link has made the commute even easier and provided more connectivity from Cockburn train station. All this is especially important given the Cook government's recent announcement of increased development around ten train stations within an 800 metre radius[2].	



Figure 6: 701L Armadale Road is 1.2km from Cockburn Train station

The site abuts new development in Treeby which has provided a higher density and subsequent housing yield for land. In short, **the site is too valuable to be simply turned into low value big box retail and parking**. Members of the Panel, I respectfully ask you to use your influence to encourage housing on the site. As the site is currently zoned Urban under the Metropolitan Region Scheme, there is provision to provide a mixed use pattern of urban development. New residents could take advantage of the existing amenities and connectivity to employment centres. From a macro perspective, this site is ideal for urban infill to provide housing to a growing Perth.

Which points us in the direction which a proposal for this site should take. There's an opportunity here to create a "main street" style of development. I suggest a main street with a simple grid format. The streets would have multistorey development which includes residential apartments (preferably 3 to 4 bedrooms to accommodate families) to around six stories. Parking is kept to a minimum as walking and cycling are the preferred options. Street trees and pocket parks are utilised. Commercial space would be provided on the ground floor with shop fronts directly addressing the street. Large sidewalks allow cafes and restaurants to spill into outdoor settings in the summer months. Commercial space would service new residents as well as existing residents in Treeby. My suggested uses for the commercial space include café and restaurants, medical services, gym, retail spaces.

The development would provide extra housing to accommodate Perth's growing population. Our focus on natural forms of transportation

(walking) reduces the reliance on the private vehicle and relieve congestion on Armadale Road. Early incorporation of social housing provides opportunity, through access to major employment centres and local services in the Cockburn area.

We have examples already in Perth. Less than 1.5km from this site is Cockburn station with apartments. Subiaco was redeveloped by the then Metropolitan Redevelopment Authority. It can be done in Perth!



Figure 7: a sketch of an idea for the urban development. Orange is mixed use apartments, Blue is paths/cycle routes/roads, green is housing, and teal green space.[3]

The opportunity is now

There is an opportunity to act now.

If we do not act to change this proposal, we are left with another legacy planning decision where cars are prioritised over people. Our population is pushed to the urban fridge requiring more infrastructure and taking up more land (for example, Lakelands land releases[4], or Byford train station or the Tonkin highway extension[5]).

5.	With my house backing right onto this area. I don't want to be looking at the back of showroom centres. I also dont like the fact at all the delivery sections for these showrooms back right onto my house with it having the potential to create extra noise that wasn't previously there. Knowing how most air-conditioning units work this will create a lot more noise near my house that I will not appreciate and lastly this will lower the value of my house being backed onto a commercial area.	The showrooms are setback 8-10m with landscaping strips to provide some screening. An acoustic report has been provided to comply with the noise regs. In addition, a Delivery Management Plan will be conditioned prior to occupation so that there is no unacceptable amenity impacting noise during early and late hours of the day. Further conditioning will happen to ensure all air-conditioning and servicing sounds comply with the noise regs
6.	Our house will back straight onto whatever you build and by the looks of it, we will be staring at a concrete wall that will also block out any afternoon sun and sunsets to our house.	Overshadowing is to the South. The applicant provided an overshadowing assessment which was compliant With setback ranging from 8m-10m with landscaping strips the proposed development would comply more with the overshadowing provisions of the R-Codes compared to if there were residential houses that are 2 storey the only sun that may be impacted is late afternoon sun.
7.	I am writing to express my strong opposition to the proposed large format retail development planned for construction directly behind my property. As a resident of this community, I am deeply concerned about the negative impacts this development will have on my quality of life, property values, and the overall environment of our neighborhood. The proposed development is likely to generate a significant increase in traffic, noise, and light pollution. The increased traffic will not only create safety hazards for pedestrians and cyclists but also diminish the peaceful enjoyment of our homes and yards. The	A lighting management plan will be conditioned. Agree with applicants response to this objection. A TIA has been provided which has been supported by the City's Traffic and Transport Engineer as well as MRWA

	constant noise from delivery trucks, parking lot activity, and potential 24-hour operations will disrupt the tranquility of our neighborhood. Additionally, the bright lights associated with large retail operations will negatively impact our ability to enjoy our properties at night and may disrupt local wildlife. A significant concern is the sheer size of the proposed building, which will effectively create a massive concrete wall directly visible from my living area and backyard. This will severely block natural light from entering my home, creating a dark and uninviting living environment. Natural light is essential for our well-being, and the loss of it will have a detrimental impact on our daily lives. Furthermore, I am concerned about the potential decrease in property values. Large retail developments can often detract from the aesthetic appeal of residential areas, making homes less desirable to potential buyers. The increased congestion and noise can also make our neighbourhood less attractive to families and individuals seeking a peaceful and quiet environment. I urge you to carefully consider these concerns and reject the proposed development. I believe that this project is not in the best interest of our community and will have a detrimental impact on our quality of life and property values. I request that you take my opposition into account during your deliberations and seek alternative solutions that are more compatible with the residential nature of our neighborhood	
8.	Submission of Objection – Establishment of Large Retail Development DAP25/003 – 701L Armadale Road, Jandakot To: Chairperson & Members, Outer Metro Joint Development Assessment Panel Mayor & Planning Division, City of Cockburn 1. Introduction & Basis of Objection I lodge this formal objection to the proposed Establishment of Large Retail Development	The city agrees with the applicants response to this submission and that the City will condition all operations, delivery and servicing will have to comply with the Environmental Protection (Noise) Regulations 1997 as well as conditioning Light Management Plans and Delivery Management Plans

	(DAP25/003) at 701L Armadale Road, Jandakot. My submission is made on behalf of my household and the immediately affected Treeby community. The proposal, in its current form, will result in unreasonable, material, and unacceptable adverse impacts on residential amenity, environmental health, traffic safety, and the established character of the neighbourhood. This objection is grounded in valid planning considerations and supported by the applicant's own technical reports. It is assessed against the following statutory and strategic frameworks: - *Planning & Development (Local Planning Schemes) Regulations 2015* – Schedule 2, Clause 67 - City of Cockburn TPS 3 & LPS 3 - *SPP 4.2 – Activity Centres* - *Environmental Protection (Noise) Regulations 1997* - *SPP 5.4 – Road and Rail Noise* As residents directly adjoining Lot 701, we form the most affected interface, and the current proposal does not satisfactorily mitigate the significant impacts on our homes and community. 2. Major Planning Concerns & Objections 2.1 Excessive Noise Impacts on Residential Homes 2.1.1 Delivery Truck Noise (including 19m Semi-Trailers) The Acoustic Assessment confirms that 19m semi-trailers will access the site via Biscayne Way—an entry point immediately adjacent to homes on Wintergreen Crescent. The report also acknowledges that large truck deliveries must be restricted to daytime hours due to otherwise unacceptable noise levels, particularly from reversing beepers and loading operations. This demonstrates that the proposed design places industrial-scale service activities	to adequately address these concerns. Other objections points have also been addressed in the above responses

	unacceptably close to established residential properties. 2.1.2 Eleven Waste Storage Compounds Causing Frequent Noise Impacts The Waste Management Plan identifies: - 11 bin storage compounds - Twice-weekly collections - Continuous movement of heavy waste vehicles across the week These waste areas are located near the northern residential interface, where noise from metal bins, maneuvering, lifting, and emptying will be intrusive and incompatible with residential amenity. 2.1.3 Mechanical Plant Noise – Non-Finalized Design The Acoustic Report confirms that mechanical services design is incomplete and further analysis is required to confirm compliance. Without a fully assessed and compliant design, approval cannot be justified. 2.2 Traffic & Safety Impacts on Wintergreen Crescent and Surrounding Residential Roads 2.2.1 Significant Traffic Increases Affecting Local Streets The Transport Impact Assessment (TIA) indicates substantial traffic increases during peak hours affecting: - Verde Drive roundabout - Tapper Road intersection - Armadale Road slip lane - Biscayne Way service access These routes directly interact with local residential streets—creating congestion, queuing, and spill-over traffic that will reduce safety and amenity. 2.2.2 Biscayne Way Used as an Industrial Service Entry	

	The TIA states that heavy service vehicles—including 19m semi-trailers—will access the site via Biscayne Way, which feeds into a quiet residential street network. This is inconsistent with: - LPP Vehicle Access - TPS 3 amenity protection - Safe design principles for residential communities 2.2.3 Increased Road Safety Risks for Children & Pedestrians Treeby is a family-oriented community with many young children, pedestrians, and cyclists. Introducing heavy vehicles into this environment creates unacceptable safety hazards. 2.3 Overdevelopment & Excessive Bulk Adjacent to Homes Large-format retail buildings, loading areas, and service yards are positioned directly on the residential boundary along Wintergreen Crescent. This results in: - visual intrusion - overshadowing - loss of privacy - loss of residential character - unacceptable commercial dominance at the interface This conflicts with TPS 3 and SPP 4.2 requirements for appropriate transitions between commercial and residential land uses. 2.4 Unacceptable Light Spill The proposal includes: - extensive carpark lighting - illuminated signage - long operating hours - high-lux security lighting No lighting impact report has been submitted. Light spill into nearby homes is highly likely and unacceptable.	

	2.5 Environmental & Groundwater Risks The site has: - historic use as a contractor laydown area - unknown fill materials - groundwater levels around RL 27.0 AHD Intensive commercial use risks contamination, hydrocarbon runoff, and drainage problems for nearby residential properties. Environmental investigations should be required prior to any approval—not as a conditional requirement later. 2.6 Relevant Precedents in WA Other DAP, JDAP, and SAT decisions consistently refuse proposals where: - bulky goods or retail loading docks adjoin residential land - heavy vehicle access is routed through residential interfaces - noise, bulk, and traffic impacts cannot be satisfactorily mitigated The same planning principles apply here. 3. Planning Framework Non-Compliances 3.1 Clause 67 Non-Compliance The proposal fails Clause 67 (m), (n), (r), (s), and (y) due to: - unmitigated noise - traffic hazards - excessive bulk - inadequate buffers - environmental risk 3.2 TPS 3 & Local Policy Failures The proposal does not meet TPS 3 requirements for: - residential protection - appropriate setbacks - interface treatment	

	- traffic design 3.3 SPP 4.2 Non-Compliance SPP 4.2 requires careful protection of residential interfaces and avoidance of commercial servicing near homes. These requirements are not met. 4. Conclusion & Requested Determination Given the clear and significant adverse impacts on homes along Wintergreen Crescent and the broader Treeby community, **this proposal is fundamentally unsuitable for this location**. The scale, traffic movements, noise, lighting, environmental risks, and built-form impacts cannot be rectified through conditions or amendments. For these reasons, REFUSAL is the only appropriate decision. There are no reasonable modifications that could make the proposal compatible with the adjoining residential neighborhood. 5. Final Statement This objection is submitted in good faith to protect the safety and wellbeing of the Treeby community. When I purchased my land, I contacted the City of Cockburn to understand the future development intentions for the adjoining parcel. I was clearly advised that the area would be used for **residential** or **residential with mixed business**, consistent with the surrounding neighbourhood. The current proposal for large retail buildings—located directly behind our homes—contradicts those expectations entirely. A residential or residential–mixed business outcome would have continued the existing street network (Hiba View and Cedarleaf Entrance) towards Armadale Road, supporting a cohesive community. Instead, the proposal seeks to introduce tall commercial buildings and	

	intensive retail operations immediately behind residential homes, which is completely unacceptable. I respectfully request the JDAP to protect the integrity, safety, and amenity of the Treeby neighbourhood by **refusing the application in full**.	
9.	I live at 26 Wintergreen Cres, Treeby 6164 and recently received a letter from City of Cockburn welcoming feedback for the proposed retail area at 87 Armadale Road. My feed back is as follows. 1/ Hiba View which joins at the junction of Wintergreen Cres, should be closed off from having any through traffic in/out the new proposed retail area. If there is a roadway through to the new retail area, this will increase traffic drastically into the estate and there are many young kids that live along Wintergreen Cres and in the adjoining streets. I would hate to see a kid get hit by a speeding car that is cutting through from Armadale Road via Hiba View to avoid the heavy traffic along Armadale Road during rush hour. This already happens with speeding cars cutting through from Ghostgum Av to Jandakot Road. There needs to be speed humps along Ghostgum Av and Celementine Blvd to stop this happening. It's really got out of control with cars speeding through the estate. Simply having a sign saying "local traffic only" doesn't seem to do a lot as people generally ignore the signage. 2/ We would prefer there is no walkway through to/from Hiba View to the new retail area. There has already been lots of crime along Wintergreen Cres and having a thoroughfare via Hiba View would only increase the crime rate giving criminals an easy route in/out of the estate making it a more easier target. I am the admin for the Operation Crimewatch 6164 page on Facebook therefore I am very well informed about what crimes are happening in the estate and what streets they are happening on.	These concerns have been addressed above however as the applicant responded there are no vehicle access that is proposed from Calleya Estate Treeby nor is there any pedestrian access. All access is from Armadale Road, Biscayne Way and Verde Drive.
10.	The proposal to have retail showroom in backyard will affect sunlight, air flow and will	Addressed above and the City is in agreeance with the

	suffer from regular noise of freight trucks. I think consideration should be give to developing residential house instead as the area is in need of more houses.	applicants response to this submission
11.	Hello, I am writing to formally object to the proposed Large Format Retail Expansion at Lot 701 Armadale Road. I am a homeowner immediately north of the proposed development, residing at 19 Wintergreen Crescent, Treeby, and I have significant concerns regarding the scale, location, and likely impacts of this proposal on the adjoining residential community. When we built our home in 2021, I contacted the City of Cockburn to understand the long-term intent for the vacant land behind our property. At that time, I was advised that the land was being prepared for future residential expansion, including potential connecting entry points. The current development application is therefore unexpected and inconsistent with the zoning information provided to us when choosing to live in this area. **Excessive Building Height & Inadequate Setback** The proposal places buildings only 10 metres from our rear boundary with a height ranging from 8.1 to 9.6 metres. This means the structure will stand approximately 4.5 times higher than our existing rear fence, creating an imposing mass directly behind our property. Given the orientation of our block, the proposed height will significantly reduce natural afternoon light into our home and outdoor areas. The visual impact of a large, blank external wall in such close proximity is also unacceptable for a residential interface. If the development is approved, I request that the panel require: · Reduced building height for all structures adjoining residential properties.	Addressed above and the City is in agreeance with the applicants response to this submission

	· Substantially increased setbacks along the northern and eastern boundaries. · Enhanced landscaping beyond semi-mature trees (which will not compensate for the loss of sunlight). **Noise Impacts – Delivery Vehicles & Operational Noise** While I acknowledge the acoustic assessment and the restriction on large delivery vehicles during night-time hours, the proposal still allows smaller delivery vehicles to operate adjacent to residential homes. The plans show a loading dock directly facing the northern and eastern residential boundary. Night-time small-vehicle deliveries will still generate: · Reverse alarms · Roller door noises · Ute/van door slams · Pallet jacks and unloading noise These will negatively impact sleep, amenity and health. If approved, I strongly request that: · All deliveries, regardless of vehicle size, are restricted to daytime hours only. · Loading dock locations are reconsidered so they are not positioned directly adjacent to residential areas. · Setbacks are increased to provide greater acoustic buffering. · Consideration be given to acoustic walls or barriers that exceed the minimum standard. **Zoning & Strategic Planning Concerns** My understanding of the previous zoning, confirmed in correspondence with Daniel Arndt, Chief of Built and Natural Environment (City of Cockburn) was that the land was intended to include an appropriate mix of residential and non-residential uses. It was not designated for a large format retail development. I appreciate that zoning can evolve, however this change is substantial and materially	

	impacts the expectations and amenity of existing residents. The developer acknowledges that this proposal is not currently supported by an adopted structure plan, meaning approval relies solely on the Development Assessment Panel's discretion. Given this, I urge the panel to consider: · The lack of prior consultation with directly affected residents · The inconsistency with the originally communicated intent for the precinct · The significant and irreversible change to the character of the residential interface **Lighting** I have been unable to locate clear information within the application regarding the type, intensity, positioning, or operational hours of the proposed external lighting. This is a significant concern, as large format retail developments typically require substantial illumination for car parks, loading docks, pedestrian areas, signage, and security. In the absence of detailed lighting specifications, I must assume that the development may include: · High-output pole lighting · Illuminated signage · Security floodlighting · 24-hour operational lights for safety and surveillance Given the close proximity to residential homes, uncontrolled lighting has the potential to: · Spill into bedrooms and living areas, disrupting sleep · Create glare and reflections visible from indoor spaces · Illuminate backyards throughout the night · Reduce the privacy and amenity expected in a residential environment	

	If the panel is considering approval, I request that strict lighting controls be imposed as conditions, including: · All external lighting to be fully shielded and directed downward · No light spill beyond the boundary of the commercial site · Automatic timers or motion sensors to limit overnight illumination · A requirement for a formal Lighting Impact Assessment to be prepared and approved before construction · Restrictions on illuminated signage facing residential areas Given the uncertainty around the proposed lighting plan, it is critical that this issue is addressed before any form of approval is granted. I respectfully request that the Development Assessment Panel give full and careful consideration to the significant negative impacts this proposal will have on the adjoining residential area. The excessive building height, minimal setbacks, anticipated noise issues, zoning inconsistencies, and the lack of clear information regarding external lighting collectively create a development outcome that is incompatible with the established residential character of this neighbourhood. Given these issues, I ask that the proposal be rejected in its current form. However, if approval is contemplated, I strongly urge that stringent conditions be imposed to protect residents, including increased setbacks, reduced building height, limitations on delivery hours for all vehicles, enhanced acoustic and visual screening, and strict lighting controls supported by a formal Lighting Impact Assessment. Thank you for considering my submission and for taking into account the considerable impact this development will have on the homes and lives of neighbouring residents.	

12.	**To the City of Cockburn / Development Assessment Panel** I am lodging a strong objection to the proposed Large Format Retail Expansion at Lot 701 Armadale Road. My property directly borders the northern boundary (21 Wintergreen Crescent, Treeby), and the current design poses unacceptable impacts on surrounding homes. **Building Height & Setbacks** Buildings up to 9.6 m high are proposed only 10 metres from our rear fence. This will create significant overshadowing, loss of natural light, and an overwhelming visual impact. This is not an appropriate interface with residential properties. I request: • Reduced building heights along residential boundaries • Increased setbacks • More effective landscaping to address visual bulk **Planning Intent** Residents were previously advised this land would support a balanced mix of uses, not a large-scale retail precinct. With no adopted structure plan, approval relies entirely on discretion. The proposal does not align with what existing residents were told to expect or what is suitable for this location. **Noise Impacts** The loading bay faces homes, and the proposal still allows smaller deliveries overnight. Even “light” deliveries produce noise that will directly affect residential amenity. If the development proceeds, conditions must include: • No nighttime deliveries of any kind • Relocation of loading areas away from residences • Enhanced acoustic treatments **Conclusion**	Addressed above and the City is in agreeance with the applicants response to this submission

	The proposal, as submitted, is incompatible with the adjacent residential neighbourhood due to excessive height, inadequate setbacks, noise risks, and major departures from previously communicated planning outcomes. I request that the application be refused. If approval is considered, substantial modifications and strict conditions are essential to protect nearby residents.	
13.	I oppose DAP25/003 for 701L Armadale Road, Jandakot. A large-format commercial precinct is inconsistent with local planning objectives, risks amenity and groundwater values, and wastes land that should be prioritised for urgently needed housing — including the estimated need for around 30,000 new homes in the broader growth area. Key objections - Incompatible land use — The proposal is for a large-format retail precinct with a gross floor area of about 36,346 m², 26 tenancies and 705 on-site parking bays adjacent to established residential lots, which will increase noise, traffic and light spill into nearby homes. - Local planning and environmental risk — The site sits within an area subject to the Jandakot/Treeby Urban Expansion planning framework and sensitive environmental and groundwater considerations; commercial intensification here conflicts with the District Structure Plan's staged, integrated approach to urbanisation. - Community amenity and traffic — Armadale Road and surrounding local streets already serve residential catchments; adding a major retail hub will generate heavy vehicle movements and peak-hour congestion that undermine liveability for Calleya Estate and neighboring suburbs. Planning context and evidence - The City's public materials show the application adjoins the existing Cockburn East development and proposes direct vehicle access from Armadale Road and Verde Drive, highlighting the immediate interface with residential areas. - The Jandakot/Treeby District Structure Plan	Addressed above and the City is in agreeance with the applicants response to this submission

	emphasises coordinated urban expansion, staged residential release and protection of environmental assets; ad-hoc commercial sprawl undermines that strategic sequencing and the long-term objective of delivering housing and community infrastructure in a planned way. Housing need and land-use priorities - The pressing need for housing in the southern corridor means this site should be considered for residential development or mixed-use that prioritises homes, community facilities and local services rather than large-format retail. The Jandakot/Treeby DSP is part of the State and local response to accommodate growth and deliver new dwellings in a structured manner. - Redeploying this land for housing could contribute to the broader target of delivering tens of thousands of homes across the region; converting this parcel to residential or mixed-use would better align with housing supply objectives and reduce pressure on greenfield sites elsewhere. Recommendations and requested outcomes - Reject DAP25/003 in its current form and require the applicant to demonstrate how the proposal aligns with the DSP and groundwater protections. - Prioritise residential or mixed-use rezoning for this parcel to support the delivery of new homes and community infrastructure rather than a large-format retail park. - Require a comprehensive traffic, groundwater and amenity impact assessment and a masterplan that integrates with the Jandakot/Treeby DSP before any approval is considered. - Engage the community and City of Cockburn to ensure local concerns about amenity, water protection and long-term planning are central to any decision — consistent with recent council objections to incompatible rezoning proposals in the area. Conclusion: Approving a large-format commercial development at 701L Armadale Road would be short-sighted. The site should be retained for uses that directly address the urgent housing shortfall and respect the	

	Jandakot/Treeby strategic plan and local amenity	
14.	Chairperson & Members Outer Metro Joint Development Assessment Panel. Mayor & Planning Division City of Cockburn 1. Introduction & Basis of Objection I am a resident of Wintergreen Crescent, Treeby, located directly north of the proposed development site. I submit this formal objection (opposing establishment of large retail development DAP25/003 - 701L Armadale Road, Jandakot) on behalf of my household and immediate community as the development poses unacceptable, material and unreasonable adverse impacts on our residential amenity, environment, traffic safety, and neighbourhood character. My objection is based entirely on valid planning considerations, supported by evidence from the applicant's own technical documents, and aligned with the assessment criteria under: • Planning & Development (Local Planning Schemes) Regulations 2015 – Schedule 2 Clause 67 • City of Cockburn TPS 3 & LPS 3 • SPP 4.2 Activity Centres • Environmental Protection (Noise) Regulations 1997 • SPP 5.4 Road and Rail Noise As residents immediately adjoining Lot 701, we are the most affected cohort, and the proposal in its current form fails to adequately manage impacts on our homes and local streets. 2. Major Planning Concerns & Objections 2.1 Excessive Noise Impacts on Residential Homes 2.1.1 Delivery Truck Noise (19m Semi-Trailers) The Acoustic Assessment confirms that 19m semi-trailers will access the site via Biscayne Way, immediately adjacent to residential areas, including Wintergreen Crescent .	Addressed above and the City is in agreeance with the applicants response to this submission

	Further, the same report acknowledges the need to restrict large truck deliveries to daytime only due to the high noise levels likely to be generated, especially during reversing and loading operations . This is a clear indication that the development's design places large-scale commercial servicing infrastructure unacceptably close to established homes. 2.1.2 Eleven Waste Storage Compounds Generating Frequent Truck Noise The Waste Management Plan confirms the development includes: • 11 bin storage areas, • All serviced twice weekly, • Collectively generating heavy truck movements across the entire week . Given the proximity of these compounds to the northern boundary of Lot 701, the likelihood of continuous waste truck noise, including metal bins being moved and emptied, is unavoidable and incompatible with residential amenity. 2.1.3 Mechanical Plant Noise The Acoustic Report states that mechanical services design is not finalised, and further acoustic analysis must be done to confirm compliance . DAP decisions have repeatedly refused applications where acoustic compliance is uncertain at DA stage. This proposal should be no different. 2.2 Traffic & Safety Impacts on Wintergreen Crescent & Local Residential Roads 2.2.1 Significant Traffic Increase Affecting Local Streets The Transport Impact Assessment (TIA) confirms that the development generates high volumes of trips in peak weekend and weekday periods, changing the flow and pressure at: • Verde Drive roundabout	

	• Tapper Road intersection • Armadale Road slip lane • Biscayne Way servicing These roads directly connect with residential streets such as Wintergreen Crescent. 2.2.2 Biscayne Way being used as an industrial service entry The TIA states clearly that service vehicles including 19m semi-trailers will enter via the gated access on Biscayne Way, which leads directly into the residential road network immediately north of the site . This is fundamentally inappropriate and inconsistent with: • Local Planning Policy – Vehicle Access • TPS 3 objectives protecting residential amenity • Safe active street design principles 2.2.3 Road safety risks to children & local pedestrians Wintergreen Crescent and nearby streets contain: • large numbers of families, • high pedestrian and cycling activity, • playgrounds and quiet cul-de-sacs. Introducing regular freight movements and additional commercial vehicles directly adjacent to this residential interface significantly heightens road safety risks—an unacceptable burden on the community. 2.3 Overdevelopment & Excessive Bulk Adjacent to Residential Homes Multiple large-format retail buildings (including Buildings 1, 2 and service yards) are located directly on the northern boundary, neighbouring homes on Wintergreen Crescent. From the Site Plan: • Significant building massing, • Multiple service yards, • High façade walls	

	are positioned immediately behind residential backyards . This represents: • a substantial visual bulk impact, • potential overshadowing, • loss of residential character, • a jarring interface between industrial-scale retail and low-density residential. This directly conflicts with TPS 3 residential interface requirements and SPP 4.2—which requires graduated transitions between commercial and residential zones, not abrupt back-to-back layouts. 2.4 Unacceptable Light Spill Into Residential Homes The development introduces: • large carparks, • extended operating hours, • high-lux security lighting, and • illuminated signage towers. Given the site's immediate proximity to homes north of the boundary, the night-time light spill will be intrusive, eroding residential amenity and preventing rightful enjoyment of outdoor living spaces. The applicant has provided no night-lighting impact analysis, breaching common JDAP expectations for sensitive interface developments. 2.5 Environmental & Groundwater Risks The Town Planning Report confirms the site was historically used as a contractor's laydown area, containing limestone hardstands, stockpiles and possibly remnant fill material, with groundwater levels around RL 27.0 AHD . Intensive commercial use, including: • waste compounds, • vehicle movement, • potential hydrocarbon runoff,	

	presents unassessed contamination and drainage risks to surrounding residential areas, especially those downhill or adjacent to stormwater channels. This requires comprehensive environmental investigation prior to approval, not as a condition. **2.6 Precedent in Western Australia: When Large-Format Retail Near Housing is Rejected. Across WA, similar proposals have been refused or significantly modified due to impacts on neighbouring homes. Examples include: • City of Cockburn JDAP refusals involving bulky commercial immediately adjoining residential zones (lack of transition buffers). • Stirling DAP decisions where loading docks too close to homes resulted in refusal due to noise and amenity impact. • Wanneroo SAT decisions emphasising unacceptable noise, traffic, and interface conflicts between LFR and R20/R30 residential. The consistent principle: “Where commercial bulk, noise, traffic and service functions materially impact adjoining residential homes, refusal or major redesign is warranted.” The current Treeby proposal follows the same pattern of unacceptable conflict. 3. Planning Framework Non-Compliances 3.1 Clause 67 (m), (n), (r), (s), (y) – Adverse Impacts on Amenity The proposal fails to satisfy: • Noise (service vehicles, mechanicals, waste) • Traffic safety • Visual bulk • Interface transition	

	• Environmental risk 3.2 TPS 3 & LPP Requirements Fails interface and amenity protection requirements relating to: • Residential boundary transitions • Noise attenuation • Traffic access and safety • Built form setbacks and massing 3.3 SPP 4.2 – Activity Centres Requires: • Sensitive residential interfaces to be protected • Negative amenity impacts minimised • Access to be located away from residential areas None of which have been adequately demonstrated. 4. Conclusion & Requested Determination In conclusion, the proposal presents clear, significant, and unmitigated adverse impacts on the residential community north of the site, particularly those on Wintergreen Crescent. Given the scale, intensity and design shortcomings of this proposal, and based on evidence from the applicant's own technical reports, I respectfully request the Development Assessment Panel to: REFUSE the application in its current form or, at minimum: Require a complete redesign of the northern interface to eliminate residential impacts, including: • relocating service yards away from residential boundaries, • relocating waste compounds, • banning heavy vehicles on Biscayne Way, • providing full acoustic walls and buffers, • undertaking full lighting, environmental and traffic impact modelling, • providing genuine transition zones between residential and commercial land uses.	

	5. Final Statement This objection is made in good faith and in the interest of preserving the safety, amenity, and wellbeing of our Treeby community. Large-format retail can be appropriate when properly planned—but not when placed in a way that transfers unacceptable impacts onto neighbouring families, as well as turning a beautiful community of residential area into industrial area. This area more suited to be utilised as residential development to keep the community vibe & young families to raise their kids in this beautiful residential community of Treeby. Also our kids deserve an environment without continuous noise(before & after school) & busi ness in order to nurture & grow & without their little systems getting loaded with continuous noise & a view from backyard where they can wind down, play, relax & grow. This development shall also block our view from our backyard. I urge the department & city of Cockburn to consider the evidence presented and protect the integrity of our residential neighbourhood by refusing this application of development.	
15.	The development would have huge noise impact especially on houses on Wintergreen Crescent. Also, the residential area would look like prison with noise walls on west(existing) & south of wintergreen cr with high walls going up & if noise walls are not put then the noise would cause high stress to not just young families & also on young kids which is damaging for young kids development. Also, there would be privacy issues for the houses from the retails development. This area is better suited to be residential area rather than commercial retail development.	Addressed above and the City is in agreeance with the applicants response to this submission
16.	The vacant land behind my property with shops will lack privacy to my property and block a lot	Addressed above and the City is in agreeance with the

	of natural light for my property. I believe that this development will expose me to a lack of security and privacy to my property and there will be increased noise to that area.	applicants response to this submission
17.	The traffic on Armadale Road is terrible to start without adding more cars trying to get onto an already heavily congested road. The traffic crawls along here everyday backing up past the existing exit of the retail park. The exit here is badly designed and should have 3 lanes -right, straight and left. The exiting traffic backs up to the round about most days with cars trapped in the stupid 3 ways left lane. Liddlow Road roundabout should be an up and over roundabout like Tapper Road. And Warton Road! A pedestrian entrance - with enforced resident only parking in the Calleya estate - would be good. What is the times for allowed deliveries/loading? This could be extremely disruptive for residents if trucks are allowed in and reversing (beepers), loading or unloading early and late.	Addressed above and the City is in agreeance with the applicants response to this submission
18.	I am lodging a strong objection to the proposed Large Format Retail Expansion at Lot 701 Armadale Road. My property directly borders the northern boundary (23 Wintergreen Crescent, Treeby), and the current design poses unacceptable impacts on surrounding homes. Safety and Risk The proposed development includes a driveway intended for use by commercial delivery trucks. I am concerned that, in the event of an accident, a truck could collide with the boundary fence and enter my backyard, posing significant risk to people, pets, and property. Given the foreseeable risk posed by heavy vehicle access, it is standard practice in similar developments to include physical/mechanical protection (e.g. reinforced barriers, bollards, or safety fencing) to prevent vehicles from encroaching onto adjoining residential properties. This is consistent with the duty of care obligations under the Occupiers' Liability	Addressed above and the City is in agreeance with the applicants response to this submission

	Act 1985 (WA). If the development proceeds, I request that the proposal include mechanical protection along the boundary of my property sufficient to prevent heavy vehicles from leaving the driveway and entering my backyard. This protection should be designed to withstand potential collisions with commercial trucks. Additional measures such as traffic management and vehicle speed restrictions should also be implemented. The safety of residents and protection of private property should be a primary consideration. I urge the council to ensure that mechanical protection measures are incorporated as a condition of approval to mitigate the foreseeable risks posed by the commercial driveway. Building Height & Setbacks Buildings up to 9.6 m high are proposed only 10 metres from our rear fence. This will create significant overshadowing, loss of natural light, and an overwhelming visual impact for homes along Wintergreen Crescent. This is not an appropriate interface with residential properties. I request: - Reduced building heights along residential boundaries - Increased setbacks - More effective landscaping to address visual bulk Planning Intent Residents were previously advised this land would support a balanced mix of uses, not a large-scale retail precinct. With no adopted structure plan, approval relies entirely on discretion. The proposal does not align with what existing residents were led to expect or what is suitable for this location. Noise Impacts The loading bay faces homes, and the proposal still allows smaller deliveries overnight. Even	

	“light” deliveries produce noise that will directly affect residential amenity, particularly for properties such as mine at 23 Wintergreen Crescent. If the development proceeds, conditions must include: - No night-time deliveries of any kind - Relocation of loading areas away from residences - Enhanced acoustic treatments The proposal, as submitted, is incompatible with the adjacent residential neighbourhood due to excessive height, inadequate setbacks, noise risks, and major departures from previously communicated planning outcomes. I request that the application be refused. If approval is considered, substantial modifications and strict conditions are essential to protect nearby residents. Thank you for your consideration.	

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Part C - Item 3.2 - Lot 810L Wentworth Parade SUCCESS – Child Care Premise and Swim School

Form 1 – Responsible Authority Report
(Regulation 12)

DAP Name:	Metro Outer DAP	
Local Government Area:	City of Cockburn	
Applicant:	Apex Planning	
Owner:	Ladybug Thirty Three Pty Ltd	
Value of Development:	$5 million	
Responsible Authority:	City of Cockburn	
Authorising Officer:	Harley Jennings	
LG Reference:	DAP25/004	
DAP File No:	DAP/25/3028	
Application Received Date:	8 December 2025	
Report Due Date:	10 March 2026	
Application Statutory Process Timeframe:	90 Days	
Attachment(s):	1. Development Application Report 2. Development Plans 3. Traffic Impact Statement 4. Waste Management Plan 5. Parking Management Plan 6. Amended Acoustic Report	
Is the Responsible Authority Recommendation the same as the Officer Recommendation?	☐ Yes ☒ N/A	Complete Responsible Authority Recommendation section
	☐ No	Complete Responsible Authority and Officer Recommendation sections

Responsible Authority Recommendation

That the Metro Outer DAP resolves to:

1. **Accept** that the DAP Application reference DAP/25/03028 is appropriate for consideration as a “Child Care Premise’ and a “Health Studio (Swim School)” land use and compatible with the objectives of the zoning table in accordance with Clause 3.4.2 of the City of Cockburn Town Planning Scheme No.3.

2. **Approve** DAP Application reference DAP/25/03028 and accompanying plans in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and the provisions of the City of Cockburn Town Planning Scheme No. 3, subject to the following conditions:

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Conditions

1. Development shall be carried out in accordance with the approved plans.

2. This decision constitutes planning approval only and is valid for a period of 4 years from the date of approval. If the subject development is not substantially commenced within the specified period, the approval shall lapse and be of no further effect.

3. The street number, or where there is no street number, the lot number, shall be clearly displayed on the façade of the building prior to occupation of the building hereby approved and remain in perpetuity to the satisfaction of the City.

4. All services and service-related hardware, including antennae, satellite dishes and air conditioning units, being suitably located away from public view and/or screened to the satisfaction of the City.

5. Prior to the initial occupation of the building hereby approved, the 58 parking bays, driveway and points of ingress and egress shall be sealed, kerbed, drained, line marked and made available for use in accordance with the approved plans.

6. The dimensions of all car parking bays, aisle widths, wheel stops, columns, ramps and circulation areas complying with the Australian Standards AS/NZS 2890.1:2004 and AS/NZS 2890.6:2009.

7. The Parking Management Plan included in the Transcore Transport Impact Statement “Proposed Childcare Centre & Swim School – Lot 810 Wentworth Parade, Success” (November 2025), is to be implemented and adhered to for the life of the development.

8. The loading and/or unloading of vehicles is to occur on-site and in a manner that does not interfere with the parking of vehicles in the car park. All car parking bays in the car park are to be always made available for the parking of vehicles by visitors or employees and service vehicles.

9. Crossover/s to meet City’s Vehicle Crossover Specification. A separate approval is required by the City’s Development Engineering team. Please submit a crossover application on City’s website with a detailed site plan. A 2m x 2.5m sightline shall be provided at the intersection of the crossover and the front boundary for standard crossovers. All sightlines shall be maintained clear of obstructions above a height of 0.75m.

10. All stormwater to be contained on site. Stormwater drainage to be able to contain a 1 in 100-year, 24-hour storm event.

11. Details about the stormwater drainage design intended for the proposed development shall be submitted to the City prior to the lodgement of a Building Permit Application, for review and approval. Details should include drainage calculations with catchment area, rainfall intensity etc.

12. A geotechnical report prepared by an appropriately qualified consultant certifying that the ground is capable of accommodating the proposed development, shall

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be lodged with the City prior to the commencement of construction on site, at the cost of the owner/applicant, to the satisfaction of the City.

13. A Construction Management Plan shall be submitted to and approved by the City prior to issue of a Building Permit application for new buildings detailing management of:

    a) Access to and from the site;
    b) The delivery of materials and equipment to the site;
    c) The storage of materials and equipment on the site;
    d) The parking arrangements for contractors and subcontractors;
    e) Other matters likely to impact on surrounding properties;
    f) And management of construction waste.
    g) Construction hours.

    The Construction Management Plan shall be implemented at all times during the construction phase.

14. The development shall comply with the noise pollution provisions of the Environmental Protection Act 1986, and more particularly with the requirements of the Environmental Protection (Noise) Regulations 1997.

15. All noise attenuation measures, identified by the Lloyd George Acoustics report "Environmental Noise Assessment – Childcare Centre & Swim School – Lot 810 Wentworth Parade, Success" (Ref 250910689-01A); dated 3 March 2026, and the further acoustic report required under condition 16 are to be implemented prior to occupancy of the development and the requirements of the Acoustic Report are to be observed at all times.

16. A Further Acoustic Report shall be submitted to and approved by the City, prior to the lodgement of a Building Permit application, and implemented thereafter, to the satisfaction of the City.

17. Prior to the issue of a Building Permit, an operational noise management plan is to be submitted and approved by the City.

18. Written confirmation from the builder that all recommendations made in the Acoustic Report required under condition 15 & 16 have been incorporated into the proposed development, shall be submitted to the City with the Building Permit Application.

