Metro Outer Development Assessment Panel Agenda

Meeting Date and Time: Tuesday, 5 May 2026; 9:30am
Meeting Number: MODAP/138
Meeting Venue: 140 William Street, Perth

A live stream will be available at the time of the meeting, via the following link:
MODAP/138 - 5 May 2026 - City of Rockingham - City of Cockburn

PART A – INTRODUCTION

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

PART B – CITY OF ROCKINGHAM

1. Declarations of Due Consideration
2. Disclosure of Interests
3. Form 1 DAP Applications
   - 3.1 Lot 432 (No. 2) Charleston Street and Lot 449 (No. 1) Isabelline Terrace, Karnup - Proposed Medical Centre – DAP/25/03007
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 168 (81) Quill Way, Henderson - Mixed Commercial Development (Henderson Business Hub) – DAP/25/03034
4. Form 2 DAP Applications

   Nil
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
Eugene Koltasz (Presiding Member)
Francesca Lefante (Deputy Presiding Member)
John Syme
Cr Mark Jones (Part B – City of Rockingham)
Mayor Lorna Buchan (Part B – City of Rockingham)
Cr Tom Widenbar (Part C – City of Cockburn)

DAP Secretariat
Tenielle Brownfield
Ashlee Kelly

PART A – INTRODUCTION

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

PART B – CITY OF ROCKINGHAM

1. Declarations of Due Consideration

2. Disclosure of Interests

3. Form 1 DAP Applications

3.1 Lot 432 (No. 2) Charleston Street and Lot 449 (No. 1) Isabelline Terrace, Karnup - Proposed Medical Centre – DAP/25/03007

4. Form 2 DAP Applications

Nil

5. Section 31 SAT Reconsiderations

Nil

PART B – Item 3.1 – Lot 432 (No.2) Charleston Street, Karnup, and Lot 449 (No.1) Isabelline Terrace, Karnup – Proposed Medical Centre

Form 1 – Responsible Authority Report
(Regulation 12)

DAP Name:	Metropolitan Outer Development Assessment Panel
Local Government Area:	City of Rockingham
Applicant:	Aston Gobetti, Dynamic Planning & Developments
Owner:	Gold Right Pty Ltd
Value of Development:	$4.5 million
Responsible Authority:	City of Rockingham
Authorising Officer:	Mr Peter Ricci, Director Planning and Development Services
LG Reference:	DD020.2025.00000501.001
DAP File No:	DAP/25/03007
Application Received Date:	7 November 2025
Report Due Date:	20 April 2026
Application Statutory Process Timeframe:	90 Days
Attachment(s):	1. Approved Plans 2. Original Development Application (Cover Letter, Development Plans & Technical Reports) 3. Schedule of Submissions 4. Applicant's Response to City's First Request for Further Information 5. Applicant's Response to City's Second Request for Further Information 6. Singleton Village Neighbourhood Activity Centre Detailed Area Plan

Responsible Authority Recommendation

That the Metropolitan Outer Development Assessment Panel (MODAP) resolves to:

1. **Accept** that the DAP Application reference DAP/25/03007 is appropriate for consideration as a 'Medical Centre' land use and compatible with the objectives of the zoning table in accordance with Clause 3.2 of the City of Rockingham Town Planning Scheme No.2; and

2. **Approve** DAP Application reference DAP/25/03007 and accompanying plans:

   - Site Plan, Drawing No. A1-01 (Revision C), dated 6 March 2026;
   - Landscape Plan, Drawing No. A1-02 (Revision C), dated 6 March 2026;
   - Ground Floor Plan, Drawing No. A2-01 (Revision C), dated 6 March 2026;
   - First Floor Plan, Drawing No. A2-02 (Revision C), dated 6 March 2026;
   - Roof Plan, Drawing No. A2-03 (Revision C), dated 6 March 2026;
   - Elevations 03 & 04, Drawing No. A3-01 (Revision C), dated 6 March 2026;
   - Elevations 01 & 02, Drawing No. A3-02 (Revision C), dated 6 March 2026;

   in accordance with Clause 68(2)(b) of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and the City of Rockingham Town Planning Scheme No. 2, subject to the following conditions:

Conditions

1. This decision constitutes development approval only and is valid for a period of four (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. No more than 14 staff, including a maximum of seven (7) health care practitioners, are permitted to be on-site at any one time during the approved operating hours specified in Condition 3.

3. The Medical Centre must only operate between the hours of 8:00am to 6:00pm Monday to Saturday, and between the hours of 11:00am to 5:00pm on Sundays.

4. Clients and patients attending the Medical Centre must do so by appointment only, and only during the approved operating hours specified in Condition 3.

5. Prior to applying for a Building Permit, arrangements must be made to the satisfaction of the City of Rockingham for the amalgamation of Lot 432 (No.2) Charleston Street, Karnup, and Lot 449 (No.1) Isabelline Terrace, Karnup, into one Certificate of Title. The amalgamation must be completed prior to occupation of the development.

6. Prior to applying for a Building Permit, an amended Site Plan, demonstrating the provision of at least 28 car parking bays on-site, must be submitted to the satisfaction of the City of Rockingham. The development must be designed and all works carried out in accordance with the amended Site Plan approved by the City of Rockingham.

7. Prior to applying for a Building Permit, a Stormwater Management Plan must be prepared by a suitably qualified consultant showing how stormwater will be contained on-site and those plans must be submitted to the City of Rockingham for its approval. All stormwater generated by the development must be managed in accordance with *Local Planning Policy 3.4.3 - Urban Water Management* to the satisfaction of the City of Rockingham. The approved plans must be implemented and all works must be maintained for the duration of the development.

8. Prior to applying for a Building Permit, two (2) short-term bicycle parking spaces and two (2) long-term bicycle parking spaces must be provided for the development, designed in accordance with Australian Standard AS 2890.3 – 2015: Parking Facilities, Part 3: Bicycle Parking and be approved by the City of Rockingham.

   The bicycle parking spaces must be constructed prior to occupancy of the development and be retained and maintained in good and safe condition for the duration of the development.

9. Prior to applying for a Building Permit, a bin store enclosure must be designed in accordance with the City of Rockingham's Health Local Laws and provide a suitable size to service the development. The bin store enclosure must be constructed prior to the occupation of the development and must be retained and maintained in good condition for the duration of the development.

10. Prior to applying for a Building Permit, a Landscaping Plan to the satisfaction of the City of Rockingham must be prepared and must include the following detail:

    (i) the location, number and type of existing and proposed trees and shrubs, including calculations for the landscaping area;

    (ii) any lawns to be established and areas to be mulched;

    (iii) provision of street trees at a rate of one (1) tree per 14m of frontage;

    (iv) any natural landscape areas to be retained;

    (v) relocation of the bin collection point to the verge area directly adjoining the bin store;

    (vi) those areas to be reticulated or irrigated; and

    (vii) proposed upgrading to landscaping, paving and reticulation of the street setback area and all verge areas.

    The landscaping, paving and reticulation must be completed prior to the occupation of the development, and must be maintained at all times to the satisfaction of the City of Rockingham for the duration of the development.

11. The carpark must:

    (i) provide a minimum of 28 car parking spaces;

    (ii) be designed, constructed, sealed, kerbed, drained and marked in accordance with User Class 3 for standard bays and User Class 4 for universal bays of Australian/New Zealand Standard AS/NZS 2890.1:2004 (as amended), Parking facilities, Part 1: Off-street car parking prior to applying for a Building Permit;

    (iii) provide four (4) car parking space(s) dedicated to people with a disability, which are designed, constructed, sealed, kerbed, drained and marked in accordance with Australian/New Zealand Standard AS/NZS 2890.6:2022 (as amended), Parking facilities, Part 6: Off-street parking for people with

disabilities and which are linked to the main entrance of the development by a continuous accessible path of travel designed and constructed in accordance with Australian Standard AS 1428.1-2021 (as amended), Design for access and mobility, Part 1: General Requirements for access—New building work;

(iv) be constructed, sealed, kerbed, drained and marked prior to the development being occupied and maintained thereafter; and

(v) comply with the above requirements for the duration of the development.

12. Materials, goods or bins must not be stored or displayed within carpark areas at any time. Car parks must remain freely accessible at all times for car parking purposes.

13. Crossovers must provide one way vehicle movements only, in accordance with the approved Site Plan, and must be designed and constructed in accordance with the City's Specification for the Construction of Commercial/Industrial Crossovers.

14. Prior to occupation of the development, pavement markings and signage must be provided at the crossover locations, to clearly delineate the intended traffic flow, to the satisfaction of the City of Rockingham.

15. Prior to the commencement of works on-site, a Construction Management Plan must be submitted to and approved by the City of Rockingham. The Construction Management Plan must include, but not be limited to, the following:

(i) A Dust, Noise and Vibration Management Plan;
(ii) Detail how access roads to and all trafficable areas on the site/s will be treated and maintained to prevent or minimise the generation of airborne dust;
(iii) How any stockpiles on site/s are to be managed;
(iv) Construction waste disposal strategy and location of waste disposal bins;
(v) How materials and equipment will be delivered and removed from the site/s; and
(vi) A Traffic Management Strategy for the duration of the project, including the locations of all car parking and loading areas to be used, the duration and frequency of use of these areas and any exemption requests.

All works must be carried out in accordance with the approved Construction Management Plan and maintained at all times, for duration of the development.

16. Prior to occupation of the development, lighting is to be provided under all street awnings to the satisfaction of the City of Rockingham.

17. Prior to the installation of any exterior lighting, an illumination report must be prepared which demonstrates to the satisfaction of the City of Rockingham, that the proposed lighting complies with the requirements of AS/NZS 4282:2023, Control of the obtrusive effects of outdoor lighting. A final illumination report once installed must be submitted which demonstrates compliance with the requirements of AS/NZS 4282:2023 to the satisfaction of the City of Rockingham.

18. To provide a commercial, interactive frontage, the development must comply with the following:-

    (i) All entries facing Verdigris Road must be kept unlocked during all hours when the subject premises is trading;

    (ii) All entries and window frontages facing the 'Main Street' of Verdigris Road, as shown as clear glazing on the approved Elevations, must not be covered, closed or screened off (including by means of dark tinting, shutters, roller doors or similar) at any time;

    (iii) All entries and window frontages facing Verdigris Road, as shown as clear glazing on the approved Elevations, must have a minimum visible light transmission rate of at least 79%, and a maximum visible reflectivity rate of 9% in order to ensure that a commercial, interactive frontage is available to the development from Verdigris Road and the pedestrian access. The glazing must be thereafter installed and maintained to the satisfaction of the City of Rockingham for the duration of the development; and

    (iv) Blinds and curtains installed on active window frontages facing Verdigris Road must remain open at all times during business trading hours, and may only be closed between 3:00pm to 6:00pm when excessive sun glare or heat occurs.

    The above requirements must be maintained for the duration of the development to the satisfaction of the City of Rockingham.

19. Prior to occupation of the development, a Sign Strategy must be prepared (which must include the information required by *Local Planning Policy 3.3.1 - Control of Advertisements*) to the satisfaction of the City of Rockingham and it must thereafter be implemented for the duration of the development.

20. Prior to the occupation of the development, written confirmation from a suitably qualified Acoustic Consultant must be provided that demonstrates that all requirements indicated in Section 6 of the Environmental Noise Assessment prepared by Lloyd George Acoustics, dated 31 October 2025, have been implemented within the development. The acoustic requirements must thereafter be implemented to the satisfaction of the City of Rockingham for the duration of the development.

21. Waste collection internal to the site must only occur between the hours of 7:00am to 8:00am and 6:00pm to 7:00pm Monday to Saturday, and between 6:00pm to 7:00pm on Sundays and Public Holidays.

22. A minimum 1.8m high fence, as measured from the finished ground levels of the car park, must be maintained along the eastern boundary of Lot 432 (No.2) Charleston Street, Karnup, and Lot 449 (No.1) Isabelline Terrace, Karnup, at all times for the duration of the development, to the satisfaction of the City of Rockingham.

Advice Notes

1. If the development the subject of this approval is not substantially commenced within a period of 4 years, or another period specified in the approval after the date of the determination, the approval will lapse and be of no further effect.

2. Where an approval has so lapsed, no development must be carried out without the further approval of the local government having first been sought and obtained.

3. If an applicant or owner is aggrieved by this determination, there is a right of review by the State Administrative Tribunal in accordance with the Planning and Development Act 2005 Part 14. An application must be made within 28 days of the determination.

4. This Approval relates to the details provided in the application; to undertake the development in a different manner to that stated in the application, a new application for Development Approval must be submitted to the City.

5. The applicant is advised that this approval is not a Building Permit, which constitutes a separate legislative requirement. Prior to any building work commencing on-site, a Building Permit must be obtained. Please liaise with the City's Building Services for further information in this regard.

6. The Applicant/Owner is advised a Crossover Application must be submitted to the City's Strategic Asset Management Team for approval, prior to any works commencing within the verge. Please refer to the City's *Specification for the Construction of Commercial/Industrial Crossovers* for further information.

7. The Applicant and their contractor(s) are responsible for protecting any existing City streetscape assets along Charleston Street, Verdigris Road and Isabelline Terrace during the course of the project. This includes any existing streetscape lighting, grated gully pits, side entry pits, kerbing, footpaths, trees, turf etc.

   An inspection of the existing infrastructure surrounding the proposed area of works needs to be identified and documented prior to works commencing. Particular interest is to be paid to the state of the existing road pavements. Any damage to streetscape assets due to the works proposed, will need to be repaired to the satisfaction of the City of Rockingham.

Details: outline of development application

Region Scheme	Metropolitan Region Scheme
Region Scheme - Zone/Reserve	Urban
Local Planning Scheme	Town Planning Scheme No.2
Local Planning Scheme - Zone/Reserve	Commercial
Structure Plan/Precinct Plan	The Vistas Structure Plan (Historic)
Structure Plan/Precinct Plan - Land Use Designation	Commercial

Use Class and permissibility:	Medical Centre – Discretionary ('D')
Lot Size:	Lot 432 – 807m^2 Lot 449 – 843m^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	Yes
Swan River Trust Area	No

Proposal:

Proposed Land Use	Medical Centre
Proposed Net Lettable Area	~1,315m^2
Proposed No. Storeys	2
Proposed No. Dwellings	N/A

The Applicant seeks Development Approval for the construction of a two-storey Medical Centre fronting Verdigris Road. The development will accommodate a Pathologist and Radiology Clinic on the ground floor, with a General Practice (GP) and Women's Health Clinic located on the upper floor, providing a comprehensive range of medical services in a single, purpose-built facility.