19. The builder shall provide written confirmation that the requirements of the Acoustic Report referred to in condition 15 & 16 have been incorporated into the completed development with the Form BA7 Completion Form, prior to occupation of the development.

20. **Prior to submission of the Building Permit,** The Landscaping Plan is to be amended to include the following:
    - the verge east of the site's vehicle ingress/egress point on Malata Crescent is to be landscaped.
    - The landscaped area north of the carpark is to include bollards that sufficiently prevent vehicles from travelling over the landscaping to ingress/egress the site.

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21. **Prior to occupation**, 5 bicycle racks are to be provided in accordance with Local Planning Policy 3.1 – Commercial Development.

Advice Notes

a) This is a Development Approval only and does not remove the responsibility of the applicant/owner to comply with all relevant building, health and engineering requirements of the City, or with any requirements of the City of Cockburn Town Planning Scheme No. 3 or with the requirements of any external agency.

b) Please be advised that the development must comply with the requirements of the Building Codes of Australia.

c) The Construction Management Plan (CMP) shall be prepared in accordance with the 'City of Cockburn Construction Management Plan Guidelines' (available on the City's website) and shall include the provision of a completed CMP checklist. Please note that in accordance with the Guidelines, a Dust Management Plan and/or Traffic Management Plan may be required to form part of the CMP. You are advised to contact the City's Environmental Health team and Traffic & Transport team to discuss whether these are required.

d) An application for the construction of the swimming pool and/or aquatic facility shall be made to the state Department of Health's Executive Director, Public Health ("EDPH"). Construction shall not commence until formal approval from the EDPH is granted.

e) This development has been identified as a public building and shall comply with the relevant provisions of the Health (Miscellaneous Provisions) Act 1911 (as amended), and the Health (Public Buildings) Regulations 1992. A Building Permit Application shall be submitted for approval, prior to works commencing.

f) All food businesses shall comply with the Food Act 2008 and Chapter 3 of the Australia New Zealand Food Standard Code (Australia Only).

g) An "Application to Construct or Alter a Food Premises" is required to be submitted to Health Services prior to construction. This is to be accompanied by detailed plans and specifications of the food preparation and storage area (including mechanical ventilation and hydraulics), sanitary conveniences and garbage room, demonstrating compliance with the mentioned legislation. Child care centres are assigned a priority under the Australian and New Zealand Food Standards Code and are required to prepare and submit a Food Safety Program (in accordance with Standard 3.2.1) to the City for verification prior to operating.

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Details: outline of development application

Region Scheme	Metropolitan Region Scheme
Region Scheme - Zone/Reserve	Urban
Local Planning Scheme	City of Cockburn Town Planning Scheme No.3 (TPS3)
Local Planning Scheme - Zone/Reserve	DCA13 Residential
Structure Plan/Precinct Plan	N/A
Structure Plan/Precinct Plan - Land Use Designation	N/A
Use Class and permissibility:	Childcare Care Premises = 'A' Health Studio (Swim School) = 'A'
Lot Size:	4000m^2
Existing Land Use:	Vacant Land
State Heritage Register	No
Local Heritage	☒ N/A ☐ Heritage List ☐ Heritage Area
Design Review	☒ N/A ☐ Local Design Review Panel ☐ State Design Review Panel ☐ Other
Bushfire Prone Area	No
Swan River Trust Area	No

Proposal:
The subject site is a vacant 4,000sqm lot located in Success. The subject site has frontage to Wentworth Parade (West) and Malata Crescent (South). The subject site adjoins an access driveway for the Cockburn Gateway Shopping Centre to the North.

The site is cleared of vegetation with a gentle downward slope from the South-East to the North-West.

The site is located 20km south of the Perth CBD and 900m from the Cockburn Central Train Station. It is within high density 'Residential' Zoning with an R-Code density of R160 which is shared by other lots on Malata Crescent. The subject site abuts a Regional Centre (Cockburn Regional Centre) to the North and there are established R30 residential lots located to the West of the site across Wentworth Parade.

The application proposes a new swim school and childcare premises, and the associated car parking, access, landscaping, and signage on the development site. With regards to Land Use definitions, the childcare centre has been assigned 'Child Care Premise' and the swim school has been considered as a 'Health Studio'. The site provides separated premises for the childcare centre and the swim school.

The proposed childcare centre will consist of a building totalling 789m^2 (647m^2 GFA on the ground floor and 142m^2 on the upper floor) and an outdoor play area of 697m^2. The proposed childcare centre will provide 96 places for the following age groups:

- Babies: 26 Places

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- Pre-Kindy: 40 Places
- Kindy: 30 Places
- Total: 96 Places

The centre will have 18 'room ratio' educators and additional supporting staff; centre manager, chef, support staff. The upper level of the childcare centre will be primarily for staff use, while the ground floor will consist of primarily classrooms for the various age groups, as well as supporting uses such as the kitchen and storerooms etc.

The proposed swim school consists of a building totalling 886m^2 comprising the pool, change rooms, UAT, staff areas and back of house areas. The facility will operate 6:30am to 8pm, 7 days a week, with 12-14 lesson blocks a day. Staffing will consist of a manager, customer service officer, pool supervisors and swim teachers, totalling 7-10 staff in peak periods.

Proposed Land Use	Child Care Premise
Proposed Net Lettable Area	1,344m^2
Proposed No. Storeys	2
Proposed No. Dwellings	N/A

Proposed Land Use	Swim School – Health Studio
Proposed Net Lettable Area	886m^2
Proposed No. Storeys	1
Proposed No. Dwellings	N/A

Background:

The proposed development is located at 810L Wentworth Parade, Success (the subject site), which has an area of 4000m^2. The site has direct frontage to the Cockburn Gateway Shopping Centre Accessway to the North, Wentworth Parade to the West, and Malata Crescent to the South. The site to the East is currently vacant. The site is relatively flat, and a footpath is provided within the road reserve along Wentworth Parade and Malata Crescent.

The subject lot has been a "vacant site" since residential development began occurring in the surrounding area in the late 1990's. The Cockburn Gateway Shopping Centre to the North was constructed sometime between 1995 and 1999 according to historical aerial mapping imagery.

Legislation and Policy:

Legislation

- Planning and Development Act 2005
- Planning and Development (Local Planning Schemes) Regulations 2005
- Planning and Development (Development Assessment Panels) Regulations 2011
- City of Cockburn Town Planning Scheme No.3

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State Government Policies

- N/A

Structure Plans/Activity Centre Plans

- Cockburn Central Activity Centre Strategy

Local Policies

- LPP 1.17 – Non-Residential Uses in Residential Zones
- LPP 3.1 – Commercial Development
- LPP 3.7 – Signs & Advertising

Consultation:

Public Consultation

The proposal was advertised for 14 days between 09/01/2026 to 23/01/2026. Letters were sent to the landowners of all properties along Malata Crescent, the managing body for the Cockburn Gateway Shopping Centre, and select properties along Millstream Place and Meranda Lane that the acoustic report indicated as potential noise receivers from the proposed development. The Application was also up for comment on the Comment on Cockburn Website between the 09/01/2026 and 23/01/2026.

By the end of the application period, zero (0) comments were received from the public.

Referrals/consultation with Government/Service Agencies

N/A - This Application was not referred to external Government/Service Agencies.

Design Review Panel Advice

N/A – Does not meet the threshold for DRP assessment under 'Local Planning Policy 5.16 – Design Review Panel'.

Other Advice

Application was referred to other departments in the City through the Development Control Unit (DCU). Relevant referral advice is included where necessary in the Planning Assessment below:

Planning Assessment:

Land Use

The proposal is for a childcare centre and a swim school which, according to TPS3, fall under the land use of 'Child Care Premise' and 'Health Studio' respectively. The property is within the Residential Zone as per TPS3. Within the Residential Zone, both a 'Child Care Premise' and a 'Health Studio' are 'A' uses meaning they're permissibility is at the discretion of the City and require advertising as part of the assessment process.

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The objective of the Residential Zone, as per TPS3:

"i) To provide for a range of housing and a choice of residential densities to meet the needs of the community.

ii) To facilitate and encourage high quality design, built form and streetscapes through residential areas.

iii) To provide a range of non-residential uses, which are compatible with and complementary to residential development."

The proposal of the Child Care Premise and Health Studio achieve the objectives ii and iii of the Residential Zone by providing high quality design, built form and streetscapes while providing uses which are compatible and complimentary to residential development. As the site is not formally subdivided, there is still potential for future residential development to occur in the future allowing objective i to still be possible.

LPP1.17 – Non-Residential Uses in Residential Zones

The proposed development is located abutting the Cockburn Central Gateways Precinct, which is zoned as a Local Centre. Wentworth Parade, which runs adjacent to the subject site, provides bus routes within 250m. Under LPP1.17, Non-residential uses are preferably located along 'Primary Distributors' and 'District Distributor' and not on 'Local Distributor' roads. However, *'LPP3.1 Commercial Development'* states that childcare premises should not be located on 'Primary Distributors' or 'District Distributors' due to concern for traffic conflict, noise and possible health implications associated with vehicle emissions. Wentworth Parade is a 'Local Distributor' and therefore it is suitable for the proposed land uses to be adjacent at 810L Wentworth Parade.

The built form of both proposed buildings is suitable for residential zoning, and provides good outlook onto the street, providing suitable passive surveillance.

As required by LPP1.17, a Traffic Impact Assessment, Acoustic Report, and Waste Management Plan have all been submitted with the application. The City's Engineering, Environmental Health and Waste Management Teams have reviewed these documents and are supportive of the proposed development or have provided respective conditions that have been included in the determination of this report.

LPP 3.1 – Commercial Development

The proposed development is generally consistent with the criteria for Child Care Premises and Health Studios. Therefore, the development is supported by the City.

The childcare premise is located adjacent to Wentworth Parade which is a Local Distributor Road and is serviced by TransPerth Bus Routes, enabling access to/from Aubin Grove Station and Cockburn Central Station.

The built form of the childcare centre is consistent with the scale and character of the locality and lends itself to residential architecture, hence being sympathetic to the surrounding development.

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The proposed swim school meets the requirements of LPP3.1. Sufficient parking is provided on site, all activities are within the building as the pool is indoor, and end of trip facilities are demonstrated on the proposed floor plan.

While the proposed development does not strictly adhere to the LPP3.1 Landscaping requirements, the proposed landscaping includes upgrading the verge landscaping and adequate screening to the carpark. The proposed landscaping is deemed to provide good amenity to the area and is generally in line with the landscaping objective of LPP3.1.

LPP 3.7 – Signs & Advertising

The development proposes:

On the childcare centre:

- A circular window mounted sign 1.8m in diameter, on the Eastern elevation facing the carpark.
- A 2.9m x 1.7m wall mounted lettering and logo, on the Southern elevation facing Malata Crescent.
- A 1.7m x 1.4m fence mounted lettering and logo, on the Western Elevation facing Wentworth Parade.

On the swim school:

- A 6.5m x 1.7m window logo, on the Northern Elevation.
- A 2.75m x 1.4m logo, on the Eastern Elevation facing the carpark.

All proposed signage is compliant with Local Planning Policy 3.7 – Signs and Advertising.

City of Cockburn Town Planning Scheme (TPS3)

The proposed development is generally compliant with TPS3 and is therefore supported by the City of Cockburn.

The proposal adequately meets the requirements for:

- 4.9.1 Building Setback
    - The swim school is proposed with a 4.25m setback from Wentworth Parade (West) and a 2.5m setback from the Cockburn Gateway access driveway (North). These setbacks will not negatively impact the amenity and are compatible with the bulk and scale of the Cockburn Gateway Shopping Centre and surrounding residential development. Furthermore, the landscaping plan proposes various trees of medium/small size along the Northern and Western borders of the swim school to increase visual appeal and amenity.
    - The childcare centre is proposed with a 6.64m setback to Malata Crescent (South) and a 5.5m setback to Wentworth Parade (West). The two-storey design will not negatively impact amenity or contribute to bulk and is compatible with the street scape.
    - The carpark to the East will prevent potential future built form impact on residential development to the adjoining vacant lot.
- 4.9.2 Landscaping
    - Over 10% of the site is proposed for landscaping. Verge improvements are also proposed, despite not being needed.

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- 1m landscaping strip in lieu of 1.5m proposed to the northern boundary of the site. This is supported by the City.
- Shade trees have been proposed in compliance with verge frontage and parking bay requirements.

- 4.9.3 Amenity
  - The proposed building and land uses are proposed to the Western side of the subject site. This will eliminate overshadowing or privacy concerns for future residential development on the adjoining residential lot.
  - The proposed buildings are tastefully designed to integrate and respond well to surrounding regional centre, R160 development and nearby lower density residential development.
  - Sufficient Landscaping Provided (landscape plan supported by the City)
  - The two-storey height of the proposed buildings will create a suitable interface along Wentworth Parade and transitional nicely from the residential density on the western side of Wentworth Parade to the higher density apartments on Malata Crescent.
  - The proposed design and colour scheme shown on the plans will improve the streetscape and contribute to a suitable residential character.
- 4.9.4 Convenience and Functionality
  - The proposed childcare centre and swim school will provide a land use that is compatible and highly convenient for nearby households and thus demonstrates a beneficial relationship with adjoining/surrounding lots.
  - Given the sites three frontages, there are high levels of passive surveillance to all aspects of the site, increasing safety.
  - Supported landscaping provides amenity.
  - Convenient access to parking and sufficient parking provided.
- 4.9.5 Vehicle Parking
  - Vehicle Parking Requirements determined under TPS3 and LPP3.1
  - Child Care Centre
    - Compliant under TPS3
    - 1 bay : 1 staff member = 21 bays required.
    - 1 bay: 10 children = 10 bays required.
    - 31 bays total required.
  - Swim School
    - Compliant under LPP3.1 Section 5 ‘Other Health Studios’
    - 1 bay: 2 persons accommodated = 23 bays required.
  - In total, 54 bays are needed to adequately provide parking for the proposed land uses.
  - The plans provided by the applicant propose 58 bays (inclusive of 2 ACROD)
  - 5 bicycle racks to be conditioned in line with LPP3.1.

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Conclusion:

The City is supportive of the proposed childcare centre and swim school and believe most variations identified are minor unless otherwise justified above and that the proposal aligns with the overall objectives of the planning framework for the area and will be a good addition to the Success area and Cockburn Central Activity Centre. The proposed development will provide beneficial services to the community and the design of the proposed development improves amenity and streetscape. The City recommends conditional approval for the proposal.

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Proposed Child Care and Swim School

Application for Planning Approval



Lot 810 Wentworth Parade, Success

December 2025

apex
planning

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Application for planning approval
Lot 810 Wentworth Parade, Success

apex planning

Prepared for Ladybug Thirty Three Pty Ltd

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1 INTRODUCTION

Apex Planning has prepared this application for planning approval on behalf of the landowner/proponent of Lot 810 Wentworth Parade, Success (hereafter referred to as the **development site**).

The proposal involves the establishment of a new child care premises and swim school facility at Lot 810, which is a key corner site connected to the Cockburn Central Secondary Centre and is directly adjacent to Cockburn Gateway Shopping City (a major employment generate for the municipality).

The proposed uses will deliver important community-based services to a growing local population within in an urban infill area, and the development is designed to a high architectural standard which responds appropriately to its street frontages.

The development proposal is supported by a range of expert reports, demonstrating its suitability from a traffic, acoustic, and waste management point of view.

The application warrants the support of the City of Cockburn and the approval of the Metro Outer DAP.

1.1 PRE-LODGEMENT ENGAGEMENT

Engagement/consultation has occurred with the City over the course of 2025, which includes liaison and a meeting. On 3rd November 2025, Apex Planning and the landowner attended a pre-lodgement meeting with the City of Cockburn's planning department.

Matters discussed over the course of engagement with the City includes site context, historical/existing planning approvals, correct land use classification of the swim school as Health Studio, the town planning controls, DA lodgement requirements, and procedural expectations. It was confirmed that design review would not be required.

The proposal was subsequently taken through the City's DCU process for initial comment from a traffic, health, waste, and development contribution point of view.

The feedback received from the City has informed the refinement and finalisation of the application materials.

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2 LAND DESCRIPTION

2.1 LOT DETAILS

The land subject of this application for planning approval is described in **Table 1** below.

Table 1: Lot details				
Lot	**Deposited Plan**	**Volume**	**Folio**	**Ownership**
810	40296	2919	936	Ladybug Thirty Three Pty Ltd

The Certificate of Title and Deposited Plan are provided at **Appendix 1**. There are no encumbrances on the CT which affect the proposed development.

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3 CONTEXTUAL CONSIDERATIONS

The following sub-sections describe the contextual characteristics of the site and local area. Refer to **Figure 1: Aerial Photo** on the subsequent page, which illustrates the development site and surrounds.

3.1 EXISTING SITE CONDITIONS

The development site is a 4,000sqm irregularly shaped lot with corner frontage to Wentworth Parade (west) and Malata Crescent (south). The site also adjoins an access driveway associated with the Cockburn Gateway shopping centre along its northern boundary.

The site is vacant and is devoid of vegetation. Based on survey data, the site is generally flat with a gentle downward grade from its south-east to the north-west.

The site has access to all the usual / necessary urban utilities services, which are present within Wentworth Parade and Malata Crescent.

A site feature survey is included with the development plans at **Appendix 2**.

3.2 EXISTING PLANNING APPROVAL

On 24 January 2023, the former Metro Outer JDAP approved an application for a two-storey mixed non-residential development on the site, which comprised of:

- A 92 place child care premises.
- A medical centre comprising 8 practitioners.
- An office of 1,230sqm gross floor area.
- A car park of 63 bays with full movement access to Malata Crescent.

The approval has a timeframe of 4 years and remains valid until 24 January 2027.

3.3 DESCRIPTION OF CONTEXT

In terms of regional context, the development site is within the locality of Success and is approximately:

- 900m south of the Cockburn Central train station
- 7.5km south of the Murdoch Specialised Centre
- 13km south-east of the Fremantle Strategic Centre
- 20km south of Perth CBD

The development site is a vacant corner lot with frontage to Wentworth Parade (west) and Malata Crescent (east), and also has frontage to the Cockburn Gateway shopping centre access driveway along its northern boundary.

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The site is connected to the Cockburn Secondary Centre which is a major activity centre for the municipality anchored by the Cockburn Central train station. The site is located adjacent to the Cockburn Gateway Shopping City site to the north (which is a major employment generator and shopping precinct for the municipality). The site interfaces with a two-way driveway and large car parking area to the north.

The site and the immediately adjacent land to the north and south are identified as being within the 'core area' of the City's Cockburn Central Activity Centre Strategy.

To the west is an established residential area zoned Residential R30 under the City's local planning scheme, which is well-separated from the site by Wentworth Parade and Merenda Lane.

To the east and south is mostly vacant/undeveloped land zoned Residential R160, with established multi-storey apartment buildings further along Malata Crescent. A small café exists opposite the site on the southern side of Malata Crescent.

Wentworth Parade is a key thoroughfare for the locality which runs between Beeliar Drive at its northern end and Hammond Road at its south-western end. Wentworth Parade in the vicinity of the site is a dual carriageway road with a raised central median and turning lanes. A left turn lane leading into Malata Crescent adjoins the majority of the site's frontage to Wentworth Parade.

Malata Crescent is a two-way undivided local road which loops around and links to Wentworth Parade south of the site.

Footpaths exist on both sides of Wentworth parade, and a footpath is within the northern verge of Malata Crescent (adjoining the site's southern boundary).

Bus stops exist along Wentworth Parade which provide a transit link between Aubin Grove station and Cockburn Central station, via the 526 route.

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Figure 1: Aerial Photo

NORTH

Drawn: Alessandro Stagno

Rev: 0

Source: MNG Access

Date: 15 November 2025

Lot 810 Wentworth Parade, Success

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4 PROPOSED DEVELOPMENT

This application for planning approval seeks approval for a new swim school and child care premises, with associated car parking, access, landscaping, and signage on the development site. The development plans are provided at **Appendix 2** for reference, which include 3D perspectives illustrating the development.

The proposed child care facility will deliver early education services to the growing local population, and the swim school provides swimming curriculum to similar aged babies and children. The philosophy of both facilities is to provide educational and care services to babies and small children within a pleasant and inclusive environment.

The proposed uses are complementary to one another and will deliver important community-based services for early education and child care to a growing local population within in an urban infill area, and are appropriately located within the core area of the Cockburn Central activity centre.

The location of the site is highly desirable to accommodate non-residential uses due to its corner frontages and high level of accessibility to the surrounding community both by car and public transport. The development is considered to be sensitively located, noting the uses are well-separated from existing residential properties located west of Wentworth Parade.

The layout and configuration of the development responds to the characteristics of the site and its surroundings, noting:

- The swim school and child care premises are positioned at the western side of the site and address the street frontages and shopping centre driveway.
- The street setback areas provide an interactive and permeable response to the public realm, noting the use of permeable fencing to the outdoor play areas of the child care premises, street level windows and aesthetic treatment to the swim school, and the provision of landscaping / pedestrian pathways within the street setback areas.
- The car park of 58 parking spaces is positioned to the eastern side of the site, with its full movement access to Malata Crescent located as far as possible from its ‘T’ intersection with Wentworth Parade. This provides a sensitive response to the adjoining vacant Residential R160 site to the east.
- The waste storage areas for both uses are provided internal to the buildings, which improves streetscape amenity.

The design and external appearance of the proposed development has been executed in a way which responds to the character of the local area, providing buildings which address street frontages and which adopt materials, colours, textures, and finishes consistent with a contemporary mixed urban character.

Landscape integration is a key element of the proposed development, with the provision of 426sqm of soft landscaping across the site which equates to 10.6% of site area and the planting of 41 trees across the car park and other areas. A landscape concept is provided at **Appendix 3** illustrating the landscaping arrangements.

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A cohesive pedestrian movement network is proposed, which includes a pathway along the western side of the car park linking the entrances of both buildings to the external footpath on Malata Crescent, and a pathway along the northern end of the site which links to Wentworth Parade.

3D images of the development from various angles are provided below:



The subsequent sections provide a more specific explanation of the proposed uses.

4.1 CHILD CARE PREMISES

The proposed child care premises is located at the south-western corner of the site, addressing the corner frontage of Wentworth Parade and Malata Crescent. The child care facility is proposed to operate 6:30am-6:30pm on weekdays.

The facility is comprised of a building totalling 789sqm GFA (647sqm GFA on the ground floor and 142sqm GFA on the upper floor) and an outdoor play area of 697sqm, providing internal and external areas for early education and care services. The proposed child care facility will provide 96 places for the following age groups:

Babies: 26 places

Pre-kindy: 40 places

Kindy: 30 places

Total: 96 places

The facility includes an upper level which provides an office area and internal and external staff amenities. In terms of staffing, the facility will be serviced by 18 ‘room ratio’ educators with additional provision for centre manager, chef, and support staff.

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The outdoor play areas frame the child care centre's street frontages to Wentworth Parade and Malata Crescent, adopting a 1.8m high fence which is comprised of texture brickwork up to 1.2m high with piers, and feature translucent panels.

The facility includes a 10.69sqm internalised bin store facing the car park which is capable of accommodating five 660L bins.

4.2 SWIM SCHOOL

The proposed swim school is located at the north-western corner of the site, addressing the corner frontage of Wentworth Parade and the Cockburn Gateway shopping centre access driveway.

The swim school is comprised of a building totalling 886sqm GFA which includes a pool, change rooms, UAT, staff areas, and back of house areas. The swim school is a facility designed for the delivery of specialised swimming curriculum to babies and small children. The swim school does not include any café or food-based services.

The facility operates 6:30am-8pm 7 days per week, delivering swimming curriculum in a structured manner through pre-organised lessons. The lessons are delivered in two 'shifts', with the facility usually not providing lessons between 12:30pm – 2:30pm. Approximately 6-7 lessons are provided per shift, with up to 25 kids in the pool for lessons during normal activity and up to 35 kids in the pool for lessons during the peak periods.

Staffing at any one time is usually comprised of a manager, a customer service officer, pool supervisors, and swim teachers, which totals 7-10 staff in peak periods.

The swim school includes a 20.29sqm internalised bin store co-located with the mechanical plant area which would contain up to four 660L bins.

4.3 SIGNAGE

The subject application includes carefully considered signage which is modest and integrated with the building design. The following signage is proposed:

- On the swim school: a 6.5m x 1.7m Carlile Swimming lettering and logo on the northern elevation, and a 2.75m x 1.4m logo and separate small lettering on the façade facing the car park.
- On the child care premises: a circular Early Learning Collective sign panel of 1.8m diameter above the entry facing the car park, and a 2.9m x 1.7m logo an lettering on the southern elevation.

All signage is designed and constructed to a high standard. The extent of signage proposed ensures the site is identifiable, whilst minimising proliferation and visual clutter. An assessment against the City's signage policy is provided in this report.

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4.4 TRAFFIC AND ACCESS

The proposed development is supported by a Transport Impact Statement (**TIS**) produced by Transcore (**Appendix 4**).

The TIS is prepared in accordance with the WA Planning Commission's traffic impact assessment guidelines and confirms the subject development would generate approximately 96 trips during the typical weekday AM peak and 85 trips during the typical weekday PM peak. This level of traffic generation is entirely capable of being accommodated by the local road network with minimal impact.

Additionally, the TIS contains swept paths depicting the satisfactory movements of 8.8m service vehicles within the car park, entering and exiting in forward gear. As some parking spaces are needed for waste truck manoeuvrability, servicing will be coordinated by the operators of the two facilities during off-peak periods.

The TIS demonstrates that the proposed development is acceptable from a traffic and access point of view.

4.5 ACOUSTIC COMPLIANCE

An environmental noise assessment has been produced by Lloyd George Acoustics (refer to **Appendix 5**), which considers noise generated by the swim school and child care facility in relation to existing and future sensitive receivers.

The assessment concludes that the development can achieve compliance with the assigned noise levels of the *Environmental Protection (Noise) Regulations 1997* at nearby sensitive properties, subject to:

- A noise verification assessment of the mechanical plant of both facilities at detailed design stage, per standard practice.
- Minimum 1.8m high solid fencing of minimum 8kg/sqm surface mass be constructed along the eastern boundary (already shown on the drawings).

A number of 'best practice' measures have also been suggested, which can be incorporated as part of good operational practice.

4.6 WASTE MANAGEMENT

The proposed development is supported by a waste management plan which outlines the waste management arrangements for both uses, provided at **Appendix 6**.

Both facilities will be serviced by a private waste contractor. The car park is designed to comfortably cater for the movements of an 8.8m waste vehicle, and sufficient waste storage area is provided to enable the required frequency of collections for each use.

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5 STATUTORY PLANNING ASSESSMENT

5.1 METROPOLITAN REGION SCHEME (**MRS**)

The development site and adjoining roads/properties are zoned Urban under the MRS. The proposed uses are important urban support services and warrant approval.

5.2 STATE PLANNING POLICY 5.4 ROAD AND RAIL NOISE (**SPP5.4**)

The development site is partially affected by the noise trigger area of Kwinana Freeway, which is identified as a 'strategic freight and/or major traffic route' in accordance with SPP5.4.

As the site is separated from the edge of the road carriageway of Kwinana Freeway by 260 metres, the 'forecast excess noise level' is 0db in accordance with the SPP5.4 Guidelines, and hence no noise mitigation measures are required.

5.3 CITY OF COCKBURN LOCAL PLANNING SCHEME NO.3 (**LPS3**)

5.3.1 ZONING AND LAND USE

The development site is zoned Residential R160 under the City's LPS3. Refer to **Figure 2 – Zoning Map**. In accordance with Clause 3.2.1(a) of LPS3, the Residential zone objectives are:

i) To provide for a range of housing and a choice of residential densities to meet the needs of the community.

ii) To facilitate and encourage high quality design, built form and streetscapes throughout residential areas.

iii) To provide for a range of non-residential uses, which are compatible with and complementary to residential development.

The subject application seeks approval for a Child Care Premises and Health Studio (swim school), which are both identified as 'A' discretionary uses in the Residential zone. The proposed uses align with the Residential zone objectives and are entirely appropriate for establishment on the site for the following reasons:

- The proposed buildings are evidently designed to a high architectural standard, providing an appropriate response for this key corner site which is adjacent to a major shopping precinct and connected to a secondary activity centre. Each site frontage is addressed with articulated / treated built form, windows or outdoor play areas, and attractive landscaping.
- The proposed uses will provide genuine and necessary urban support services to the existing and growing local population, within an accessible and convenient location.
- The site has two road frontages and a frontage to a major shopping site, and has been designed sensitively to ensure it is compatible to any future development which occurs on vacant land further east.

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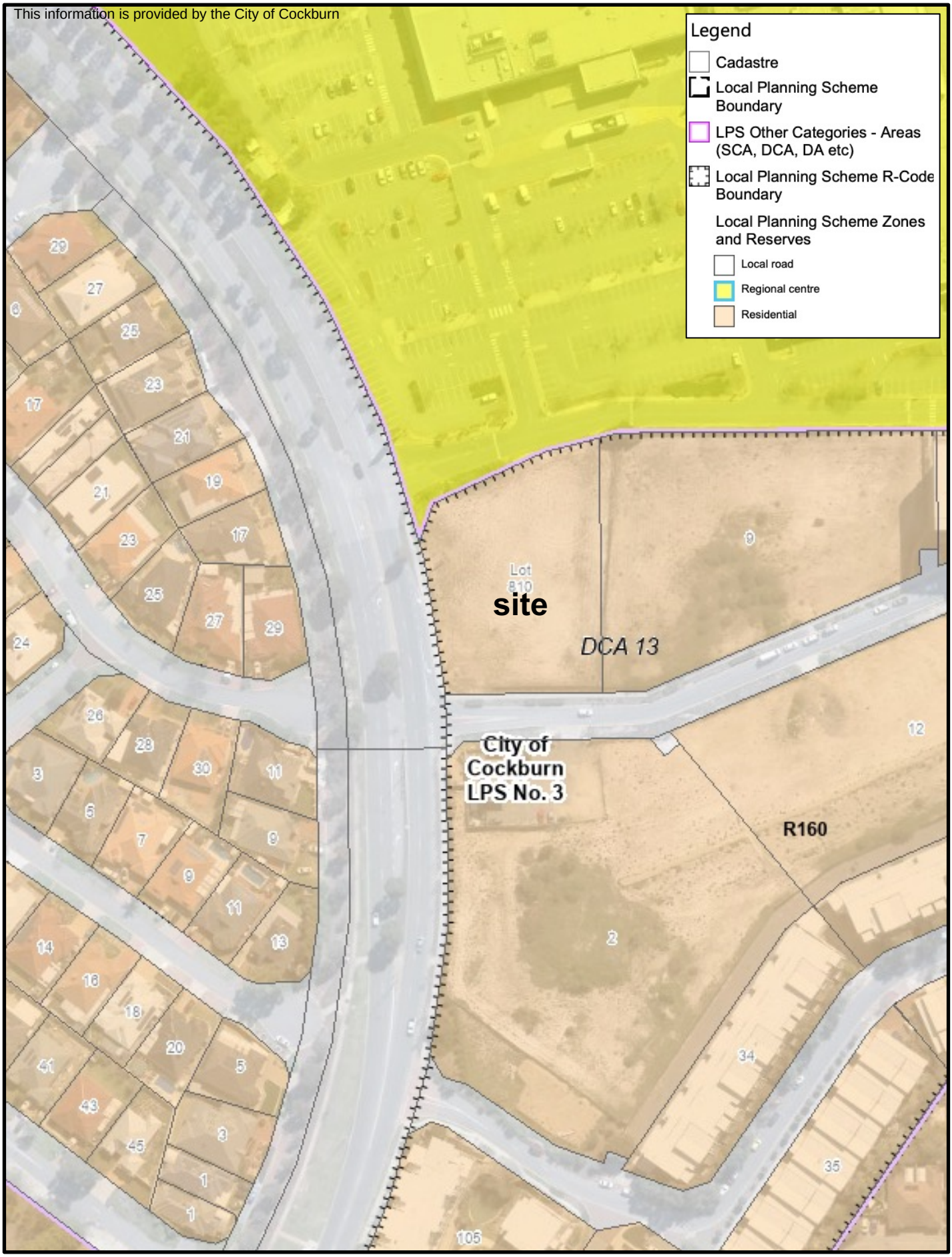


Figure 2: Zoning Map

NORTH

Drawn: Alessandro Stagno

Rev: 0

Source: PlanWA

Date: 15 November 2025

Lot 810 Wentworth Parade, Success

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5.3.2 LPS3 DEVELOPMENT STANDARDS (COMMERCIAL AND INDUSTRIAL USES)

Clause 4.9 of LPS3 sets out a range of development standards applicable to commercial and industrial uses. As the City's local planning framework identifies Child Care Premises and Health Studio as 'commercial' uses, the standards under Clause 4.9 are relevant.

Table 2 below provides an assessment against the relevant standards of Clause 4.9.

Table 2: Assessment against Clause 4.9 standards	
Scheme requirement	**Response**
4.9.1 Building Setback	
a) A building shall be setback from lot boundaries in accordance with the provisions of the **Building Code** of Australia.	The proposed buildings are set back in accordance with the BCA.
b) A building shall be setback from boundaries or erected on boundaries so that the **impact** on the use and amenity of the adjoining buildings is minimised and the scale and bulk of the building is compatible with the streetscape.	The proposed development is comprised of buildings which achieve a two-storey scale of built form, which is consistent with the scale of commercial buildings at the Cockburn Gateway Shopping City site, and are compatible with the streetscape. The buildings are well set back from the eastern boundary, separated by a car park, which reduces the risk of built form impact to the adjoining vacant lot.
4.9.2 Landscaping	
a) A minimum **on-site** provision of **ten percent (10%)** of the total area of the lot or of a defined portion of the lot, the subject of an Application for Planning Approval, shall be set aside, developed and maintained as a landscaped area.	The proposed development provides 426sqm of soft landscaping area which represents 10.6% of the site area.
b) Despite ***clause 4.9.2 a)*** the local government may reduce the minimum **on-site** provision to not less than **five percent (5%)** of the total area of the lot to be set aside, developed and maintained as a landscaped area where the owner agrees in writing either as part of the Application for Planning Approval or separately that all of the street verge abutting the lot shall be included in the landscape area in accordance with ***clause 4.9.2 c)***.	Despite the fact the onsite landscaping provision is compliant, the external verges are proposed to be improved with landscaping which increases total landscaping provision for the proposal.
c) Where the **street verge** is included in the landscaped area it shall be developed and maintained by the owner as an integral part of the on-site provision referred to in ***clause 4.9.2 b)***.	Noted.
d) The landscaped area provided on the lot shall have a minimum width of not less than **1.5 metres** and distributed in areas of not less than **4.0 square metres**.	This requirement is generally complied with, except for a 1m wide landscaping strip provided along the northern boundary. The landscaping arrangements have been formulated by a suitably qualified and experienced landscape architect, and the planting arrangements within this landscaping strip are viable and appropriate.

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e) There shall be not less than one **(1) shade tree** planted for every 10 linear metres of verge frontage or for every 50 square metres of the total landscaped area provided on the lot and within street verge, whichever results in the greater number of trees.	This requirement is complied with, per the details on the landscape plan.
f) There shall be not less than one **(1) shade tree** planted in the car parking area for every (3) side-by-side car parking spaces provided on the lot.	Based on 58 bays, the car park requires 19.3 trees. The car park provides 19 trees.
g) The landscaping is to be **confined** to the area of the lot between the building or the use of the land and the boundaries of the lot adjoining the public road reserve, or other public reserve, unless the local government agrees otherwise in any special circumstance.	Noted.
4.9.3 Amenity	
a) Buildings shall be located on land abutting a residential zone so as to minimise **overshadowing** on, and to maximise **privacy** within adjoining, existing or future residences.	The development site is located at the western side of vacant residential land and its buildings are set back such that visual privacy and overshadowing impacts are reduced or eliminated.
b) Buildings shall be **designed** so that they are complementary with their surroundings and adjoining development in terms of their external appearance, design, height, scale and bulk.	The proposed buildings are designed to a high architectural standard, adopting materials, finishes, colours, treatments, and articulation which integrate within an urban activity centre environment. The buildings adopt a contemporary semi-institutional design style which incorporates domestic materiality and colour palette, providing an appropriate response to the corner location of the site.
c) Buildings shall be located on the lot and provide landscaped areas which enhance the **streetscape** and add to the attractiveness of the locality of which they form part.	Refer earlier responses.
d) Advertising **signs** shall be - (i) **attached** to the walls or facade of a building or structure so as not to protrude above the height of the wall to the building or the structure; (ii) **limited** to a common pylon sign or hoarding for developments comprising more than two units, strata titled units or businesses up to a maximum of six (6) advertisements to each sign where units, strata title units or businesses exceed 6 in number or the development comprises a service station as one component then a maximum of two pylon signs or hoardings are permitted for that site; (iii) erected on the property to which they **relate**; (iv) professionally designed and installed and not detract from the **streetscape** within which they are located.	Signage is integrated within the facades of the proposed buildings, is modestly sized, and is consistent with the design style of the buildings. No freestanding signs are proposed.
e) Each premises will clearly display their street number and where there is no **street number** allocated to the property, the lot number shall be displayed instead.	Noted.
4.9.4 Convenience and Functionality	

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a) Every development shall be **designed** to ensure that it is convenient and functional for those who will use the development particularly in respect to - (i) the **relationship** of the development to the use and enjoyment of the adjoining lots; (ii) the **convenient** location of public and employee facilities provided on the lot; (iii) **safety and amenity**; (iv) **accessibility** of driveways, footpaths, car parking bays, service bays and storage areas.	The proposed development is designed in accordance with applicable regulatory requirements, operator requirements, and town planning requirements to ensure it is convenient and functional for all those who will use it.
b) A development which requires planning approval under the Scheme that complies with the development standards and requirements of the Scheme, but cannot demonstrate convenience and functionality will **not be approved**, unless the local government determines otherwise in any particular case.	Noted. The proposed development achieves a high level of convenience and functionality.
4.9.5 Vehicle Parking	
a) A person shall not use land for a purpose specified in ***Table 3 and Table 4*** unless **car parking** spaces, **delivery** bays and **bicycle** racks of the number specified in the ***Table*** are provided and maintained and are sealed, drained and marked to the local government's specifications.	The proposed development provides 58 marked spaces (inclusive of ACROD bays) and a turnaround bay within the car park. A parking management plan is provided at **Appendix 7** which demonstrates the parking arrangements are acceptable.

5.4 LPP 1.12 NOISE ATTENUATION

The City's LPP1.12 applies where non-residential uses which may generate noise are located in close proximity to existing or future residential receivers. An environmental noise assessment has been prepared in accordance with the provisions of LPP1.12, which is provided at **Appendix 5**. The noise assessment demonstrates the proposed development can comply with the *Environmental Protection (Noise) Regulations 1997*.

5.5 LPP 1.14 WASTE MANAGEMENT

The City's LPP1.14 applies to the proposed development, and requires a waste management plan be prepared in support of applications involving non-residential land uses where waste is generated.

A WMP is provided at **Appendix 6** which demonstrates satisfactory waste management arrangements, consistent with the objectives and provisions of LPP1.14.

5.6 LPP 1.17 NON RESIDENTIAL USES IN RESIDENTIAL ZONES

The City's LPP1.17 provides guidance in assessment of planning applications for non-residential development in residential zones.

Table 3 below provides an assessment against the relevant requirements of LPP1.17.

Table 3: Assessment against LPP1.17 criteria

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Policy criteria	Response
(1) Location	
1. Proposed uses shall generally be located where they abut, are opposite or are in close proximity to (and can be directly viewed from) an existing or proposed Regional, District or Local Centre.	The development site is connected to the Cockburn Central Secondary Centre and is directly adjacent to the Cockburn Gateway Shopping City shopping precinct.
2. Proposed uses shall generally be located within 250m of any public transport bus route or 500m of a train station, measured in a straight line from any part of the route to any part of the lot.	The subject site is within 250m of bus routes along Wentworth Parade which provide a transit link to/from Aubin Grove train station and Cockburn Central train station. Additionally, the Cockburn Central station is approx 900m from the site.
(2) Built form	
1. The built form of proposals shall be consistent with the height, bulk, scale and intensity of surrounding residential dwellings to ensure that the locality maintains a residential character.	The site is detached from existing residential dwellings, which are located to the west beyond Wentworth Parade. Notwithstanding, the proposed buildings are designed to a high architectural standard, adopting materials, finishes, colours, treatments, and articulation which integrate within an urban activity centre environment. The buildings adopt a contemporary semi-institutional design style which incorporates domestic materiality and colour palette, providing an appropriate response to the corner location of the site.
2. Proposed buildings shall address the street by way of major openings, entries and provide high levels of passive surveillance.	The proposed buildings provide high levels of passive surveillance through: • The framing of the child care premises with outdoor play areas which address street frontages, and the use of permeable fencing treatments to enable interactivity. • The swim school provides pedestrian level windows facing Wentworth Parade which will enable surveillance and interactivity, though the windows will be slightly obscured noting the need for some security for this particular type of activity.
3. Building setbacks (street and side) and heights shall be as per the residential code of the land in accordance with the Residential Design Codes of WA.	The development site is coded R160, which under the R-Codes volume 2 requires minimum street setbacks of 2 metres, minimum side setbacks of 3 metres, minimum rear setbacks of 6 metres, and maximum building height of 5 storeys. The subject development complies with each of these requirements, noting street setbacks are 2m or more, building height is maximum two storeys, and the setback to the eastern boundary is substantial.
(3) Vehicle parking	
1. Vehicle parking should generally be contained on-site to avoid the likelihood of street and verge parking associated with the use.	Vehicle parking is provided onsite.

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2. Vehicle parking areas should generally be to the rear of the lot and screened from view of neighbouring residential dwellings. Some parking in the front setback of the building may be suitable.	The car parking area is screened from view of the street with built form and boundary landscaping.
(4) Traffic	
1. Applications shall generally be accompanied by a Traffic Impact Study or Assessment to demonstrate that the surrounding road network can accommodate any additional traffic generated by the proposal. Proposals that generate traffic beyond the capacity of the surrounding road network shall generally not be supported.	A TIS supports the application, which demonstrates peak hour traffic generation is within the 'moderate' threshold of impact and entirely capable of being sustained by the surrounding road network.
(5) Noise	
1. Applications shall generally be accompanied by a Noise Impact Assessment to demonstrate that the proposed use will not generate an unreasonable level of noise that may negatively impact on the amenity of neighbours.	A noise assessment supports the application, which demonstrates compliant noise levels can be achieved through all hours of operation.
(6) Landscaping	
1. Proposals shall be compatible with the landscape and environmental qualities of the locality.	A landscape concept has been prepared which demonstrates appropriate planting arrangements, which are suitable for the location and which will provide screening to the adjoining eastern boundary with trees.
2. Quality semi-mature Landscaping should be installed to provide screening and buffers to non-residential uses.	
(7) Signage	
1. Signage for proposals shall be minimal and avoid the use of pylon signs, roof mounted signs, illuminated signs and any other sign that may detract from the amenity of residential neighbours.	Signage is minimised, noting the provision of two modestly sized signs on each building. The signs are designed consistent with the prevailing architecture of the buildings and is appropriate within its context.
2. Signage for proposals shall accord with Council's Local Planning Policy 3.7 'Signage'.	Noted.
(8) Lighting	
1. Lighting of the building and any car parking area shall be designed and constructed to ensure that it complies with AS4282 Control of the obtrusive effects of outdoor lighting and does not detract from the amenity of neighbours.	Noted. This can be addressed by way of condition.
(9) Waste	
1. Waste storage and collection shall be considered as part of the proposal. Any proposed bin storage area shall be designed and located so that it does not detract from the amenity of neighbours.	A WMP is provided at **Appendix 6** which demonstrates acceptable waste management approach.

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5.7 LPP 3.1 COMMERCIAL DEVELOPMENT

The City's LPP3.1 intends to provide a comprehensive framework for the planning and development of commercial uses in the municipality, providing provisions specific to various uses, including child care premises and health studios.

Table 4 below provides a response to the relevant policy criteria under LPP3.1.

Table 4: Response to LPP3.1 policy criteria	
Policy criteria	**Response**
(2) Child care premises	
1. Location and residential amenity	
(a) Sites in close proximity to busy intersections or Primary Regional Roads and Other Regional Roads are not preferred due to issues of traffic conflict, noise and possible health implications associated with vehicle emissions.	The development site is not near any busy intersections or regional roads.
(b) Child care premises should be located adjacent or within close proximity to public transport routes.	The site is within 250m of bus routes along Wentworth Parade which provide a transit link to/from Aubin Grove train station and Cockburn Central train station. Additionally, the Cockburn Central station is approx 900m from the site.
(c) The built form of the development should be consistent with the scale and character of the locality and should lend itself to domestic (residential) architecture if located in a residential setting.	The site is detached from existing residential dwellings, which are located to the west beyond Wentworth Parade. Notwithstanding, the proposed buildings are designed to a high architectural standard, adopting materials, finishes, colours, treatments, and articulation which integrate within an urban activity centre environment. The buildings adopt a contemporary semi-institutional design style which incorporates domestic materiality and colour palette, providing an appropriate response to the corner location of the site.
(d) The proposed materials, colours and finishes should be sympathetic to surrounding development.	The proposed buildings adopt materials and colours and finishes which are generally of a domestic character, noting the use of lighter / creamier colour tones, feature face brick, timber-look cladding, and skillion and pitch roof forms. These elements are sympathetic to the surrounding area, which has a mixed commercial, medium to high density, and suburban residential character.
(e) The layout and design of child care premises shall include noise attenuation measures to ameliorate the impact of the use on adjoining and surrounding properties (if applicable). Noise-generating activities such as play areas, vehicle access ways, car parking areas and any plant and equipment are to be located away from noise-sensitive land uses, such as residences.	The development site is a corner lot with minimal sensitive interfaces. The child care facility positions the outdoor play areas along its street frontages which reduces noise impact. A car parking area which is generally generates the least noise is provided along the eastern boundary, with acoustically compliant fencing.
(f) In order to maintain the visual amenity of the locality, landscape screening to car parking areas from the street and adjoining premises is	A landscape concept is provided with the DA materials which illustrates appropriate landscape planting measures along street frontages and

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required. Existing and proposed major plantings must be detailed on site plans, with proposed landscaping incorporating dense shrubs and trees. Wherever possible, retention of existing mature vegetation will be encouraged by the City (providing on-site safety is not compromised).	within the car park, providing a suitable extent of screening and streetscape response.
(g) Child care premises will not be supported within cul-de-sacs or on lots with a battle-axe access leg.	The development site is not on a cul-de-sac or battle-axe site.
2. Site design	
(a) The site is to have a regular shape, with a minimum lot area of 1,000m2 and an effective frontage of 20m to provide the opportunity for design aimed at minimising the impact on surrounding residential properties.	The development site is suitable size and shape to accommodate the proposed development.
(b) Site coverage is required to be a maximum of fifty per cent (50%) to allow for adequate open space, residential character and car parking areas.	Site cover is well below 50% across both buildings.
(c) The first 2.m from the front boundary of the lot shall be landscaped as a minimum. Secondary street frontages shall have a minimum 1m landscaping strip.	Generous landscape buffers are provided along the periphery of the site, which either exceed 2m or achieve 2m through averaging at the primary street boundary and exceed 1m wide to other boundaries.
3. Landscaping	
(a) The first 2m from the front boundary of the lot shall be landscaped as a minimum.	Generous landscape buffers are provided along the periphery of the site, which either exceed 2m or achieve 2m through averaging at the primary street boundary and exceed 1m wide to other boundaries.
(b) Secondary street frontages shall have a minimum 1m landscaping strip.	
4. Outdoor play areas	
(a) Outdoor play areas should be located so as to minimise their impact on the amenity of the adjoining properties whilst taking advantage of solar orientation where possible. Outdoor play areas should be screened from sources of pollution, such as car parking areas and roads, by appropriate fencing and/or dense vegetation.	The outdoor play area is provided along street frontages which reduces noise impact and optimises useability. The play areas have an excellent northern aspect, and the play area for the baby groups is south-facing which optimises shade for the youngest age group.
(b) A portion of the outdoor play area is required to be covered with a shade structure for sun protection. The colours and materials of this shade structure should be sympathetic to surrounding development.	Shading is provided per regulatory requirements. Shade structures are indicated on the DA plans.
(c) Where the play area is located in the front setback area, fencing of this area shall be predominantly open. Fencing should not appear solid, adversely affecting in particular residential Streetscape or cast shadows over the play area. These same requirements also generally apply to secondary street frontages (recognising some sections of screen fencing will be necessary).	Permeable fencing is provided along the periphery of the outdoor play areas.
5. Parking and traffic	

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(a) Car parking areas should be purposely located on-site so as to be visible from the street to encourage patrons to park on-site instead of on road verges. Car parking bays that are the least visible or accessible should be allocated for staff use.	Parking is provided onsite. Parking at the western side of the car park will be reserved for vistiors.
(b) Car parking areas are required to be landscaped with the objective of providing shade and softening the impact of car parking and the development on the streetscape.	A landscape concept is provided with the DA materials demonstrating a compliant provision of trees within the car park (19), which will both provide shade and improve the visual amenity of the development.
(c) On-site parking provision is to be in accordance with the requirements of TPS 3: 1 bay: 1 employee, PLUS 1 bay: 10 children	Noted, a parking management plan is provided at **Appendix 7** which demonstrates acceptable parking provision.
(d) Parking for larger vehicles (buses and service vehicles) should be considered in the design and layout of parking areas.	Not applicable.
(e) Traffic associated with a child care premises is not to unreasonably reduce the function and safety of the local road network Vehicle access to and from the site must be available in forward gear, achieved through adequate on-site manoeuvring.	A TIS is included with the DA materials demonstrating acceptable traffic and access arrangements.
(f) Pedestrian movement across and/or through parking provided for a child care premises is to take place on dedicated pedestrian paths (for parent/child safety).	A dedicated pedestrian path is provided along the western side of the car park which links the entrance of the child care premises to the external path network.
6. Hours of operation	
Days and times of operation shall generally be restricted from Monday to Friday, from 6.00am to 7.00pm and Saturday, from 8.00am to 4.00pm, unless otherwise approved by the City.	The child care premises is proposed to operate 6:30am-6:30pm weekdays.
7. Signage	
All signage associated with the child care premises shall be consistent with the City's Signage Policy, in addition to addressing the following:- (a) be compatible and sympathetic to adjoining development to ensure the amenity of the surrounding area is maintained; (b) not be placed in a location that detrimentally interferes with the visibility of traffic and pedestrians entering and leaving the lot, adjacent property or roadway; (c) not display signs exceeding 1m2 in aggregate; (d) not include Pylon signs.	The development proposes modest signage, noting two separate signs on the building which are relatively small in size and designed in a way which aligns with the prevailing architecture of the building.
8. Bin storage areas	
Applications for planning approval must include details of cleaning areas, bin storage and rubbish removal. The following are standard requirements for bin storage areas:- (a) A floor area not less than 3m x 3.5m excluding the area of any access way;	A WMP is provided at **Appendix 6** which demonstrates acceptable waste management arrangements.

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(b) Walls constructed of smooth, impervious, solid material at a height of not less than 1.8m; (c) A floor of not less than 76mm thickness, constructed of impervious concrete graded to a 100mm industrial floor waste connected to sewer and charged with a hose cock. (d) Details of rubbish management are also to be provided. This includes rubbish removal days and pick-up times. The day and time of rubbish removal should have regard for the nature of the location, particularly for the purpose of protecting residential amenity.	
9. Bushfire management plan (not applicable)	
(3) Health studios	
1. Land use	
Under TPS 3 'Health Studio' means land and buildings designed and equipped for physical exercise, recreation and sporting activities including outdoor recreation. Different types of health studios that fall into this definition include (but are not limited to): • Gymnasiums for the purpose of individual and group based fitness and training; • Boxing and martial arts classes; • Dance classes; • Yoga/Pilates/Spin classes; • Gymnastics; and • A combination of the above.	The proposed health studio delivers swimming curriculum to babies and small children within a structured and organised lessons-based format. The facility is designed and equipped for this purpose, with a large indoor pool and associated change rooms, staff amenities, and the like. The proposed swim school is properly classified as a health studio.
2. Location	
a) Health studios are encouraged where there is sufficient vehicle parking, such as in commercial and industrial areas with a readily available supply of parking spaces or a capacity to create additional parking spaces. Where possible, health studios shall be purpose built as opposed to retrofitting other uses such as warehouses.	The development site is within an activity centre location and is adjacent to the Cockburn Gateway Shopping City shopping precinct. The site provides sufficient parking spaces, and is in close proximity to public transportation.
b) All activities associated with an approved health studio shall be conducted within the approved building and not extend to the parking areas and/or Council property.	Noted.
3. Parking	
a) Car parking bays shall be located within the lot boundaries of the subject site unless utilising joint use of car parking facilities as outlined under the requirements of TPS 3;	All proposed parking is contained within the site.
b) Applications for a change of use to health studios that result in a parking shortfall on site may be considered at the discretion of the City. Discretion may be exercised with regard to parking shortfalls for a unit in a tenancy with shared parking arrangements where classes are proposed to operate outside standard business hours;	A parking management plan is included at **Appendix 7** which demonstrates acceptable parking arrangements.

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4. Gymnasium health studios (not applicable)	
5. Other health studios	
a). Car parking for health studios shall be provided at the rate of 1 car parking bay for every two persons accommodated.	A parking management plan is provided at **Appendix 7** which demonstrates acceptable parking provision.
6. Bicycle parking	
a) Bicycle parking for all health studios is to be at the rate of 1 per 100sqm of active floor space.	Noted.
7. End of trip facilities	
a) The provision of End of Trip Facilities must be provided on site and shall be in accordance with LPP 3.8	The health studio provides showers, changerooms, and lockers.
8. Other	
a). When making application for a change of use to a health studio, proposals that are located in strata titled properties containing a car parking area in common property, require approval from the body corporate/strata manager where the change of use results in a parking shortfall. A letter with a strata body common seal clearly indicating non-objection to the proposed health studio is required with regard to this.	Not applicable.
b) Applications for Health Studios shall include a completed 'Health Studio Supplementary Information Form'. (See attached). Applications for a change of use to health studio will not be considered unless the checklist is completed.	Noted.
c). Classes on City reserves and public spaces such as beaches, football ovals etc. are exempt from the need to obtain Planning Approval. However, prospective applicant wishing to use City reserves and public spaces shall liaise with the City's Recreation Services.	Not applicable.

5.8 LPP 3.7 – SIGNS & ADVERTISING

The subject application includes carefully considered signage which is modest and integrated with the building design, but which requires assessment against LPP3.7.

The following signage is proposed:

- On the swim school: a 6.5m x 1.7m Carlile Swimming lettering and logo on the northern elevation, and a 2.75m x 1.4m logo and separate small lettering on the façade facing the car park.
- On the child care premises: a circular Early Learning Collective sign panel of 1.8m diameter above the entry facing the car park, and a 2.9m x 1.7m logo and lettering on the southern elevation.

Table 5 below provides an assessment against the standards set out by the City's LPP3.7.

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Table 5: assessment against standards for signage	
Policy standard	**Response**
Wall signs	
a) Maximum size of 6sqm b) Not exceeding 10% in area on any one wall.	All signs except the 6.5m x 1.7 Carlile Swimming letter / logo sign comply with the maximum size of 6sqm. Whilst the sign is slightly larger than 6sqm, it is evidently appropriate in the context of the building based on its position and design. The sign is simplistic in nature and adds to the aesthetic of the building through complementary colours and styling. The signs do not equate to 10% of area on any one wall.

5.9 LPP 5.13 – PERCENT FOR ART

The City's LPP5.13 stipulates that development proposals for commercial uses with a value exceeding $1 million (exc GST) trigger a 1% public art requirement.

As the subject proposal exceeds $1 million in value, public art will be triggered. It is anticipated this matter will be addressed as a suitable condition of planning approval.

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6 CONCLUSION

This application for planning approval involves the establishment of a new child care premises and swim school with associated parking, landscaping, signage and access at Lot 810 Wentworth Parade, Success.

The information presented in this application for planning approval demonstrates the proposed development is entirely appropriate and warrants the City's support for the following reasons:

- The development is appropriately located and will deliver land uses which provide important support services to a growing local population in an urban activity centre context.
- The proposal is consistent with the applicable requirements of the planning framework, including the City's LPS3 and local planning policies.
- The built form approach provides a sensible response to the site's corner location and is sensitive to the surrounding locality which includes residential properties.
- The proposal is supported by a number of expert assessments, demonstrating it is acceptable.

The application warrants the support of the City of Cockburn and the approval of the Metro Outer DAP.

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APPENDIX 1

CERTIFICATE OF TITLE AND DEPOSITED PLAN

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WESTERN AUSTRALIA

TITLE NUMBER	
Volume	Folio
2919	**936**

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

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 810 ON DEPOSITED PLAN 40296

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

LADYBUG THIRTY THREE PTY LTD OF PO BOX 560 BALCATTA WA 6914

(T Q533833) REGISTERED 5/8/2025

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

1. Q533834 MORTGAGE TO WESTPAC BANKING CORPORATION REGISTERED 5/8/2025.

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:	DP40296
PREVIOUS TITLE:	LR3136-320
PROPERTY STREET ADDRESS:	LOT 810 WENTWORTH PDE, SUCCESS.
LOCAL GOVERNMENT AUTHORITY:	CITY OF COCKBURN

LANDGATE COPY OF ORIGINAL NOT TO SCALE 07/12/2025 09:41 PM Request number: 69144073

Landgate

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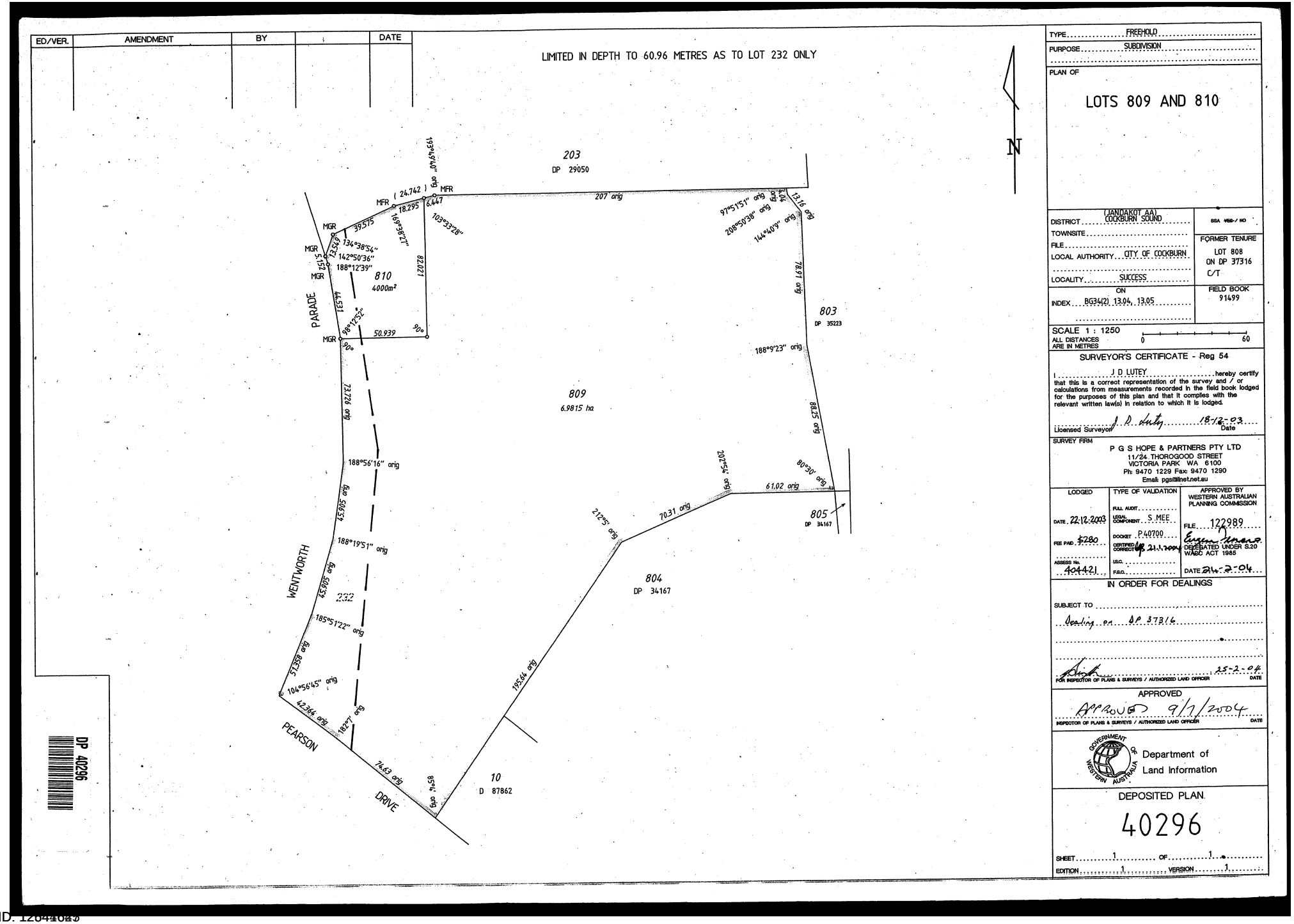
Landgate

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ED/VER.	AMENDMENT	BY	DATE

LIMITED IN DEPTH TO 60.96 METRES AS TO LOT 232 ONLY



DP 40296

TYPE: FREEHOLD
PURPOSE: SUBDIVISION

PLAN OF

LOTS 809 AND 810

DISTRICT: (JANDAKOT AA) COCKBURN SOUND
TOWNSITE:
FILE:
LOCAL AUTHORITY: CITY OF COCKBURN
LOCALITY: SUCCESS
SSSA VES- / NO

FORMER TENURE: LOT 808 ON DP 37316 C/T

INDEX: ON BG34(2) 13.04, 13.05
FIELD BOOK: 91499

SCALE 1 : 1250
ALL DISTANCES ARE IN METRES
0 60

SURVEYOR'S CERTIFICATE - Reg 54

I J D LUTEY hereby certify that this is a correct representation of the survey and / or calculations from measurements recorded in the field book lodged for the purposes of this plan and that it complies with the relevant written law(s) in relation to which it is lodged.

Licensed Surveyor: J. D. Lutey Date: 18-12-03

SURVEY FIRM
P G S HOPE & PARTNERS PTY LTD
11/24 THOROGOOD STREET
VICTORIA PARK WA 6100
Ph: 9470 1229 Fax: 9470 1290
Email: pgs@iinet.net.au

LODGED	TYPE OF VALIDATION	APPROVED BY WESTERN AUSTRALIAN PLANNING COMMISSION
DATE 22.12.2003	FULL AUDIT	
FEE PAID $280	LEGAL COMPONENT S MEE	FILE 122989
	DOCKET P 40700	Eugene Hanna
ASSESS No. 404421	CERTIFIED CORRECT 21.1.2004	DELEGATED UNDER S.20 WAPC ACT 1985
	LSG.	DATE 24-2-04
	F&C.	

IN ORDER FOR DEALINGS

SUBJECT TO
Dealing on DP 37316

25-2-04
FOR INSPECTOR OF PLANS & SURVEYS / AUTHORIZED LAND OFFICER DATE

APPROVED
APPROVED 9/1/2004
INSPECTOR OF PLANS & SURVEYS / AUTHORIZED LAND OFFICER DATE

GOVERNMENT OF WESTERN AUSTRALIA
Department of Land Information

DEPOSITED PLAN

40296

SHEET 1 OF 1
EDITION 1 VERSION 1

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APPENDIX 2

DEVELOPMENT PLANS

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PRELIMINARY

meyer shircore architects

PROPOSED CHILDCARE & SWIM SCHOOL DEVELOPMENT

LOCATION : LOT 810 CNR WENTWORTH PARADE & MALATA CRES, SUCCESS, WA

FOR : JARRA PROPERTY

Member Australian Institute of Architects

DATE: DEC 2025
REVISION: SK034
SHEET: 0000

PROJECT NUMBER
P25-9533

© Meyer Shircore & Associates ACN 115 189 216
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PO Box 1254 Subiaco WA 6904
t: 08 9381 8511 e: msa@meyershircore.com.au

Document Set ID: 12648689
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LOCATION PLAN

SCALE: 1 : 1000

PRELIMINARY

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PROPOSED CHILDCARE & SWIM SCHOOL DEVELOPMENT

LOCATION : LOT 810 CNR WENTWORTH PARADE & MALATA CRES, SUCCESS, WA

FOR : JARRA PROPERTY

Member of the Australian Institute of Architects

0 1 2 3 4 5 10

DATE: DEC 2025
REVISION: SK034
SHEET: A - 0100
SCALE: 1 : 1000 @B1

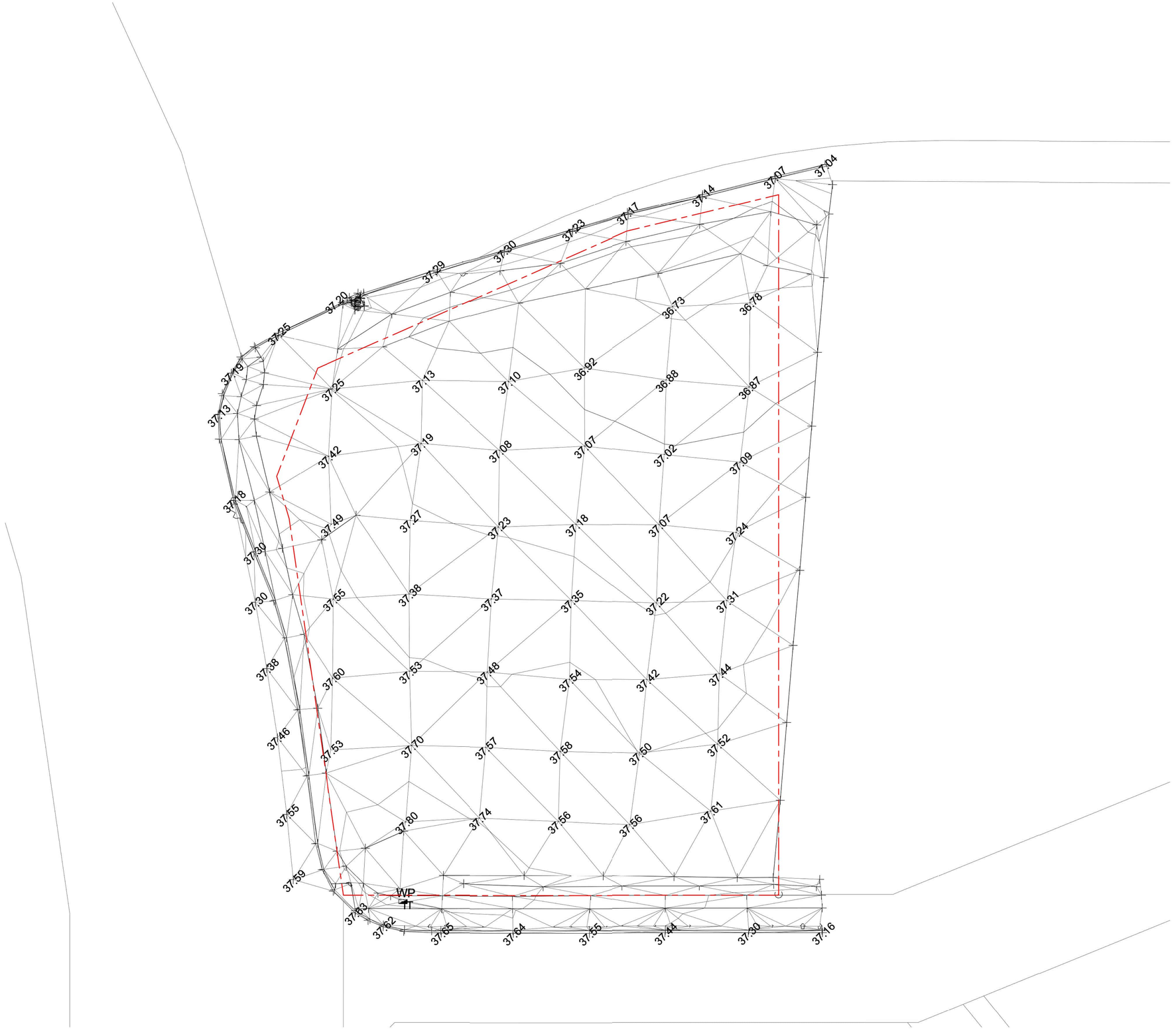
PROJECT NUMBER
P25-9533

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SITE SURVEY

SCALE: 1 : 200

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DATE:	DEC 2025
REVISION:	SK034
SHEET:	A - 0200
SCALE:	1 : 200 @B1

PROJECT NUMBER **P25-9533**

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SITE CRITERIA

1. Site Area
a. Site Area — **4,000m²**

2. Landscaping
a. Required 10% of Site Area — **400m²**
b. Provided
Soft — 661m² **(17%)**
Hard — 459m²
Total — **1,120m²**

3. Floor Area (GFA)
a. Childcare GFA — 647m²
b. Swim School GFA — 886m²
Total — **1,533m²**

4. Carparking
Total Car provided — **58 Cars**

Landscaping
A. Soft Landscaping
Defined as vegetative landscaping.

Gross Floor Area : GFA
A. All Floor Areas on this plan are shown as GROSS FLOOR AREA.
Unless otherwise noted as Nett Floor Area
B. Definition of Gross Floor Area is defined as:
i/ GROSS FLOOR AREA OF TENANCY:
Gross Floor Area of an individual Tenancy is defined as the area contained between the centre line of common tenancy walls and the outside edge of external walls.
ii/ GROSS FLOOR AREA OF A BUILDING:
Gross Floor Area of a Building is defined as the total area contained between the outside edge of external walls

Nett Floor Area : NFA
A. Nett Floor Area of a Tenancy on this plan is defined as the area between external or tenancy dividing walls.
B. This area is inclusive of toilets if the toilets are exclusive to the Tenancy.

SITE DESIGN CHECKLIST

- ☐ 1. SEWER MAINS LOCATION TO BE DETERMINED
- ☐ 2. FIRE MAINS PRESSURE TEST REQUIRED
- ☐ 3. FIRE TANKS OR PUMPS TO BE DETERMINED
- ☐ 4. WESTERN POWER TRANSFORMER LOCATION TO BE DETERMINED
- ☐ 5. CROSSOVER & ACCESS TO STREET TO BE DETERMINED BY LOCAL AUTHORITY
- ☐ 6. FULL FEATURE SITE SURVEY REQUIRED
- ☐ 7. DIAL BEFORE YOU DIG REQUIRED
- ☐ 8. BUSHFIRE ATTACK LEVEL (BAL) TO BE DETERMINED
- ☐ 9. STREET POWER POLES TO BE DETERMINED
- ☐ 10. SITE ZONING & USE TO BE DETERMINED

NOTE: Any of the following items that do not have an 'X' in the provided square require determination.

LEGEND

- BUILDING FOOTPRINT - SWIMMING SCHOOL
- BUILDING FOOTPRINT - CHILDCARE
- EXTENT OF CONCRETE HARDSTAND
- EXTENT OF ROADBASE HARDSTAND
- EXTENT OF BITUMEN PAVING
- EXTENT OF CERAMIC TILES
- EXTENT OF BRICK PAVING / CONCRETE PAVING
- EXTENT OF LANDSCAPING

SITE PLAN

SCALE: 1 : 200

PRELIMINARY

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DATE: DEC 2025
REVISION: SK034
SHEET: A - 1000
SCALE: As indicated@B1

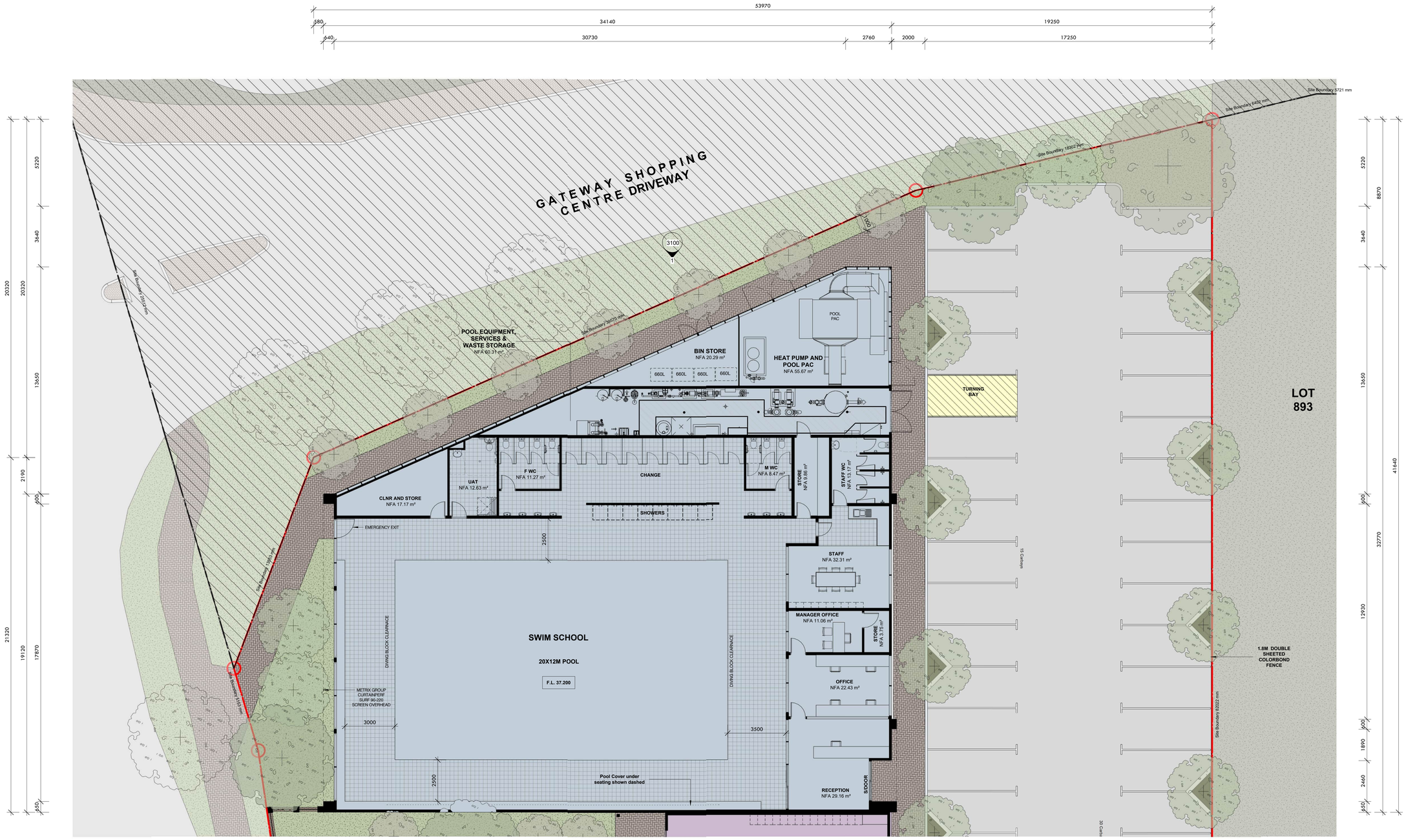
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SWIM SCHOOL GROUND FLOOR PLAN

SCALE: 1 : 100

PRELIMINARY

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CHILDCARE GROUND FLOOR PLAN

SCALE: 1 : 100

PRELIMINARY

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SHEET: A - 2100
SCALE: 1 : 100 @B1