The Medical Centre is designed to include three (3) GP consulting rooms, two (2) women's health / skin care clinic rooms, and two (2) allied health rooms, supported by associated medical facilities, including a Radiology suite, a Pathologist, and dedicated treatment and injection rooms.

The proposed Medical Centre will operate between 8:00am and 6:00pm Monday to Saturday, and 9:15am to 6:00pm on Sundays. At any one time, a maximum of seven (7) medical practitioners will operate from the premises, comprising five (5) practitioners across the GP and Women's Health Clinic, together with one (1) radiologist and one (1) sonographer. Supporting staff will include two (2) nurses, one (1) phlebotomist, three (3) administrative staff and one (1) receptionist for the Pathologist and Radiology Clinic, resulting in a maximum of 14 staff on site at any one time.

A total of 26 on-site car parking bays are proposed at the rear of the building to accommodate staff and patients, inclusive of four (4) ACROD bays. The site layout further incorporates dedicated delivery/loading, ambulance and waste collection bays. In addition, five (5) existing on-street parking bays are available along Verdigris Road.

Single movement (entry only and exit only) vehicular access will be facilitated via two (2) new crossovers, one each on the Isabelline Terrace and Charleston Street frontages providing a one-way access through the site. A dedicated bin storage area is proposed within the rear car parking area, which will be screened from public view.

Waste collection is to occur via the City's standard verge collection service, with weekly and fortnightly collections. The collection of specialty medical waste is proposed to occur on a weekly basis by a private contractor.

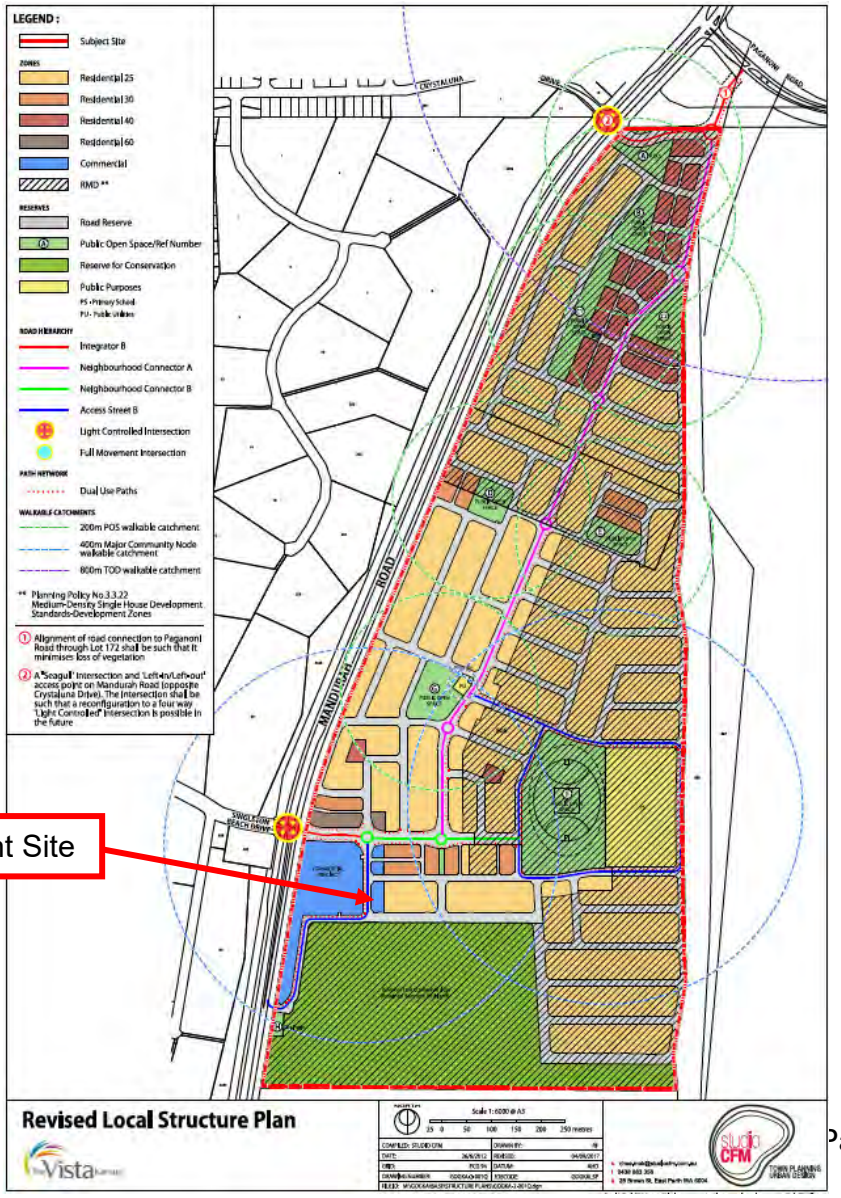
The following supporting documents have been submitted in support of the Development Application:-

- Development Application Report;
- Development Plans;
- Environmental Noise Assessment (**ENA**);
- Bushfire Attack Level (**BAL**) Report and Certificate;
- Transport Impact Statement (**TIS**); and
- Waste Management Plan (**WMP**).

Background:

<u>The Vistas Structure Plan (Historic)</u>

The Vistas Structure Plan, previously known as the West Karnup Local Structure Plan, was endorsed by the Western Australian Planning Commission in February 2013. Under this Structure Plan, the development site is designated 'Commercial'.



1. The Vistas Structure Plan

Singleton Village Neighbourhood Activity Centre Detailed Area Plan (**SVNACDAP**)

On 7 April 2014, the City approved the SVNACDAP to guide and coordinate land use, layout and built form, with the primary objective being to establish a *"'Main Street' based Neighbourhood Activity Centre, with a scale appropriate to its role as the focal point for the local community."* In this context, Verdigris Road is identified as the 'Main Street', and the associated development requirements of the SVNACDAP apply directly to any development proposed along this frontage.

The SVNACDAP provides a comprehensive framework to achieve the intended 'Main Street' character, including, but not limited to, built form outcomes, street activation requirements, public realm interface, access and movement networks, car parking provisions and landscaping treatments. These provisions are specifically intended to ensure that development along Verdigris Road contributes to a cohesive, pedestrian-oriented and vibrant activity centre.

On 19 October 2025, the SVNACDAP approval period was extended until 19 October 2030 pursuant to Clause 57 of the *Planning and Development (Local Planning Schemes) Regulations 2015.*

LOCAL DEVELOPMENT PLAN APPROVAL EXTENDED

This Local Development Plan approval period was extended on 19 October 2025, pursuant to Clause 57 of the Planning and Development (Local Planning Schemes) Regulations 2015, for an additional 5 years.

This LDP will expire on 19 October 2030, unless amended or revoked earlier by the City.



PROVISIONS

The provisions of the City of Rockingham Town Planning Scheme No.2 (TPS2) and Residential Design Codes (R-Codes) are varied as detailed within this Detailed Area Plan (DAP). All other requirements of TPS2 and the R-Codes shall be satisfied in all other matters.

1. OBJECTIVE

The objective of this DAP is to establish a 'Main Street' based Neighbourhood Activity Centre, and of a scale appropriate to its role as the focal point for the local community.

2. STANDARDS

All development in the DAP area shall be consistent with the DAP and the following standards:

a)	Structure:	i. Road 25 is deemed to be the 'Main Street' for the Neighbourhood Activity Centre. ii. The proposed internal access way is deemed a street for the purpose of street interface and landscape.
b)	Street interface:	i. All buildings shall enable passive surveillance of adjacent street reserves. ii. Where active frontage is provided, it shall incorporate a canopy(s) with continuous coverage to a minimum depth of 2.5m or to within 600mm of the back of the adjacent kerb where the verge is too narrow to accommodate a full-depth canopy, and extend across the entire street frontage of the building. iii. Delivery, loading and storage areas are to be located and screened to minimise the visual impact on the public domain. iv. Street elevations shall be designed to create visual interest through building form, articulation of walls and openings, architectural features, texture and colour, with particularly emphasis given to the ground level. v. Non-active portions of wall shall be articulated by means of form, colour and texture to provide visual interest.
c)	Landscape:	i. The landscape material used for the footpaths shall be continued across driveways and the entrance to Right of Ways/laneways to maintain visual continuity of the pedestrian network and aid pedestrian legibility. ii. Street trees shall be provided at a rate of not less than 1 tree per 14m on both sides of all streets. iii. Shade trees shall be provided to publically accessible car parks at a rate of not less than 1 tree per 8 car bays. iv. The 'special landscape area' notated on the DAP shall be landscaped to provide screening to the adjacent car park area, as seen from Mandurah Road, to the satisfaction of the City of Rockingham.
d)	Robustness:	i. The ground floor of all buildings in the Commercial area shall be designed with a minimum floor-to-ceiling height of 3m to enable Commercial uses, even if used for interim Residential use.
e)	Fencing:	i. Any fencing to the primary or secondary street frontage shall be restricted to Residential uses only, no more than 1.8m high and shall be at least 50% visually permeable from 0.9m above ground level. Solid portions of fencing shall be masonry construction. Colorbond fencing is not permitted within a primary street setback area.

3. DEFINITIONS

For the purpose of this DAP, the following definitions will apply:

- ***Active (street or building) frontage:*** An active frontage shall incorporate shopfronts (to retail, office or other Commercial uses) with a minimum of 66% of the ground floor street frontage as transparent glazing that allows visual connectivity between the inside and outside of the building. Additionally, any tenancy with active frontage to a street shall incorporate a primary pedestrian entry from that street.
  For development in the north-western portion of the 'core' Commercial site, the mandatory active street frontage provision applies only if this portion of the site is developed for built-form purposes.
- ***Architectural response to a corner:*** An architectural response to a corner shall consist of a prominent feature that provides visual emphasis. It may consist of a raised and/or projecting building element, significant roof form, a differentiation of material or a significant opening(s) or balcony/verandah structure.

This Detailed Area Plan has been approved under delegation by the Director, Planning & Development Services under clause 4.23.1(c) of the City of Rockingham Town Planning Scheme No.2:

Director, Planning & Development Services
City of Rockingham

Date: 7/4/14.

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LEGEND

- DAP Boundary
- Indicative maximum building envelope
- xm — Minimum setback (see note 1)
- Mandatory active street frontage and 0m setback
- Mandatory active street frontage and 0-2.5m setback
- Mandatory active building frontage
- Pedestrian footpath network
- 'Direct Frontage' parking required
- S — Preferred service zone
- Vehicle connection required internal to site
- Special landscape zone
- Architectural response to corner required
- Mandatory vehicle access point
- Preferred vehicle access point
- Residential (R60)
- Commercial (R60)
- Commercial (Residential not permitted)
- 2 — Minimum building height in storeys
- P — Minimum parapet height of 5.5m

NOTE 1
For setbacks: RC = as per R Codes
Where a range is provided, the setbacks shall be a minimum and a maximum

The Vista Karnup

SINGLETON VILLAGE NEIGHBOURHOOD ACTIVITY CENTRE DETAILED AREA PLAN

KARNUP
for: Golden Group

Golden Group

NORTH

Scale 1: 1500 @ A3 | NTS @ A2

0 15 30 45 60 75 metres

COMPILED: DPS		DRAWN BY:	NM/LW
DATE:	06/06/2013	REVISED:	31/03/2014
GRID:	MGA 50	DATUM:	AHD
DRAWING NUMBER:	GOGKA-4-007L	JOBCODE:	GOGKATCP

FILE ID: M:\GOGKA\BASE\DETAILED AREA PLANS\GOGKA-4-007L.dgn

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2. The SVNACDAP

Site Context

The subject site forms part of the Singleton Village Neighbourhood Centre and occupies a corner location bounded by Charleston Street to the north and Isabelline Terrace to the south, with Verdigris Road to the west providing the primary street frontage. Verdigris Road functions as a local connector road that facilitates movement through the Neighbourhood Centre, while Charleston Street and Isabelline Terrace operate as local access roads servicing adjoining residential areas and commercial lots.

Immediately to the west of the subject site is the Singleton Village Shopping Centre, which accommodates a range of convenience-based retail and service uses, including a supermarket, specialty retail shops, food and beverage outlets, and personal services. A number of smaller, individual commercial lots are located along Verdigris Road, which remain undeveloped.

Surrounding development to the north and east of the subject site is predominantly residential in character, comprising a mix of single and two-storey dwellings within established suburban streetscapes. To the south, the site adjoins undeveloped bushland identified under the Structure Plan as a future conservation reserve, which will be managed by the City.





4. Aerial Image



5. Photo of Development Site taken from Charleston Street facing south-west



6. Photo of Development Site taken from intersection of Charleston Street and Verdigris Road facing south-east



7. Photo of Development Site taken from Verdigris Road facing south-east



8. Photo of Development Site taken from Verdigris Road facing east

Application Pathway

The Application was formally lodged with the City on 7 November 2025 and subsequently accepted for assessment on 18 November 2025, following the submission of updated application forms., On 22 December 2025, the City issued a formal Request for Further Information (RFI).

The RFI sought a range of additional and revised documents to enable a comprehensive assessment of the proposal to address:

- The requirements of the SVNACDAP in response to the design elements, glazing and landscaping intents;
- Car parking layout and dimensions;
- WMP to confirm bin sizes and medical waste management, separate to general waste and recycling;
- Stormwater management; and
- Further clarification in relation to the proposed operational details.

The Applicant's response to this RFI was received on 16 February 2026 (refer to Attachment 4).

Upon review of the response to the 1st RFI, the City identified a significant discrepancy in the depiction of the northern boundary. Specifically, the development plans incorrectly located the boundary, resulting in an encroachment of the proposed development into the verge. This matter was considered fundamental flaw in the proposal, as it had implications for land tenure and compliance with statutory requirements. Accordingly, a 2nd RFI was issued on 3 March 2026 requesting amended plans to accurately reflect the correct boundary alignment.

In addition, the 2nd RFI City requested further refinements to the car parking layout, landscaping design, and Waste Management Plan to ensure consistency with the applicable standards and policies, particularly in light of the revised information submitted in February 2026.

The Applicant provided a response to the second RFI on 27 March 2026 (refer to Attachment 5). Following receipt and review of this information, the City was satisfied that sufficient detail had been provided to enable the application to be finalised through this assessment report.