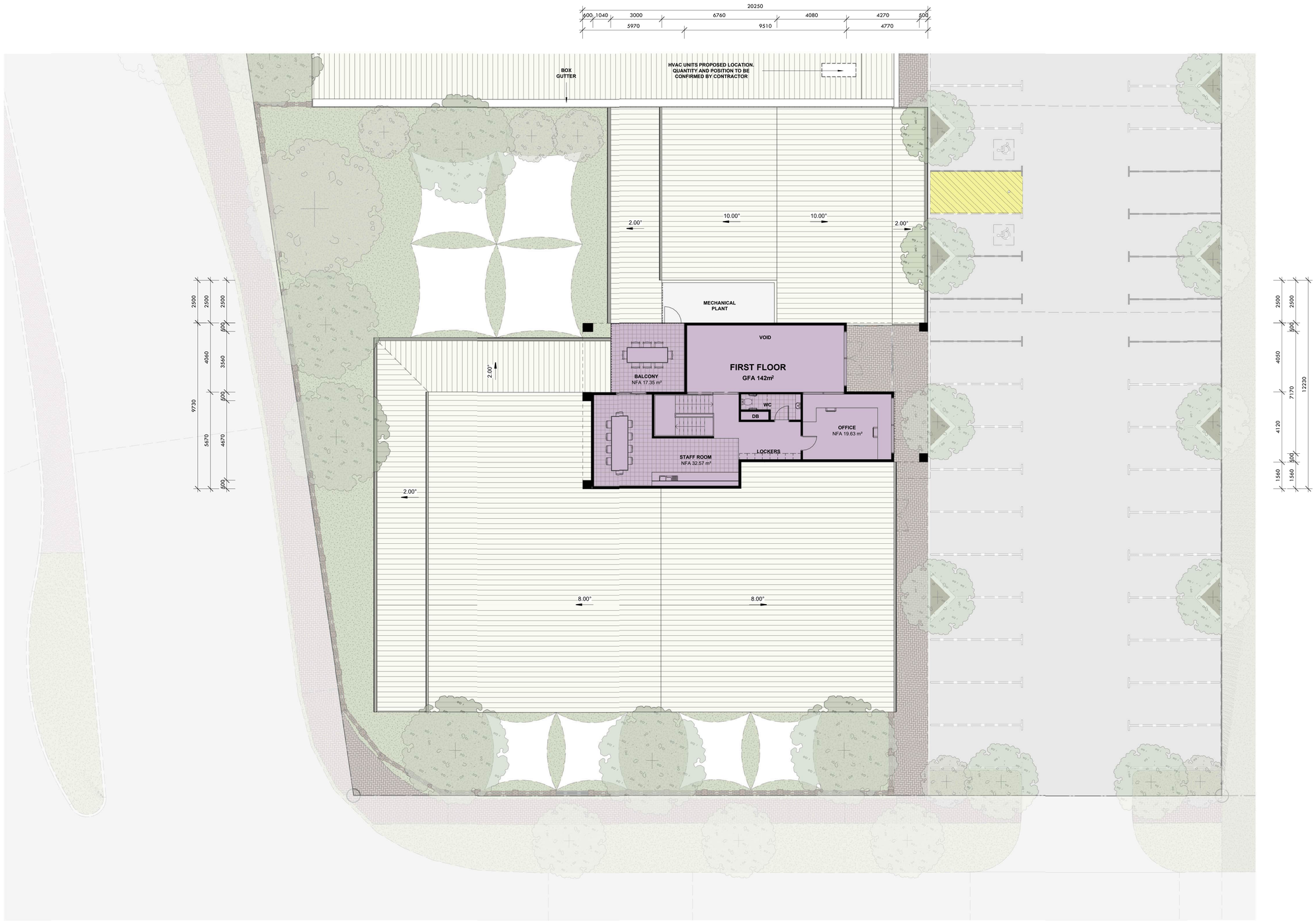
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FIRST FLOOR PLAN

SCALE: 1 : 100

PRELIMINARY

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SHEET: A - 2200
SCALE: 1 : 100 @B1

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Version: 1, Version Date: 08/03/2026

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ROOF PLAN

SCALE: 1 : 200

PRELIMINARY

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DATE: DEC 2025
REVISION: SK034
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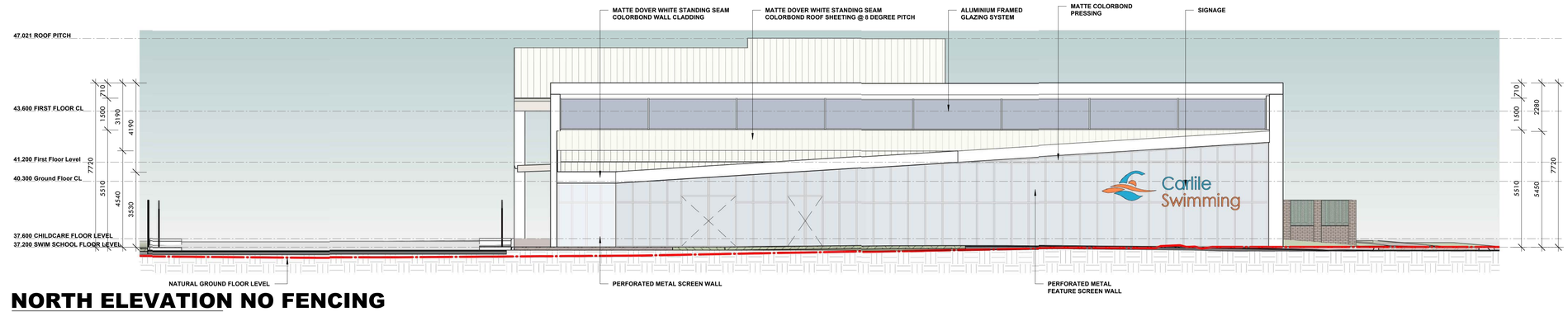
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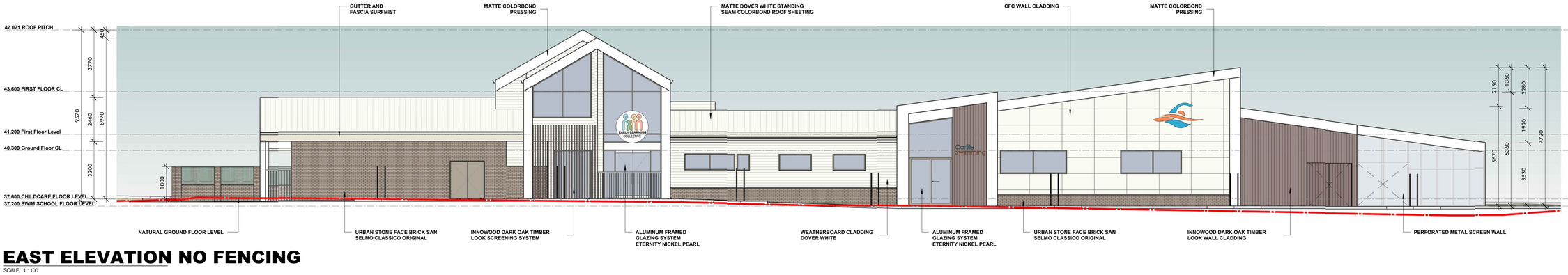
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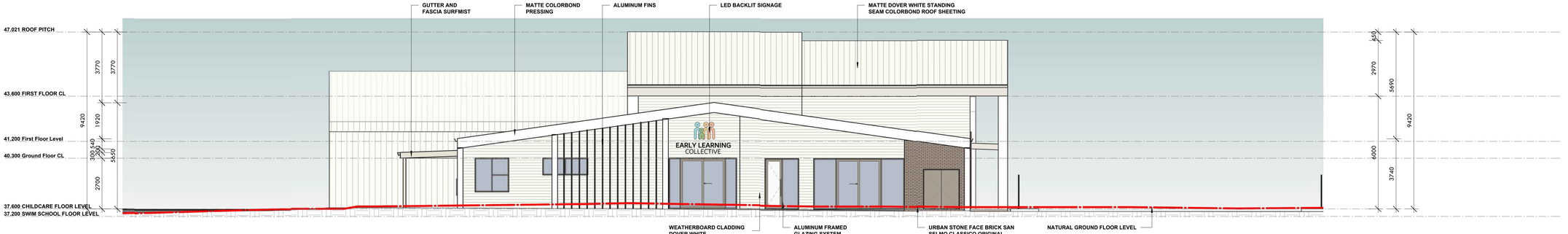
NORTH ELEVATION NO FENCING

SCALE: 1 : 100



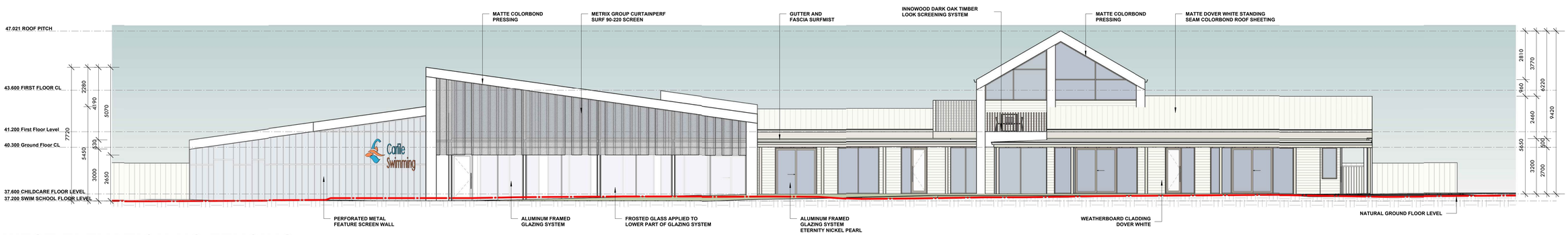
EAST ELEVATION NO FENCING

SCALE: 1 : 100



SOUTH ELEVATION NO FENCING

SCALE: 1 : 100



WEST ELEVATION NO FENCING

SCALE: 1 : 100

LEGEND


PERFORATED METAL FEATURE SCREEN WALL

PERFORATED METAL SCREEN WALL


PERFORATED METAL FEATURE FENCING

WEATHERBOARD CLADDING DOVER WHITE


URBAN STONE FACE BRICK SAN SELMO CLASSICO ORIGINAL


INNOWOOD DARK OAK TIMBER

CFC WALL CLADDING


ALUMINUM FRAMED GLAZING SYSTEM ETERNITY NICKEL PEARL


METRIX GROUP CURTAINPERF SURF 90-220 SCREEN

PRELIMINARY

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DATE: DEC 2025
REVISION: SK034
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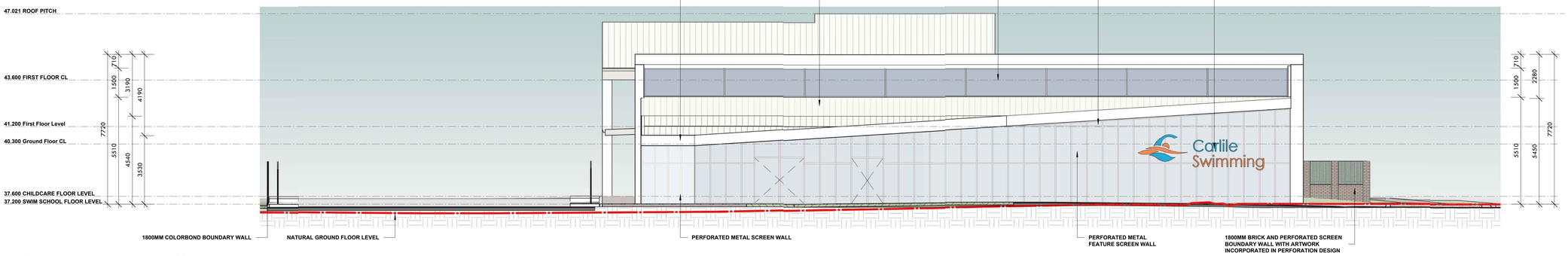
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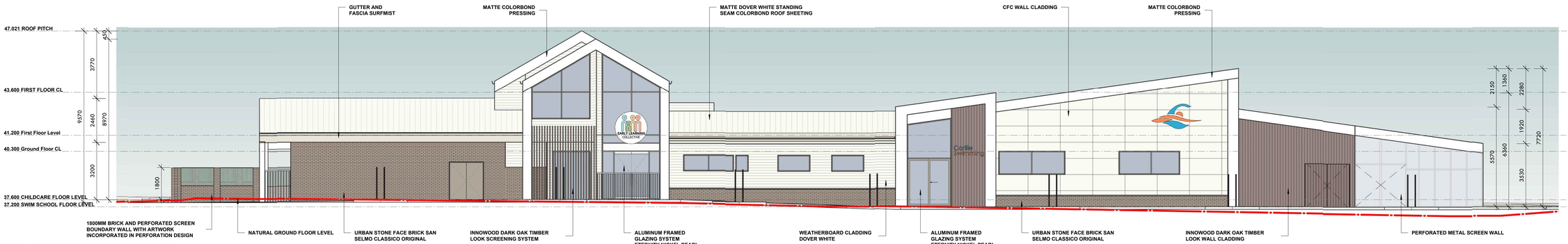
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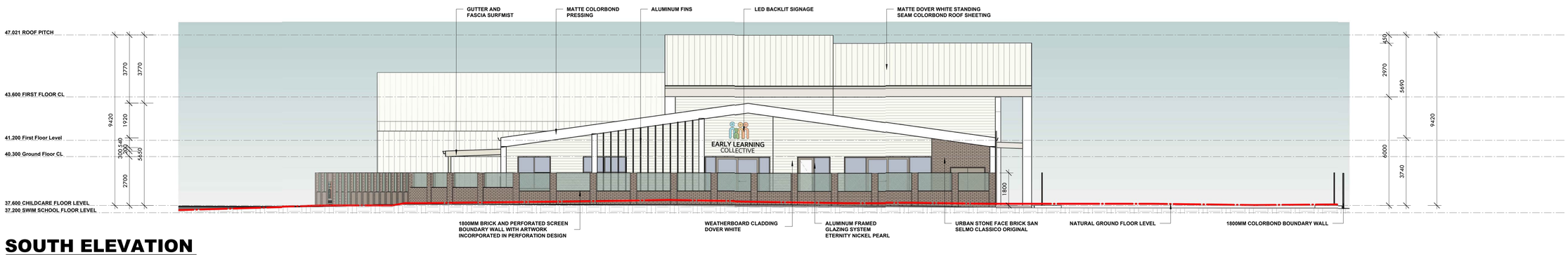
NORTH ELEVATION

SCALE: 1 : 100



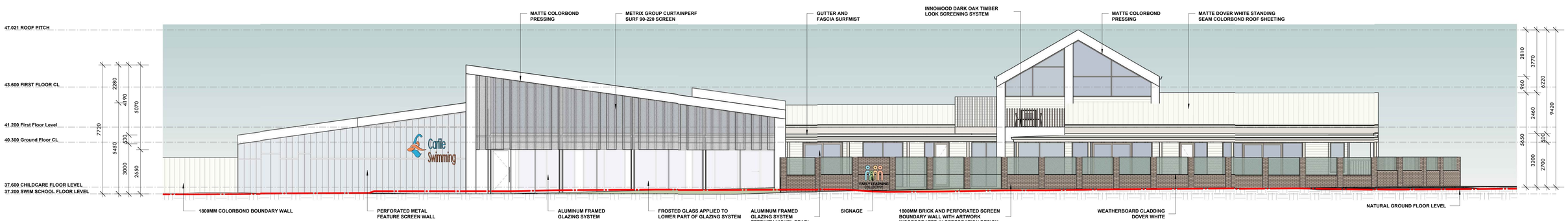
EAST ELEVATION

SCALE: 1 : 100



SOUTH ELEVATION

SCALE: 1 : 100



WEST ELEVATION

SCALE: 1 : 100

LEGEND



PERFORATED METAL FEATURE SCREEN WALL

PERFORATED METAL SCREEN WALL



PERFORATED METAL FEATURE FENCING

WEATHERBOARD CLADDING DOVER WHITE



URBAN STONE FACE BRICK SAN SELMO CLASSICO ORIGINAL



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DATE: DEC 2025
REVISION: SK034
SHEET: 3100
SCALE: 1 : 100

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SCALE:

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SCALE:

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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.
4. NOT TO BE USED FOR CONSTRUCTION UNLESS ISSUED

LANDSCAPE AREA CALCULATIONS

SITE AREA
Total site area = 4000m2

LANDSCAPE AREAS
Landscape areas outside of play area = 175.7m2
Playscape areas = 501.8m2 (presumed 50% to be softscape) = 250.9m2
Total Landscape areas (all levels) = 426.6m2 (10.6% of site)

CAR PARK TREES
Total car parks = 49
Total number of trees in car parking zones = 21
Tree to parking ration = 1 tree per 2.3 carparks
Total proposed trees within property = 41

REV	DATE	DWN	APP	DESCRIPTION
A	18.11.25	AC	KD	LANDSCAPE CONCEPT PLAN
B	21.11.25	AC	KD	LANDSCAPE CONCEPT PLAN



LEGEND

TREES

EXISTING VERGE TREE TO BE RETAINED

SELECTED LARGE TREES
EG. JACARANDA
CANOPY: 8m

SELECTED MEDIUM TREES
EG. WA PEPPERMINT
CANOPY: 6m

SELECTED SMALL TREES
EG. CORAL GUM
CANOPY: 4m

SELECTED FRUITING TREES
EG. CITRUS
CANOPY: 3m

SELECTED SMALL TREES
EG. PIN CUSHION HAKEA
CANOPY: 3m

PLANTING

PLAYSPACE AREA TO FUTURE DETAIL

PLANTING TYPE 01 GROUNDCOVERS

PLANTING TYPE 02 SHRUBS

PLANTING TYPE 03 STRAPPY/MIXED

SELECTED LAWN SPECIES EG. SOFT LEAF BUFFALO

MISC.

500mm ORGANIC MULCH ONLY STRIP TO VERGE

SELECTED TURF RESTRAINT EG. STEEL EDGE RESTRAINT

NOTES

1. GENERAL
1.1 ALL SCALES ARE AS NOTED AND TO SUIT A1 PAPER SIZE
1.2 THIS DRAWING SHALL NOT BE USED FOR CONSTRUCTION UNLESS REVISED '0' ISSUED FOR CONSTRUCTION AND SIGNED AND APPROVED BY PROJECT MANAGER/SUPERINTENDENT.
1.3 PLANTING SETOUT SHOULD BE CHECKED BY SUPERINTENDENT BEFORE INSTALLATION BEGINS.

2. SOIL PREPARATION
2.1 ALL AREAS ARE TO BE FINE GRADED EVENLY TO CONFORM TO KERB LEVELS AND SURROUNDING FINISHES.
2.2 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.
2.3 PLANTED AREAS SHALL BE SPREAD WITH MIN. 50mm OF APPROVED STANDARD SOIL CONDITIONER THAT SHALL BE RIPPED INTO EXISTING SOIL TO A MIN. DEPTH OF 200mm.
2.4 ALL SITE AND IMPORTED SOILS, POTTING MIX, SOIL CONDITIONERS AND MULCHES TO BE IN ACCORDANCE TO RELEVANT AUSTRALIAN STANDARDS.

3. PLANTING
3.1 PLANTED AREAS SHALL BE MULCHED WITH AN ORGANIC (WOODCHIP) MULCH UNLESS OTHERWISE STATED TO A MINIMUM DEPTH OF 75mm.
3.2 ADVANCED TREES SHALL BE STAKED W/ 50x50mm DIA HARDWOOD POSTS. POSTS SHALL BE PAINTED BLACK AND INSTALLED TO A MIN DEPTH OF 500mm. TREES SHALL BE SECURED TO POLES W/ RUBBER TIES IN FIGURE 8.
3.3 TREES PLANTED WITH IN 1000mm OF BOUNDARY WALLS AND/OR PARKING AREAS SHALL BE INSTALLED WITHIN 600mm DEPTH NYLEX ROOT BARRIER MEMBRANE. MEMBRANE SHALL BE INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS.
3.4 FINAL PLANTING SHALL BE SELECTED FROM PLANTING PALETTE SCHEDULE.
3.5 PLANTS TO BE SET OUT IN EVEN SPACING TO FILL THE DESIGNATED AREAS.
3.6 IN AREAS OF MIXED PLANTING, SPECIES TO BE SPREAD OUT AT RANDOM, IN GROUPINGS OF 2 OR 3.
3.7 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.

4. IRRIGATION
4.1 PLANTING TO GROUND LEVEL TO BE IRRIGATED VIA A FULLY AUTOMATIC SYSTEM FROM MAINS.
4.2 WATER PRESSURE TO HAVE A MINIMUM FLOW RATE OF 30L/pm AT 300kPA FROM THE WATER CONNECTION POINT (OR AS STIPULATED).
4.3 CONTROLLER TO BE LOCATED IN SERVICE ROOM (OR AS SHOWN ON IRRIGATION DETAILS).
4.4 SLEEVES BENEATH PAVED SURFACES AND TO RAISED PLANTING AREAS TO BE PROVIDED BY OTHERS.
4.5 IRRIGATION TO GARDEN BEDS TO BE NETAFIM TECHLINE, SUB SURFACE IRRIGATION. INSTALLED TO MANUFACTURERS SPECIFICATION. IRRIGATION TO TURF TO BE POP UP SPRINKLERS; MP ROTATORS OR SIMILAR. IRRIGATION TO TREES TO BE BE BUBBLERS; TORO FLOOD BUBBLERS OR SIMILAR.
4.6 ASCON DRAWINGS, MANUALS AND 12 MONTH WARRANTY SHALL BE SUPPLIED BY THE IRRIGATION CONTRACTOR TO THE CLIENT UPON PRACTICAL COMPLETION.
4.7 PLEASE REFER TO IRRIGATION DRAWING SET FOR FINAL LAYOUT AND SCHEDULE (TO FUTURE DETAIL).

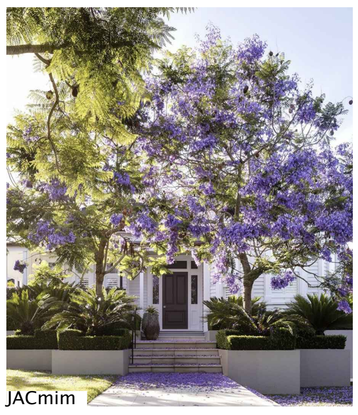
PLANTING IMAGES - TREES & FEATURE PLATNING


AGOfle


CITlim


EUCtor


HAKlau


JACmim


ANIfla


ZAMfur

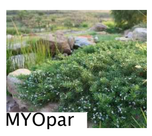
GROUNDCOVERS


ACAsal


EREblu


GREgin


HIBsca


MYOpar


ROSoff


SCAhum

GRASSES, HERBE RUSHES & SEDGES


CONcan


DIAeme


DIAbla


DIArev

SHRUBS


FICnod


LIRjus


LOMtan


LOMnya


LEUbro


OLEaxi


PIMfer


PITmis


RHAori


SYZora


WESaus


WESgre

PLANTING PALETTE

Symbol	Species	Common Name	Quantities	Size
Trees:				
AGOfle	Agonis flexuosa	WA Peppermint Tree	As Shown	100L
CITlim	Citrus 'Eureka'	Eureka Lemon	As Shown	100L
EUCtor	Eucalyptus torquata	Coral Gum	As Shown	100L
HAKlau	Hakea laurina	Pin Cushin Hakea	As Shown	100L
JACmim	Jacarnada mimosifolia	Jacaranda	As Shown	100L
Groundcovers and Cascading:				
ACAsal	Acacia saligna prostrate	Springtime Cascade Wattle	2/m2	140mm
EREblu	Eremophila 'Blue Horizon'	Blue Horizon	2/m2	140mm
GREgin	Grevillea 'Gin Gin Gem'	Gin Gin Gem	2/m2	140mm
HIBsca	Hibbertia scandens	Snake Vine	2/m2	140mm
MYOpar	Myoporum parvifolium 'Yareena'	Yareena	2/m2	140mm
ROSoff	Rosmarinus officinalis 'Prostratus'	Creeping Rosemary	2/m2	140mm
SCAhum	Scaevola humilis 'Purple Fusion'	Fan Flower	2/m2	140mm
Grasses, Herbs, Rushes & Sedges:				
CONcan	Conostylis candicans	Grey Cottonheads	3/m2	140mm
DIAeme	Dianella tasmanica 'Emerald Arch'	Emerald Arch	3/m2	140mm
DIAbla	Dianella tasmanica 'Blaze'	Blaze	3/m2	140mm
DIArev	Dianella revoluta	Blue flax lilly	3/m2	140mm
FICnod	Ficinia nodosa	Knobby Club Rush	3/m2	140mm
LIRjus	Liriope 'Just Right'	Just Right	3/m2	140mm
LOMtan	Lomandra 'Tanika'	Tanika	3/m2	200mm
LOMnya	Lomandra 'Nyalla'	Nyalla	3/m2	200mm
Shrubs:				
LEUbro	Leucophyta brownii	Silver Cushion Bush	3/m2	140mm
OLEaxi	Olearia axillaris	Coastal Daisy	3/m2	200mm
PIMfer	Pimelea ferruginea	Rice Flower	3/m2	200mm
PITmis	Pittosporum tobira 'Miss Muffet'	Miss Muffet	3/m2	200mm
RHAori	Rhapiolepsis 'Oriental Pearl'	Dwarf Indian Hawthorn	2/m2	200mm
SYZora	Syzigium 'Orange Twist'	Lilly Pilly	2/m2	200mm
WESaus	Westringia 'Aussie Box'	Aussie Box	3/m2	200mm
WESgre	Westringia 'Grey Box'	Grey Box	3/m2	200mm
Feature Plants:				
ANIfla	Anigozanthos flavidus	Kangaroo Paw	As Shown	12L
ZAMfur	Zamia furfuracea	Cardboard Palm	As Shown	12L

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LANDSCAPE CONCEPT DESIGN

SUCCESS SWIM SCHOOL & CHILD CARE
LANDSCAPE CONCEPT PLAN

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JARRA
LOT 810 WENTWORTH PARADE, SUCCESS

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Engineering a better future for over 20 years!

Proposed Childcare Centre & Swim School
Lot 810 Wentworth Parade, Success

Transport Impact Statement

PREPARED FOR:
Ladybug Investment Trust
Thirty Three C/- Apex Planning

November 2025

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Document history and status

Author	Revision	Approved by	Date approved	Revision type
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Client: Ladybug Investment Trust Thirty Three C/- Apex Planning

Project: Proposed Childcare Centre and Swim School

Document revision: r01a

Project number: t25.204

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1 Introduction

This Transport Impact Statement (TIS) report has been prepared by Transcore on behalf of Ladybug Investment Trust Thirty Three C/- Apex Planning with respect to the proposed childcare centre and swim school to be located at Lot 810 Wentworth Parade, Success in the City of Cockburn.

The subject site is currently a vacant land and is located at the northeast corner of Wentworth Parade and Malata Crescent intersection. The subject site is bound by Cockburn Central Gateway Shopping City Service Road to the north, a vacant land to the east, Malata Crescent to the south and Wentworth Parade to the west, as shown in **Figure 1**.

The subject site is zoned as "*Residential*" in the City of Cockburn's *Town Planning Scheme No. 3* as shown in **Figure 2**.

The Transport Impact Assessment Guidelines (WAPC, Vol 4 – Individual Developments, August 2016) state: "*A Transport Impact Statement is required for those developments that would be likely to generate moderate volumes of traffic and therefore would have a moderate overall impact on the surrounding land uses and transport networks*".

Section 5 of Transcore's report provides details of the estimated trip generation for the proposed development and impact on adjacent road network. Accordingly, as the total peak hour vehicular trips are estimated to be less than 100 trips threshold, a Transport Impact Statement (TIS) is deemed appropriate for this development.

Key issues that will be addressed in this report include the traffic generation and distribution of the proposed development, access/egress movement patterns and parking demand and supply at the subject site.

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Figure 1: Location of the subject site

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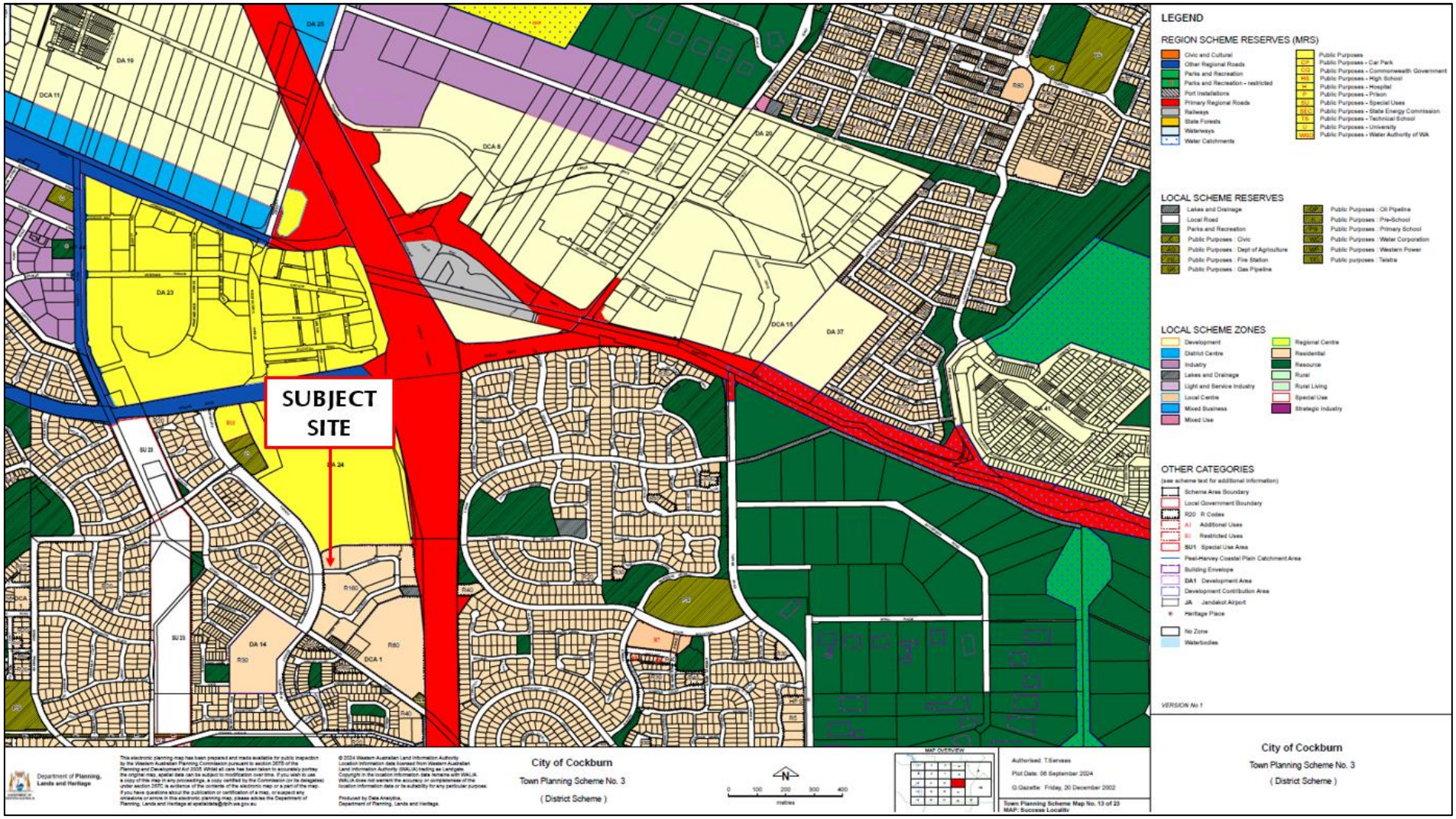


Figure 2. Location of the subject site under City of Cockburn's Town Planning Scheme No. 3 (source: City of Cockburn)

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2 Development Proposal

The Development Application (DA) for the subject site proposes the construction of a two-storey building accommodating a childcare centre and a separate building accommodating a swim school, along with an associated car park for the proposed development. The childcare centre is designed to accommodate up to 96 children and approximately 18 "room ratio" staff and additional support staff. The proposed swim school will occupy a total Gross Floor Area (GFA) of 831m².

The proposed development provides a total of 58 on-site parking bays, including two ACROD bays to address the parking demand of the proposed land uses. Additionally, a turnaround bay is also provided to ensure that the vehicles can satisfactorily traverse within the carpark.

The bin storage area for the proposed childcare centre is located at the southeast corner of the building and the waste storage area for the proposed swim school is located at the northern end of the building next to the heat pump. Waste collection and deliveries will be accommodated within the subject site by private contractor. Waste collection is anticipated to take place when the facility is closed or outside of peak operation periods of the centre.

As part of the development proposal, vehicular access to the subject site is proposed via a full movement crossover on Malata Crescent. This access point is located at the southeastern corner of the site, the furthest point from the priority-controlled 'T' intersection of Wentworth Parade and Malata Crescent.

Pedestrian access to the proposed development is available via the existing external footpath network on Wentworth Parade (west of the subject site) and Malata Crescent (south of the subject site).

The proposed development plan is attached in **Appendix A** for more details.

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3 Vehicle Access and Parking

3.1 Access

As part of the development proposal, one full movement crossover on Malata Crescent is proposed to serve the proposed development. The location of the proposed full movement crossover at the subject site are illustrated in **Figure 3**. As shown in this figure, the access point is located at the southeastern corner of the site, the furthest point from the priority-controlled 'T' intersection of Wentworth Parade and Malata Crescent.

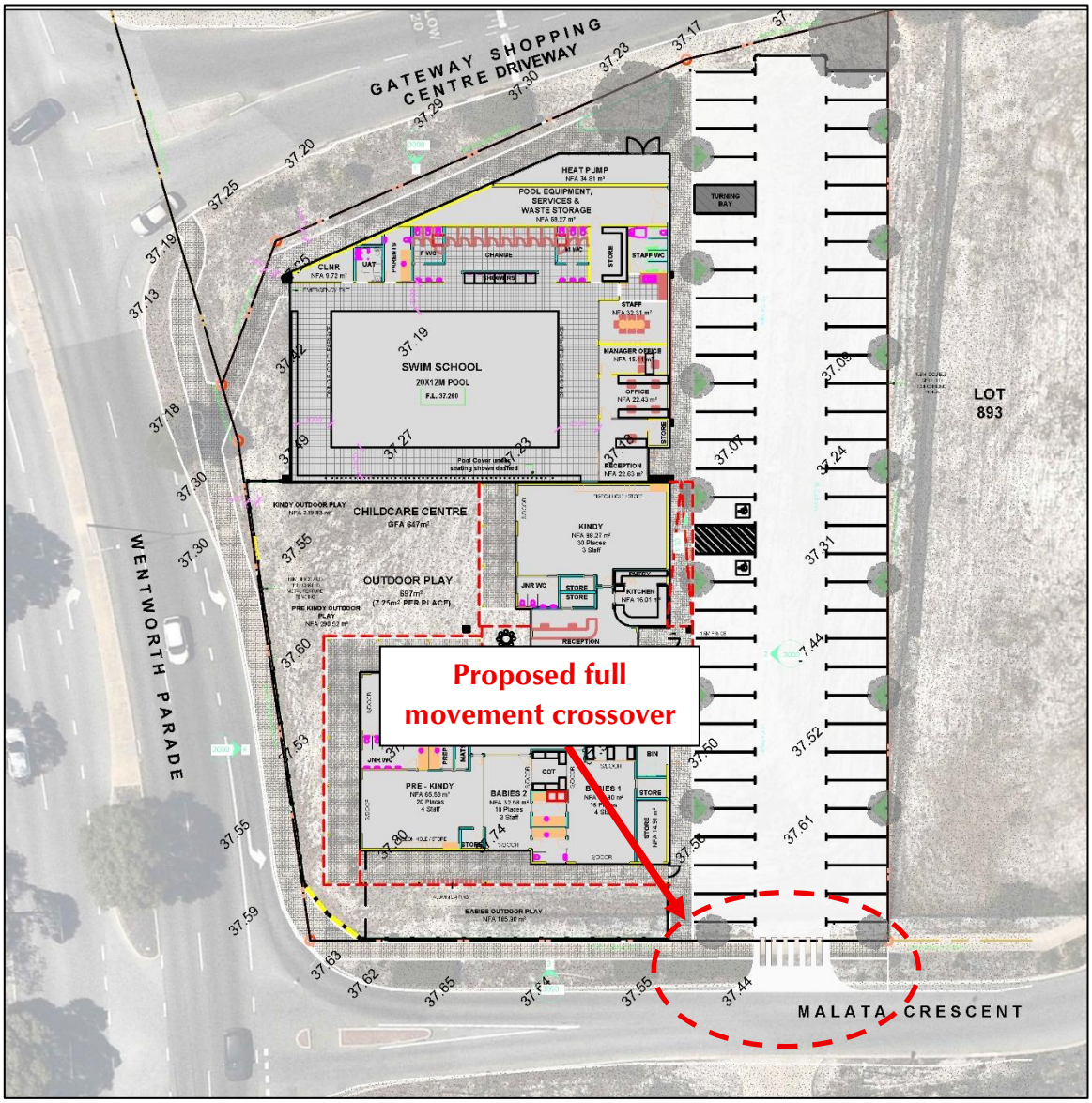


Figure 3. Location of the crossover at the subject site

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3.2 Parking

A total of 58 on-site parking bays including two ACROD bays is proposed as part of the development proposal to address the parking demand.

Please refer to the separate parking management plan and it is our understanding that the provision of 58 parking spaces onsite will meet the needs of the proposed development.

Additionally, it also should be noted that:

- Some of the staff of the childcare centre and swim school are expected to use public transport or to be dropped off at the centre as the subject site is well served by a transport bus service operating along Wentworth Parade.
- The operator of the childcare centre and swim school will also encourage local employees and staff car-pooling and use of other means of transport which will further reduce the parking demand at the subject site.
- It is expected that there would be reciprocal parking between the patrons of the childcare centre and the swim school.

For the reasons outlined above, it is considered that sufficient parking has been provided on site to meet the anticipated needs of the proposed development.

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4 Provision for Service Vehicles

The bin storage area for the proposed childcare centre is located at the southeast corner of the building and the waste storage area for the proposed swim school is located at the northern end of the building next to the heat pump as shown in the development plan in **Appendix A**.

Waste collection and deliveries will be accommodated within the subject site by private contractor. It is anticipated that the largest size vehicle that will access the proposed development would be 8.8m long waste vehicle. An 8.8m waste vehicle will enter the subject site via the proposed full movement crossover on Malata Crescent, access the designated bin storage areas, collect the waste and exit the subject site via the same crossover on Malata Crescent in forward gear.

The onsite service and waste collection will take place when the facility is closed to ensure that the car parking area is available for safe manoeuvring, loading and unloading activities with no disturbance to the operation of the facility.

Swept path analysis undertaken for an 8.8m service vehicle provided in **Appendix B** shows satisfactory access, egress and circulation within the site.

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5 Daily Traffic Volumes and Vehicle Types

5.1 Existing Development Trip Generation

The subject site is currently a vacant land, so that the existing traffic generation is zero.

5.2 Proposed Development Trip Generation

5.2.1 Childcare Centre

In order to establish an accurate traffic generation rate for the proposed childcare centre, traffic count surveys undertaken by Transcore at similar centres in the Perth region were sourced.

Discussions with the respective centre managers revealed that the peak drop-offs and pick-ups for each of these centres occur between the hours of 7:30AM – 9:30AM and 3:00PM – 5:00PM. From the total number of children at each of the centres on the surveyed days, the following average generation rates were established for the morning and afternoon surveyed periods:

- 7:30AM – 9:30AM: 1.25 trips per child (57% in / 43% out); and,
- 3:00PM – 5:00PM: 1.10 trips per child (49% in / 51% out).