Legislation and Policy:

Legislation

Planning and Development Act 2005
Planning and Development (Local Planning Schemes) Regulations 2015 (**the Regulations**)

Metropolitan Region Scheme
City of Rockingham *Town Planning Scheme No.2* (**TPS2**)
Environmental Protection (Noise) Regulations 1997 (**EPNR**)
Health Local Laws 1996 (**HLL**)

State Government Policies

State Planning Policy 3.7 – Bushfire (**SPP3.7)**
State Planning Policy 4.2 – Activity Centres (**SPP4.2**)

Structure Plans/Activity Centre Plans

The Vistas Structure Plan (Historic)

Local Development Plan

Singleton Village Neighbourhood Activity Centre Detailed Area Plan (**SVNACDAP**)

Local Policies

Local Planning Policy 3.1.2 – Local Commercial and Activity Centres Strategy
Local Planning Policy 3.3.1 – Control of Advertisements
Local Planning Policy 3.3.14 – Bicycle Parking and End of Trip Facilities

Consultation:

Public Consultation

The proposal was advertised for public comment for a period of 21 days between 27 November 2025 – 17 December 2025, in accordance with Clause 64, Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and *Local Planning Policy No.3.3.27 - Community Consultation for Development Applications.*

Advertising was carried out as follows:-

- The application was made available for public inspection at the City's Administration Offices and published on the City's website; and

- All owners and occupiers in the vicinity of the development who, in the opinion of the City are likely to be affected by the granting of Development Approval, were notified in writing of the proposed development (refer to Consultation Plan below).

At the close of the public consultation period, a total of three (3) public submissions were received. Of these, one (1) submission expressed support for the proposal from a submitter who does not reside within the consulted area, while two (2) submissions, from residents within the consulted area, opposed the development.

Figure 9 below shows the area of consultation during the advertising period as well as the location of those who objected to the proposal within the consultation area.



9. Consultation Plan

The issues raised in the submissions are addressed in the following table:

	Issue Raised	Officer comments
1.	**Overlooking (Privacy)**	The Applicant has submitted amended Elevations demonstrating that all first-floor windows facing east will be fully obscured to address the privacy concerns raised by submitters.
2.	**Traffic Congestion**	The City has reviewed the TIS submitted and agrees that traffic generated by the proposed development will be within the design capacity of the surrounding street network in both the short and long term. As advised by the Applicant, while some traffic peaks are anticipated during morning and evening periods with staff arrivals and departures, the majority of traffic generated by the Medical Centre is

	Issue Raised	Officer comments
		expected to be distributed throughout the day. This is due to the staggered scheduling of medical and health appointments. The City accepts the TIS and considers traffic to be suitably managed and considered.
3.	**Cars parking on-street in the event that on-site parking supply is insufficient**	The proposed development provides 26 on-site parking bays, supplemented by five (5) existing on-street bays located immediately adjacent to the development site on Verdigris Road. Refer to the Planning Assessment section for the City's car parking assessment.
4.	**One-way access requested to avoid all traffic entering and exiting via Charleston Street**	The Applicant has submitted amended development plans demonstrating one-way vehicle movements throughout the site, with all vehicular access to be provided via Isabelline Terrace and all egress occurring via Charleston Street. Should Development Approval be granted, it is considered appropriate to impose conditions requiring the installation of line-marking and directional signage to clearly delineate vehicle movements and ensure the one-way arrangement is maintained.
5.	**Reduced Property Values**	This is not a relevant planning consideration.
6.	**Tree Planting on Boundary (Invasive Roots and Leaves Dropping)**	The trees proposed to be planted within the car park area on the rear boundary are Magnolia 'Little Gem' which is a small shade tree species, generally regarded as having non-invasive roots. The suitability of plantings will be assessed by City through the submission of a Landscape Plan prior to Building Permit, which will form a condition of any Approval granted. On-going maintenance of the planted trees will be the responsibility of the Medical Centre, to the satisfaction of the City. Regarding leaf fall, this is a natural and seasonal occurrence and is not considered unreasonable within a suburban setting. The tree species selected is not expected to generate excessive debris that would result in an unacceptable impact on neighbouring properties.
7.	**Noise Pollution from Cars – Requested acoustic wall be**	The City has reviewed the ENA submitted with the application which demonstrates that the proposed development is capable of complying with the requirements of the *Environmental Protection (Noise) Regulations 1997.* The assessment includes consideration of noise emissions associated with vehicle movements, including the closing of

	Issue Raised	Officer comments
	constructed on shared boundary	car doors. On this basis, the City does not consider the provision of an acoustic wall to be necessary.
8.	**Location of Bin Collection Point Raises Concerns Regarding Odour and Vermin**	The WMP submitted with the application includes measures to manage potential odour and vermin impacts. While these measures are noted, the City recognises the concerns raised during the consultation process. To further minimise any potential impacts, the City recommends the bin collection point be relocated to the verge immediately adjoining the bin store. This can be addressed through a condition should Development Approval be granted.
9.	**Request for Reduced Hours of Operation**	The City considers the proposed hours of operation to be generally acceptable within the context of the surrounding locality, with the exception of the trading hours proposed for Sunday. As the Singleton Village Shopping Centre currently operates between 11:00am and 5:00pm on Sundays, the City considers that the Medical Centre should adopt reduced hours on this day to ensure adjoining residential neighbours are afforded an appropriate level of respite from activity associated with the development. The reduced Sunday operating hours can be addressed through a condition should Development Approval be granted.

Referrals/consultation with Government/Service Agencies

No referral to government agencies were required.

Design Review Panel Advice

N/A

Swan Valley Planning

N/A

Other Advice

N/A

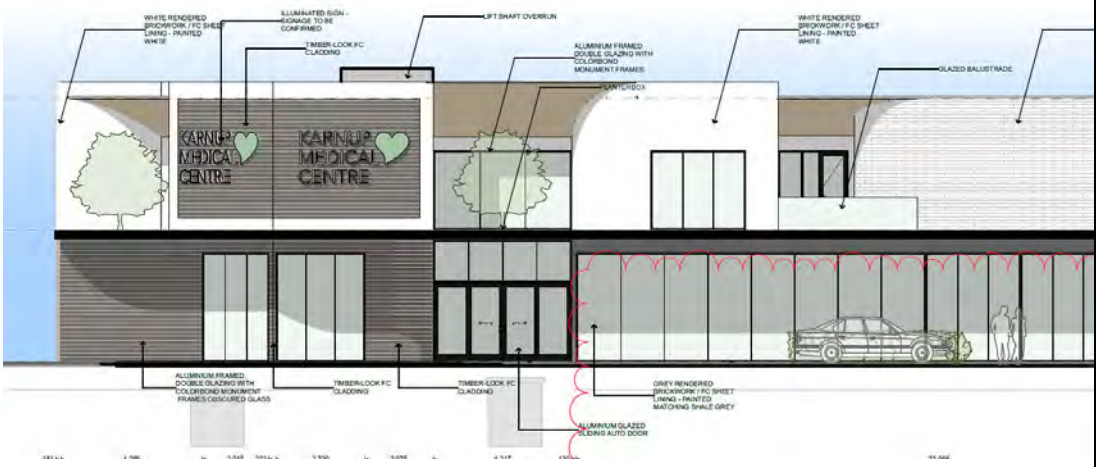
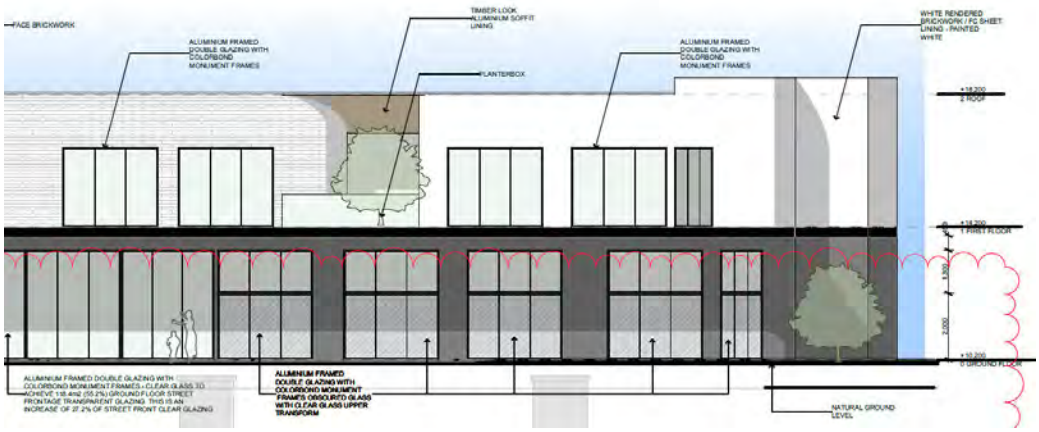
Planning Assessment:

The proposal has been assessed against all the relevant legislative requirements of the Scheme, State and Local Planning Policies, and SVNACDAP identified in the Legislation and Policy section of this report. The relevant matters are outlined and discussed in detail below.

Singleton Village Neighbourhood Activity Centre Detailed Area Plan (**SVNACDAP**)

The City's assessment of the proposed development against key relevant provisions of the SVNACDAP is provided below.

	SVNACDAP Provision	Planning Assessment
1	**Setbacks**	
	Mandatory active street frontage and 0-2.5m setback.	Complies - Nil to 1m primary street setback proposed.
2	**Vehicle Access**	
	Mandatory vehicle access points.	Complies - Vehicle access points are proposed at areas designated under the SVNACDAP, being one way entry from Isabelline Terrace and exit only to Charleston Street.
3	**Street Interface**	
	Where active frontage is provided, it shall incorporate a canopy(s) with continuous coverage to a minimum depth of 2.5m or to within 600mm of the back of the adjacent kerb where the verge is too narrow to accommodate a full depth canopy, and extend across the entire street frontage of the building.	Partially Complies - An awning with a depth of 2m has been provided along the building frontage facing Verdigris Road. The awning depth is supported having regard to the presence of on-street parking and verge landscaping, which limits the ability to accommodate a deeper canopy without impacting functional use of the street reserve. The proposed awning is continuous and considered acceptable to support an active street interface.
	Delivery, loading and storage areas are to be located and screened to minimise the visual impact on the public domain.	Complies - The delivery / loading bay and bin store area have been screened from view of the street to minimise visual impacts to the public domain.
	Street elevations shall be designed to create visual interest through building form, articulation of walls and openings, architectural features, texture and colour, with particular emphasis given to the ground level.	Complies - The elevation plans received for the Verdigris Road frontage (refer to Figure 10) demonstrate and incorporate a variety of materials, textures and colours, together with architectural detailing to provide visual interest and reduce the extent of continuous rendered surfaces originally proposed. The City considers that the elevations appropriately address the intent by enhancing building articulation and contributing to an active and visually engaging streetscape presentation.

	  10. Verdigris Road Elevation	
4	**Landscape**	
	Street trees shall be provided at a rate of not less than 1 tree per 14m on both sides of all streets.	Not specified - The landscape plan does indicate verge landscaping treatments. To ensure this is achieved, a condition is recommended should Development Approval be granted to achieve the street tree requirement.
5	**Robustness**	
	The ground floor of all buildings in the Commercial area shall be designed with a minimum floor-to-ceiling height of 3m to enable Commercial uses, even if used for interim Residential use.	Complies
6	**Active (Street or Building) Frontage**	

	An active frontage shall incorporate shopfronts (to retail, office or other Commercial uses) with a minimum of 66% of the ground floor street frontage as transparent glazing that allows visual connectivity between the inside and outside of the building. Additionally, any tenancy with active frontage to a street shall incorporate a primary pedestrian entry from the street.	Partially Complies - The Applicant has submitted elevation plans demonstrating that approximately 118.5m^2 (55%) of the ground floor street frontage is provided as transparent glazing, representing a shortfall of 11% from the required standard (refer to Figure 10). While full compliance has not been achieved, the City acknowledges that the nature of the proposed Medical Centre necessitates some level of visual screening for the purposes of privacy. Treatment rooms, change areas and similar functional spaces require privacy and cannot reasonably accommodate full-height transparent glazing. Importantly, transparent glazing has been prioritised along the primary pedestrian entry, reception and waiting areas, which are the most publicly accessible parts of the building. This assists in maintaining visual connectivity between the building interior and the street, supports passive surveillance, and contributes to an activated street frontage. This shortfall is unlikely to adversely affect the streetscape character or pedestrian amenity and is considered acceptable by the City on this basis.

Car Parking

On-site car parking is required to be provided in accordance with Table No.4 of TPS2. The required number of bays has been calculated based on the number of practitioners proposed to operate from the development at any one time, as outlined below.

Land Use	TPS2 Parking Rate Requirement	No. of Practitioners (at any time)	Bays Required
Medical Centre	5 bays per practitioner	7	35
		Bays Required	**35**
		Bays Provided	**26**
		Shortfall	**9**

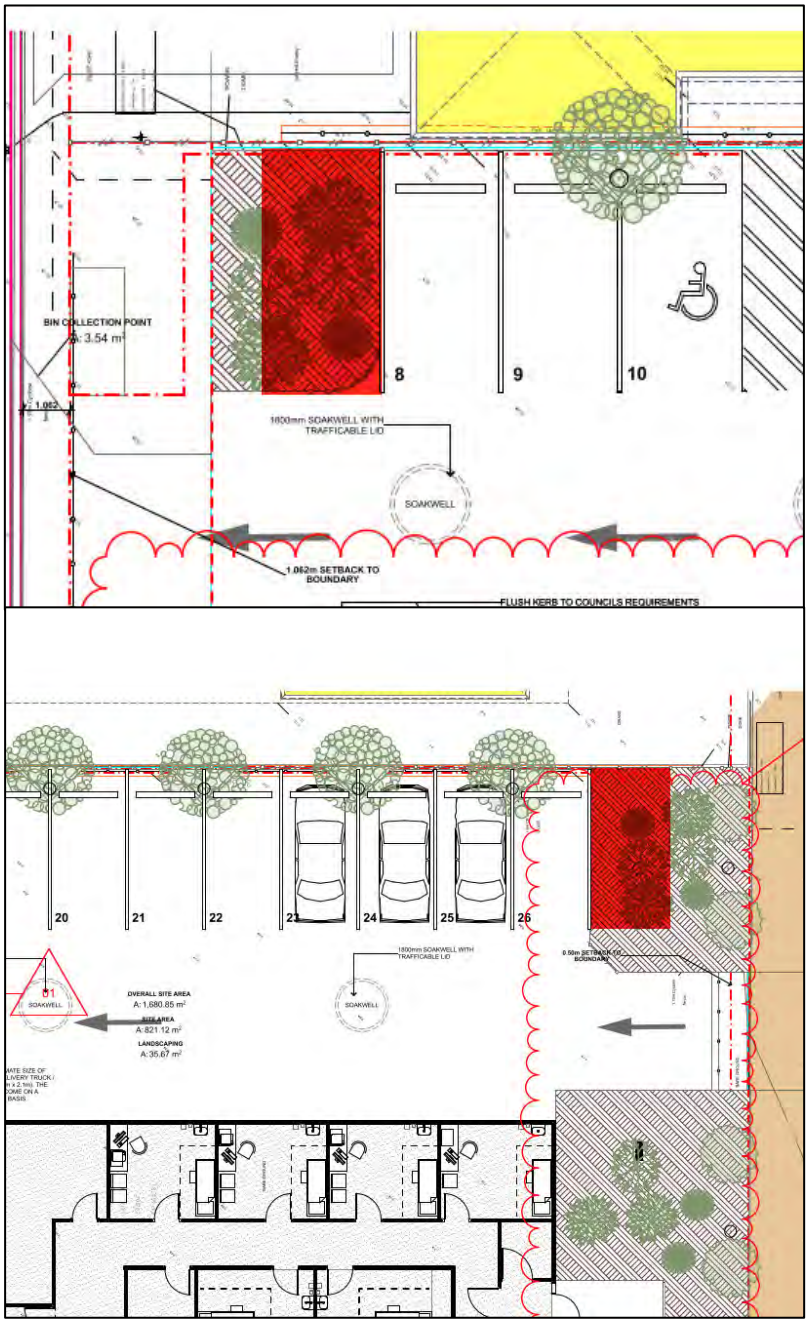
The proposed development includes a shortfall of nine (9) parking bays when assessed against the requirements of TPS2. The City considers this to represent a moderate variation, which is further examined below in the context of the site and surrounding precinct.