From this information, the traffic generation rate for the combined period of 7:30AM – 9:30AM and 3:00PM – 5:00PM was calculated as 2.36 trips per child. To convert this figure to a daily generation rate, this figure was increased to 3.5 trips per child to account for any trips outside of the surveyed times. It was assumed that the daily in and out split for vehicle trips was 50/50.

Furthermore, the following peak hour generation rates were established from the surveys for the Child Care Centres:

- AM peak hour: 8:00AM – 9:00AM: 0.87 trips per child (57% in / 43% out); and,
- PM peak hour: 4:00PM – 5:00PM: 0.71 trips per child (47% in/ 53% out).

Comparison of the four-hour generation rates and the peak hour generation rates confirms that the distribution of traffic from these centres is spread over the peak periods and that full concentration of traffic does not occur in one peak hour. Accordingly, the following number of trips were estimated for the proposed childcare centre, assuming a maximum scenario of 96 children being present (i.e., centre at full capacity):

- AM peak hour: 84 trips generated (48 in / 36 out);
- PM peak hour: 68 trips generated (32 in / 36 out); and,
- Daily traffic generation: 336 trips generated (168 in / 168 out).

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5.2.2 Swim School

The traffic volumes likely to be generated by the proposed swim school have been estimated based on the appropriate land use in accordance with the *ITE Trip Generation Manual (11th Edition)*. The trip rates for *"Recreational Community Centre"* are used to calculate the traffic generated by the proposed swim school as the facilities of recreational community centre include classes for adults and children, a day care or nursery school, and other social facilities such as swimming pools, saunas, tennis and so on. However, it is considered that the trip rates for such facilities will provide a conservative estimation of the trip generation for the swim facility.

The trip rates which were used to estimate the traffic generation of the proposed swim school development are as follows:

Recreational Community Centre (ITE – 495) – 1,000 Sq. Ft. GFA

- Weekday AM peak hour: 1.91vph per 1000sqft GFA/ 0.929 = 2.06vph/ 100m^2 GFA;
- Weekday PM peak hour: 2.5vph per 1000sqft GFA/ 0.929 = 2.69vph/ 100m^2 GFA;
- Weekday daily: 28.82vpd per 1000sqft GFA/ 0.929 = 31.02vpd/ 100m^2 GFA.

Accordingly, it is estimated that the traffic generations for the proposed swim school are:

- Weekday AM: 2.06 x 831/100 (GFA) = 17vph;
- Weekday PM: 2.69 x 831/ 100 (GFA) = 22vph; and,
- Weekday daily: 31.02 x 831/ 100 (GFA) = 258vpd.

Given that the two proposed land uses (childcare centre and swim school) will be located within the same site, several advantages for parents and community are offered. Parents can drop off the children at the proposed childcare centre and take them to swim lessons in one single trip. Further, siblings may also be attending both facilities, simplifying the travelling for parents.

Therefore, it is understood that a portion of the trips associated with the proposed swim school will be shared between the childcare centre and the swim school. Therefore, 25% was assumed as cross-traffic between the proposed childcare centre and swim school for the purpose of a conservative assessment.

Accordingly, it is estimated that the proposed development would conservatively generate a total of approximately **530** vehicular trips per regular weekday with about **96** trips during the typical weekday AM peak hour and **85** trips during the typical weekday PM peak hour. These totals include both inbound and outbound vehicle movements.

The traffic generation and peak hour splits are detailed in **Table 1**, which were based on the directional split assumption for peak hour periods referenced from *ITE Trip Generation Manual* for the proposed swim school and the split for vehicular trips reported in **Section 5.2.1** for the proposed childcare centre.

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Table 1. Estimated peak hour trips for the proposed development

Land Uses	Daily	AM	PM	*Cross Trade*	Daily	AM Peak		PM Peak	
						In	*Out*	*In*	*Out*
Childcare centre	336	84	68	*0%*	336	48	36	32	36
Swim School	258	17	22	*25%*	194	8	4	8	9
Total					**530**	**56**	**40**	**40**	**45**

Given the subject site's close proximity to Cockburn Gateway Shopping City, it is also important to note that a portion of the trips associated with the proposed development will likely be shared between the proposed development and the shopping centre. As a result, the number of primary trips generated solely by the proposed development is expected to be lower than the reported trip generation figure.

5.3 Trip Distribution and Traffic Flow

Based on the general spatial distribution of existing residential developments in the immediate area, permeability of the local road network, the proposed development's traffic distribution adopted for this analysis is as follows:

- 55% to/from the north of Wentworth Parade;
- 40% to/from the south of Wentworth Parade; and,
- 5% to/from the east of Malata Crescent.

Figure 4 illustrates trip generation and traffic distributions over the local road network for the proposed development.

5.4 Impact on Surrounding Roads

The WAPC Transport Impact Assessment Guidelines (2016) provides guidance on the assessment of traffic impacts:

"For ease of assessment, any section of road where development traffic would increase flows by more than 100 vehicles per hour for any lane should be included in the analysis."

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As detailed in **Section 5.2**, it is clear that the proposed development will not increase traffic on any road on the surrounding road network above the 100vph per lane threshold, therefore it is concluded that the impact of the development traffic on the surrounding road network will not be significant and no further detailed analysis is warranted in accordance with WAPC guidelines.

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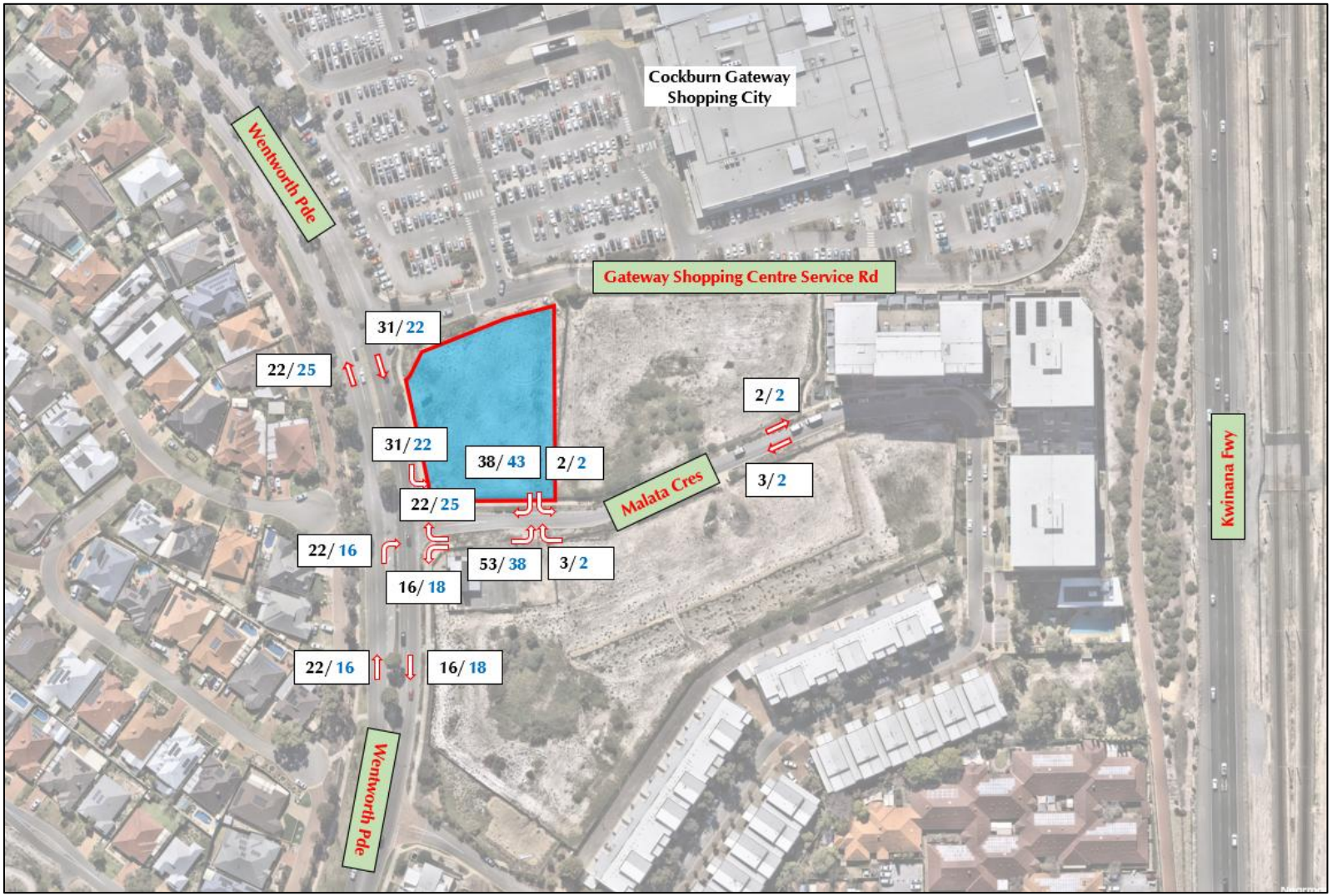


Figure 4. Estimated traffic movements for the proposed development – AM peak/ PM peak

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6 Traffic Management on Frontage Streets

Wentworth Parade, in the in the vicinity of the subject site is constructed as a dual carriageway, two-lanes in each direction with an approximate 4.5m wide landscaped median. Pedestrian footpath is available on both sides of the road. Please refer to **Figure 5** for more details.

Wentworth Parade is classified as a *Local Distributor Road* in the Main Roads WA's *Functional Road Hierarchy* and operates under the speed limit of 60km/h.

Based on the available SCAT traffic data obtained from Main Roads WA's Traffic Map, Wentworth Parade, south of Beeliar Drive carries about 18,861vpd on a typical weekday in June 2023. The morning and afternoon peaks (combined both directions of the road) are between 8:00am – 9:00pm and 3:00pm – 4:00pm with traffic volumes of 1,299vph and 1,672vph respectively.



Figure 5. Northbound view along Wentworth Parade

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Malata Crescent is a 6.0m wide single-carriageway, two-lane undivided road. Pedestrian footpath is available on the northern side of the road. Please refer to **Figure 6** for more details.

Malata Crescent is classified as an *Access Road* in the Main Roads WA's *Functional Road Hierarchy* and operates under the default speed limit of 50km/h. Malata Crescent forms 'T' intersections with Wentworth Parade at both northern and southern ends. There are no available traffic counts for Malata Crescent.



Figure 6. Eastbound view along Malata Crescent

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7 Public Transport Access

According to the current Transperth bus network map, the subject site has direct access to the existing bus service that operate on Wentworth Parade in the vicinity of the subject site.

The closest available bus service is route 526, which operates along Wentworth Parade with the nearest bus stop located approximately 150m walking distance from the subject site. This bus route provides direct links to Cockburn Central Train Station, Cockburn Gateway Shopping City and Aubin Grove Train Station.

The public transport services available to the subject site are illustrated in the relevant Transperth service map (please see **Figure 7**).

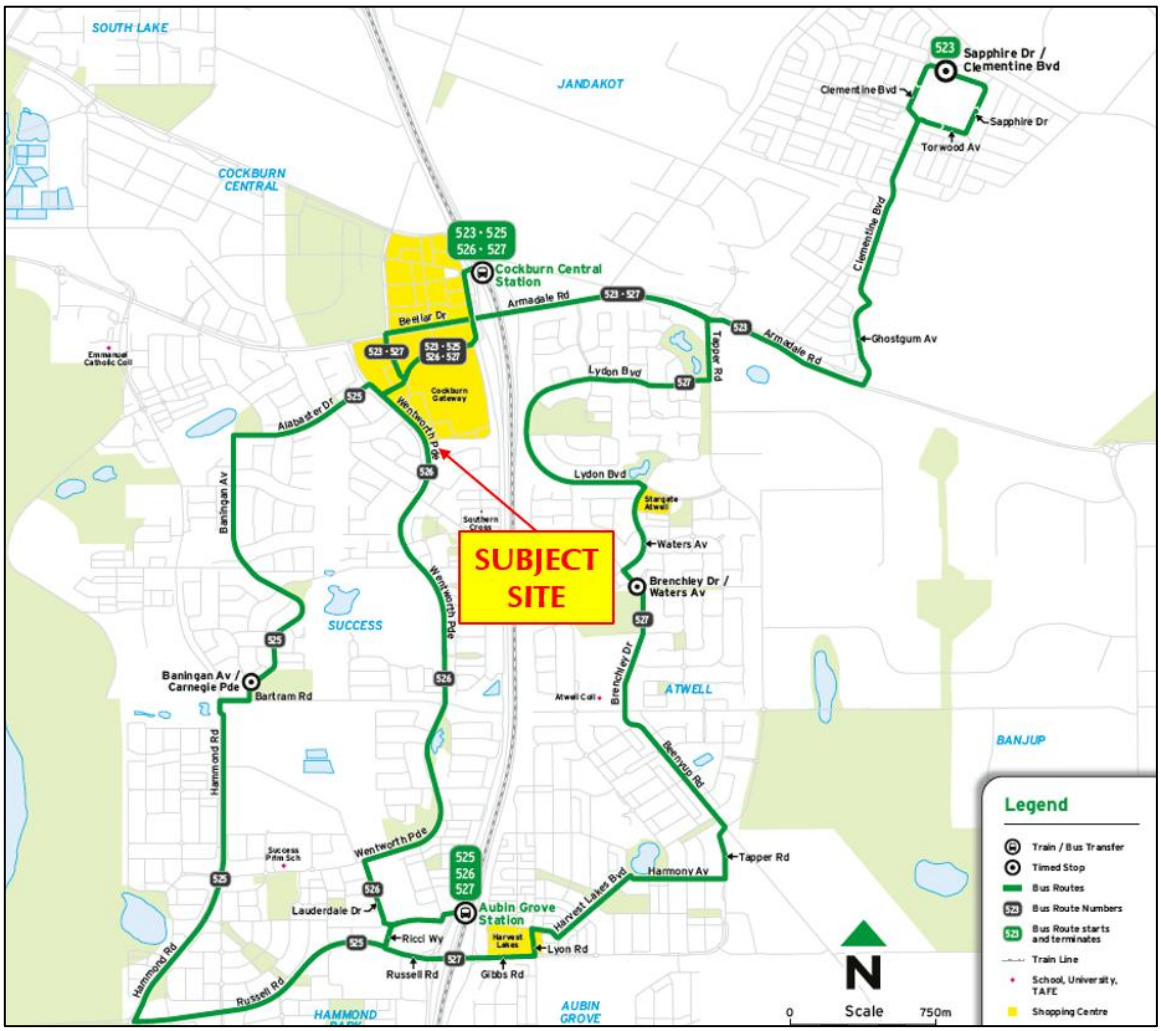


Figure 7. Public transport services (source: Transperth)

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8 Pedestrian & Cyclist Access

Pedestrian accesses to the subject site are directly available from the existing footpath network on the eastern side of Wentworth Parade and northern side of Malata Crescent within the locality. Pedestrian crossing opportunities with refuge islands are available at the priority-controlled 'T' intersections of Wentworth Parade with Malata Crescent and Gateway Shopping City Service Road.

Review of the development plan confirms that the proposed development offers strong pedestrian connectivity both within the site and to the existing footpath infrastructure in the surrounding area. Additionally, a pedestrian priority crossing is proposed at the site's main access point as part of the development. The format and details of the crossing is to be confirmed through liaison with the City during the detailed design stage of the project.

According to the current Department of Transport Bike Maps, Wentworth Parade in the vicinity of the subject site is classified as "*Other Shared Path (Shared by Pedestrians & Cyclists)*", which then further connects to Pearson Drive to the south of the subject site which is classified as "*Good Road Riding Environment*". The existing bike network map in the locality of the subject site is illustrated in **Figure 8**, and it shows the cyclist connectivity in the vicinity of the subject site.

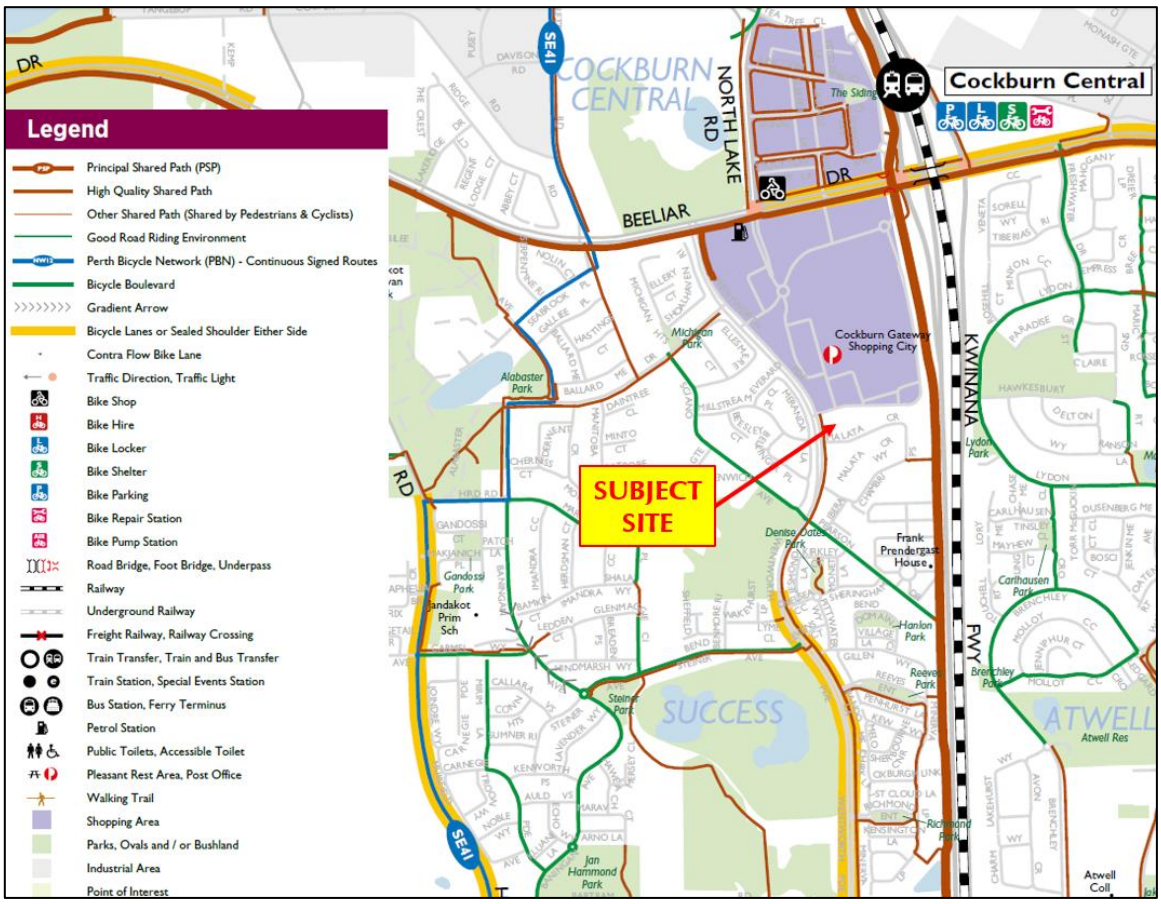


Figure 8. Existing bike map in the locality (source: Department of Transport)

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Therefore, it is considered that the layout of the proposed development has been designed with a focus on promoting healthier, more active communities by supporting existing pedestrian and cyclist infrastructure and enhancing the overall walking and cycling experience associated with the proposed development.

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9 Site Specific Issues

It is noted that the proposed crossover on Malata Crescent will be located almost directly opposite an existing crossover serving a commercial property currently operating as a café, which provides approximately 10 on-site parking spaces. The café operates from 5:00am to 12:00pm on weekdays (Monday to Friday), and from 7:00am to 11:00am on weekends.

Given the limited number of parking spaces and the café's restricted operating hours, it is considered that the potential for traffic conflicts between the two crossovers is minimal.

Furthermore, it should be noted that "*AS2890.1 – Parking Facilities: Off-Street Car Parking*" document provides guidance in relation to the placement of access driveways with respect to public roads intersections. As such, the standard is not applicable in this case, where the concern relates to proximity between two opposing crossovers on a local street.

In addition, the proposed crossover location has been carefully chosen to ensure it is positioned at furthest distance from the priority-controlled 'T' intersection of Wentworth Parade and Malata Crescent. This location of the proposed crossover minimises any potential traffic impact at the intersection resulting from the proposed development. Further, it should also be noted that the proposed location of the subject crossover is the only feasible location for the subject site.

No other site-specific concerns have been identified within the scope of this assessment for the proposed development.

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10 Safety Issues

No specific safety issues have been identified for the proposed development.

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11 Conclusions

This Transport Impact Statement (TIS) report has been prepared by Transcore on behalf of Ladybug Investment Trust Thirty Three C/- Apex Planning with respect to the proposed childcare centre and swim school to be located at Lot 810 Wentworth Parade, Success in the City of Cockburn. The subject site is currently a vacant land and is located at the northeast corner of Wentworth Parade and Malata Crescent.

The childcare centre is designed to accommodate up to 96 children and approximately 18 "room ratio" staff and additional support staff. The proposed swim school will occupy a total Gross Floor Area (GFA) of 831m².

The proposed development provides a total of 58 on-site parking bays, including two ACROD bays to address the parking demand of the proposed land uses. Additionally, a turnaround bay is also provided to ensure that the vehicles can satisfactorily traverse within the carpark.

Vehicular access to the subject site is proposed via a full movement crossover on Malata Crescent. This access point is located at the southeastern corner of the site, the furthest point from the priority-controlled 'T' intersection of Wentworth Parade and Malata Crescent. The proposed location of the subject crossover is the only feasible location for the subject site.

The bin storage area for the proposed childcare centre is located at the southeast corner of the building and the waste storage area for the proposed swim school is located at the northern end of the building next to the heat pump. It is anticipated that the largest size vehicle that will access the proposed development would be 8.8m long waste vehicle. An 8.8m waste vehicle will enter the subject site via the proposed full movement crossover on Malata Crescent, access the designated bin storage areas, and exit the subject site via the same crossover on Malata Crescent in forward gear.

It is estimated that the proposed development would conservatively generate a total of approximately 530 vehicular trips per regular weekday with about 96 trips during the typical weekday AM peak hour and 85 trips during the typical weekday PM peak hour. These totals include both inbound and outbound vehicle movements.

The traffic generation of the proposed development would not have a significant impact on the surrounding road network in accordance with WAPC guidelines.

Additionally, review of the development plan confirms that the proposed development offers strong pedestrian connectivity both within the site and to the existing footpath infrastructure in the surrounding area.

It is finally concluded that the traffic related issues should not form an impediment to the approval of the proposed childcare centre and swim school development.

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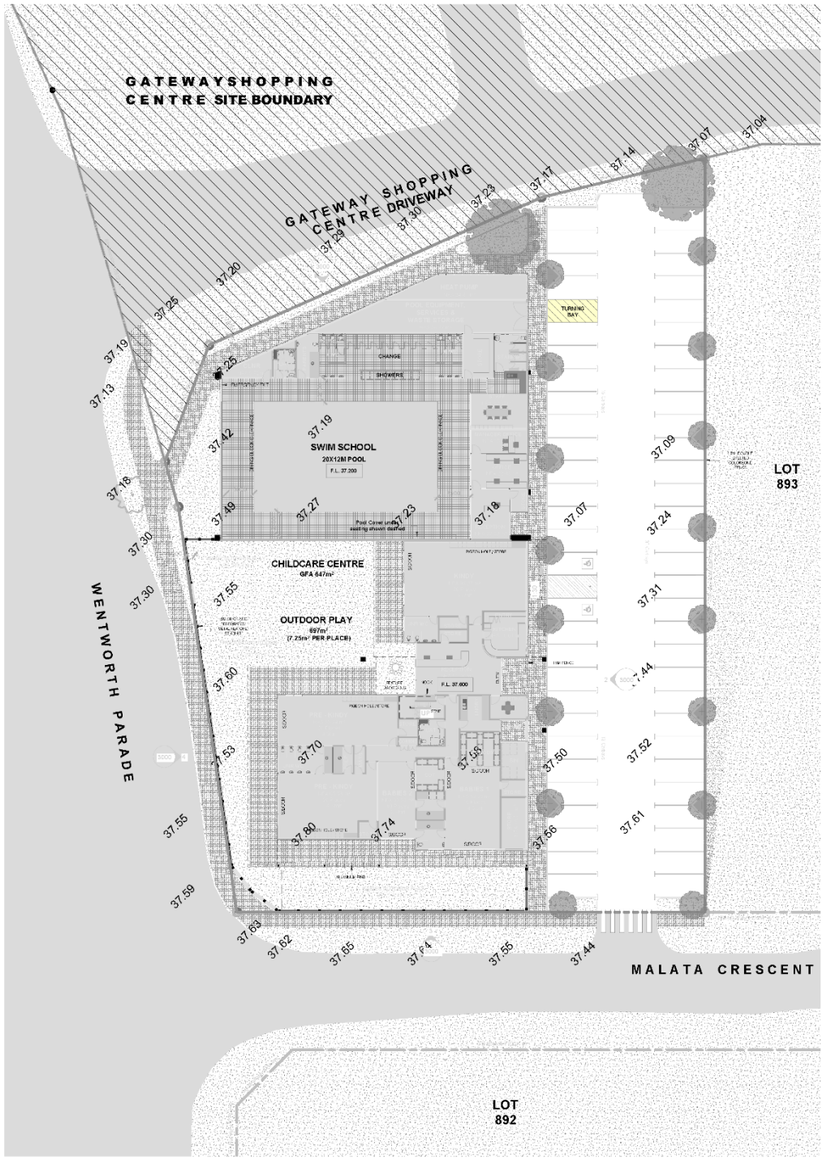
Appendix A

PROPOSED DEVELOPMENT PLAN

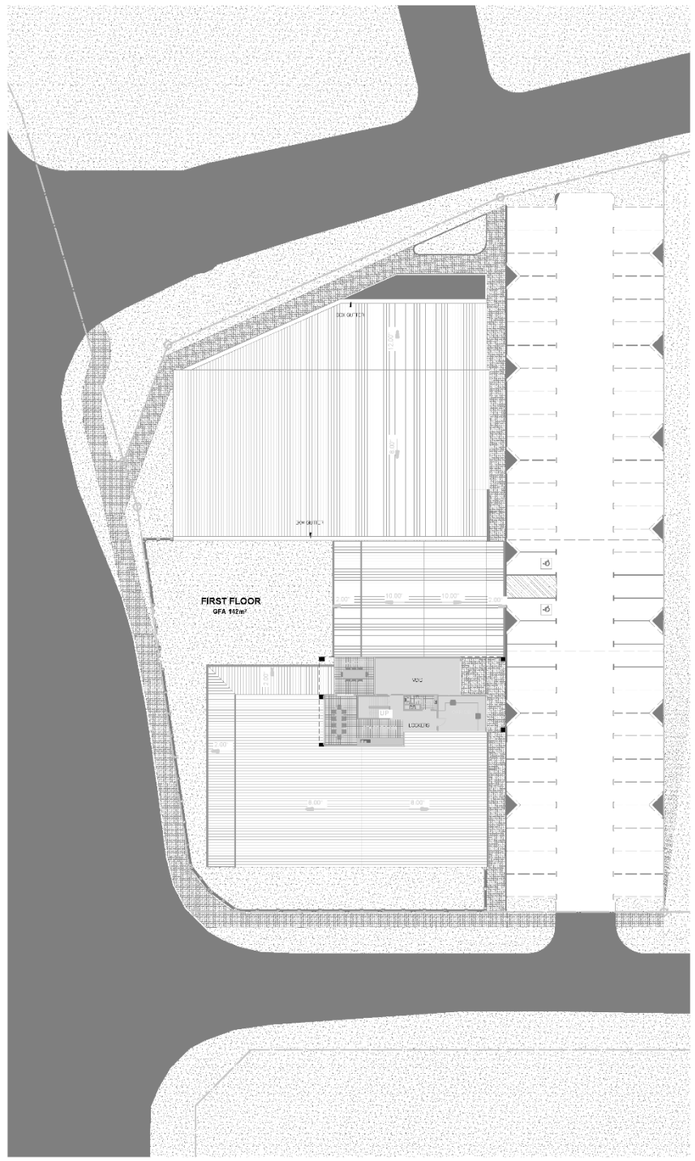
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SITE PLAN



FIRST FLOOR PLAN

SITE CRITERIA

1. Site Area		
a. Site Area		4,900m²
2. Landscaping		
a. Required 10% of Site Area		490m²
b. Provided		
Soft		721m² (18%)
Hard		498m²
	Total	1,219m²
3. Floor Area (GFA)		
a. Childcare GFA		647m²
b. Swim School GFA		843m²
	Total	1,490m²
4. Carparking		
Total Car provided		58 Cars

SITE DESIGN CHECKLIST

1. SEWER MAINS LOCATION TO BE DETERMINED
2. FIRE MAINS PRESSURE TEST REQUIRED
3. FIRE TANKS OR PUMPS TO BE DETERMINED
4. WESTERN POWER TRANSFORMER LOCATION TO BE DETERMINED
5. CROSSOVER & ACCESS TO STREET TO BE DETERMINED BY LOCAL AUTHORITY
6. FULL FEATURE SITE SURVEY REQUIRED
7. DIAL BEFORE YOU DIG REQUIRED
8. BUSHFIRE ATTACK LEVEL (BAL) TO BE DETERMINED
9. STREET POWER POLES TO BE DETERMINED
10. SITE ZONING & USE TO BE DETERMINED

NOTE: Any of the following items that do not have an 'X' in the provided square require determination.

LEGEND

- BUILDING FOOTPRINT - SWIMMING SCHOOL
- BUILDING FOOTPRINT - CHILDCARE
- EXTENT OF CONCRETE HARDSTAND
- EXTENT OF ROADBASE HARDSTAND
- EXTENT OF BITUMEN PAVING
- EXTENT OF CERAMIC TILES
- EXTENT OF BRICK PAVING / CONCRETE PAVING
- EXTENT OF LANDSCAPING

PRELIMINARY

meyer shircore

PROPOSED CHILDCARE & SWIM SCHOOL DEVELOPMENT

LOCATION : LOT 810 CNR WENTWORTH PARADE & MALATA CRES, SUCCESS, WA

FOR : JARRA PROPERTY

DATE: OCT 2025 PROJECT NUMBER
REVISION: SK030 **P25-9533**
SHEET: A - 1001
SCALE: As Indicated@B1

Document Set ID: 12644625
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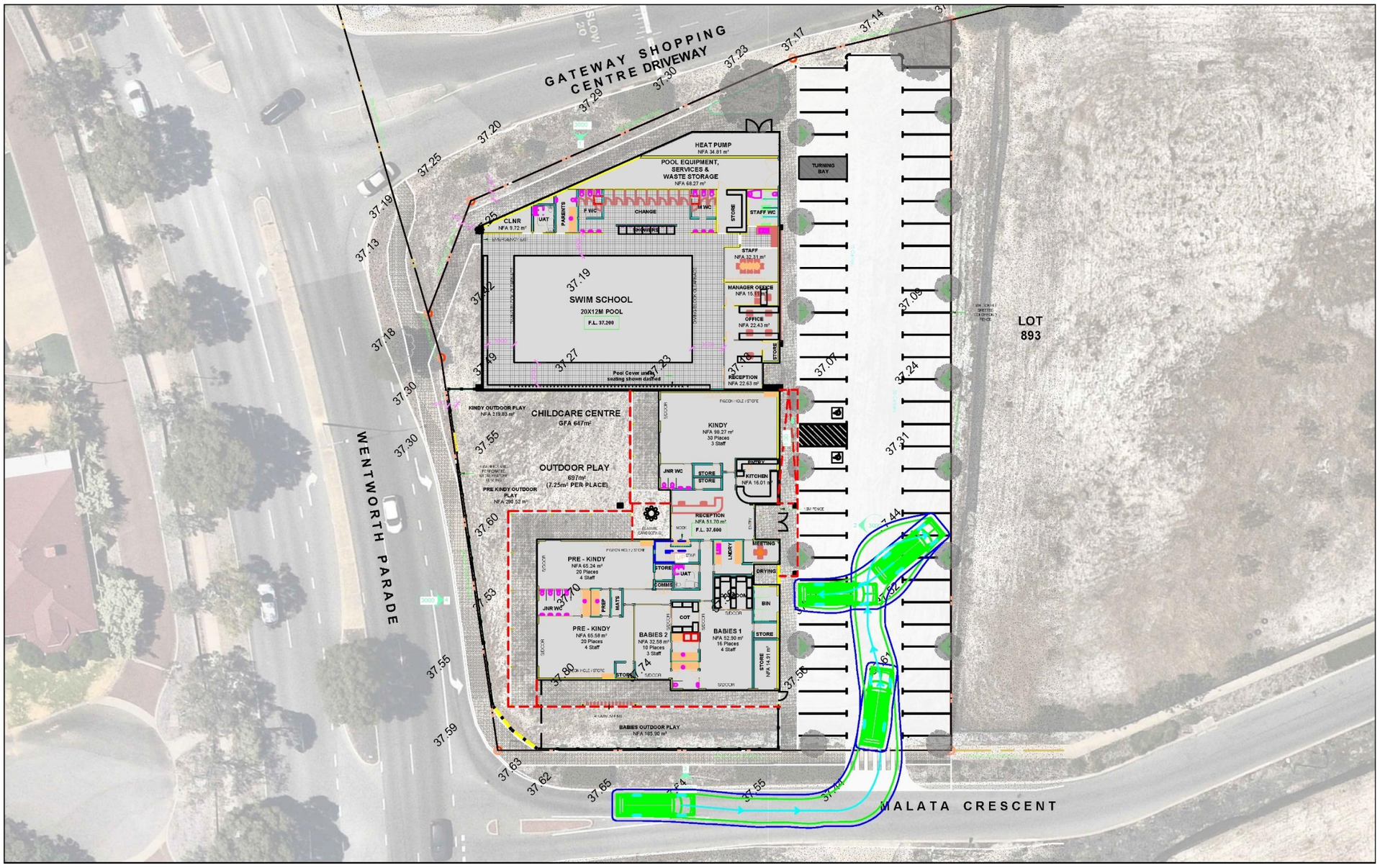
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Appendix B

SWEPT PATH ASSESSMENT PLANS

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Lot 810 Wentworth Parade, Success

Austroads 2023: 8.8m Service Vehicle

Service vehicle entry to child care centre's service area

LEGEND

Vehicle Body

Wheel Path

500mm Clearance

t25.204.sk01a

21/11/2025

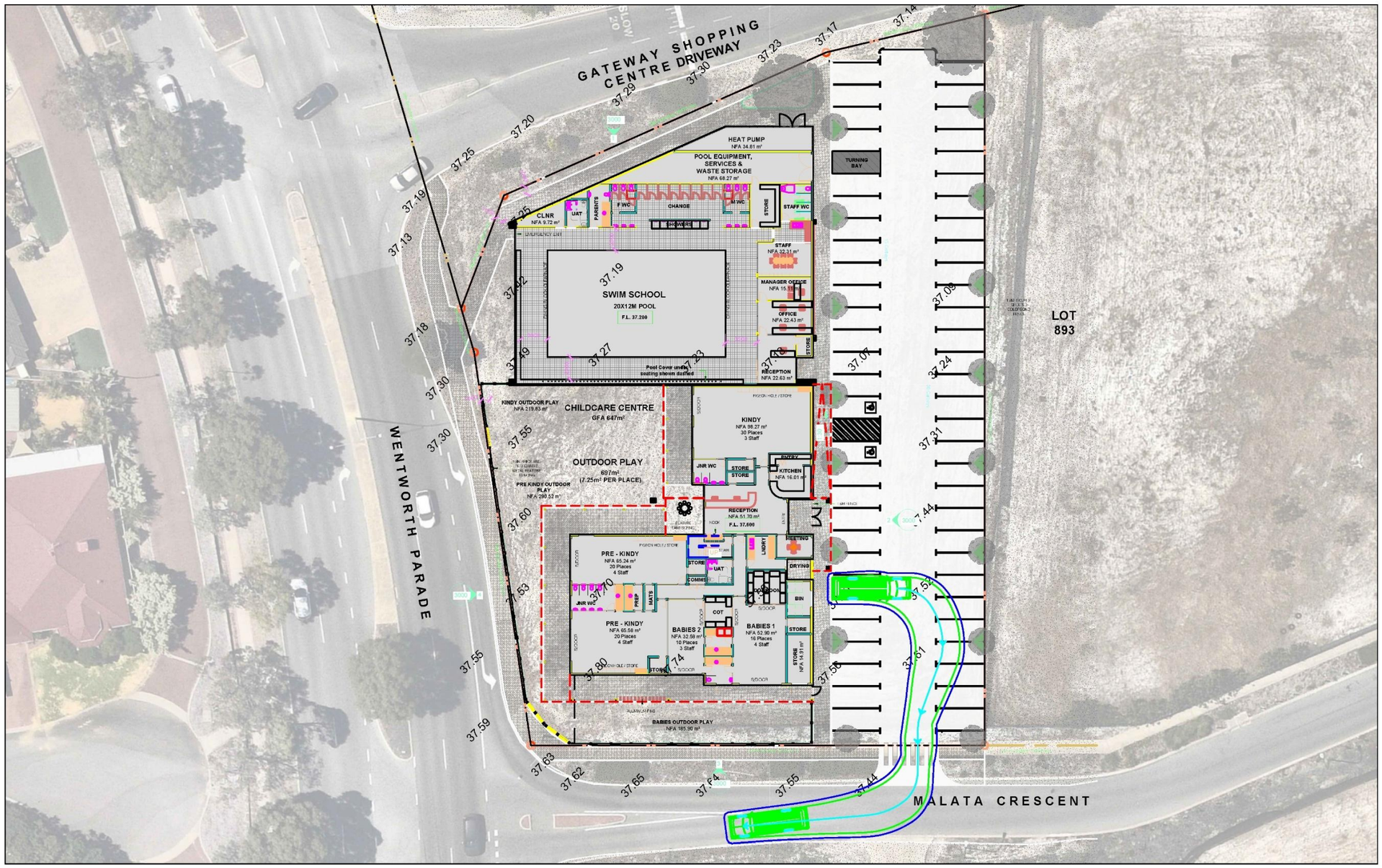
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Lot 810 Wentworth Parade, Success

Austroads 2023: 8.8m Service Vehicle

Service vehicle exit from child care centre's service area

LEGEND

Vehicle Body

Wheel Path

500mm Clearance

t25.204.sk02a

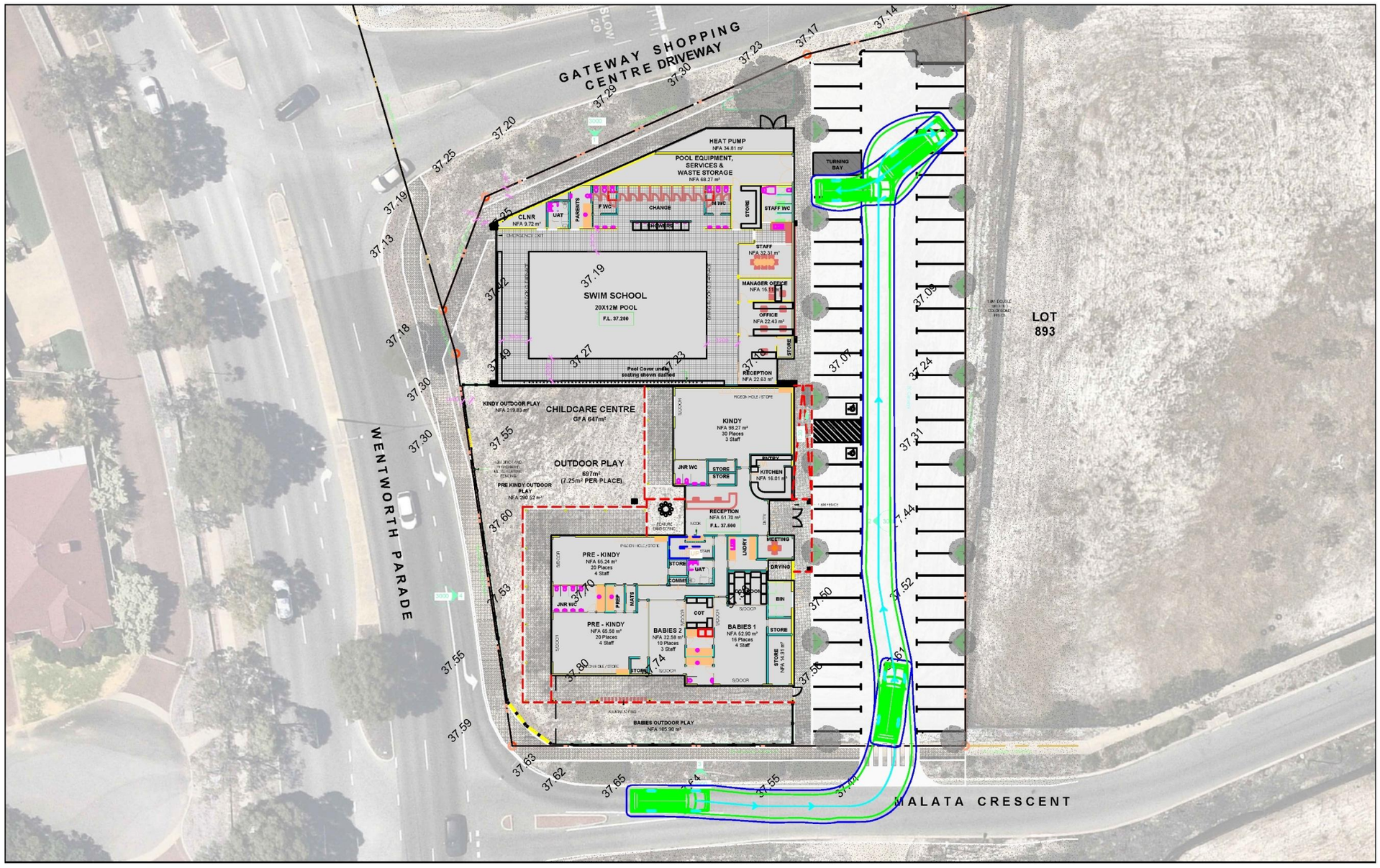
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Lot 810 Wentworth Parade, Success

Austroads 2023: 8.8m Service Vehicle

Service vehicle entry to swim school's service area

LEGEND

Vehicle Body

Wheel Path

500mm Clearance

t25.204.sk03a

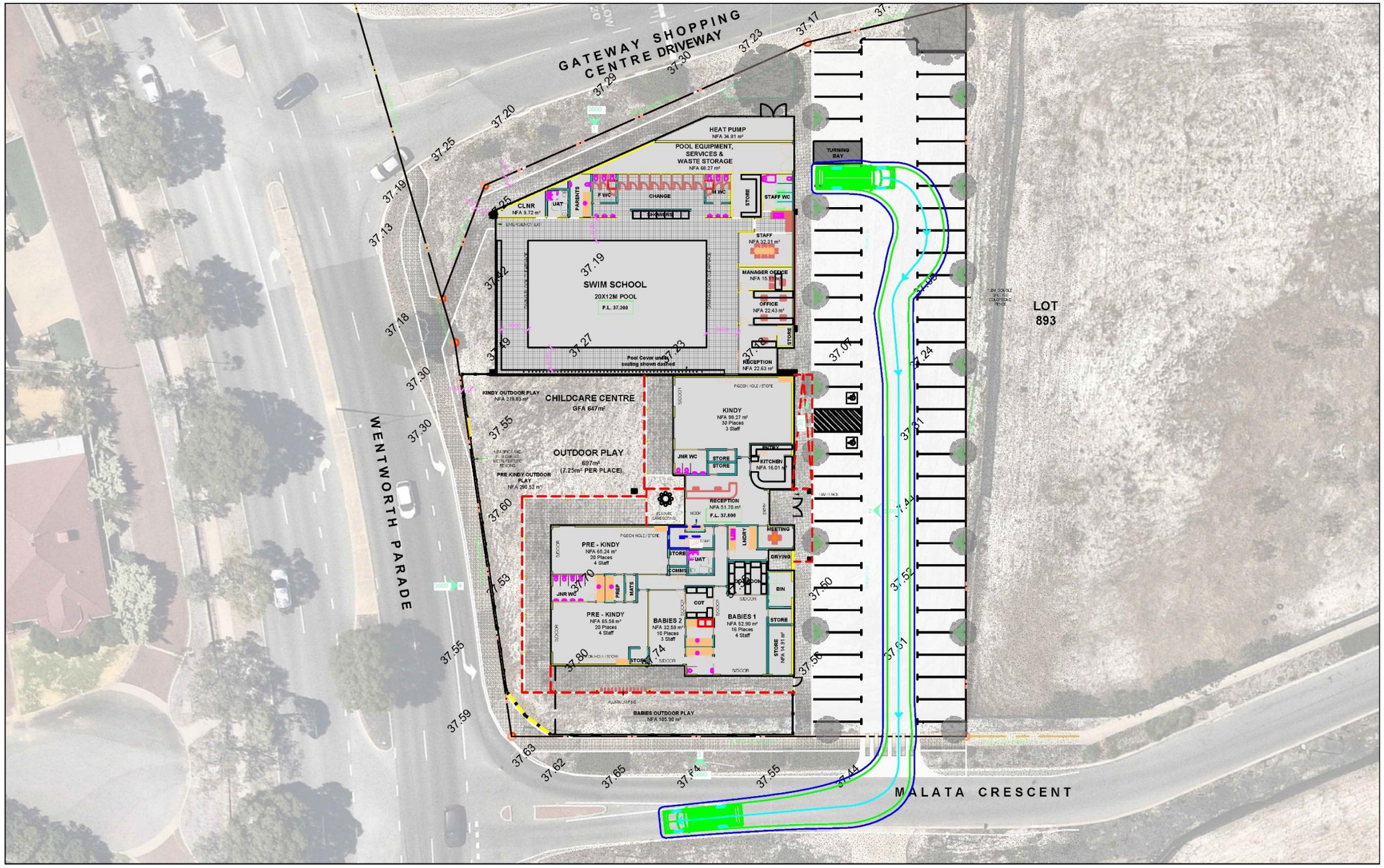
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Lot 810 Wentworth Parade, Success

Austroads 2023: 8.8m Service Vehicle

Service vehicle exit from swim school's service area

LEGEND

Vehicle Body

Wheel Path

500mm Clearance

t25.204.sk04a

21/11/2025

Scale: 1:400 @ A3

transcore

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WASTE MANAGEMENT PLAN – PROPOSED CHILD CARE PREMISES AND SWIM SCHOOL

LOT 810 WENTWORTH PARADE, SUCCESS

1 INTRODUCTION

This waste management plan (**WMP**) has been prepared to outline the waste management practices for the child care premises and swim school proposed at Lot 810 Wentworth Parade, Success. The City of Cockburn's *Local Planning Policy 1.14 Waste Management* has been used to inform this WMP.

2 LOCATION

The proposed child care premises and swim school development will be located at Lot 810 Wentworth Parade, Success. Refer to **Figure 1** below, which depicts the site and surroundings.



Figure 1: aerial image of site (image source Nearmap)

3 DETAILS OF PROPOSED DEVELOPMENT

The subject development is comprised of a child care premises and swim school, which will be operated and run as separate uses with separate waste storage and collection regimes. Both uses are serviced by a car park containing a two-way driveway and 6.2m wide full movement crossover to Malata Crescent.

Refer to **Appendix 1** for a site plan depicting the proposed development. The specifics of the proposed uses as relevant to the WMP is outlined in the following sub-sections.

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WASTE MANAGEMENT PLAN – PROPOSED CHILD CARE PREMISES AND SWIM SCHOOL

LOT 810 WENTWORTH PARADE, SUCCESS

3.1 CHILD CARE PREMISES

The child care premises will cater for the education and care of up to 107 children, and is proposed to operate 6:30am-6:30pm on weekdays. The facility includes:

- A building comprising 789sqm of gross floor area (**GFA**) at the ground floor and upper floor and 697sqm of outdoor play area, meeting regulatory requirements for child care licensing.
- A 10.69sqm bin storage area which is internalised within the child care building, and faces the car park for easy access by contractors.

A floor plan for the child care premises is provided at **Appendix 2** for reference.

3.2 SWIM SCHOOL

The swim school will provide specialised swimming curriculum to babies and small children through structured pre-organised lessons, and is proposed to operate 6:30am-8pm 7 days per week with no lessons during 12:30pm-2:30pm. The lessons are delivered in two ‘shifts’, with approximately 6-7 lessons provided per shift.

The swim school building comprises 886sqm GFA and includes a pool, changerooms, UAT, staff areas, and back of house areas. The swim school does not include any café or food-based services. A 20.29sqm bin storage area is internalised within the swim school building, facing the northern pathway for easy access by contractors.

A floor plan for the swim school is provided at **Appendix 3** for reference.

4 DETAILS OF WASTE GENERATION AND COLLECTION

A separate private collection regime will be adopted for both the child care and swim school, with the applicable waste streams comprising of garbage and recycling.

4.1 WASTE GENERATION

As the City of Cockburn does not have waste generation rates as part of its waste policy, the rates contained within the City of Melbourne’s waste guidelines were adopted for the purpose of this WMP.

With the above in mind, the waste generation rates adopted for the proposed uses are as follows:

Child care premises	Swim School
Garbage: 350L / 100sqm / week	Garbage: 10L / 100sqm / day
Recyclables: 350L / 100sqm / week	Recyclables: 10L / 100sqm / day

Having regard for the above rates, the total waste generation volumes for each use are calculated as follows:

Child care premises	Swim School
Garbage: 1,972L / week (Mon-Fri)	Garbage: 620L / week (7 days)
Recyclables: 1,972L / week (Mon-Fri)	Recyclables: 620L / week (7 days)

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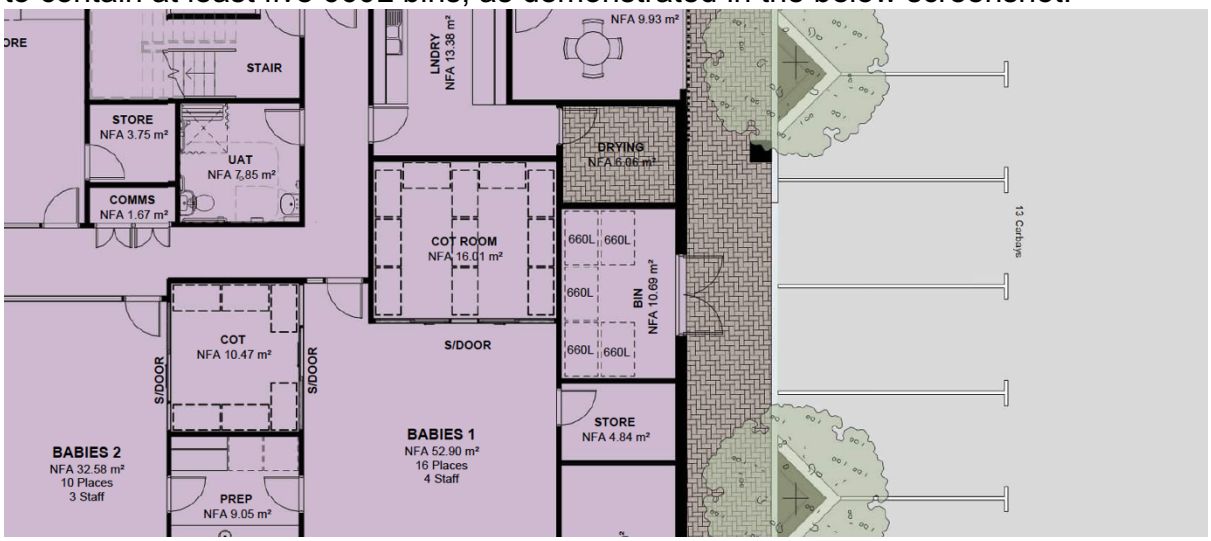
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WASTE MANAGEMENT PLAN – PROPOSED CHILD CARE PREMISES AND SWIM SCHOOL

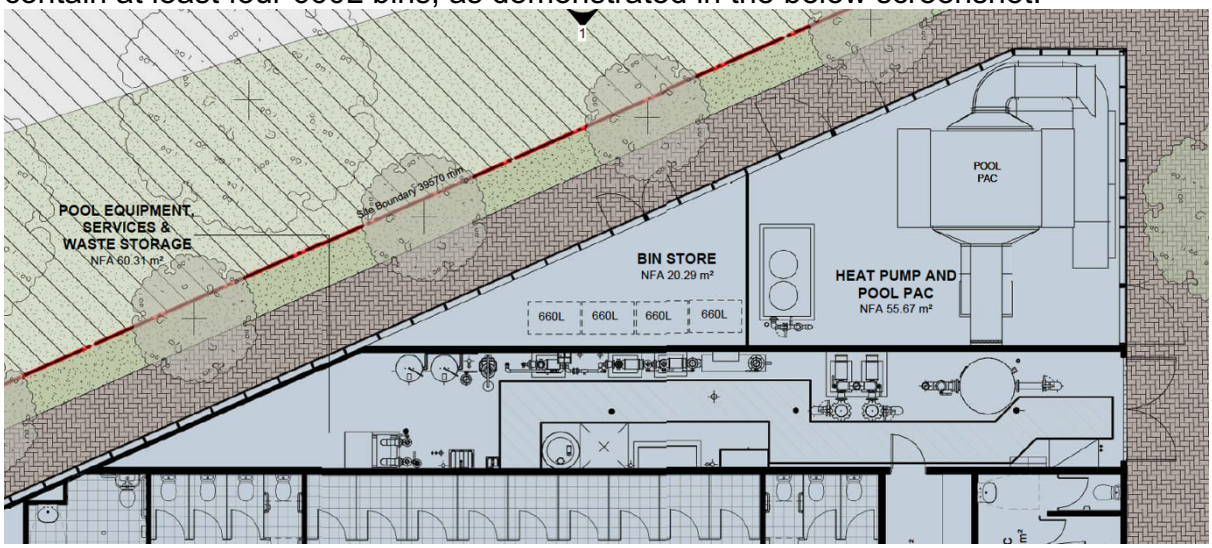
LOT 810 WENTWORTH PARADE, SUCCESS

4.2 WASTE STORAGE

The bin store for the child care premises is 10.69sqm in area and has sufficient space to contain at least five 660L bins, as demonstrated in the below screenshot:



The bin store for the swim school is 20.29sqm in area and has sufficient space to contain at least four 660L bins, as demonstrated in the below screenshot:



Both bin stores will be designed and constructed in accordance with relevant health legislation and the City's guidelines, including wash down facilities and a graded drain which is connected to sewer.

4.3 WASTE COLLECTION

Based on the waste generation calculations in sub-section 4.1 and the waste storage outlined in sub-section 4.2, the following collection regimes are proposed:

- Child care premises: two collections per week for garbage and one collection per week for recyclables.
- Swim school: one collection per week for garbage and one collection per week for recyclables.

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WASTE MANAGEMENT PLAN – PROPOSED CHILD CARE PREMISES AND SWIM SCHOOL

LOT 810 WENTWORTH PARADE, SUCCESS

The swim school and child care premises will have separate waste collection regimes to be serviced by private waste contractor. The private contractor will collect the waste utilising a rear loader waste collection vehicle of up to 8.8m in length.

Swept path diagrams are provided at **Appendix 4** which depict the satisfactory ingress and egress movements of an 8.8m waste collection vehicle, entering and exiting in forward gear via Malata Crescent. As some parking spaces are required for manoeuvring, the operators of both facilities will ensure waste collection is scheduled during off-peak periods.

The private contractor will be responsible for transporting bins between the bin store and the waste collection vehicle at the time of collection and will be provided with a pin code and/or keys of the facility for access to the bin store.

In accordance with Reg.14A of the *Environmental Protection (Noise) Regulations 1997* (**Noise Regulations**), waste collection activity is required to be carried out during the following times:

- 7am and 7pm on any day that is not a Sunday or a public holiday; and
- 9am hours and 7pm on a Sunday or public holiday.

5 WASTE MANAGEMENT MEASURES

To ensure efficient and effective waste management practices of the proposed development, the following best practice measures will be implemented:

- Regular consultation with the private contractors to ensure efficient and effective waste service is maintained.
- Regular washing and cleaning of the bin stores to ensure it is maintained in a tidy and acceptable condition and devoid of odours.
- Collection to occur during off peak periods of the development.

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APPENDIX 1

SITE PLAN

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SITE CRITERIA

1. Site Area
a. Site Area — **4,000m²**

2. Landscaping
a. Required 10% of Site Area — **400m²**
b. Provided
Soft — 661m² **(17%)**
Hard — 459m²
Total — **1,120m²**

3. Floor Area (GFA)
a. Childcare GFA — 647m²
b. Swim School GFA — 886m²
Total — **1,533m²**

4. Carparking
Total Car provided — **58 Cars**

Landscaping
A. Soft Landscaping
Defined as vegetative landscaping.

Gross Floor Area : GFA
A. All Floor Areas on this plan are shown as GROSS FLOOR AREA.
Unless otherwise noted as Nett Floor Area
B. Definition of Gross Floor Area is defined as:
i/ GROSS FLOOR AREA OF TENANCY:
Gross Floor Area of an individual Tenancy is defined as the area contained between the centre line of common tenancy walls and the outside edge of external walls.
ii/ GROSS FLOOR AREA OF A BUILDING:
Gross Floor Area of a Building is defined as the total area contained between the outside edge of external walls

Nett Floor Area : NFA
A. Nett Floor Area of a Tenancy on this plan is defined as the area between external or tenancy dividing walls.
B. This area is inclusive of toilets if the toilets are exclusive to the Tenancy.

SITE DESIGN CHECKLIST

- ☐ 1. SEWER MAINS LOCATION TO BE DETERMINED
- ☐ 2. FIRE MAINS PRESSURE TEST REQUIRED
- ☐ 3. FIRE TANKS OR PUMPS TO BE DETERMINED
- ☐ 4. WESTERN POWER TRANSFORMER LOCATION TO BE DETERMINED
- ☐ 5. CROSSOVER & ACCESS TO STREET TO BE DETERMINED BY LOCAL AUTHORITY
- ☐ 6. FULL FEATURE SITE SURVEY REQUIRED
- ☐ 7. DIAL BEFORE YOU DIG REQUIRED
- ☐ 8. BUSHFIRE ATTACK LEVEL (BAL) TO BE DETERMINED
- ☐ 9. STREET POWER POLES TO BE DETERMINED
- ☐ 10. SITE ZONING & USE TO BE DETERMINED

NOTE: Any of the following items that do not have an 'X' in the provided square require determination.

LEGEND

- BUILDING FOOTPRINT - SWIMMING SCHOOL
- BUILDING FOOTPRINT - CHILDCARE
- EXTENT OF CONCRETE HARDSTAND
- EXTENT OF ROADBASE HARDSTAND
- EXTENT OF BITUMEN PAVING
- EXTENT OF CERAMIC TILES
- EXTENT OF BRICK PAVING / CONCRETE PAVING
- EXTENT OF LANDSCAPING

SITE PLAN

SCALE: 1 : 200

PRELIMINARY

meyer shircore architects

PROPOSED CHILDCARE & SWIM SCHOOL DEVELOPMENT

LOCATION : LOT 810 CNR WENTWORTH PARADE & MALATA CRES, SUCCESS, WA

FOR : JARRA PROPERTY

Member Australian Institute of Architects

0 1 2 3 4 5 10

DATE: DEC 2025
REVISION: SK034
SHEET: A - 1000
SCALE: As indicated@B1

PROJECT NUMBER
P25-9533

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Suite 2, Ground Floor 437 Roberts Road, Subiaco WA 6008
PO Box 1294 Subiaco WA 6904
t: 08 9381 8511 e: msa@meyershircore.com.au

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APPENDIX 2

FLOOR PLAN – CHILD CARE PREMISES

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CHILDCARE GROUND FLOOR PLAN

SCALE: 1 : 100

PRELIMINARY

meyer shircore architects

PROPOSED CHILDCARE & SWIM SCHOOL DEVELOPMENT

LOCATION : LOT 810 CNR WENTWORTH PARADE & MALATA CRES, SUCCESS, WA

FOR : JARRA PROPERTY

Member Australian Institute of Architects

DATE: DEC 2025
REVISION: SK034
SHEET: A - 2100
SCALE: 1 : 100 @B1

PROJECT NUMBER
P25-9533

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PO Box 1294 Subiaco WA 6904
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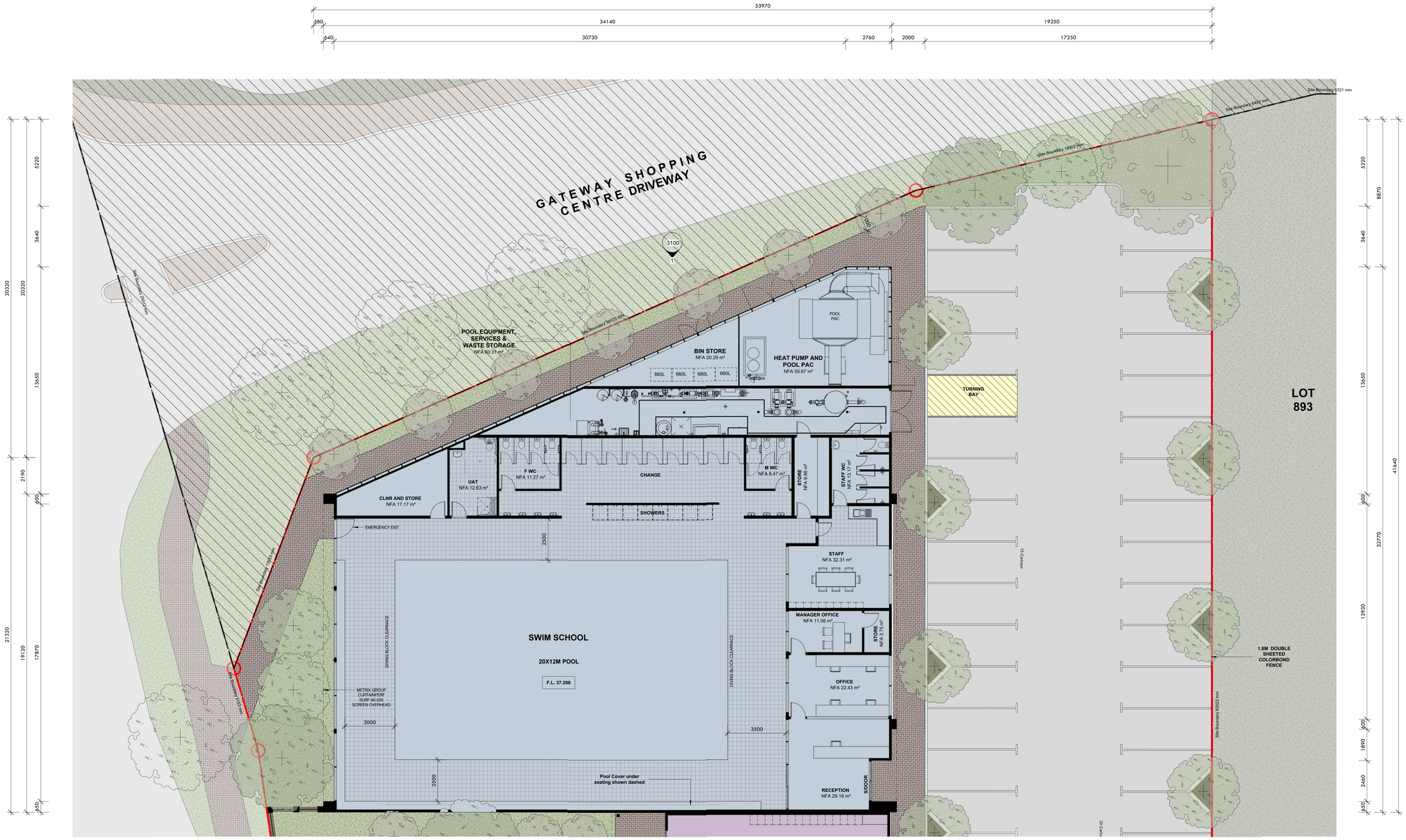
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APPENDIX 3

FLOOR PLAN – SWIM SCHOOL

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SWIM SCHOOL GROUND FLOOR PLAN

SCALE: 1 : 100

PRELIMINARY

meyer shircore architects

PROPOSED CHILDCARE & SWIM SCHOOL DEVELOPMENT

LOCATION : LOT 810 CNR WENTWORTH PARADE & MALATA CRES, SUCCESS, WA

FOR : JARRA PROPERTY

Member Australian Institute of Architects

0 1 2 3 4 5 10

DATE: DEC 2025
REVISION: SK034
SHEET: A - 2000
SCALE: 1 : 100 @B1

PROJECT NUMBER
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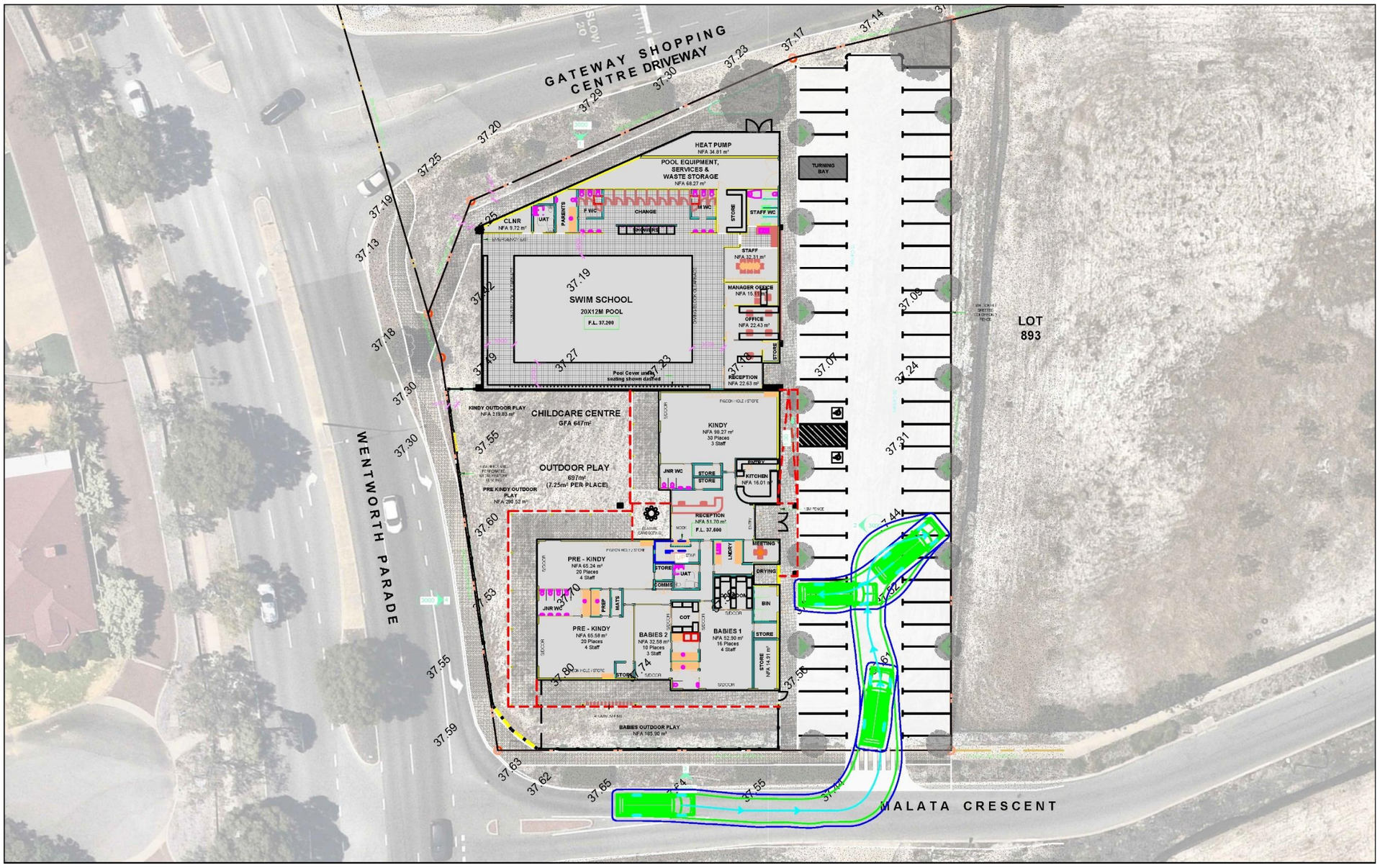
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APPENDIX 4

SWEPT PATH PLANS

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Lot 810 Wentworth Parade, Success

Austroads 2023: 8.8m Service Vehicle

Service vehicle entry to child care centre's service area

LEGEND

Vehicle Body

Wheel Path

500mm Clearance

t25.204.sk01a

21/11/2025

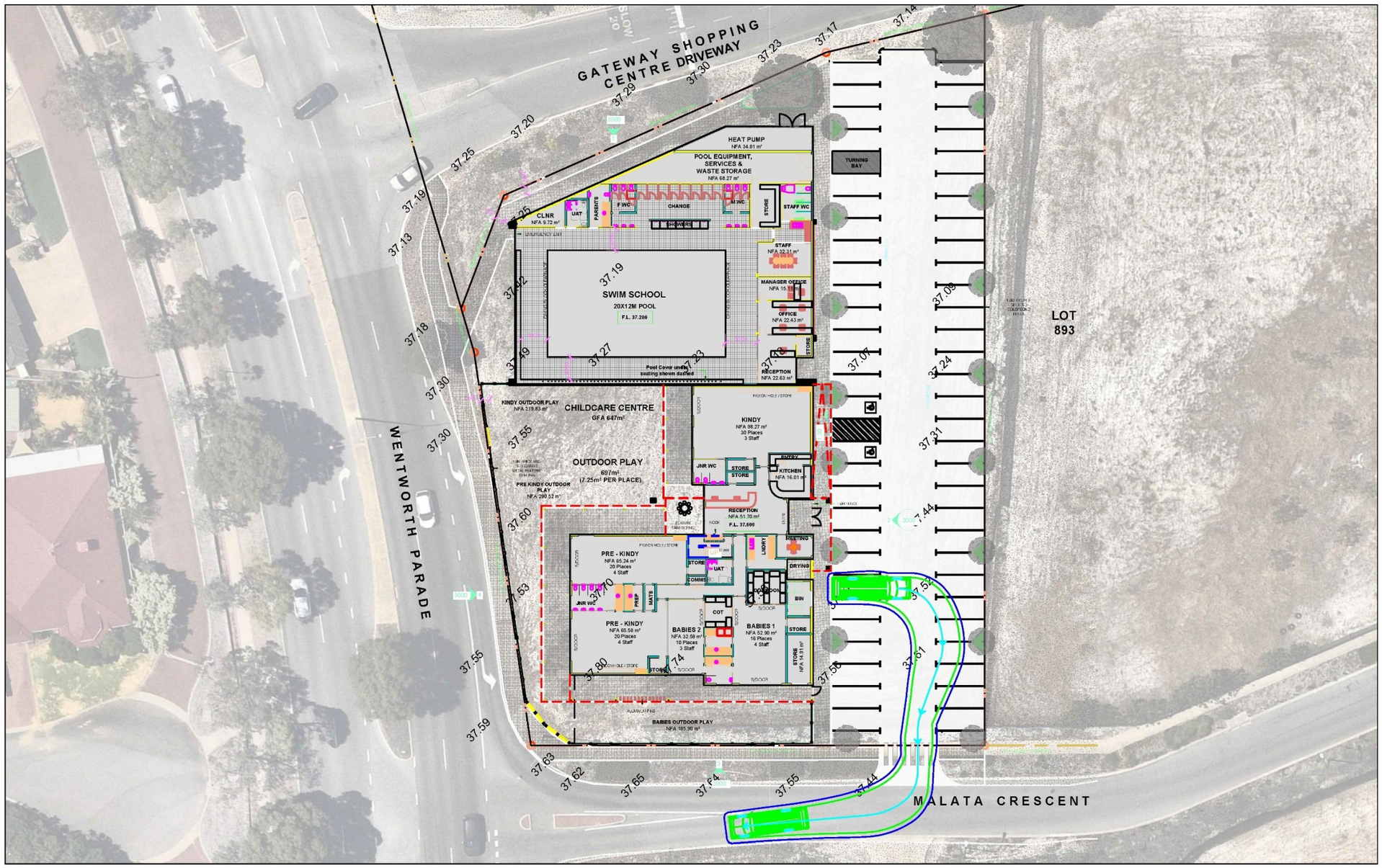
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Lot 810 Wentworth Parade, Success

Austroads 2023: 8.8m Service Vehicle

Service vehicle exit from child care centre's service area

LEGEND

Vehicle Body

Wheel Path

500mm Clearance

t25.204.sk02a

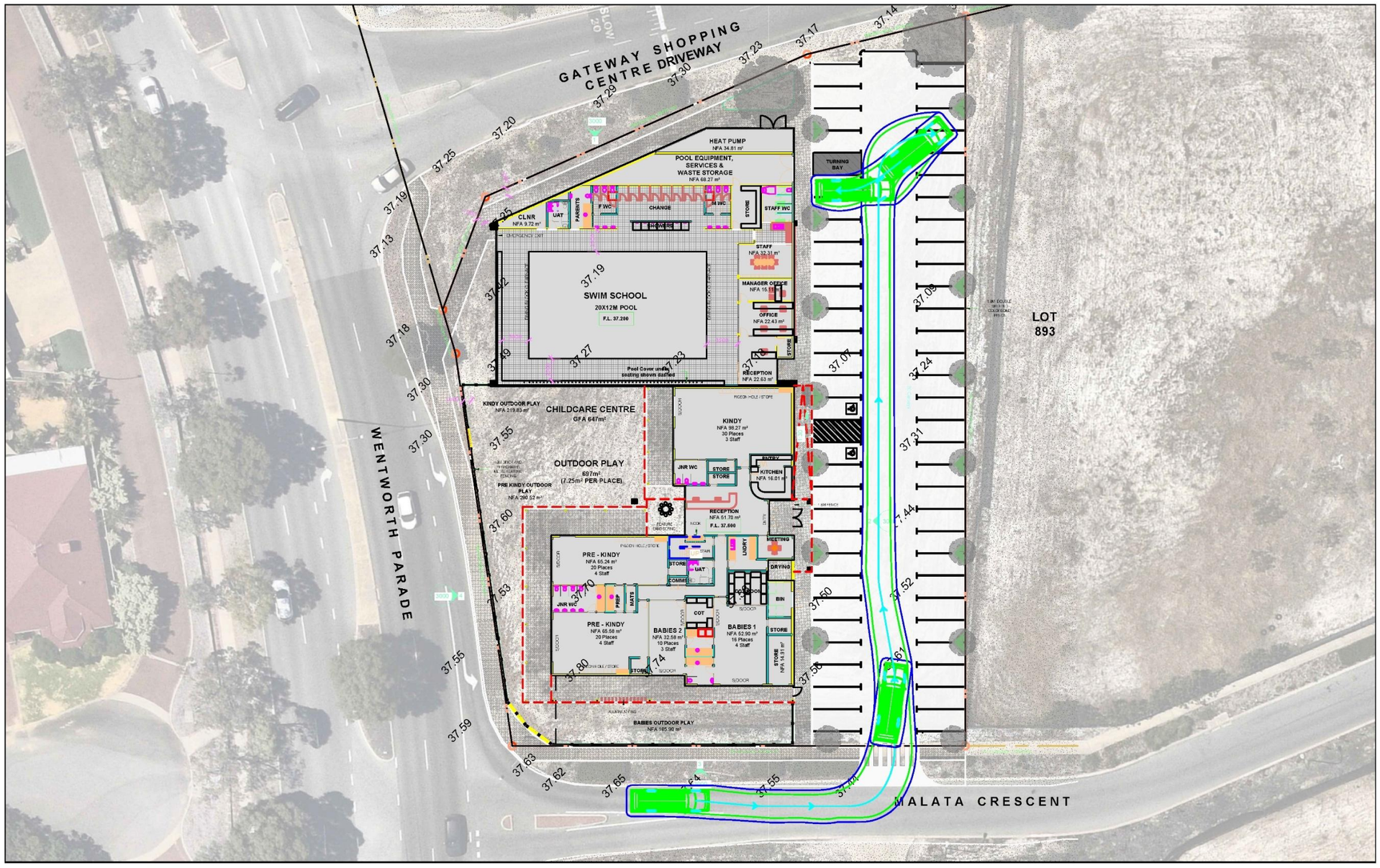
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Lot 810 Wentworth Parade, Success

Austroads 2023: 8.8m Service Vehicle

Service vehicle entry to swim school's service area

LEGEND

Vehicle Body

Wheel Path

500mm Clearance

t25.204.sk03a

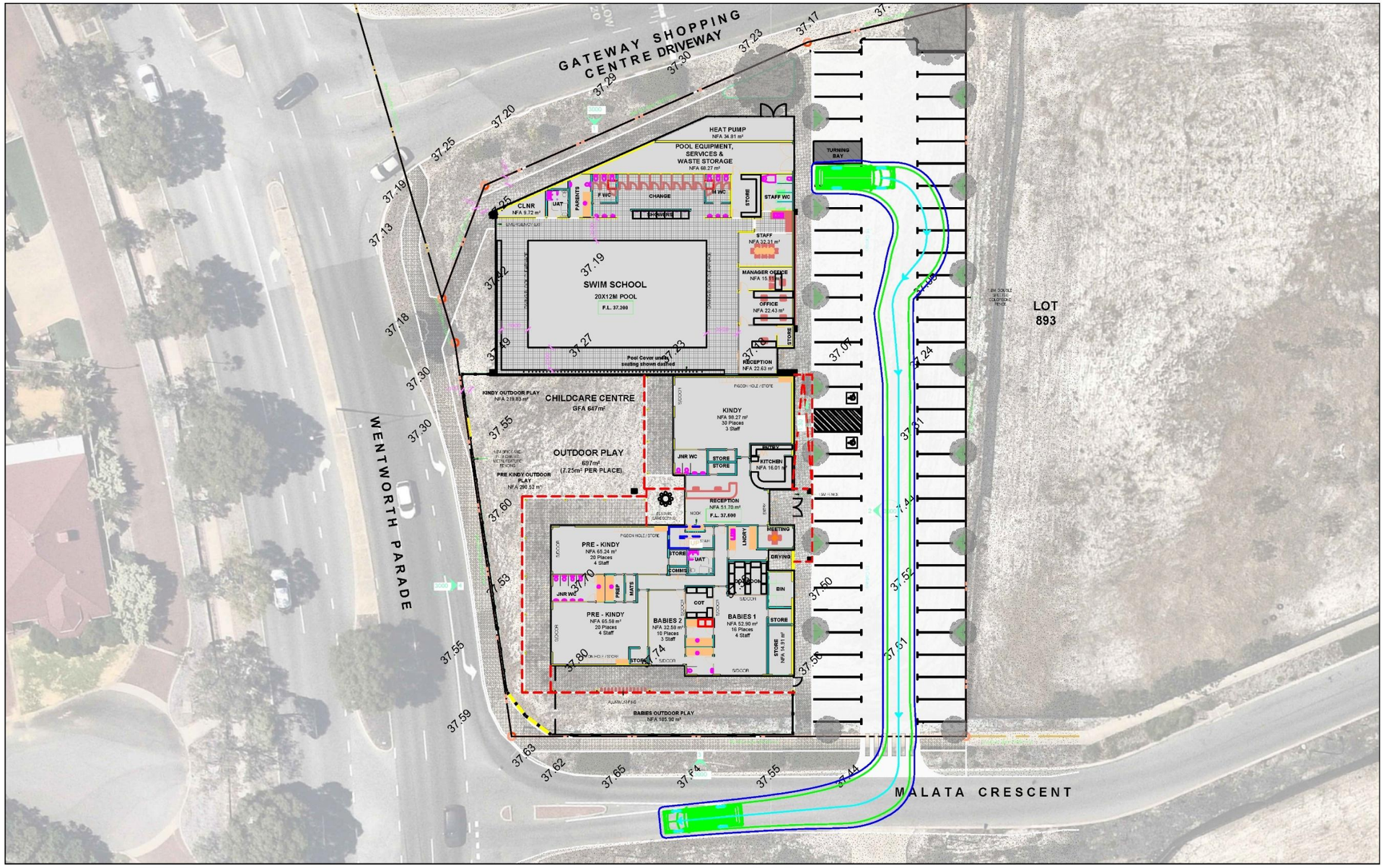
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Lot 810 Wentworth Parade, Success

Austroads 2023: 8.8m Service Vehicle

Service vehicle exit from swim school's service area

LEGEND

Vehicle Body

Wheel Path

500mm Clearance

t25.204.sk04a

21/11/2025

Scale: 1:400 @ A3

transcore

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PARKING MANAGEMENT PLAN – PROPOSED CHILD CARE PREMISES AND SWIM SCHOOL

LOT 810 WENTWORTH PARADE, SUCCESS

1 INTRODUCTION AND SCOPE

This Parking Management Plan (**PMP**) has been prepared for the child care premises and swim school development proposed at Lot 810 Wentworth Parade, Success (**subject site**).