The subject site is located within an established commercial precinct where alternative parking opportunities are available. The City notes the presence of five (5) on-street public parking bays on Verdigris Road directly adjoining the site, as well as a further 12 bays located on Charleston Street and Verdigris Road opposite the development. These on-street bays are capable of accommodating overflow demand, particularly during peak periods. In addition, the staggered nature of medical appointments and the distribution of staff arrival and departure times are expected to moderate peak parking demand throughout the day.

When accounting for the five (5) on-street bays immediately adjacent to the site, the calculated shortfall reduces to four (4) bays. While the City acknowledges the Applicant's submission regarding the availability of publicly accessible parking within the Singleton Village Shopping Centre, the nature of the proposed development requires parking to be near or adjacent to the premises to ensure safe and convenient access for visitors, many of whom are likely to have mobility and/or health-related limitations.

The City considers that the shortfall should be further reduced by reconfiguring the rear of the site to replace portions of the proposed landscaping with additional parking bays. Potential locations for such bays are identified in Figure 11. This design amendment would reduce the shortfall by a further two (2) bays, increasing the total number of on-site bays to 28 and resulting in an overall shortfall of two (2) bays. This minor shortfall is considered acceptable by the City having regard to the availability of nearby on-street parking and the established commercial context of the site.

In this context, the City considers it appropriate that the development plans be amended, as a condition of Development Approval, to incorporate additional on-site car parking in lieu of the current extent of landscaping. Conditions are recommended to be imposed, should Development Approval be granted, limiting the number of health care practitioners and staff operating from the premises at any one time, and that client visitation be by appointment only to ensure car parking is managed in perpetuity based on operations.



11. Locations for Additional Parking Bays (Shown in Red)

Waste Collection and Storage

The ENA submitted with the application specifies that waste collection must occur only between 7:00am to 7:00pm Monday to Saturday, and between 9:00am to 7:00pm on Sundays and Public Holidays, to ensure compliance with the EPNR. In response to the City's second Request for Further Information, the Applicant's updated WMP confirms that medical waste will be collected directly from the bin storage area via the private bin pick-up bay. This bay also functions as the shared area required for the ambulance bay under AS2890.1, and this dual-use arrangement is considered acceptable.

To mitigate potential conflict between any ambulance and waste collection truck, the City considers it necessary to impose a condition requiring all waste collection to occur outside the proposed operating hours, while remaining within the EPNR-compliant collection timeframes outlined above.

Additionally, the City notes that the Application does not clearly indicate whether the bin store area is enclosed. To ensure compliance with the City's HLL, a condition is recommended requiring that any bin storage area be fully enclosed and constructed to a standard that prevents odour, pest access, and other potential environmental health impacts.

Bushfire Prone Mapping

The development site is located within an area designated as 'Bushfire Prone – Area 2' as determined by the Fire and Emergency Services Commissioner (refer to Figure 12).



12. Map of Bushfire Prone Areas (Area 2 shown in pink)

The Application has been supported by a Bushfire Attack Level (BAL) Report and Certificate prepared in accordance with SPP3.7 and the *Planning for Bushfire Guidelines* (**the Guidelines**).

The City's assessment of the proposed development in accordance with the bushfire protection criteria from the Guidelines is provided below:-

Element	City's Assessment
1. Location	Not required to be assessed.
2. Siting and Design	The submitted BAL Report and Certificate has demonstrated the entirety of the proposed development can achieve a rating of BAL-12.5 with the current separation to the bushfire risk on the conservation reserve to the south.
3. Vehicular Access	There are no vehicular access requirements applicable to the development as the internal driveway is situated within 70m of a public road and the site will be serviced by reticulated water.
4. Water	The development site will be connected to reticulated water supply.

The proposed development satisfies the requirements of SPP3.7 and the Guidelines.

Bicycle Parking

An assessment of the bicycle parking requirements in accordance with the City's *Local Planning Policy 3.3.14 – Bicycle Parking and End-of-Trip Facilities* is provided below.

Land Use	Minimum Short-Term Parking	Minimum Long-Term Parking	Number of visitors and staff	Required
Medical Centre	0.05 spaces per visitor	0.1 spaces per staff	35 visitors 14 staff	1.75 **(2)** short-term 1.4 **(2)** long term

The City considers it appropriate to condition the provision of bicycle parking spaces in accordance with the above.

Conclusion:

The proposed two-storey Medical Centre is a discretionary ('D') land use within the Commercial zone under TPS2 and is appropriately situated along the 'Main Street' of the Singleton Village Neighbourhood Centre. The commercial use aligns with the centre's intended role and function as defined under SPP4.2, which identifies Neighbourhood Centres as localised activity nodes intended to accommodate community-serving facilities that meet the day-to-day needs of the surrounding catchment. The proposal has been assessed against the City's planning framework, including the SVNACDAP and applicable State and local planning policies, and is generally consistent with their requirements, particularly in relation to land use compatibility, built form, streetscape presentation and bushfire management.

The development demonstrates an appropriate design response to the site, with key

elements such as setbacks, vehicle access, built-form articulation, and servicing arrangements considered suitable for both the location and surrounding context. While public submissions raised concerns relating to traffic, parking, privacy, noise and amenity impacts, these matters have been satisfactorily addressed through supporting technical documentation and design refinements. The development has met the relevant standards and is not expected to result in unacceptable amenity impacts on adjacent owners and occupiers.

The application includes a shortfall in on-site car parking and reduced active street frontage glazing. The parking variation is considered acceptable given the availability of nearby and adjacent on-street parking, the operational characteristics of a medical centre, and the ability to improve on-site parking provision through minor design amendments, which can be resolved through conditions. Similarly, the reduced glazing to the street frontage is considered reasonable in the context of the functional and privacy requirements of a medical facility, while still achieving an adequate level of engagement with the public realm.

Overall, the proposal demonstrates sound planning merit and is consistent with the objectives of the ‘Commercial’ zone and the intended function of the centre. It is therefore recommended that the application be approved, subject to appropriate conditions.

KCM010-26.pln

KARNUP MEDICAL CENTRE

hubble design
ARCHITECTURE + INTERIORS

CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

ISSUE FOR APPROVAL

Page No.	Title	REV	Issued	Published	Comment
A0-00	TITLE PAGE	01	☒	☒	
A0-01	LAYOUT LIST | LOCATION PLAN	01	☒	☒	
A0-02	SITE SURVEY	01	☒	☒	
A1-01	SITE PLAN	01	☒	☒	
A1-02	LANDSCAPE PLAN	01	☒	☒	
A1-03	LANDSCAPE PLAN - ANNOTATION	01	☒	☒	
A2-01	GROUND FLOOR	02 - WIP	☒	☒	
A2-02	FIRST FLOOR	01	☒	☒	
A2-03	ROOF PLAN	01	☒	☒	
A3-01	ELEVATIONS 03 & 04	01	☒	☒	
A3-02	ELEVATIONS 01 & 02	01	☒	☒	



LOCATION PLAN | SATELLITE IMAGERY

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	6/3/2026	01

LAYOUT TITLE:
LAYOUT LIST | LOCATION PLAN

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
N.T.S. @A3

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A0-01

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NOTES:
1. LEVELS TO AHD ASSUMED FROM WATERCORP SEWER MANHOLE. NOTE: in some cases sewer manhold lid values as supplied by the WaterCorpoartion are not correct
2. IF PROPOSED SEWER GRADES ARE MINIMAL THE CLIENT MUST USE A PLUMBER TO CHECK THE CONNECTION R.L. TO ENSURE THERE IS ADEQUATE FALL.
3. SEWER LINES ARE PLOTTED FROM WATERCORP PLANS ONLY. IF BUILDING CLOSE TO SEWER LINE THE ACTUAL POSITION SHOULD BE IDENTIFIED BY ENGAGING A PLUMBER TO EXPOSE THE SEWER LINE IN THAT AREA.
4. DIMENSIONS OF BUILDINGS TAKEN FROM THIS PLAN SHOULD BE VERIFIED ON SITE FIRST.
5. BOUNDARY INFORMATION FROM PLAN OF SURVEY (LANDGATE). BOUNDARY CONFIGURATION IS ONLY OVER-LAIN WITH FENCES, WALLS ETC AS A BEST FIT. **IT DOES NOT REPRESENT THE ACTUAL LOCATION OF THE BOUNDARY.**
NO BOUNDARY RE-SURVEY HAS BEEN CONDUCTED AS PART OF THIS FEATURE SURVEY.
6. GENERAL EASEMENTS HAVE NOT BEEN CHECKED OR SHOWN. CLIENT TO CHECK TITLE FOR EASEMENTS
7. GARDEN: KEY FEATURES SHOWN ONLY. PAVING EXTENT IS ONLY APPROXIMATE. CHECK AS NECESSARY
8. ROOF : KEY FEATURES SHOWN ONLY WHERE RELATED TO LEVELS TAKEN
9. FLOOR LEVEL ASSUMED FROM DOOR STEP LEVEL WHERE ACCESS IS NOT POSSIBLE.

MHS

CHARLESTON STREET

DATUM: NAIL & PLATE IN BITUMEN 10.18m AHD

1.15m Cyclone fence.

PRmarking

BARE GROUND

CONCRETE PATH

peg found

6.01m

90°

8.5m

21.49m

paved xover

Main Sewer Line R.L. 8.46m
Connection up 1m
Connection R.L. 8.46m
Depth to Conn. 0.87m

other services near here

POWER DOME.

paved d-way

T.O.W 10.57

L.R.W.

T.O.W 10.55

T.O.W 10.58

PARAPET WALL

RIDGE 14.65

SEP

T.O.G 13.23

RIDGE 15.62

LOT 433

30m

Brick & ZA House.
Main floor Level
10.68m AHD from front
doorstep level.

1.8m CB fence. on wall

LOT 432
807m2
DP 404181

VERDIGRIS ROAD

PARKING

CONCRETE PATH

23.99m

DATUM: NAIL & PLATE IN L/S WALL 10.2m AHD

27.5m

T.O.W 10.19

T.O.W 10.2

T.O.W 10.56

T.O.W 10.55

T.O.W 10.57

T.O.W 10.58

T.O.W 10.56

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T.O.W 10.56

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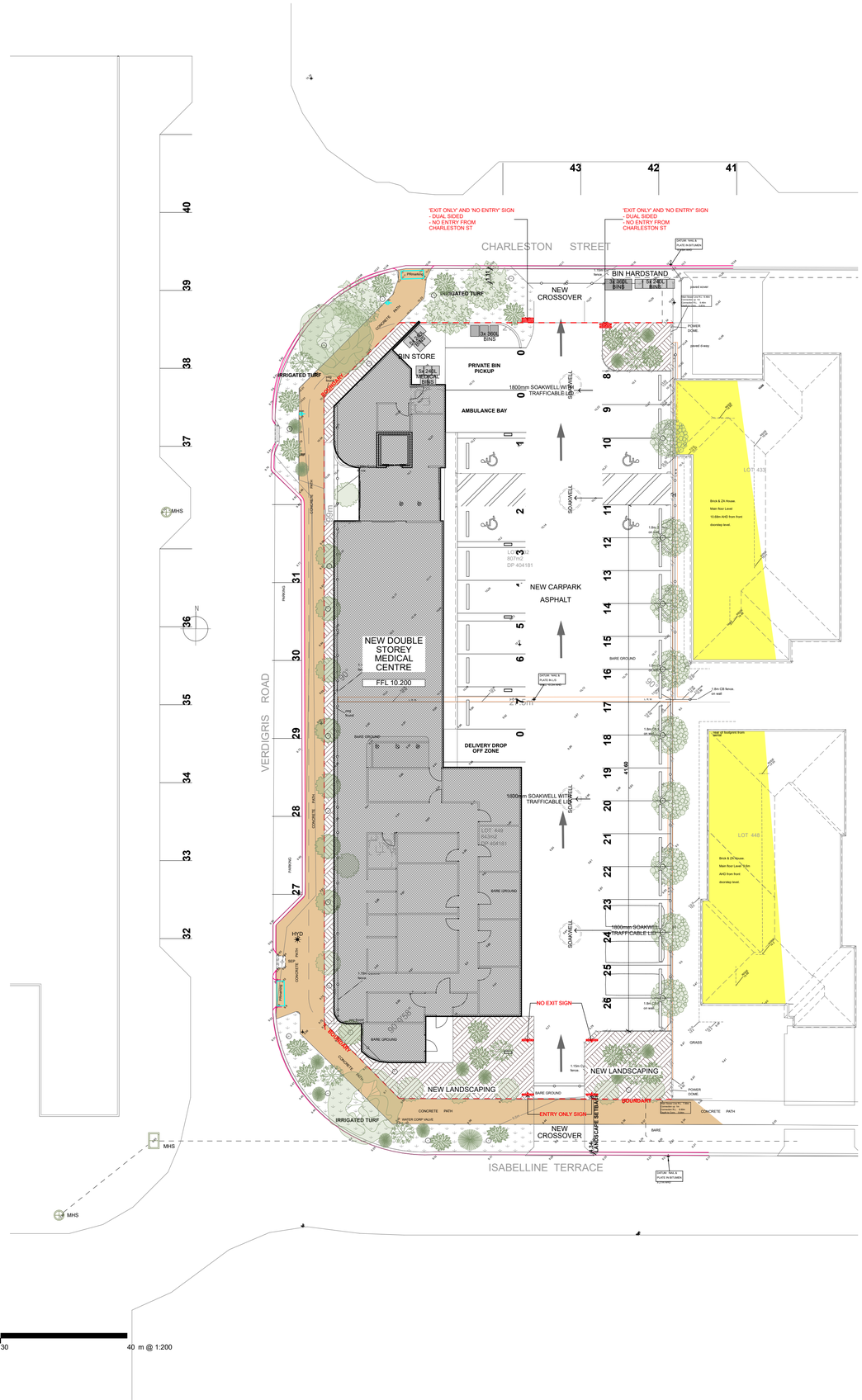
T.O.W 10.56