The purpose of this PMP is to demonstrate the parking arrangements for the proposed development will cater for the anticipated usage and demand for both uses, with due consideration to site context, operational characteristics, and any parking reduction factors.

2 SITE LOCATION AND CONTEXT

The subject site is located at the corner of Wentworth Parade and Malata Crescent in Success, forming part of the 'core area' of the Cockburn Centre Activity Centre Strategy. The site is:

- Adjacent to the Cockburn Gateway Shopping City to the north, which contains a major shopping precinct with complementary land uses, significant car parking, and stops on high frequency bus routes
- Within walking distance of bus stops on Wentworth Parade providing a transit link between Aubin Grove train station and Cockburn Central train station
- Within approximate 10 minute walking distance of Cockburn Central train station

Refer to **Figure 1** below which depicts the subject site and its surroundings:



Figure 1: aerial photo of subject site and surroundings.

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PARKING MANAGEMENT PLAN – PROPOSED CHILD CARE PREMISES AND SWIM SCHOOL

LOT 810 WENTWORTH PARADE, SUCCESS

3 DETAILS OF PROPOSED DEVELOPMENT

The proposed development is comprised of a child care premises and swim school in separate buildings, which will be serviced by a car park of 58 parking spaces (includes two ACROD bays) gaining access from a full movement crossover to Malata Crescent. The car park includes a turnaround bay near the end of the driveway aisle.

The specifics of the uses is outlined below:

- The child care premises has a capacity of 96 children, 18 full-time 'room ratio' educators, a centre manager, a cook, and approximately four part-time support staff. The facility will operate 6:30am-6:30pm on weekdays.
- The swim school provides specialised swimming curriculum to babies and small children in a structured manner through pre-organised lessons. The facility operates 6:30am-8pm 7 days per week, with lessons delivered in two 'shifts' with no lessons provided between 12:30pm-2:30pm. Staffing at any one time is usually comprised of a manager, a customer service officer, 2 pool supervisors, and 6-8 swim teachers, which totals 10-12 staff in peak periods.

The site plan is provided at **Appendix 1** and extracted in **Figure 2** below for reference.

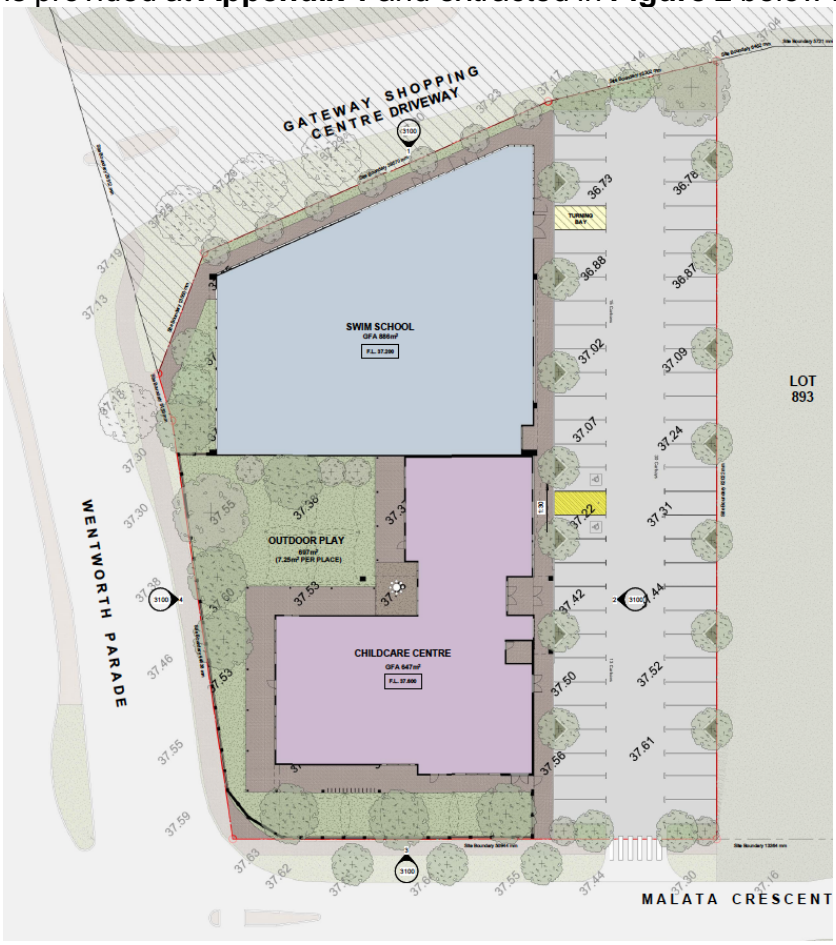


Figure 2: Site plan of proposed development.

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PARKING MANAGEMENT PLAN – PROPOSED CHILD CARE PREMISES AND SWIM SCHOOL

LOT 810 WENTWORTH PARADE, SUCCESS

4 OPERATIONAL CHARACTERISTICS OF PROPOSED USES

The operational characteristics of the proposed uses which informs the practical parking demand is outlined below. The information has been sourced from the operators of both facilities, as well as the project traffic engineer who prepared a Transport Impact Statement in support of the subject development.

4.1 CHILD CARE PREMISES

The child care premises experiences its peak usage and parking demand as follows:

- Child drop off and pick up occurs over a spread out period in the morning and afternoon, based on the individual needs and schedules of parents. Drop offs occur from centre opening to 9:30am, with the greatest volume of drop offs occurring 8am-9am. Pick ups occur from 3pm until the centre closes, with the greatest volume occurring 4pm-5pm. This means very little to no parent parking activity occurs between 9:30am–3pm.
- The staffing of the child care centre is informed by to the rate of drop off and pick up by parents, with staff attending and departing on a staggered basis based on the needs of the centre. An indicative staff schedule is below:

Time	Staff rostered	Total staff onsite
6:30am - 7:00am	2 staff commence shift	2
7:00am - 7:30am	3 staff commence shift	5
7:30am - 8:00am	3 staff + Centre Manager commence shift	9
8:00am - 8:30am	3 staff + Cook commence shift	13
8:30am - 9:00am	4 staff	17
9:00am - 9:30am	3 staff	20
11:30am - 2:30pm	4 staff (Lunch Cover) commence shift	24
1:00pm - 1:30pm	Cook end shift	23
2:30pm - 3:00pm	3 staff end shift (Lunch Cover)	19
3:00pm - 3:30 pm	3 Staff end shift	16
3:30pm - 4:00pm	3 Staff end shift	13
4:00pm - 4:30pm	3 Staff + Centre Manager end shift	9
4:30pm - 5:00pm	3 Staff end shift	6
5:00pm - 5:30pm	3 Staff end shift	3
5:30pm - 6:30pm	3 Staff end shift	0

- Based on observations by the operator at various other facilities, 10-20% of staff do not drive and attend through other means (ie car pool, drop off, walking, public transport). A rate of 15% is therefore applied, noting the site's location in the 'core area' of an activity centre and proximity to bus and train services.
- It is conservatively assumed all parents drive to the site and the maximum parking demand for drop offs and pick ups is taken as 10 bays, which is based on the City's parking rate of 1 bay / 10 children.

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4.2 SWIM SCHOOL

The swim school experiences its peak usage and parking demand as follows:

- The swim school offers pre-organised lessons during the periods of 6:30am-12:30pm (shift 1) and 2:30pm-8pm (shift 2), seven days per week. Each 'shift' provides 6-7 lessons and lessons can accommodate 25 kids during off-peak periods and 35 kids during peak periods.
- As children attending lessons vary between non-school age and school age, off-peak periods are shift 1 and shift 2 on weekdays, as non-school age kids attend during shift 1 and school ages kids attend during shift 2. Peak periods occur on weekends as all kids attend regardless of age.
- Staffing at any one time is usually comprised of 7-10 per 'shift' depending on peak vs off-peak, which includes a manager, customer service, pool supervisors, and swim teachers.
- It is conservatively assumed all parents drive to the premises with one child. For staff, a rate of 15% of non-car attendance is assumed similar to the child care premises.

5 CAR PARK USAGE AND AVAILABILITY (STAFF AND VISITORS)

Based on the overview provided in the previous sections, the peak parking demand and usage across the site is:

- Weekdays (AM): The child care premises could require a maximum of 27 bays at 9am (10 bays for parents and 17 bays for staff), when the swim school could require 27 bays (25 bays for parents and 7 bays for staff). The onsite provision of 58 bays is expected to be sufficient noting that from 9am, the peak of child care drop-offs reduces which means 10 bays would not be needed.
- Weekdays (lunch time): The child care premises is fully staffed with no drop off or pick up activity occurring, and the swim school is not offering lessons and will have minimal staff onsite. The onsite provision of 58 bays is ample.
- Weekdays (PM): The child care premises could require a maximum of 26 bays at 3pm (10 bays for parents and 16 bays for staff), when the swim school could require 27 bays (25 bays for parents and 7 bays for staff). The onsite provision of 58 bays is expected to be sufficient, and it is noted that staff of the child care premises continue to depart from the site through the course of the afternoon which frees up more parking.
- Weekends: The child care premises is closed and the swim school operates at peak, requiring 45 bays (35 bays for parents and 10 bays for staff).

Having regard for the above, the proposed parking arrangements will cater for the anticipated demand for both uses over the course of a typical day. It is further noted that the analysis conservatively assumes no shared usage between the facilities, when it is likely that some parents with multiple young children would use both facilities in a single trip.

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6 PARKING MANAGEMENT MEASURES

The proposed development will adhere to the following parking management measures, to be observed by the management and staff of both facilities during times of operation:

- At the time of induction, staff of both facilities will be briefed on the PMP and proper use of the car park.
- At the time of enrolment, parents of both facilities will be briefed on the PMP and proper use of the car park.
- Staff will be responsible for monitoring the use of the car park and ensuring orderly and proper use of the bays.
- Staff are encouraged to adopt alternate modes of transportation to reduce vehicle dependence, which may include car pooling, bus or train services (available in the immediate area), and cycling to work.
- Parents of the child care premises are encouraged to carry out drop off and pick up activity efficiently to ensure prompt turnover of bays.
- The managers of both facilities will regularly monitor and observe the use of the car park to ensure the PMP is implemented as intended, and communicate regularly to optimise parking usage.

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APPENDIX 1

SITE PLAN

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SITE CRITERIA

1. Site Area
a. Site Area — **4,000m²**

2. Landscaping
a. Required 10% of Site Area — **400m²**
b. Provided
Soft — 661m² **(17%)**
Hard — 459m²
Total — **1,120m²**

3. Floor Area (GFA)
a. Childcare GFA — 647m²
b. Swim School GFA — 886m²
Total — **1,533m²**

4. Carparking
Total Car provided — **58 Cars**

Landscaping
A. Soft Landscaping
Defined as vegetative landscaping.

Gross Floor Area : GFA
A. All Floor Areas on this plan are shown as GROSS FLOOR AREA.
Unless otherwise noted as Nett Floor Area
B. Definition of Gross Floor Area is defined as:
i/ GROSS FLOOR AREA OF TENANCY:
Gross Floor Area of an individual Tenancy is defined as the area contained between the centre line of common tenancy walls and the outside edge of external walls.
ii/ GROSS FLOOR AREA OF A BUILDING:
Gross Floor Area of a Building is defined as the total area contained between the outside edge of external walls

Nett Floor Area : NFA
A. Nett Floor Area of a Tenancy on this plan is defined as the area between external or tenancy dividing walls.
B. This area is inclusive of toilets if the toilets are exclusive to the Tenancy.

SITE DESIGN CHECKLIST

- ☐ 1. SEWER MAINS LOCATION TO BE DETERMINED
- ☐ 2. FIRE MAINS PRESSURE TEST REQUIRED
- ☐ 3. FIRE TANKS OR PUMPS TO BE DETERMINED
- ☐ 4. WESTERN POWER TRANSFORMER LOCATION TO BE DETERMINED
- ☐ 5. CROSSOVER & ACCESS TO STREET TO BE DETERMINED BY LOCAL AUTHORITY
- ☐ 6. FULL FEATURE SITE SURVEY REQUIRED
- ☐ 7. DIAL BEFORE YOU DIG REQUIRED
- ☐ 8. BUSHFIRE ATTACK LEVEL (BAL) TO BE DETERMINED
- ☐ 9. STREET POWER POLES TO BE DETERMINED
- ☐ 10. SITE ZONING & USE TO BE DETERMINED

NOTE: Any of the following items that do not have an 'X' in the provided square require determination.

LEGEND

- BUILDING FOOTPRINT - SWIMMING SCHOOL
- BUILDING FOOTPRINT - CHILDCARE
- EXTENT OF CONCRETE HARDSTAND
- EXTENT OF ROADBASE HARDSTAND
- EXTENT OF BITUMEN PAVING
- EXTENT OF CERAMIC TILES
- EXTENT OF BRICK PAVING / CONCRETE PAVING
- EXTENT OF LANDSCAPING

SITE PLAN

SCALE: 1 : 200

PRELIMINARY

meyer shircore architects

PROPOSED CHILDCARE & SWIM SCHOOL DEVELOPMENT

LOCATION : LOT 810 CNR WENTWORTH PARADE & MALATA CRES, SUCCESS, WA

FOR : JARRA PROPERTY

Member Australian Institute of Architects

0 1 2 3 4 5 10

DATE: DEC 2025
REVISION: SK034
SHEET: A - 1000
SCALE: As indicated@B1

PROJECT NUMBER
P25-9533

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Environmental Noise Assessment -
Childcare Centre & Swim School

Lot 810 Wentworth Parade, Success

Reference: 250910689-01A

Prepared for:
Jarra

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Reference: 250910689-01A

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This report has been prepared in accordance with the scope of services described in the contract or agreement between Lloyd George Acoustics Pty Ltd and the Client. The report relies upon data, surveys, measurements and results taken at or under the particular times and conditions specified herein. Any findings, conclusions or recommendations only apply to the aforementioned circumstances and no greater reliance should be assumed or drawn by the Client. Furthermore, the report has been prepared solely for use by the Client, and Lloyd George Acoustics Pty Ltd accepts no responsibility for its use by other parties.

Date	Rev	Description	Author	Verified
1-Oct-25	0	Issued to Client	Matt Moyle	Terry George
3-Mar-26	A	Update Receivers	Matt Moyle	Terry George

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EXECUTIVE SUMMARY

Lloyd George Acoustics was engaged by Jarra to undertake a noise assessment for a proposed childcare centre (CCC) and Swim school to be located at Lot 810 Wentworth Parade, Success. This report considered noise emissions from the proposed childcare centre and swim school to surrounding properties by way of noise modelling of child play, mechanical plant and car door closings.

The predicted noise from all children playing outside and car door closings is compliant at all existing noise sensitive premises. Mechanical plant noise at night was calculated to potentially exceed assigned levels when factoring tonality. However once the plant has been designed and selected, this should be further reviewed to ensure compliance prior to Building Permit.

Consideration has also been given to potential multi-level future noise sensitive premises to the east at Lot 893. The future outcome at Lot 893 may result in non-compliance at upper levels as a result of night time car-park use. However, this is dependent on the nature of any noise sensitive facades that comprise the development. Should an exceedance be determined in future, it is recommended that additional acoustic barriers be allowed for in the design and applied as needed, with consultation from an acoustic professional.

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1. INTRODUCTION

Lloyd George Acoustics was engaged by Jarra to undertake an environmental noise assessment for a proposed childcare centre (CCC) and swim school to be located at Lot 810 Wentworth Parade, Success (refer *Figure 1-1*) with the site plan shown in *Figure 1-2* and full Development Application (DA) plans provided in *Appendix A*. The purpose of this report is to consider noise emissions from the proposed centre and swim school to surrounding properties.



Figure 1-1: Subject Site Location (Source: DPLH PlanWA)

The proposed swim school will be open 7-days from 6.30am to 9.00pm. The proposed childcare centre will be open Monday to Friday, 6.30am to 6.30pm. These will consist of the following:

- Six internal teaching spaces capable of accommodating up to 96 children, grouped as follows:
  - 26 places for children aged 0-2 years;
  - 20 places for children aged 2-3 years;
  - 50 places for children aged 3-5 years.
- Outdoor play areas (not used prior to 7.00am);
- Amenities and associated mechanical plant such as:
  - Kitchen exhaust fan assumed to be located on roof above;
  - Various exhaust fans (toilets, laundry, nappy room) assumed to be located on the roof above;
  - Air-conditioning (AC) plant, assumed to located on the ground in the designated yard as shown on the DA Plans;
  - Swimming Pool heat pumps and exhaust/supply fans located on the north of the building within a plant yard.
- Car parking for both CCC and swim school to be on the East side of the lot.

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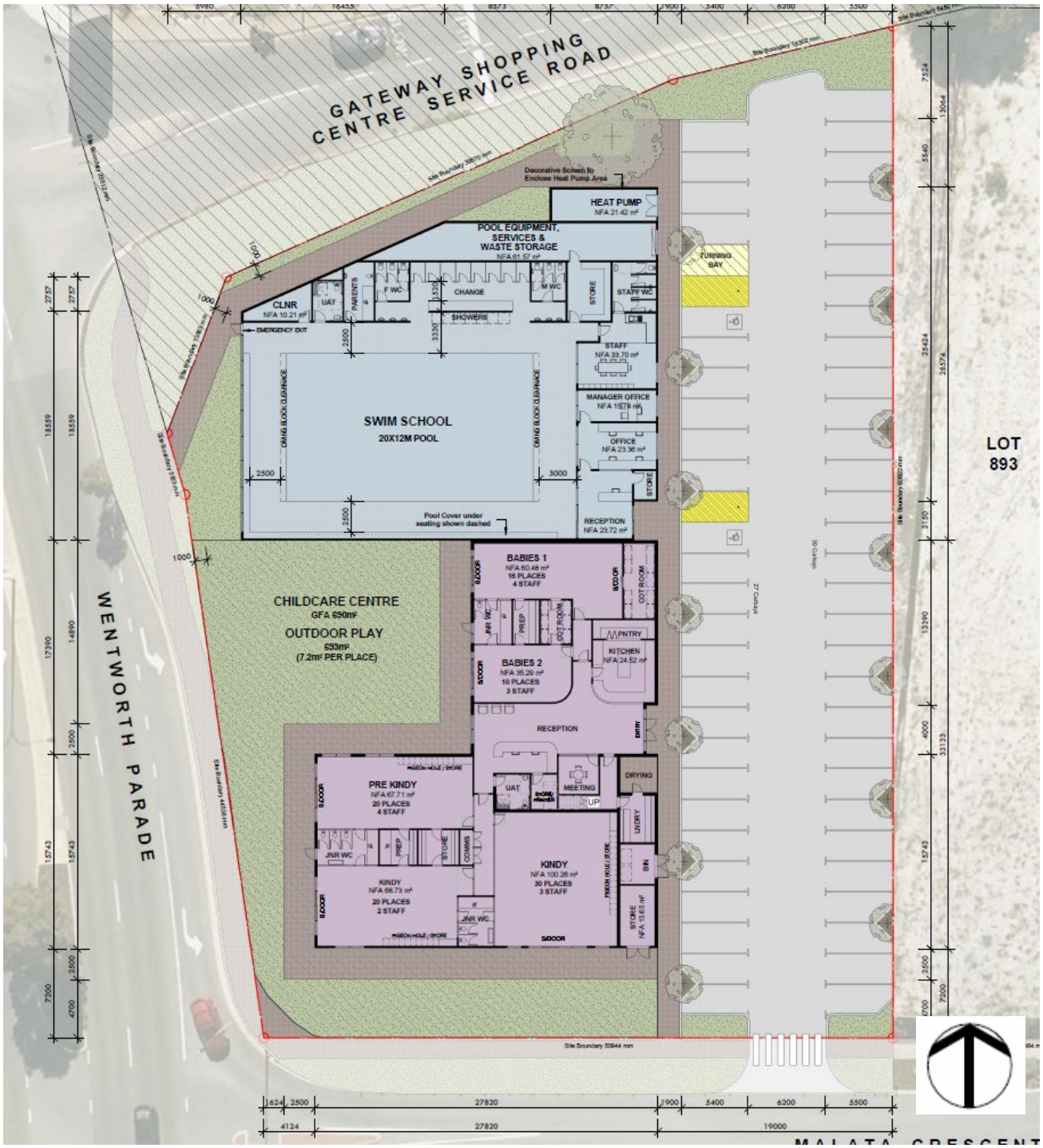


Figure 1-2: Proposed Site Plan

With regard to noise emissions, consideration is given to noise from child play, mechanical services (including HVAC and for pool heating) and closing car doors at neighbouring properties, against the prescribed standards of the *Environmental Protection (Noise) Regulations 1997*.

Appendix C contains a description of some of the terminology used throughout this report.

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2. CRITERIA

Environmental noise in Western Australia is governed by the *Environmental Protection Act 1986*, through the *Environmental Protection (Noise) Regulations 1997* (the Regulations).

2.1. Regulations 7, 8 & 9

This group of regulations defines the prescribed standard for noise emissions applicable to child play, mechanical services and car door closing as follows:

*"**7. Prescribed standard for noise emissions***

(1) Noise emitted from any premises or public place when received at other premises –

(a) must not cause, or significantly contribute to, a level of noise which exceeds the assigned level in respect of noise received at premises of that kind; and

(b) must be free of –

(i) tonality; and

(ii) impulsiveness; and

(iii) modulation,

when assessed under regulation 9.

(2) For the purposes of subregulation (1)(a), a noise emission is taken to significantly contribute to a level of noise if the noise emission … exceeds a value which is 5 dB below the assigned level at the point of reception."

Tonality, impulsiveness and modulation are defined in regulation 9 (refer *Appendix C*). Under regulation 9(3), *"Noise is taken to be free of the characteristics of tonality, impulsiveness and modulation if -*

(a) the characteristics cannot be reasonably and practicably removed by techniques other than attenuating the overall level of noise emission; and

(b) the noise emission complies with the standard prescribed under regulation 7(1)(a) after the adjustments in the table [Table 2-1] … are made to the noise emission as measured at the point of reception."

Table 2-1 Adjustments Where Characteristics Cannot Be Removed

Where Noise Emission is Not Music*			Where Noise Emission is Music	
Tonality	Modulation	Impulsiveness	No Impulsiveness	Impulsiveness
+ 5 dB	+ 5 dB	+ 10 dB	+ 10 dB	+ 15 dB

* These adjustments are cumulative to a maximum of 15 dB.

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The assigned levels (prescribed standards) for all premises are specified in regulation 8(3) and are shown in *Table 2-2*. The L_{A10} assigned level is applicable to noises present for more than 10% of a representative assessment period, generally applicable to "steady-state" noise sources. The L_{A1} is for short-term noise sources present for less than 10% and more than 1% of the time. The L_{Amax} assigned level is applicable for incidental noise sources, present for less than 1% of the time.

Table 2-2 Baseline Assigned Levels

Premises Receiving Noise	Time Of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises: highly sensitive area[1]	0700 to 1900 hours Monday to Saturday (Day)	45 + influencing factor	55 + influencing factor	65 + influencing factor
	0900 to 1900 hours Sunday and public holidays (Sunday)	40 + influencing factor	50 + influencing factor	65 + influencing factor
	1900 to 2200 hours all days (Evening)	40 + influencing factor	50 + influencing factor	55 + influencing factor
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	35 + influencing factor	45 + influencing factor	55 + influencing factor
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80
Commercial Premises	All hours	60	75	80
Industrial and Utility Premises	All hours	65	80	90

1. ***highly sensitive area*** means that area (if any) of noise sensitive premises comprising —
   (a) a building, or a part of a building, on the premises that is used for a noise sensitive purpose; and
   (b) any other part of the premises within 15 metres of that building or that part of the building.

The influencing factor (IF), in relation to noise received at noise sensitive premises, has been calculated as between 3-9 dB, as determined in *Appendix B*. *Table 2-3* shows the assigned levels including the influencing factor at the receiving locations.

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Table 2-3 Assigned Levels

Premises Receiving Noise	Time Of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
17 Malata Crescent +5 dB All nearest highly sensitive areas[1]	0700 to 1900 hours Monday to Saturday (Day)	50	60	70
	0900 to 1900 hours Sunday and public holidays (Sunday)	45	55	70
	1900 to 2200 hours all days (Evening)	45	55	60
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	40	50	60
30 and 34 Malata Crescent +3 dB All nearest highly sensitive areas[1]	0700 to 1900 hours Monday to Saturday (Day)	48	58	68
	0900 to 1900 hours Sunday and public holidays (Sunday)	43	53	68
	1900 to 2200 hours all days (Evening)	43	53	58
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	38	48	58
West Residences (11 & 17 Meranda Lane and 29 Millstream Place) +9 dB All nearest highly sensitive areas[1]	0700 to 1900 hours Monday to Saturday (Day)	54	64	74
	0900 to 1900 hours Sunday and public holidays (Sunday)	49	59	74
	1900 to 2200 hours all days (Evening)	49	59	64
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	44	54	64
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80
Commercial Premises	All hours	60	75	80

1. ***highly sensitive area*** means that area (if any) of noise sensitive premises comprising —
   (a) a building, or a part of a building, on the premises that is used for a noise sensitive purpose; and
   (b) any other part of the premises within 15 metres of that building or that part of the building.

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It must be noted the assigned levels above apply outside the receiving premises and at a point at least 3 metres away from any substantial reflecting surfaces.

The assigned levels are statistical levels and therefore the period over which they are determined is important. The Regulations define the Representative Assessment Period (RAP) as "*a period of time of not less than 15 minutes, and not exceeding 4 hours, determined by* an *inspector* or *authorised person to be appropriate for the assessment of a noise emission, having regard to the type and nature of the noise emission"*. An inspector or authorised person is a person appointed under Sections 87 & 88 of the *Environmental Protection Act 1986* and include Local Government Environmental Health Officers and Officers from the Department of Water Environmental Regulation. Acoustic consultants or other environmental consultants are not appointed as an inspector or authorised person. Therefore, whilst this assessment is based on a 4-hour RAP, which is assumed to be appropriate given the nature of the operations, this is to be used for guidance only.

2.2. Regulation 3

*"**3. Regulations do not apply to certain noise emissions***

(1) Nothing in these regulations applies to the following noise emissions –

(a) Noise emissions from the propulsion and braking systems of motor vehicles operating on a road;"

The proposed car park is considered a road and therefore vehicle noise (propulsion and braking) is not assessed. Noise from vehicle car doors however are assessed, since these are not part of the propulsion or braking system.

2.3. Regulation 14A

*"**14A. Waste Collection and Other Works***

(2) Regulation 7 does not apply to noise emitted in the course of carrying out class 1 works if –

(a) The works are carried out in the quietest reasonable and practicable manner; and

(b) The equipment used to carry out the works is the quietest reasonably available;

class 1 works means specified works carried out between -

(a) 0700 hours and 1900 hours on any day that is not a Sunday or a public holiday; or

(b) 0900 hours and 1900 hours on a Sunday or public holiday.

specified works means -

(a) The collection of waste; or

(b) The cleaning of a road or the drains for a road; or

(c) The cleaning of public places, including footpaths, cycle paths, car parks and beaches;"

In the case where specified works are to be carried out outside of class 1, a noise management plan is to be prepared and approved by the CEO. It is understood that Waste collection is to be carried out between 7.00am to 7.00pm Monday to Saturday.

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3. METHODOLOGY

Computer modelling has been used to predict the noise emissions from the development to all nearby receivers. The software used was *SoundPLAN 9.1* with the ISO 9613:2024 algorithms (ISO 17534-3 improved method) selected, as they include the influence of wind and are considered appropriate given the relatively short source to receiver distances. Input data required in the model are listed below and discussed in *Section 3.1* to *Section 3.4*:

- Meteorological Information;
- Topographical data;
- Ground Absorption; and
- Source sound power levels.

3.1. Meteorological Conditions

Meteorological information utilised is provided in *Table 3-1* and is considered to represent worst-case conditions for noise propagation. At wind speeds greater than those shown, sound propagation may be further enhanced, however background noise from the wind itself and from local vegetation is likely to be elevated and dominate the ambient noise levels.

Table 3-1: Modelling Meteorological Conditions

Parameter	Day (7.00am to 7.00pm)	Night (7.00pm to 7.00am)
Temperature (°C)	20	15
Humidity (%)	50	50
Wind Speed (m/s)	Up to 5	Up to 5
Wind Direction*	All	All

* The modelling package allows for all wind directions to be modelled simultaneously.

Alternatives to the above default conditions can be used where one year of weather data is available and the analysis considers the worst 2% of the day and night for the month of the year in which the worst-case weather conditions prevail (source: *Draft Guideline on Environmental Noise for Prescribed Premises*, May 2016). In most cases, the default conditions occur for more than 2% of the time and therefore must be satisfied.

3.2. Topographical Data

Topographical data was adapted from publicly available information (e.g. *Google*) in the form of spot heights and combined with the site plan.

Surrounding existing buildings were also incorporated in the noise model, as these can provide noise shielding as well as reflection paths. Single storey buildings are modelled with a height of 3.5-metres and any double or multi-storey buildings assumed to be 3-metres in height per floor, with receivers 1.4-metres above floor level. There is a mix of single storey residences (to the west) and multi-storey apartments (to the east), with future

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development to the south assumed to be double storey. The proposed building has been reproduced within the noise model.

The childcare centre building is incorporated in the noise model as per the *Appendix A* plans. Fencing around the child play areas is considered to be open style. Fencing along the east boundary of the car park is assumed to be 1.8 metres high – relative to carpark level. This fencing is to be solid, free of any gaps and of minimum surface mass 8 kg/m^2. Such material can be brick, limestone, concrete with double sheeted *Colorbond* also permissible. For areas where visual permeability is required, sound-rated plexiglass can be used.

Figure 3-1 shows a 2D overview of the noise model with the location of all relevant receivers identified. Pink dots represent point sources in the noise model (car doors, mechanical plant) with the pink polygon representing child play.

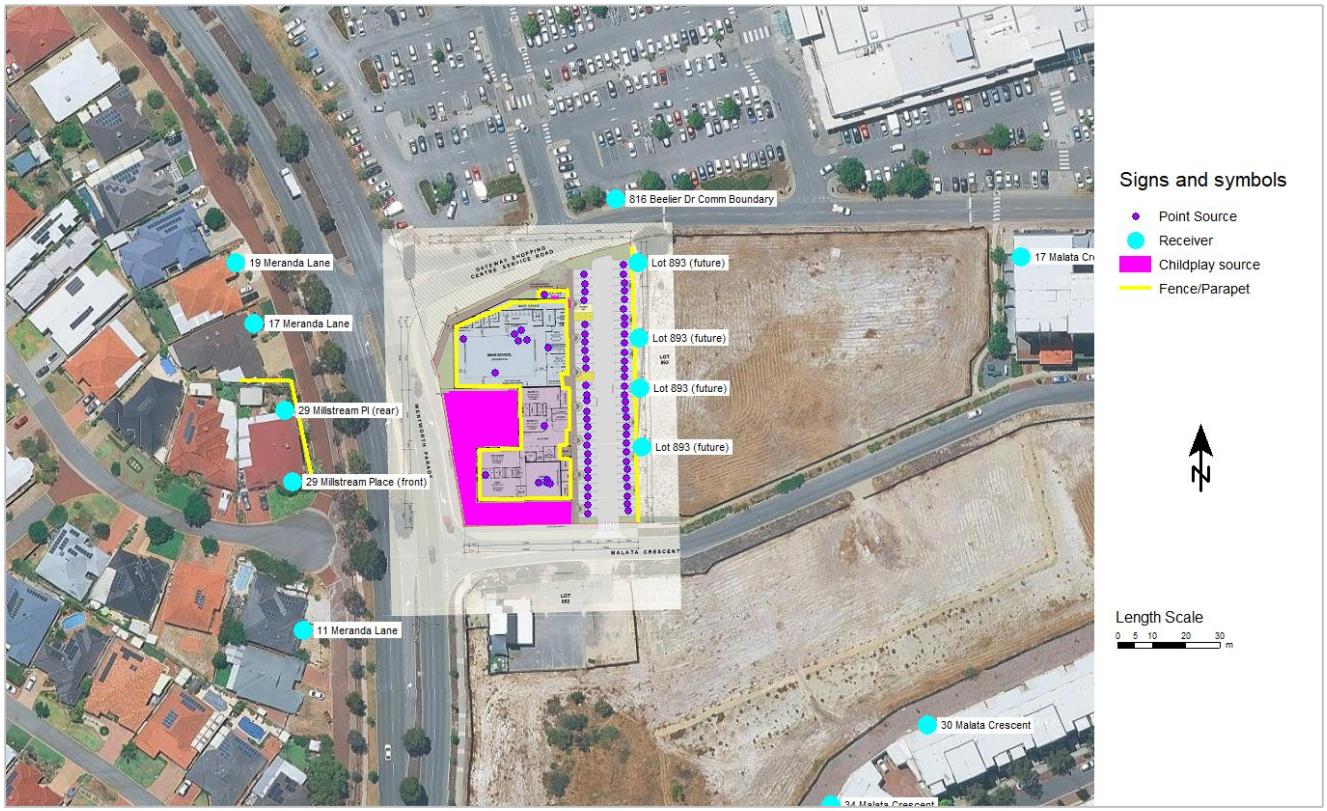


Figure 3-1: Overview of Noise Model

3.3. Ground Absorption

The ground absorption has been assumed to be 0.0 (0%) for the roads, 0.5 (50%) outside of the roads and 1.0 (100%) for the play areas, noting that 0.0 represents hard reflective surfaces such as water and 1.0 represents absorptive surfaces such as grass.

3.4. Source Sound Levels

The source sound power levels used in the modelling are provided in *Table 3-2*.