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KCM010-26.pln



SITE CALCS:

LOT A: 807m2
LOT B: 843m2

TOTAL SITE AREA: 1650m2

Therefore we require 165m2 of Soft landscaping at 10%

PARKING CALCS:

BAYS AVAILABLE: 26
DISABLED BAYS: 4
TOTAL METRE SQ: 915m2
STREET PARKING: 17

LANDSCAPING CALCS:

DEEP PLANTING ZONES:
9 @1.15m2
TOTAL METRE SQ DSA:
10.35m2

SOFT LANDSCAPE SPACE:
170m2
TOTAL LANDSCAPING:
170+10.35
TOTAL = 170.35m2

ZONE LEGEND

CODE	PLAN	DESCRIPTION	STATUS

SITE LEGEND

SYMBOL	DESCRIPTION	STATUS

LANDSCAPING SURFACES

HATCH	SURFACE	DESCRIPTION
	05 Grass - Green	IRRIGATED TURF
	05 Soil	

SITE LEVEL NOTES

0000	EXISTING FINISHED GROUND LEVEL
0.000	NEW FINISHED GROUND LEVEL
FFL 0.000	NEW FINISHED FLOOR LEVEL

N

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	6/3/2026	01

LAYOUT TITLE: SITE PLAN

PROJECT STATUS: DEVELOPMENT APPROVAL

SCALE: 1:200 @A1

DRWN: | CHK'D: # | P.H.

PROJECT/CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

JUPITER HEALTH

PROJECT NO: KCM

DRAWING NO: **A1-01**

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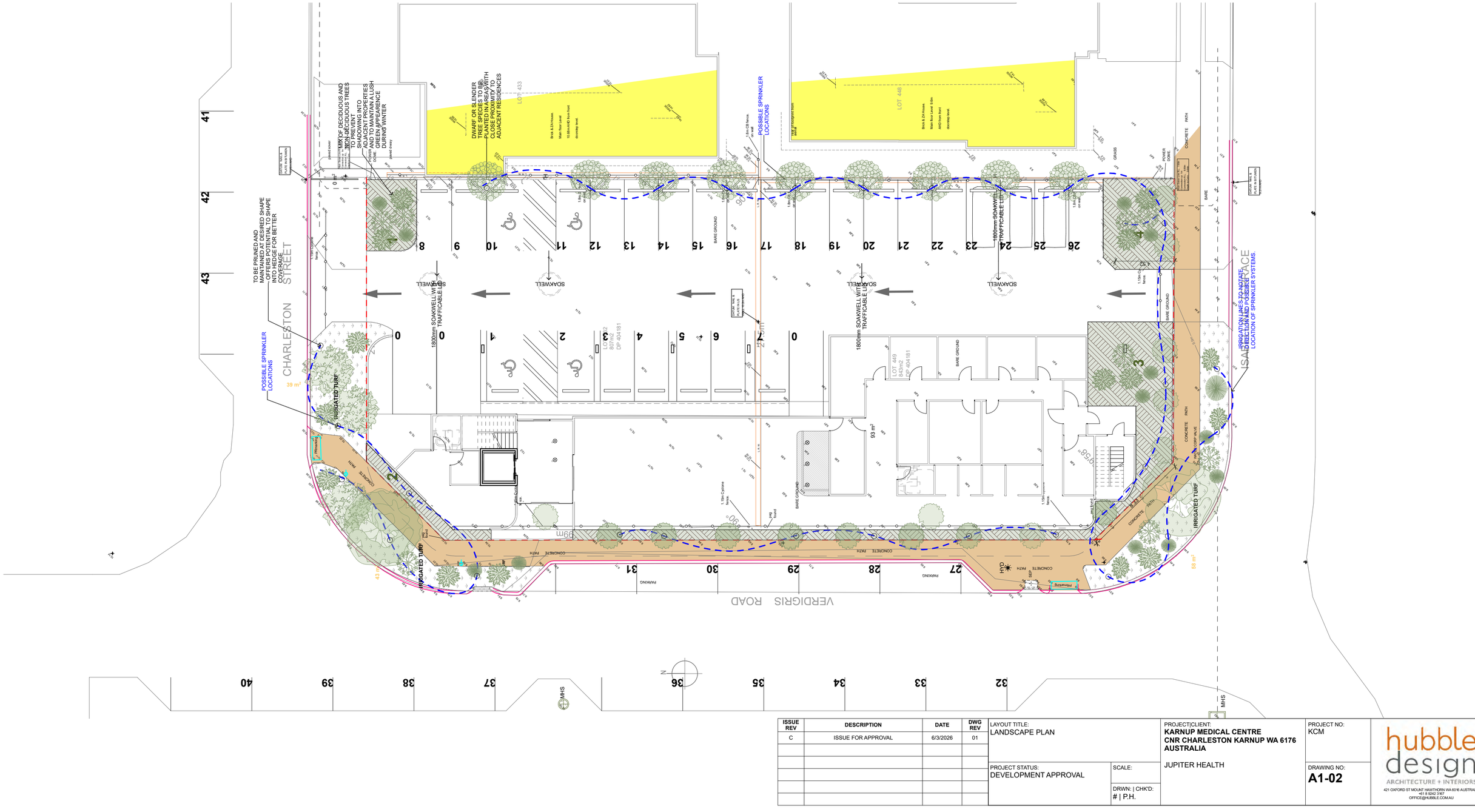
KCM010-26.pln

PLANT SCHEDULE

SYMBOL	DESCRIPTION	STATUS	SPECIES NAME	HEIGHT	WIDTH	NOTE
	Bottlebrush - RED FLOWER	New	Callistemon 'Little John' (Dwarf Bottlebrush)	1.5m	1m	
	Common Everlasting - YELLOW FLOWER	New	Chrysocephalum apiculatum	0.2m	0.5m	
	Kangaroo Paw - ORANGE FLOWER	New	Anigozanthos 'Bush Ranger'	0.6m	0.5m	
	Lilly Pilly Hedge	New	Dwarf Lilly Pilly ('Allyn Magic' & 'Minor')	3m	0.5 - 1m	
	Magnolia 'Little Gem'	New		4m	0.5 - 1m	
S	SPRINLER	New				
	Waterhousea Sweeper (Weeping Lilly Pilly)	New		3-5m	3m	

LANDSCAPING SURFACES

HATCH	SURFACE	DESCRIPTION
	05 Grass - Green	IRRIGATED TURF
	05 Soil	



ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	6/3/2026	01

LAYOUT TITLE: LANDSCAPE PLAN

PROJECT STATUS: DEVELOPMENT APPROVAL

SCALE:

DRWN: | CHK'D: # | P.H.

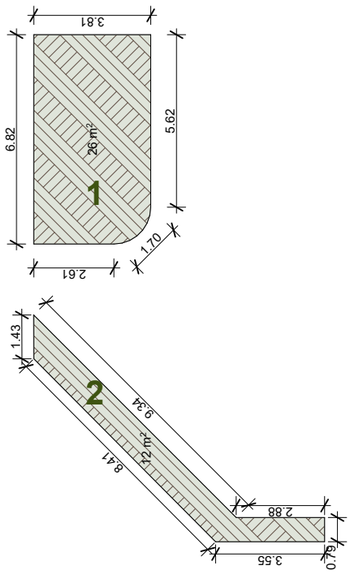
PROJECT|CLIENT: **KARNUP MEDICAL CENTRE**
CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

JUPITER HEALTH

PROJECT NO: KCM

DRAWING NO: **A1-02**

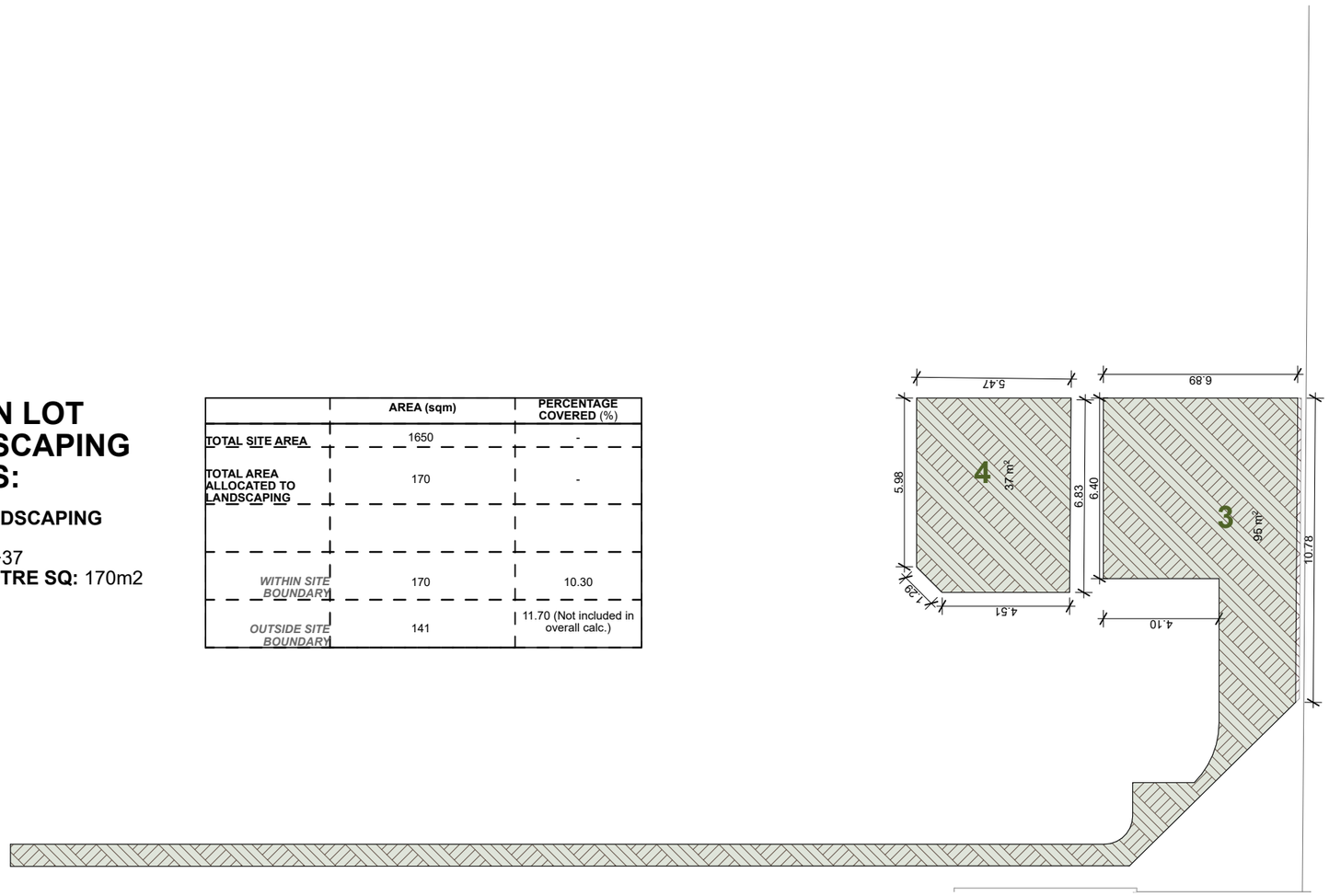
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WITHIN LOT LANDSCAPING CALCS:

SOFT LANDSCAPING CAL:
26+12+95+37
TOTAL METRE SQ: 170m2

	AREA (sqm)	PERCENTAGE COVERED (%)
TOTAL SITE AREA	1650	-
TOTAL AREA ALLOCATED TO LANDSCAPING	170	-
WITHIN SITE BOUNDARY	170	10.30
OUTSIDE SITE BOUNDARY	141	11.70 (Not included in overall calc.)



ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	6/3/2026	01

LAYOUT TITLE:
LANDSCAPE PLAN - ANNOTATION

PROJECT STATUS:

SCALE:

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A1-03

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CHARLESTON STREET EXIT

ISABELLINE TERRACE ENTRY

02 - WIP

BIN COLLECTION POINT
A: 3.54 m²

1800mm SOAKWELL WITH TRAFFICABLE LID

SOAKWELL

1.062m SETBACK TO BOUNDARY

0.18m SETBACK TO BOUNDARY

0.50m SETBACK TO BOUNDARY

SITE AREA
A: 842.54 m²

OVERALL SITE AREA
A: 1,680.85 m²

SITE AREA
A: 821.12 m²

LANDSCAPING
A: 35.67 m²

FLUSH KERB TO COUNCILS REQUIREMENTS

NON-MOUNTABLE KERB

MODIFIED PARKING BAYS TO BE CLEAR OF OBSTRUCTION

APPROXIMATE SIZE OF SMALL DELIVERY TRUCK / VANS (4.2m x 2.1m). THE TRUCKS COME ON A MONTHLY BASIS

SHORT TERM LOADING / DROP OFF ZONE

PRIVATE MEDICAL WASTE PICKUP?

AMBULANCE PARKING

IRRIGATED TURF

BIN STORE
A: 25.03 m²

UAT
A: 5.48 m²

STORE
A: 5.50 m²

PHLEBOTOMIST
A: 5.39 m²

LIFT
A: 4.00 m²

STAIR
A: 4.00 m²

PATHOLOGY COLLECTION
A: 40.89 m²

CHARGE
A: 7.70 m²

FFL 10.200

PROPOSED RADIOLOGY AREA

PROPOSED RADIOLOGY CONSULT AND SERVICES

RADIOLOGY
A: 450.00 m²

XRAY TREATMENT ROOM
A: 18.99 m²

XRAY TREATMENT ROOM
A: 18.99 m²

SUBSTATION / SERVICES
A: 8.16 m²

RECEPTION
A: 8.87 m²

UAT
A: 6.18 m²

CHANGING ROOM
A: 3.79 m²

CHANGING ROOM
A: 3.79 m²

CHANGING ROOM
A: 3.79 m²

CHANGING ROOM
A: 6.07 m²

STORE
A: 10.09 m²

STAIR
A: 14.10 m²

IRRIGATED TURF

CONCRETE PATH

VERDIGRIS ROAD

VERDIGRIS ROAD

N

ISSUE REV	DESCRIPTION	DATE	DWG REV
	Not in Transmittal Set	Work in Progress	02 - WIP
C	ISSUE FOR APPROVAL	6/3/2026	01

LAYOUT TITLE:
GROUND FLOOR

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
1:200 @A3

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A2-01

hubble design
ARCHITECTURE + INTERIORS
421 OXFORD ST MOUNT HAWTHORN WA 6016 AUSTRALIA
+61 8 9242 3167
OFFICE@HUBBLE.COM.AU

KCM010-26.pln

CHARLESTON STREET

ISABELLINE TERRACE

VERDIGRIS ROAD

SITE AREA
A: 842.54 m²

SITE AREA
A: 806.82 m²

ALLIED HEALTH
A: 18.26 m²

ALLIED HEALTH
A: 15.99 m²

UAT
A: 6.27 m²

UAT
A: 6.27 m²

ALLIED HEALTH
A: 114.67 m²

STAIR
A: 11.95 m²

LIFT
A: 7.84 m²

PLANTER BOX

PLANTER BOX

FFL 14.200

FFL 14.200

FFL 14.200

WOMENS HEALTH / SKIN CLINIC ROOM 3
A: 12.00 m²

WOMENS HEALTH / SKIN CLINIC ROOM 2
A: 12.26 m²

INJECTION ROOM
A: 11.33 m²

RECEPTION
A: 9.01 m²

THEATRE ROOM
A: 12.00 m²

TREATMENT ROOM
A: 15.02 m²

CLINIC
A: 80.20 m²

RECEPTION
A: 8.87 m²

PM OFFICE
A: 8.21 m²

GP TREATMENT ROOM
A: 12.00 m²

GP TREATMENT ROOM
A: 12.99 m²

INJECTION ROOM
A: 12.00 m²

GP CONSULT ROOM 1
A: 12.00 m²

STAFF ROOM
A: 29.83 m²

PLANT
A: 5.85 m²

STAIR
A: 5.60 m²

TEA ROOM
A: 9.34 m²

STAFF BALCONY
A: 9.23 m²

STORE
A: 8.30 m²

STAFF UAT
A: 6.27 m²

UAT
A: 6.27 m²

UAT
A: 6.27 m²

CLINIC (SKIN / WOMENS HEALTH)
A: 174.17 m²

GP CONSULT ROOM 3
A: 12.00 m²

TREATMENT ROOM
A: 12.00 m²

3,179 4,863 4,217 2,390 2,887 983 2,136 271 9,060 2,887 605 2,887 4,393 844 2,887 863 2,887 244 1,143 5,554 2,287

4,863 4,217 1,935 4,325 2,307 17,660 2,172 11,361 2,183 879 2,287

51,901 2,287

N

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	6/3/2026	01

LAYOUT TITLE:
FIRST FLOOR

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
1:200 @A3

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A2-02

hubble design
ARCHITECTURE + INTERIORS
421 OXFORD ST MOUNT HAWTHORN WA 6016 AUSTRALIA
+61 8 9242 3167
OFFICE@HUBBLE.COM.AU

CHARLESTON STREET

SITE AREA
A: 842.54 m²

SURFMIST COLORBOND TRIMDEK ROOF AT 3° PITCH

SITE AREA
A: 806.82 m²

VERDIGRIS ROAD

N

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	6/3/2026	01

LAYOUT TITLE:
ROOF PLAN

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
1:200 @A3

DRWN: | CHK'D:
| P.H.

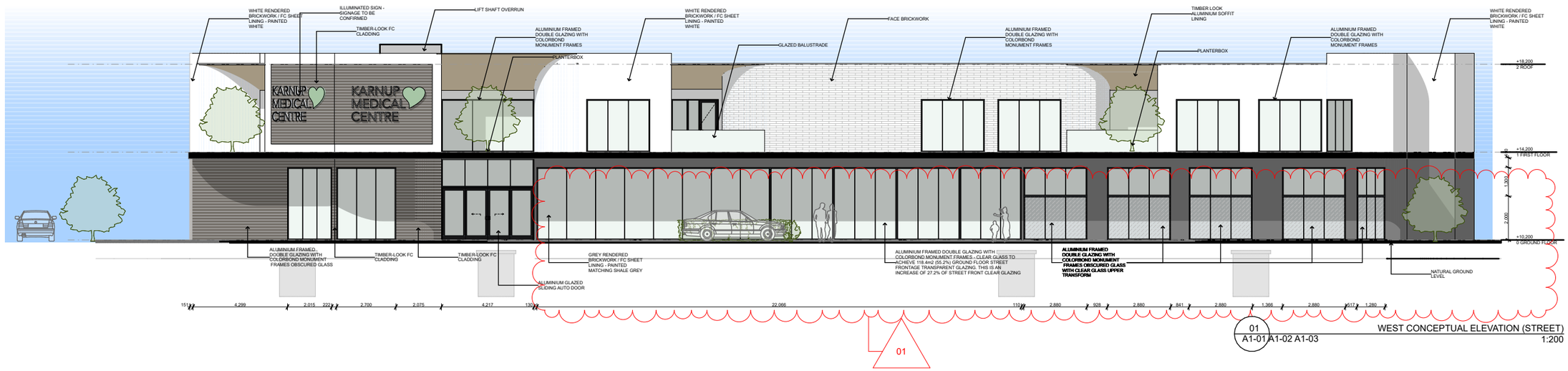
PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

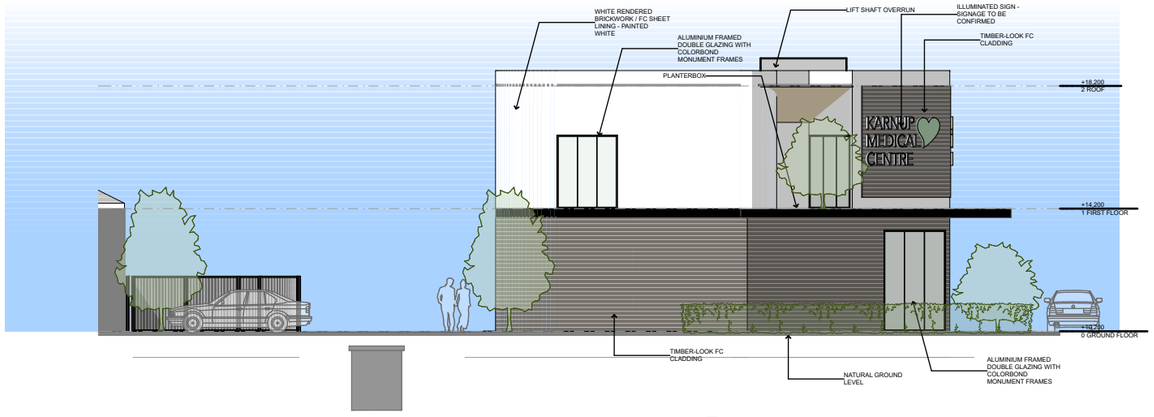
PROJECT NO:
KCM

DRAWING NO:
A2-03

hubble design
ARCHITECTURE + INTERIORS
421 OXFORD ST MOUNT HAWTHORN WA 6016 AUSTRALIA
+61 8 9242 3167
OFFICE@HUBBLE.COM.AU



01 A1-01 A1-02 A1-03 WEST CONCEPTUAL ELEVATION (STREET) 1:200



02 A1-01 NORTH CONCEPTUAL ELEVATION 1:200

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	6/3/2026	01

LAYOUT TITLE: ELEVATIONS 03 & 04

PROJECT STATUS: DEVELOPMENT APPROVAL

SCALE:

DRWN: | CHK'D: # | P.H.

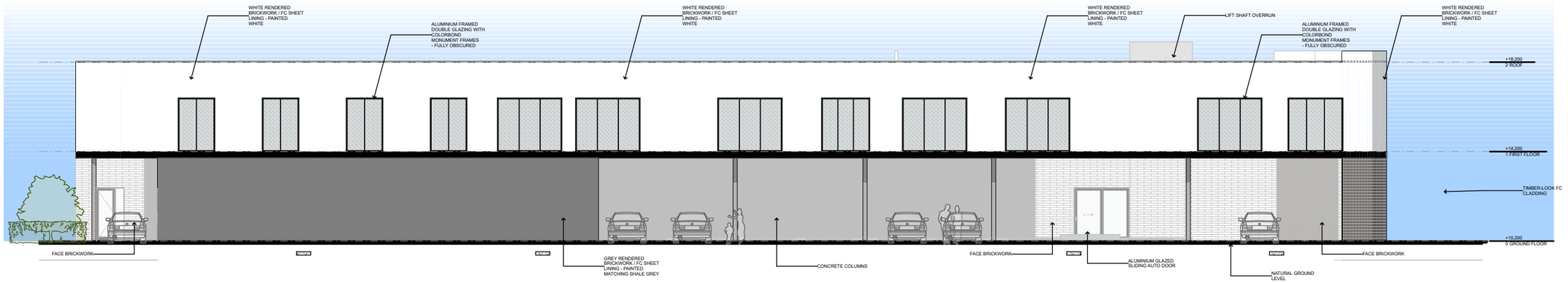
PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

JUPITER HEALTH

PROJECT NO: KCM

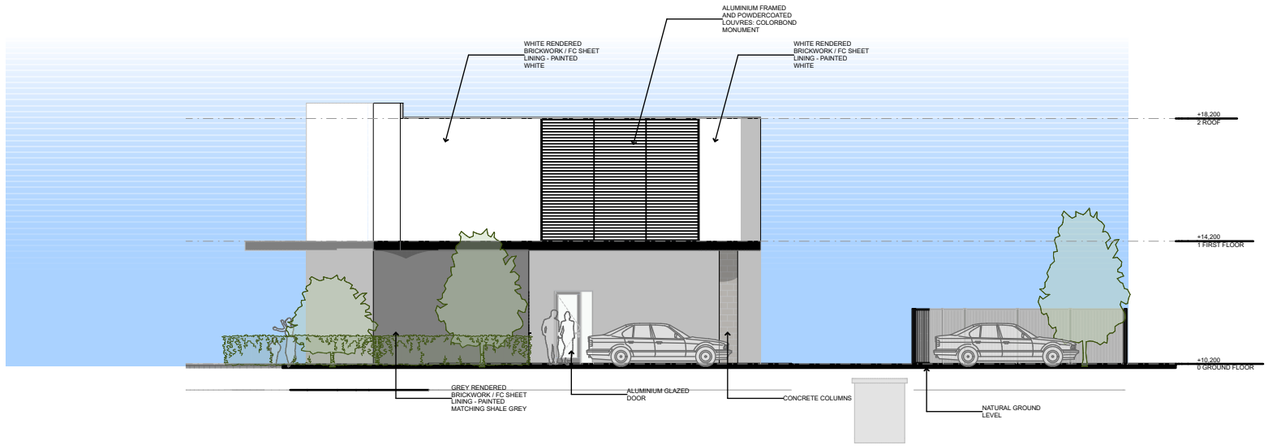
DRAWING NO: **A3-01**

hubble design
ARCHITECTURE + INTERIORS
421 OXFORD ST MOUNT HAWTHORN WA 6016 AUSTRALIA
+61 8 9242 3167
OFFICE@HUBBLE.COM.AU



03
A1-01

EAST CONCEPTUAL ELEVATION
1:200



04
A1-01

SOUTH CONCEPTUAL ELEVATION
1:200

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	6/3/2026	01

LAYOUT TITLE:
ELEVATIONS 01 & 02

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A3-02

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OFFICE@HUBBLE.COM.AU

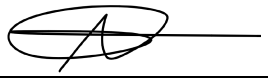
DAP FORM 1

Notice of Development Application to be Determined by a Development Assessment Panel

Planning and Development Act 2005
Planning and Development (Development Assessment Panel) Regulations 2011 – regulations 6, 7, 10 and 21

Part A – Applicant Details

- By completing this notice, I declare that all the information provided in this application is true and correct.
- I understand that the information provided in this notice, and attached forming part of the development application will be made available to the public on the Development Assessment Panel and local government websites.

Name/Company	Dynamic Planning and Developments	
Contact Person	Aston Gobetti	
Address	*Street Number/PO Box number, street name, suburb, state, postcode* Lot 432 (No. 2) Charleston Street, Karnup & Lot 449 (No. 1) Isabelline Terrace, Karnup	
Contact Details	*Email* admin@dynamicplanning.net.au	*Phone* 9275 4433
Signature		*Date* 23/09/2025

Please note: unless otherwise requested, the DAP Secretariat will contact you via your nominated email address provided above.

Part B - Application Details

Responsible Authority	*Name of local government and Western Australian Planning Commission (if applicable)* City of Rockingham	
Planning Scheme(s)	*Name of planning scheme(s) that applies to the prescribed land* City of Rockingham Local Planning Scheme No. 2	
Land	*Lot number, street number, street name, town/suburb* Lot 432 (No. 2) Charleston Street, Karnup & Lot 449 (No. 1) Isabelline Terrace, Karnup	
Certificate of Title (provide copy)	*Volume Number* 2868 & 2868	*Folio* 426 & 443
	Location Number	*Plan / Diagram Number* P404181 & P404181
Details of development application made to responsible authority	*Summary of Proposal* Proposed 'Medical Centre'	
Development Use	*Residential / Commercial / Industrial / Rural / Mixed Use / Community Housing/ Other* Commercial	
Estimated cost of development (GST Exc)	$ 4,500,000	

Part C – Election as DAP Application or Delegated Application

DAP Application	■ I give notice that I have elected to have the development application that accompanies this form determined by a Development Assessment Panel *(regulation 6 & 7)*
Delegated Application	■ I give notice that I understand that this is an application of a class delegated to a Development Assessment Panel for determination *(regulation 19)*

Part D – Community Housing Provider

By completing this notice, I declare that the development is or includes community housing that is to be provided by a registered community housing provider as defined by Regulation 3.	
Provider's Name	
Contact Details	
DAP Community Housing Provider Register Reference	

Part E – Acknowledgement by Local Government

Responsible Authority	☐ Local Government (LG) ☐ * Dual – Local Government and Western Australian Planning Commission	
* DUAL reporting details	*If DUAL is selected, please provide details of relevant provision (or within covering letter)*	
Fees for applications *(DAP Regulations - Schedule 1)*	$ Amount that has been paid by the applicant $ Amount to be paid by local government *(delegated applications only - regulation 22)*	
Statutory Timeframe *(regulation 12)*	☐ 60 days (advertising not required) ☐ 90 days (advertising required or other scheme provision)	
LG Reference Number		
Name of planning officer *(Report Writer)*		
Position/Title		
Contact Details	*Email*	*Phone*
Date application accepted as per Clause 63A of the deemed provisions		
Planning Officer's Signature		

Please note that Landowner(s) details are no longer required on this form. The landowner(s) consent as provided on the local government development application form is taken as agreement from the landowner(s) for the applicant to make this election for the subject application.