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Table 3-2: Source Sound Power Levels, dB

Description	Octave Band Centre Frequency (Hz)								Overall dB(A)
	63	125	250	500	1k	2k	4k	8k	
Babies Play Aged 0-2 Years (10 kids), L_{10}	54	60	66	72	74	71	67	64	**78**
Toddler Play Aged 2-3 Years (10 kids), L_{10}	61	67	73	79	81	78	74	70	**85**
Kindy Play Aged 3+ Years (10 kids), L_{10}	64	70	75	81	83	80	76	72	**87**
AC Plant, double fan unit (each), L_{10}	72	74	68	69	63	61	53	47	**70**
General Exhaust Fans (each), L_{10}	60	65	62	63	60	61	56	53	**67**
Kitchen Exhaust Fan, L_{10}	50	64	61	70	69	66	62	50	**73**
Closing Car Door (each), L_{max}	71	74	77	81	80	78	72	61	**84**
Pool Heat Pump Unit, L_{10}	95	94	84	78	78	77	72	70	**85**
Pool Ventilation Outlet fan, L_{10}	79	81	87	86	86	83	79	76	**90**
Pool Ventilation Inlet fan, L_{10}	71	70	80	78	72	72	70	76	**81**

The following is noted in relation to *Table 3-2*:

- Child play source levels are based on *Guideline for Childcare Centre Acoustic Assessments Version 3.0* produced by the Association of Australasian Acoustical Consultants (AAAC) published September 2020. Where the number of children for individual play areas is specified in the plans, these have been adjusted from the reference source levels using appropriate acoustical calculations. Outdoor child play was modelled as area sources at 1.0-metre above ground level. The sound power levels used in the model were scaled as follows:
  - 26 places for children aged 0-2 years = 82 dB(A);
  - 20 places for children aged 2-3 years = 88 dB(A);
  - 50 places for children aged 3+ years = 94 dB(A).
- Based on the AAAC Guideline 3.0, source sound power levels for AC condensing units were assumed. Medium sized (double fan) outdoor units were deemed appropriate eight (8) modelled as point sources on the rooftop (4 per tenancy).
- Other mechanical plant includes four (4) exhaust fans (toilets and laundry) and one kitchen exhaust fan. All were modelled as point sources approximately 0.5 metres above roof level and above the area serviced.
- Pool heat pump and ventilation outlets/inlets are assumed to be in the north part of the swimming school building, with the inlet on the west side, and the outlet facing north. This should be reviewed as detailed design progresses.
- Car doors closing were modelled as a point source 1.0-metre above ground level. Since noise from a car door closing is a short term event, only the L_{Amax} level is applicable.

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4. RESULTS AND ASSESSMENT

4.1. Outdoor Child Play & Plant Noise

The childcare development will host up to 96 children. It is noted play time is generally staggered and therefore not all children would be playing outside at once for extended periods of time. However, noise levels were conservatively predicted for all children playing simultaneously, as a worst-case scenario with the results combined with Mechanical plant noise from the Swim school provided and assessed in *Table 4-1*. The critical assigned level is during the day, as whilst the childcare centre will open at 6.30am, outdoor child play will not commence until after 7.00am. Noise from child play is not considered to contain annoying characteristics within the definition of the Regulations and therefore no adjustments are made to the predicted noise levels. A noise contour plot is also provided in *Figure 4-1* showing noise levels at ground floor.

Table 4-1: Child Play Noise Predicted Levels and Assessment, dB L_{A10}

Receiver	Floor	Babies (0-2 yo)	Toddler (2-3 yo)	Kindy (3+ yo)	All Plant	Total	Assigned Level	Assessment
17 Malata Crescent	GF	12	18	30	36	**37**	**50**	*Complies*
17 Malata Crescent	Upper	17	23	33	38	**40**	**50**	*Complies*
11 Meranda Lane	GF	38	44	51	28	**52**	**54**	*Complies*
17 Meranda Lane	GF	37	44	47	33	**49**	**54**	*Complies*
19 Meranda Lane	GF	35	42	46	41	**49**	**54**	*Complies*
29 Millstream Pl (rear)	GF	34	39	35	27	**42**	**54**	*Complies*
29 Millstream Place (front)	GF	35	41	49	27	**50**	**54**	*Complies*
30 Malata Crescent	GF	9	14	38	26	**38**	**48**	*Complies*
30 Malata Crescent	F 1	10	15	43	28	**44**	**48**	*Complies*
34 Malata Crescent	GF	10	16	40	24	**40**	**48**	*Complies*
816 Beeliar Dr Comm Boundary	GF	16	23	30	49	**49**	**60**	*Complies*
Lot 893 (Future)	GF	16	22	32	38	**39**	**60 (54)**	*Complies*
Lot 893 (Future)	Upper	27	33	39	52	**53**	**60 (54)**	*Complies*

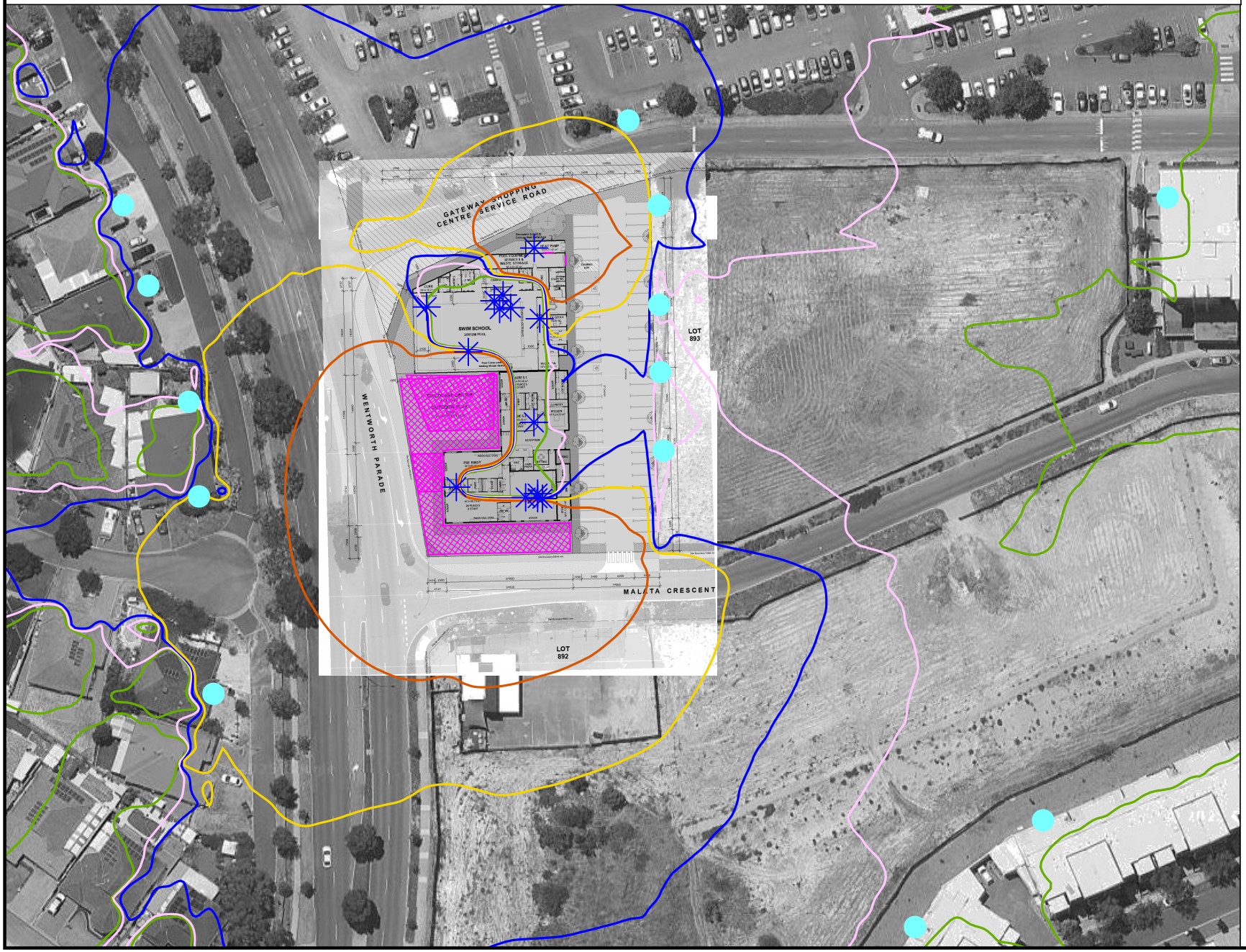
Based on a conservative scenario of all 96 children playing outside simultaneously, the assessment demonstrates compliance is achieved during the day. Regarding Lot 893,

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Figure 4-1 Scenario 1: Day Time Noise Ground Floor (1.5m AGL), dB L_{A10}

Lot 810 Wentworth Parade, Success



Predicted Noise level

- = 35
- = 40
- = 45
- = 50
- = 55

Legend

- Receiver
- Mech Plant Source
- Outdoor Childplay

N

Scale 1:1200

0 5 10 20 30 m

Project No: 250910689
Consultant: MM
Date: 3/03/2026
Algorithm: ISO 9613
SoundPLAN Version: 9.1

Lloyd George Acoustics
PO Box 717
HILLARYS WA 6923
(08) 9401 7770

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4.2. Mechanical Plant Noise (Night)

Mechanical plant noise consists of the outdoor AC condensing units, pool plant and exhaust fans. Predicted and assessed noise levels are provided in *Table 4-2*. The critical assigned level is during the night, as the plant may operate prior to 7.00am. An adjustment of + 5 dB is included for tonality, since this may be present for such noise sources. A noise contour plot is also provided in *Figure 4-2* showing noise levels at ground floor.

Table 4-2: Mechanical Plant Noise Predicted Levels and Assessment, dB L_{A10}

Receiver	Floor	Exhaust Fans	AC Plant	Pool Plant	Total Adjusted	Assigned Level	Assessment
17 Malata Crescent	GF	21	22	35	**41**	**40**	*+1*
17 Malata Crescent	F 1	21	23	36	**42**	**40**	*+2*
17 Malata Crescent	F 2	22	23	37	**42**	**40**	*+2*
17 Malata Crescent	F 3	22	23	37	**43**	**40**	*+3*
17 Malata Crescent	F 4	22	23	38	**43**	**40**	*+3*
11 Meranda Lane	GF	23	25	20	**33**	**44**	*Complies*
17 Meranda Lane	GF	24	25	32	**38**	**44**	*Complies*
19 Meranda Lane	GF	23	25	41	**46**	**44**	*+2*
29 Millstream Pl (rear)	GF	22	23	22	**32**	**44**	*Complies*
29 Millstream Place (front)	GF	22	23	19	**32**	**44**	*Complies*
30 Malata Crescent	GF	16	19	24	**31**	**38**	*Complies*
30 Malata Crescent	F 1	18	20	26	**33**	**38**	*Complies*
34 Malata Crescent	GF	16	20	21	**29**	**38**	*Complies*
816 Beeliar Dr Comm Boundary	GF	24	26	49	**54**	**60**	*Complies*
Lot 893 (Future)	GF	21	24	38	39	**60 (44)**	*Complies*
Lot 893 (Future)	Upper	27	29	52	52	**60 (44)**	*Complies (+8)*

The calculations show exceedences at some receiver locations, including at upper floors of future noise sensitive (lot 893). It must be noted that the assessment is based on assumptions in relation to the number, location, size and type of mechanical plant – particularly the pool plant in this case. Therefore, once the mechanical plant has been designed and selected, noise is to be reviewed by a suitably qualified acoustical consultant.

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Figure 4-2 Scenario 2: Night Time Noise Ground Floor (1.5m AGL), dB L_{A10}

Lot 810 Wentworth Parade, Success



Predicted Noise level

- = 30
- = 35
- = 40
- = 45
- = 50

Legend

- Receiver
- Mech Plant Source

N

Scale 1:1200

0 5 10 20 30 m

Project No: 250910689
Consultant: MM
Date: 3/03/2026
Algorithm: ISO 9613
SoundPLAN Version: 9.1

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4.3. Car Door Closing Noise

Predicted and assessed noise levels for car doors closing are provided in *Table 4-3* being the maximum noise level from the worst-case car bay for each receiver. The critical assigned level is during the night, as car door closings will occur prior to 7.00am. An adjustment of + 10 dB is included for impulsiveness, since this may be present for such sources. A noise contour plot is also provided in *Figure 4-3* showing noise at ground floor.

Table 4-3: Car Door Closing Noise Predicted Levels and Assessment, dB L_{Amax}

Receiver	Floor	Car Doors	Max Adjusted	Assigned Level	Assessment
17 Malata Crescent	GF	32	42	**60**	*Complies*
17 Malata Crescent	F 1	31	41	**60**	*Complies*
17 Malata Crescent	F 2	31	41	**60**	*Complies*
17 Malata Crescent	F 3	33	43	**60**	*Complies*
17 Malata Crescent	F 4	34	44	**60**	*Complies*
11 Meranda Lane	GF	40	50	**64**	*Complies*
17 Meranda Lane	GF	37	47	**64**	*Complies*
19 Meranda Lane	GF	38	48	**64**	*Complies*
29 Millstream Pl (rear)	GF	22	32	**64**	*Complies*
29 Millstream Place (front)	GF	35	45	**64**	*Complies*
30 Malata Crescent	GF	32	42	**58**	*Complies*
30 Malata Crescent	F 1	34	44	**58**	*Complies*
34 Malata Crescent	GF	34	44	**58**	*Complies*
816 Beeliar Dr Comm Boundary	GF	50	60	**80**	*Complies*
Lot 893 (Future)	GF	52	62	**80 (64)**	*Complies*
Lot 893 (Future)	Upper	59	69	**80 (64)**	*Complies (+5)*

Noise from car doors is predicted to comply at all nearest existing receivers during the critical night period. The future outcome at Lot 893 may result in non-compliance at upper levels. This is dependent on the nature of any noise sensitive facades facing the development. Should complaints arise related to car park noise, it is recommended that additional acoustic barriers be allowed for in the design should an exceedance be determined.

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4.4. Indoor Child Play and Pool Noise

An assessment of noise levels from indoor child play and the swim school was carried out and the resulting noise levels at all locations were predicted to be well below that of outdoor child play considered in *Section 4.1*. This assessment was carried out based on the following considerations:

- Internal noise levels within activity rooms would not exceed those from outdoor play for each age group, regardless of windows being open or closed; and
- Any music played within the internal activity areas would be 'light' music with no significant bass content and played at a relatively low level.
- No openings from the pool area are assumed and therefore noise will primarily remain internal in nature.

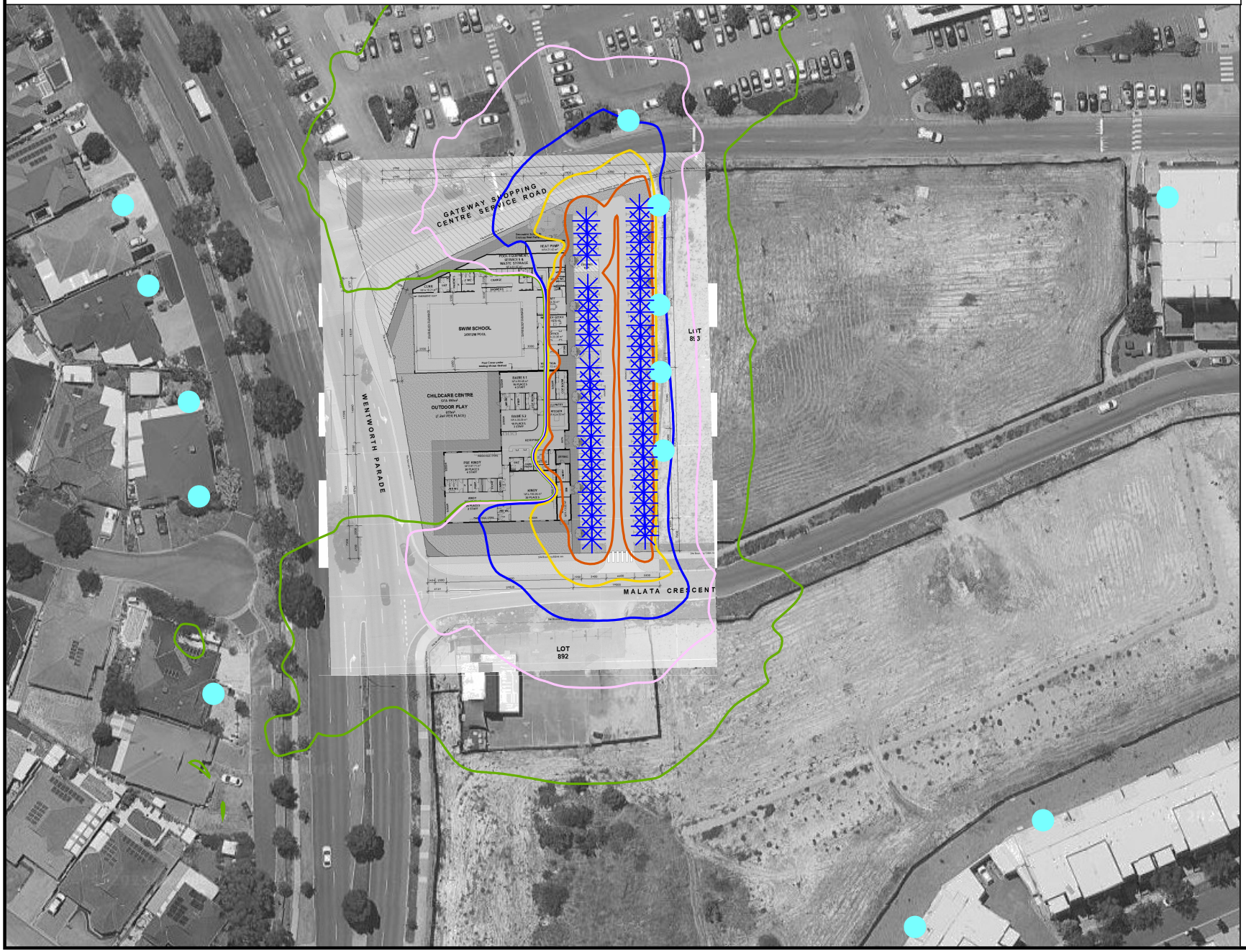
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Figure 4-3 Scenario 3: Night Time Carpark Noise Ground Floor (1.5m AGL), dB L_{Amax}

Lot 810 Wentworth Parade, Success



Predicted Noise level

- = 40
- = 45
- = 50
- = 55
- = 60

Legend

- Receiver
- Car Door Source

N

Scale 1:1200

0 5 10 20 30 m

Project No: 250910689
Consultant: MM
Date: 3/03/2026
Algorithm: ISO 9613
SoundPLAN Version: 9.1

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5. RECOMMENDATIONS

5.1. Child Play & Pool Plant Noise During the Day

The predicted noise from all children playing outside as well as day time mechanical plant noise, is demonstrated to be compliant. Whilst not necessarily required for compliance, to further minimise noise impacts as part of best practice, the following are provided:

- The behaviour and 'style of play' of children should be monitored to prevent particularly loud activity e.g. loud banging/crashing of objects, 'group' shouts/yelling;
- Favour soft finishes in the outdoor play area to minimise impact noise (e.g. soft grass, sand pit(s), rubber mats) over timber or plastic;
- Favour soft balls and rubber wheeled toys;
- Crying children should be taken inside to be comforted;
- Child play to be staggered;
- No amplified music to be played outside;
- Any music played within the internal activity areas to be 'light' music with no significant bass content and played at a relatively low level;
- Car park drainage grates or similar to be plastic or metal with rubber gasket and secured to avoid excess banging.

5.2. Mechanical Plant

The noise from mechanical plant has the potential to exceed assigned levels, particularly at night. As such, the following are recommended:

- Once the mechanical plant has been designed and selected, the noise levels shall be reviewed prior to Building Permit;
- All exhaust fans shall be located inside the ceiling void and shall be axial fan type, allowing the incorporation of an attenuator if required;
- All fans shall be variable speed drive so that maximum speed is only occurring when necessary with demand;
- Air-conditioning shall have a ‘night’ / ‘quiet’ mode option, in case required for prior to 7.00am operation, subject to final detailed analysis;
- All plant shall be selected taking into consideration noise levels. That is, when comparing manufacturers of equivalent equipment, select the quieter model;
- All plant is to be appropriately vibration isolated to 95% isolation efficiency.

5.3. Car Doors

The predicted noise from car door closings is compliant. It is recommended that fencing is constructed on the east boundary, being of minimum 1.8 metres high and solid, free of gaps and of minimum surface mass 8 kg/m^2. Such material can be brick, limestone with double sheeted *Colorbond* also permissible. For areas where visual permeability is required, sound-rated plexiglass can be used. The future outcome at Lot 893 may result in non-compliance at upper levels. This is dependent on the nature of any noise sensitive facades facing the development. Should an exceedance be determined in future, it is recommended that additional acoustic barriers be allowed for in the design and applied as needed, with consultation from an acoustic professional.

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Appendix A – Development Plans

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Appendix B – Influencing Factor Calculation

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The assigned levels combine a baseline assigned level with an influencing factor, with the latter increasing the assigned level on the basis of the existence of significant roads and commercial or industrial zoned land within an inner circle (100 metre radius) and an outer circle (450 metre radius) of the noise sensitive premises. The calculation for the influencing factor is:

$$= \frac{1}{10}(\%\ \text{Type A}_{100} + \%\ \text{Type A}_{450}) + \frac{1}{20}(\%\ \text{Type B}_{100} + \%\ \text{Type B}_{450})$$

where :

$\%\ \text{Type A}_{100}$ = the percentage of industrial land within a100m radius of the premises receiving the noise

$\%\text{TypeA}_{450}$ = the percentage of industrial land within a 450m radius of the premises receiving the noise

$\%\ \text{Type B}_{100}$ = the percentage of commercial land within a100m radius of the premises receiving the noise

$\%\text{TypeB}_{450}$ = the percentage of commercial land within a 450m radius of the premises receiving the noise

+ Transport Factor (maximum of 6 dB)

= 2 for each secondary road (6,000 to 15,000 vpd) within 100m

= 2 for a major road (> 15,000 vpd) within 450m

= 6 for a major road within 100m

The nearest noise sensitive premises are identified as:

- R1 –17 Malata Crescent;
- R2 – 30 and 34 Malata Crescent;
- R3 – West Residences (11 & 17 Meranda Lane and 29 Millstream Place).
- R4 – Future East Noise Sensitive (Lot 893).

Table B-1 shows the percentage of industrial and commercial land within the inner (100 metre radius) and outer (450 metre radius) circles of the noise sensitive premises, with this also shown on *Figure B-1* for Receiver R1.

Table B-1: Percentage of Land Types within 100m and 450m Radii

Receiver	Land Type	Within 100m	Within 450m
R1	Type A - Industrial and Utility	-	-
	Type B – Commercial	34	25
R2	Type A - Industrial and Utility	-	-
	Type B – Commercial	2	26
R3	Type A - Industrial and Utility	-	-
	Type B – Commercial	24	26
R4	Type A - Industrial and Utility	-	-
	Type B – Commercial	38	25

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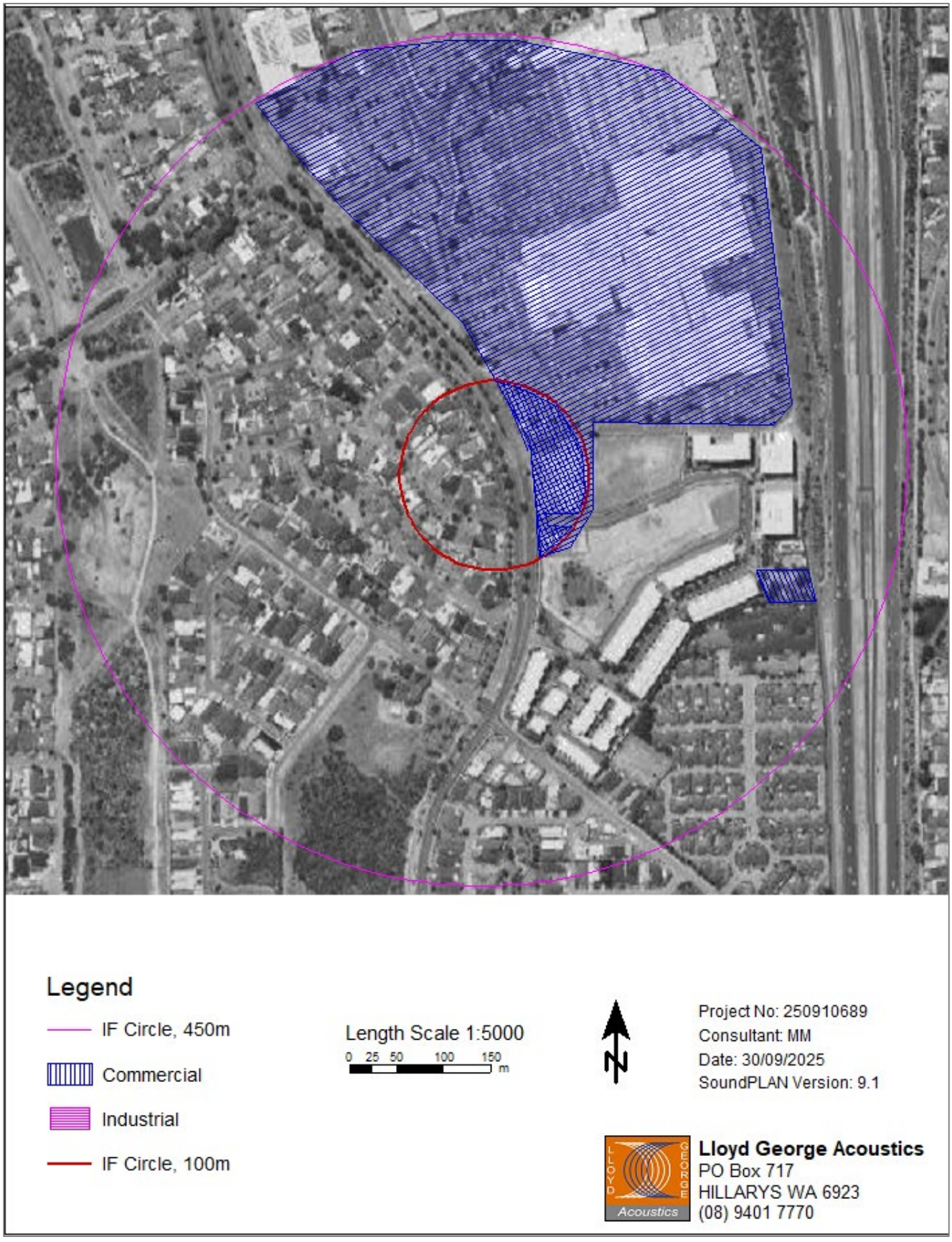


Figure B-1: Land Types within 100m and 450m Radii of R3

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From the Main Roads WA Traffic Map (refer *Figure B-2*), *Table B-2* shows the relevant roads and their traffic counts within the inner (100 metre radius) and outer (450 metre radius) circles.

Table B-2: Relevant Roads within 100m and 450m Radii

Receiver	Within 100m		Within 450m
	Major Road (+ 6 dB)	Secondary Road (+ 2 dB)	Major Road Not Within 100m (+ 2 dB)
R1	-	-	Wentworth Parade (20,338 06/2023 #LM01108)
R2	-	-	Wentworth Parade (20,338 06/2023 #LM01108)
R3	Wentworth Parade (20,338 06/2023 #LM01108)	-	-
R4	Wentworth Parade (20,338 06/2023 #LM01108)	-	-

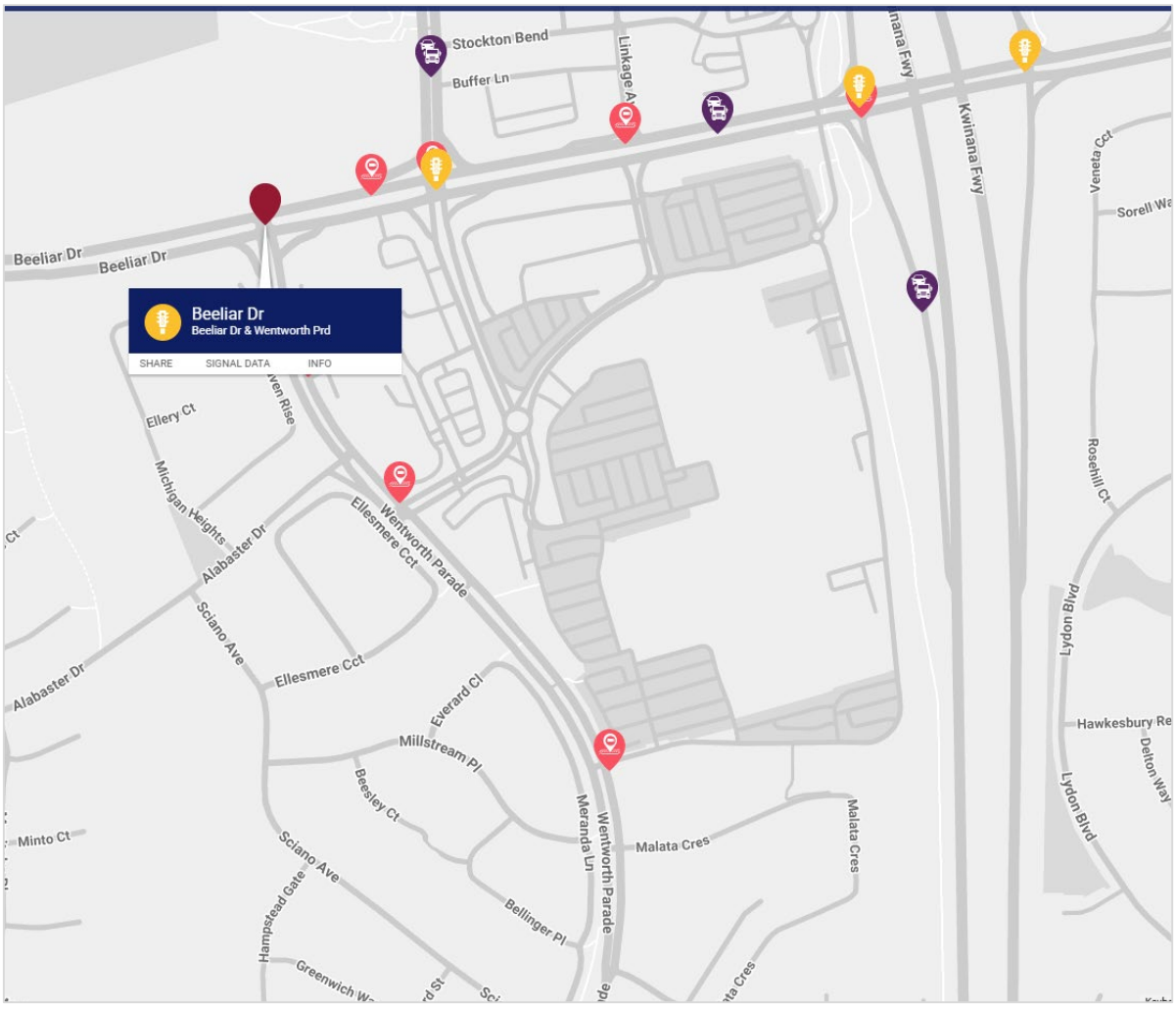


Figure B-2: MRWA Published Traffic Data

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Table B-3 combines the percentage land types and Transport Factor to calculate the influencing factor.

Table B-3: Influencing Factor Calculation, dB

Receiver	Industrial Land	Commercial Land	Transport Factor	Total
R1	0	3	2	**5**
R2	0	1	2	**3**
R3	0	3	6	**9**
R4	0	3	6	**9**

The influencing factor calculated in *Table B-3* is combined with those baseline assigned levels of *Table 2-2*, resulting in the project assigned levels provided in *Table 2-3*.

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Appendix C – Terminology

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The following is an explanation of the terminology used throughout this report:

- **Decibel (dB)**

The decibel is the unit that describes the sound pressure levels of a noise source. It is a logarithmic scale referenced to the threshold of hearing.

- **A-Weighting**

An A-weighted noise level has been filtered in such a way as to represent the way in which the human ear perceives sound. This weighting reflects the fact that the human ear is not as sensitive to lower frequencies as it is to higher frequencies. An A-weighted sound level is described as L_A, dB.

- **Sound Power Level (L_w)**

Under normal conditions, a given sound source will radiate the same amount of energy, irrespective of its surroundings, being the sound power level. This is similar to a 1kW electric heater always radiating 1kW of heat. The sound power level of a noise source cannot be directly measured using a sound level meter but is calculated based on measured sound pressure level at known distances. Noise modelling incorporates source sound power levels as part of the input data.

- **Sound Pressure Level (L_p)**

The sound pressure level of a noise source is dependent upon its surroundings, being influenced by distance, ground absorption, topography, meteorological conditions etc. and is what the human ear actually hears. Using the electric heater analogy above, the heat will vary depending upon where the heater is located, just as the sound pressure level will vary depending on the surroundings. Noise modelling predicts the sound pressure level from the sound power levels taking into account ground absorption, barrier effects, distance etc.

- **L_{ASlow}**

This is the noise level in decibels, obtained using the A-frequency weighting and the S (slow) time weighting. Unless assessing modulation, all measurements use the slow time weighting characteristic.

- **L_{AFast}**

This is the noise level in decibels, obtained using the A-frequency weighting and the F (fast) time weighting. This is used when assessing the presence of modulation.

- **L_{APeak}**

This is the greatest absolute instantaneous sound pressure level in decibels using the A-frequency weighting.

- **L_{Amax}**

An L_{Amax} level is the maximum A-weighted noise level during a particular measurement.

- **L_{A1}**

The L_{A1} level is the A-weighted noise level exceeded for 1 percent of the measurement period and is considered to represent the average of the maximum noise levels measured.

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- **L_{A10}**

The L_{A10} level is the A-weighted noise level exceeded for 10 percent of the measurement period and is considered to represent the “intrusive” noise level.

- **L_{A90}**

The L_{A90} level is the A-weighted noise level exceeded for 90 percent of the measurement period and is considered to represent the “background” noise level.

- **L_{Aeq}**

The equivalent steady state A-weighted sound level (“equal energy”) in decibels which, in a specified time period, contains the same acoustic energy as the time-varying level during the same period. It is considered to represent the “average” noise level.

- **One-Third-Octave Band**

Means a band of frequencies spanning one-third of an octave and having a centre frequency between 25 Hz and 20000 Hz inclusive.

- **Representative Assessment Period**

Means a period of time not less than 15 minutes, and not exceeding four hours, determined by an inspector or authorised person to be appropriate for the assessment of a noise emission, having regard to the type and nature of the noise emission.

- **L_{Amax} assigned level**

Means an assigned level, which, measured as a L_{ASlow} value, is not to be exceeded at any time.

- **L_{A1} assigned level**

Means an assigned level, which, measured as a L_{ASlow} value, is not to be exceeded for more than 1 percent of the representative assessment period.

- **L_{A10} assigned level**

Means an assigned level, which, measured as a L_{ASlow} value, is not to be exceeded for more than 10 percent of the representative assessment period.

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- **Tonal Noise**

A tonal noise source can be described as a source that has a distinctive noise emission in one or more frequencies. An example would be whining or droning. The quantitative definition of tonality is:

– the presence in the noise emission of tonal characteristics where the difference between -

(a) the A-weighted sound pressure level in any one-third octave band; and

(b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,

is greater than 3 dB when the sound pressure levels are determined as $L_{Aeq,T}$ levels where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as $L_{A\ Slow}$ levels.

This is relatively common in most noise sources.

- **Modulating Noise**

A modulating source is regular, cyclic and audible and is present for at least 10% of the measurement period. The quantitative definition of modulation is:

– a variation in the emission of noise that —

(a) is more than 3 dB $L_{A\ Fast}$ or is more than 3 dB $L_{A\ Fast}$ in any one-third octave band; and

(b) is present for at least 10% of the representative assessment period; and

(c) is regular, cyclic and audible.

- **Impulsive Noise**

An impulsive noise source has a short-term banging, clunking or explosive sound. The quantitative definition of impulsiveness means:

– a variation in the emission of a noise where the difference between L_{Apeak} and L_{Amax} is more than 15 dB when determined for a single representative event.

- **Major Road**

Is a road with an estimated average daily traffic count of more than 15,000 vehicles.

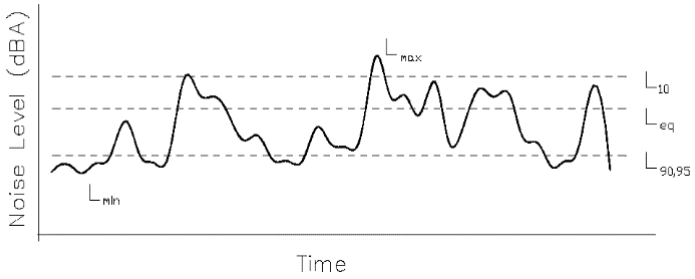
- **Secondary / Minor Road**

Is a road with an estimated average daily traffic count of between 6,000 and 15,000 vehicles.

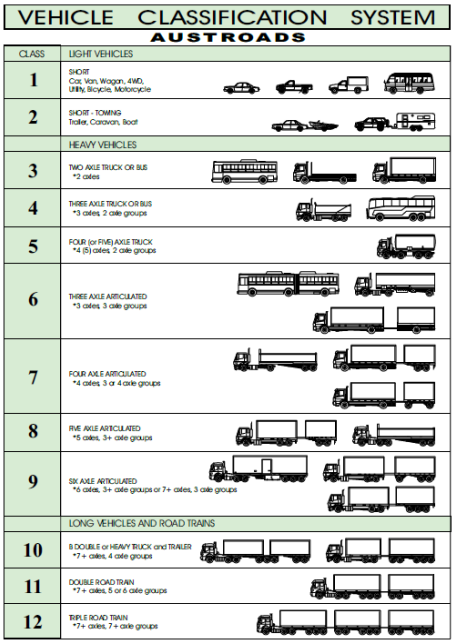
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This information is provided by the City of Cockburn

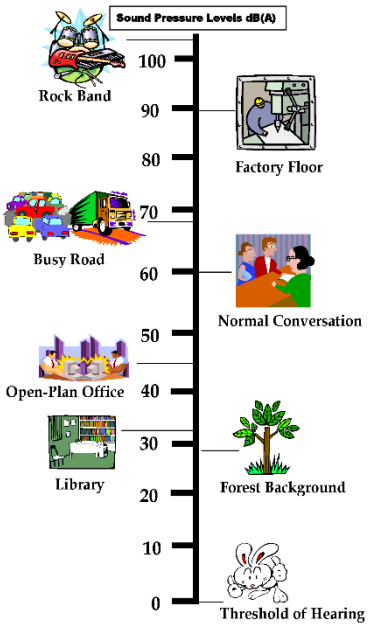
- **Chart of Noise Level Descriptors**



- **Austroads Vehicle Class**



- **Typical Noise Levels**



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PART D – OTHER BUSINESS

1. State Administrative Tribunal Applications and Supreme Court Appeals

2. Meeting Closure