APPLICATION FOR DEVELOPMENT APPROVAL

Before completing this form, please consider lodging your application on-line - https://rockingham.wa.gov.au and register via Rock Port to lodge your application.

OWNER DETAILS Gold Right Pty Ltd

Name :

ABN (if applicable) 691 459 446 261

Address : 236 ADELAIDE TCE PERTH Postcode: 6000

Phone: Work: 92256770 Home: Mobile: 0412955505

Fax: Email: Fred@goldrightgroup.com.au

Contact Person for correspondence: FRED FERRANTE

Signature Date 13 10 25

Signature Date 14 11 25

The signature of the owner(s) is required on all applications. This application will not proceed without that signature. For the purposes of signing this application an owner includes the persons referred to in the Planning and Development (Local Planning Schemes) Regulations 2015 Schedule 2 clause 62(2).

APPLICANT DETAILS (if different from owner)

Name: Dynamic Planning and Developments

Address: PO Box 688, Inglewood, WA

Postcode 6932

Phone: Work: 92754433 Home: Mobile

Fax: Email: admin@dynamicplanning.net.au

Contact person for correspondence: Aston Gobetti

The information and plans provided with this application may be made available by the City of Rockingham for public viewing in connection with the application. Yes ☑ No ☐

Signature: Date: 23 September 2025

PROPERTY DETAILS

Lot No. 449 House/ Street No. 1 Street Name Isabelline Terrace

Suburb Karnup Nearest Street Intersection Verdigris Road

Title Encumbrances (eg. Easements, Restrictive Covenants) See CT

Certificate of Title Vol. No: 2868 Folio 443 Diagram/Plan No: P404181

PROPOSED DEVELOPMENT

Nature of development: Works ☐

Use ☐

Works and Use ☑

Is an exemption from development claimed for part of the development? Yes ☐ No ☑

If Yes, is the exemption for: Works ☐

Use ☐

Description of proposed works and/or land use: Medical Centre

Description of exemption claimed (if relevant) N/A

Nature of any existing buildings and/or land use: Vacant lot

Approximate cost of proposed development (exclusive of GST): $

Estimated time of completion: 24 months from approval

OFFICE USE ONLY

Acceptance Officer's Initials: _____ Date Received: _____

Application Reference No. _____

Parcel No. _____ File No. _____

Application Fee $_____ Date Sought _____ Date Received _____

Receipt No. _____ Planning Account No. 711 (Application Planning Fee)

APPLICATION FOR DEVELOPMENT APPROVAL

Before completing this form, please consider lodging your application on-line - https://rockingham.wa.gov.au and register via Rock Port to lodge your application.

OWNER DETAILS Gold Right Pty Ltd

Name :

ABN (if applicable) 69 145 944 261

Address : 236 Adelaide Tce PERTH Postcode: 6000

Phone: Work: 92256770 Home: Mobile: 0412955505

Fax: Email: Fred@goldenright.com.au

Contact Person for correspondence: Fred Fernandez

Signature Date 13 10 25

Signature Date 14 11 25

The signature of the owner(s) is required on all applications. This application will not proceed without that signature. For the purposes of signing this application an owner includes the persons referred to in the Planning and Development (Local Planning Schemes) Regulations 2015 Schedule 2 clause 62(2).

APPLICANT DETAILS (if different from owner)

Name: Dynamic Planning and Developments

Address: PO Box 688, Inglewood, WA

Postcode 6932

Phone: Work: 92754433 Home: Mobile

Fax: Email: admin@dynamicplanning.net.au

Contact person for correspondence: Aston Gobetti

The information and plans provided with this application may be made available by the City of Rockingham for public viewing in connection with the application. Yes ☑ No ☐

Signature: Date: 23 September 2025

PROPERTY DETAILS

Lot No. 432 House/ Street No. 2 Street Name Charleston Street

Suburb Karnup Nearest Street Intersection Verdigris Road

Title Encumbrances (eg. Easements, Restrictive Covenants) See CT

Certificate of Title Vol. No: 2868 Folio 426 Diagram/Plan No: P404181

PROPOSED DEVELOPMENT

Nature of development: Works ☐

Use ☐

Works and Use ☑

Is an exemption from development claimed for part of the development? Yes ☐ No ☑

If Yes, is the exemption for: Works ☐

Use ☐

Description of proposed works and/or land use: Medical Centre

Description of exemption claimed (if relevant) N/A

Nature of any existing buildings and/or land use: Vacant lot

Approximate cost of proposed development (exclusive of GST): $

Estimated time of completion: 24 months from approval

OFFICE USE ONLY

Acceptance Officer's Initials: _____ Date Received: _____

Application Reference No. _____

Parcel No. _____ File No. _____

Application Fee $_____ Date Sought _____ Date Received _____

Receipt No. _____ Planning Account No. 711 (Application Planning Fee)

GOVERNMENT OF WESTERN AUSTRALIA

Western Australian Planning Commission

MRS | Form 1 Application for Planning Approval

Owner/s details

Registered proprietor/s (landowner/s) or the authorised agent's details **must** be provided in this section. If there are more than two landowners please provide all relevant information on a separate page. Signature/s must be provided by all registered proprietors or by an authorised agent.

Alternatively, a letter of consent, which is signed by all registered proprietors or by the authorised agent, can be provided.

Full name	Gold Right Pty Ltd
Company/agency (if applicable)	
AGN/ABN (if applicable)	691 459 446 261
Postal address	236 ADELAIDE TCE PERTH
Town/suburb	**Postcode** 6000
Signature	The landowner/s or authorised agent consents to the applicant submitting this application. **Date** 13 10 25
Print name and position (if signing on behalf of a company or agency)	CHARLES NAPOLI Sole Director

Applicant details

Name/company	Dynamic Planning and Developments
Contact person	Aston Gobetti
Postal address	PO Box 688
Town/suburb	Inglewood **Postcode** 6932
Phone	92754433 **Email** admin@dynamicplanning.net.au
Applicant signature	
Print name and position (if signing on behalf of a company or agency)	Aston Gobetti / Planner **Date** 09/23/25

Property details

Certificate of title description of land:		**Lot No**	449	**Location No**
Plan or diagram	P404181	**Vol**	2868	**Folio** 443
Certificate of title description of land:		**Lot No**		**Location No**
Plan or diagram		**Vol**		**Folio**

Title encumbrances (e.g. easements, restrictive covenants)	See CT
Locality of development (house no., street name, suburb, etc)	Lot 449 (No. 1) Isabelline Terrace
Nearest street intersection	Verdigris Road
Existing building/land use	Vacant lot
Description of proposed development and/or use	Medical Centre
Nature of any existing buildings and/or use	Vacant lot
Approximate cost of proposed development (excl. gst) $	
Estimated time of completion	24 months from approval

Office use only

Acceptance officer's initials		**Date received**	
Local government reference No.		**Commission reference No.**	

Version: 9.2 (December 2018)

The information and plans provided with this application may be made available by the WAPC for public viewing in connection with the application.

Additional Information to be provided on the MRS Form 1

Is the development within a designated Bushfire Prone Area?	✔ Yes	No
If 'yes', have bushfire hazard issues been identified and addressed (e.g.by providing a BAL Assessment(s) or BAL Contour Map and a Bushfire Management Plan with the application)?	✔ Yes N/A	No
If NA is selected and the development is in a designated bushfire prone area then a short statement justifying why SPP 3.7 does not apply should be included.		
Does your application require determination by a Development Assessment Panel? (DAP)	✔ Yes	No

Please refer to the following website for DAP requirements: www.dplh.wa.gov.au/daps

If yes, please complete DAP Application Form as per DAP requirements.

Checklist (supporting information)

Please complete the checklist below and ensure that all the relevant information is provided with the application.

1. Completed Metropolitan Region Scheme (MRS) Form 1
2. Plans at a scale not less than 1:500 (A3) showing:-
   - (i) the location of the site including street names, lot number(s), north point and the dimensions of the site;
   - (ii) the existing and proposed ground and floor levels over the whole of the land that is the subject of the application, including details of proposed cut and fill, and retaining walls;
   - (iii) the location, metric dimensions, materials, finishes and type of all existing and proposed structures, including services, on the land that is the subject of the subject of the application and all existing structures and vegetation proposed to be removed;
   - (iv) the existing and proposed use of the site, including proposed hours of operation and buildings to be erected on the site;
   - (v) the existing and proposed means of access and egress for pedestrians and vehicles to and from the site;
   - (vi) the location, number, dimensions and layout of all car parking spaces intended to be provided, including provision for the disabled;
   - (vii) the location and dimensions of any area proposed to be provided for the loading and unloading of vehicles carrying goods or commodities to and from the site and the means of access to and from those areas;
   - (viii) the location, dimensions and design of any open storage or trade display area and particulars of the manner in which it is proposed to develop those areas;
   - (ix) the nature and extent of any open space and landscaping proposed for the site; and
   - (x) proposed external lighting and signage.
3. Plans, elevations and sections, as appropriate, of any building or structure proposed to be erected or altered and of any building or structure it is intended to retain;
4. Any specialist studies that the responsible authority may require the applicant to undertake in support of the application such as traffic, heritage, environmental, engineering or urban design studies;
5. Any management plans the responsible authority may require to support or implement the application; and
6. Any other plan or information that the responsible authority may require to enable the application to be determined. This may include scale models or information in digital formats.

For additional information please refer to Development Control Policy 1.2
www.dplh.wa.gov.au/getmedia/37533b97-e0ad-4947-9d00-c4d62fa92746/DCP_1-2_general_principles

The information and plans provided with this application may be made available by the WAPC for public viewing in connection with the application.

GOVERNMENT OF WESTERN AUSTRALIA

Western Australian Planning Commission

MRS | Form 1 Application for Planning Approval

Owner/s details

Registered proprietor/s (landowner/s) or the authorised agent's details **must** be provided in this section. If there are more than two landowners please provide all relevant information on a separate page. Signature/s must be provided by all registered proprietors or by an authorised agent.

Alternatively, a letter of consent, which is signed by all registered proprietors or by the authorised agent, can be provided.

Full name	Gold Right Pty Ltd
Company/agency (if applicable)	
ACN/ABN (if applicable)	
Postal address	
Town/suburb	**Postcode**
Signature	The landowner/s or authorised agent consents to the applicant submitting this application — **Date** 14 11 25
Print name and position (if signing on behalf of a company or agency)	Charles Mah Andrew Sup Director

Applicant details

Name/company	Dynamic Planning and Developments		
Contact person	Aston Gobetti		
Postal address	PO Box 688		
Town/suburb	Inglewood	**Postcode**	6932
Phone	92754433	**Email**	admin@dynamicplanning.net.au
Applicant signature			
Print name and position (if signing on behalf of a company or agency)	Aston Gobetti / Planner	**Date**	09/23/25

Property details

Certificate of title description of land:		**Lot No**	432	**Location No**	
Plan or diagram	P404181	**Vol**	2868	**Folio**	426
Certificate of title description of land:		**Lot No**		**Location No**	
Plan or diagram		**Vol**		**Folio**	

Title encumbrances (e.g. easements, restrictive covenants)	See CT
Locality of development (house no., street name, suburb, etc)	Lot 432 (No. 2) Charleston Street
Nearest street intersection	Verdigris Road
Existing building/land use	Vacant lot
Description of proposed development and/or use	Medical Centre
Nature of any existing buildings and/or use	Vacant lot
Approximate cost of proposed development (excl. gst) $	
Estimated time of completion	24 months from approval

Office use only

Acceptance officer's initials		Date received	
Local government reference No.		Commission reference No.	

The information and plans provided with this application may be made available by the WAPC for public viewing in connection with the application.

Version: 9.2 (December 2018)

Additional Information to be provided on the MRS Form 1

Is the development within a designated Bushfire Prone Area? ✔ Yes No

If 'yes', have bushfire hazard issues been identified and addressed (e.g.by providing a BAL Assessment(s) or BAL Contour Map and a Bushfire Management Plan with the application)? ✔ Yes No N/A

If NA is selected and the development is in a designated bushfire prone area then a short statement justifying why SPP 3.7 does not apply should be included.

Does your application require determination by a Development Assessment Panel? (DAP) ✔ Yes No

Please refer to the following website for DAP requirements: www.dplh.wa.gov.au/daps

If yes, please complete DAP Application Form as per DAP requirements.

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Please complete the checklist below and ensure that all the relevant information is provided with the application.

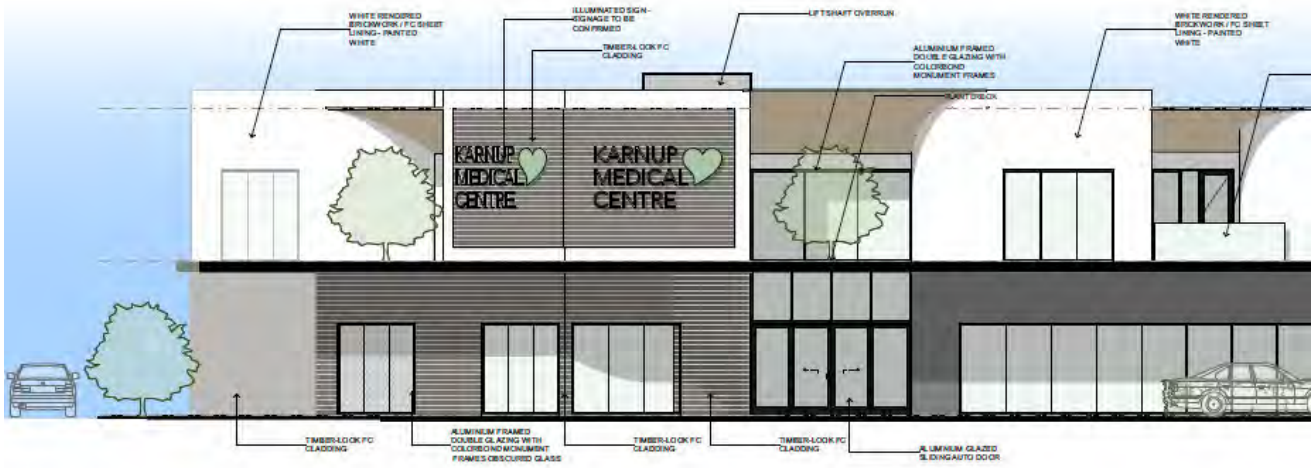
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   - (ii) the existing and proposed ground and floor levels over the whole of the land that is the subject of the application, including details of proposed cut and fill, and retaining walls;
   - (iii) the location, metric dimensions, materials, finishes and type of all existing and proposed structures, including services, on the land that is the subject of the subject of the application and all existing structures and vegetation proposed to be removed;
   - (iv) the existing and proposed use of the site, including proposed hours of operation and buildings to be erected on the site;
   - (v) the existing and proposed means of access and egress for pedestrians and vehicles to and from the site;
   - (vi) the location, number, dimensions and layout of all car parking spaces intended to be provided, including provision for the disabled;
   - (vii) the location and dimensions of any area proposed to be provided for the loading and unloading of vehicles carrying goods or commodities to and from the site and the means of access to and from those areas;
   - (viii) the location, dimensions and design of any open storage or trade display area and particulars of the manner in which it is proposed to develop those areas;
   - (ix) the nature and extent of any open space and landscaping proposed for the site; and
   - (x) proposed external lighting and signage.
3. Plans, elevations and sections, as appropriate, of any building or structure proposed to be erected or altered and of any building or structure it is intended to retain;
4. Any specialist studies that the responsible authority may require the applicant to undertake in support of the application such as traffic, heritage, environmental, engineering or urban design studies;
5. Any management plans the responsible authority may require to support or implement the application; and
6. Any other plan or information that the responsible authority may require to enable the application to be determined. This may include scale models or information in digital formats.

For additional information please refer to Development Control Policy 1.2
www.dplh.wa.gov.au/getmedia/37533b97-e0ad-4947-9d00-c4d62fa92746/DCP_1-2_general_principles

The information and plans provided with this application may be made available by the WAPC for public viewing in connection with the application.

PROPOSED ‘MEDICAL CENTRE’ – DEVELOPMENT APPLICATION

LOT 432 (NO. 2) CHARLESTON STREET, KARNUP & LOT 449 (NO. 1) ISABELLINE TERRACE, KARNUP



PLANNING REPORT

PROJECT REF: 2527

DYNAMIC PLANNING AND DEVELOPMENTS

Prepared for
Horus Medical Pty Ltd
163 The Esplanade
Mount Pleasant

History and Status of this Document

Revision	Date issued	Prepared by	Reviewed by	Revision type
Rev 1	10/10/25	AG	NT	Lodgement

Document Printed
File Name 251010 2527 DA Report.docx
Author/s Aston Gobetti
Name of Document Planning Report
Document Version Rev 1

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PLANNING REPORT

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DYNAMIC PLANNING AND DEVELOPMENTS

1.0 Introduction

Dynamic Planning and Developments (DP) acts on behalf of Horus Medical Pty Ltd, the proponent of Lot 432 (No. 2) Charleston Street, Karnup & Lot 449 (No. 1) Isabelline Terrace, Karnup (herein referred to as the 'subject site').

This planning report has been prepared in support of an Application for Planning Approval for a proposed 'Medical Centre' at the subject site. The planning report contains the following pertinent details of the proposal relevant to the assessment of the proposed application:

- Details of the proposal;
- Detailed assessment of the proposal against the relevant planning provisions applicable under the City of Rockingham Local Planning Scheme No. 2 (LPS 2) and any relevant Local Planning Policies; and
- Detailed justification of any variations sought.

In addition to this planning report, the following documentation has been provided in order to assist the Development Assessment Panel in approving the proposed application:

- Certificate of Title (**Appendix 1**).
- Relevant development plans (**Appendix 2**).
- Traffic Impact Statement (**Appendix 3**).
- Acoustic Report (**Appendix 4**).
- Bushfire Attack Level Report (**Appendix 5**).
- Waste Management Plan (**Appendix 6**).

It will be demonstrated in subsequent sections of this submission that the proposed development is entirely appropriate for approval.

2.0 Site Details

2.1 Legal Description

The subject site is legally described as:

Lot	Plan	Volume	Folio	Area	Street Address
432	404181	2868	426	807sqm	2 Charleston Street, Karnup
449	404181	2868	443	843sqm	1 Isabelline Terrace, Karnup

A copy of the Certificate of Title pertinent to the subject site is contained in **Appendix 1**.

2.2 Regional and Local Context

The subject site is located within the City of Rockingham municipal area, within the suburb of Karnup. The site is zoned 'Commercial' and is situated opposite the Singleton Village Shopping Centre. The subject site is surrounded by other 'Commercial' zoned land to the west, with 'Residential' zoned land to the east.

The subject site comprises two adjoining lots, both under the same ownership. Being a corner site, it benefits from convenient and flexible access arrangements. In accordance with the Local Development Plan (LDP) applicable to the area, vehicular access can be obtained from both Charleston Street and Isabelline Terrace.

Figures 1 and **2** depict the subject site in its regional and local context, respectively.



Figure 1: The subject site within the regional context



Figure 2: The subject site within the local context

DYNAMIC PLANNING AND DEVELOPMENTS

3.0 Planning Framework

3.1 Metropolitan Region Scheme (MRS)

The subject site is zoned 'Urban' under the provisions of the Metropolitan Region Scheme.

3.2 City of Rockingham Local Planning Scheme No. 2 (LPS 2)

The subject site is zoned 'Commercial' under the provisions of LPS 2. The objective of the 'Commercial' zone is outlined in Part 4.6 of LPS 2 and has been summarised below:

- *The objective of the Commercial Zone is to provide for the development of District, Neighbourhood and Local shopping facilities to cater for the present and future residents of the City consistent with the local government's Local Commercial Strategy and supported by any other Plan or Policy that the local government from time to time may adopt as a guide for the future development within the Zone.*

Compliance with the abovementioned zone objective has been assessed in detail within Section 5 of this report.

3.3 Planning and Development (Local Planning Schemes) Regulations 2015

All development applications approved under a Local Planning Scheme are required to consider the provisions included in Schedule 2, Clause 67 of the Planning and Development (Local Planning Schemes) Regulations 2015.

3.4 West Karnup Local Structure Plan

The subject site is located within the West Karnup Local Structure Plan and guides land use permissibility for the area. The subject site is located within 'Commercial' zoning under the provisions of the West Karnup Local Structure Plan.

3.5 Singleton Village Neighbourhood Activity Centre Detailed Area Plan

The subject site is located within the Singleton Village Neighbourhood Activity Centre Detailed Area Plan and is designated a zoning of 'Commercial – R60'. This detailed area plan provides development standards for structure, street interface, landscaping, robustness and fencing. The detailed area plan also provides provisions for setbacks and access.

Development standards are provided within the detailed area plan and have been assessed in Section 5 of this report.

4.0 Proposal Details

The proposed development seeks planning approval for a 'Medical Centre' at the subject site.

The site is strategically located within a growing residential area, making it ideally suited to support the establishment of a medical centre that will deliver essential primary health services to the local and surrounding community. The proposal will enhance access to healthcare, reduce travel times for residents, and contribute positively to the social and economic vitality of the area.

In addition, the site's corner location and dual road frontage provide excellent accessibility and visibility, further reinforcing its suitability for a community-based medical service.

4.1 Built Form Details

Built form proposed as part of the application can be summarised as:

- A two-storey medical centre including:
  - Pathologist located on the ground floor.
  - Radiology clinic located on the ground floor.
  - General practice medical located on the upper floor.
  - Women's health skin clinic located on the upper floor.
  - 38 parking bays (including 4 ACROD bays).
  - Tree planting between parking bays.

4.2 Operational Details

The operational details of the proposed facility can be summarised as follows:

- The facility will operate from the following hours:
  - 8:00am to 6:00pm Monday to Saturday
  - 9:15am to 6:00pm Sunday
- There will be a total of 7 practitioners for the Medical Centre.
- Bin collection is proposed through a dedicated bin collection point on Charleston Street.

Figure 3 is an extract of the proposed elevations with a copy of the proposed development plans within **Appendix 2**.

Supporting technical documentation further explaining how traffic and acoustic measures will be managed at the facility is contained in **Appendix 3** and **Appendix 4.**



Figure 3: Proposed Elevations

5.0 Assessment

The statutory provisions applicable to the subject site require assessment of the proposal to be undertaken against the provisions of the following documents:

- City of Rockingham Local Planning Scheme No. 2
- Schedule 2, Clause 67 – Planning and Development (Local Planning Schemes) Regulations 2015.
- West Karnup Local Structure Plan
- Singleton Village Neighbourhood Activity Centre Detailed Area Plan

The below sections will address the relevant land use permissibility and development requirements outlined in the abovementioned statutory planning documents.

5.1 Land Use Permissibility

The proposed development seeks approval for a 'Medical Centre' land use which is described in the City's LPS 2 as:

Medical Centre

- *means premises other than a hospital used by 3 or more health practitioners at the same time for the investigation or treatment of human injuries or ailments and for general outpatient care.*

In accordance with the 'Commercial' zoning applicable under LPS 2 the 'Medical Centre' land use is 'Discretionary (D)', meaning the proposed land use is capable of approval, subject to compliance with the relevant development requirements, which will be demonstrated in subsequent sections of this report.

5.2 Deemed Provisions

Consideration of the proposed development's compliance with Schedule 2, Clause 67 of the Planning and Development (Local Planning Schemes) Regulations 2015 has been provided below.

Clause	Response
a. the aims and provisions of this Scheme and any other local planning scheme operating within the Scheme area.	The proposed development through the contents of this planning report has demonstrated compliance with LPS 2.
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.	As alluded to above, the proposed development is consistent with orderly and proper planning as all State and local government level policies and provisions have been given due regard with the development having demonstrated an appropriate level of compatibility with these requirements.
c. any approved State planning policy.	The proposed development is compliant with SPP 3.7 Bushfire.
d. any environmental protection policy approved under the Environmental Protection Act 1986 section 31(d).	There are no EPA policies relevant to the proposed development.

Clause	Response
e. any policy of the Commission.	The proposed development is not subject to any relevant policies of the Commission.
f. any policy of the State.	The proposed development is not subject to any relevant policies of the State.
fa. any local planning strategy for this Scheme endorsed by the Commission.	The subject site is located in an area identified for commercial development and it has been zoned as such. In this regard, consistency with the zoning, as demonstrated through this report is considered to demonstrate consistency with the relevant local planning strategy.
g. any local planning policy for the Scheme area.	No relevant Local Planning Policy's applicable to the development.
h any structure plan or local development plan that relates to the development.	Any relevant structure plan has been considered in the 'Development Requirements' section 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.	No report reviewing the local planning scheme has been published.
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.	The proposed development is not on reserved land under a region scheme.

Clause	Response
k. the built heritage conservation of any place that is of cultural significance.	The subject site is vacant and as such does not have built heritage or cultural value.
l. the effect of the proposal on the cultural heritage significance of the area in which the development is located.	The subject site is not within an area of cultural heritage significance.
m. the compatibility of the development with its setting, including — *i. the compatibility of the development with the desired future character of its setting; and* *ii. 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*	The development is compatible with its setting as: • It is located within a proposed commercial area with the proposed land use being discretionary in the assigned zoning. • Traffic frequenting the proposed development is able to be accommodated on the proposed roads. • Parking beyond the demand generated by the development is being provided on site. • The only noise generated by the development relates to vehicle movements i.e. car doors opening. The acoustic report has addressed these concerns. • The built form is of a commensurate scale to what is planned by the applicable framework and will not impose building bulk which impacts to neighbouring properties.

DYNAMIC PLANNING AND DEVELOPMENTS

Clause	Response
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*	There will be no amenity impacts resulting from the development with the primary consideration, traffic, access and acoustic being appropriately addressed through this planning report and associated technical documentation.
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	The natural environment is not sensitive in the vicinity of the subject site and as such, there will be no negative impacts.
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	Landscaping of the land is proposed with no existing significant vegetation at the subject site.
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	The land is not at risk of any of this.
r. the suitability of the land for the development taking into account the possible risk to human health or safety	The proposed development and land on which it is situated poses no risk to human health or safety.
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*	The proposed access/egress to and from the site has been considered as part of the Transport Impact Statement and determined as being appropriate.
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 extent of traffic likely to be generated as well as the capacity of the road network has been considered in the Transport Impact Statement with the network capable of accommodating the proposed traffic.
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*	The availability of services, access to public transport, appropriateness of waste management, pedestrian access and disability access has all been addressed and determined as appropriate as illustrated on the development plans or within the provided supporting reports.

Clause	Response
end of trip storage, toilet and shower facilities); *v. access by older people and people with disability*	
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	There will be no loss of community service or benefit resulting from the proposed development as it will add an important service for the surrounding community.
w. the history of the site where the development is to be located	The site is a greenfield site with no history.
x. the impact of the development on the community as a whole notwithstanding the impact of the development on particular individuals	There will be no negative impact to the community or individuals, the development is appropriately located in a Commercial zoned area and will provide an important service for the surrounding community.
y. any submissions received on the application	Submissions will be considered as part of the application process.
za. the comments or submissions received from any authority consulted under clause 66	
zb. any other planning consideration the local government considers appropriate	Other planning considerations that might result from the assessment will be considered in detail.

5.3 Development Requirements

Development requirements applicable to the proposed development are included in:

- City of Rockingham Local Planning Scheme No. 2
- West Karnup Local Structure Plan
- Singleton Village Neighbourhood Activity Centre Detailed Area Plan

An assessment of the development's compliance with these requirements has been provided in the below table with any variations appropriately justified.

DYNAMIC PLANNING AND DEVELOPMENTS

Requirement Summary	Compliance
City of Rockingham Local Planning Scheme No. 2	
Development Requirements	
Parking a) 'Medical Centre' – 5 bays required per practitioner - 7 practitioners proposed, therefore total required bays = 35 bays **Landscaping** b) Minimum 10% landscaping = 165sqm	a) Complies. 38 parking bays proposed.
Singleton Village Neighbourhood Activity Centre Detailed Area Plan	
Development Standards	
Setbacks c) Mandatory active street frontage 0-2.5m setback (as per map). **Access** d) Mandatory vehicle access points (as per map). **Street Interface** e) All buildings shall enable passive surveillance of adjacent street reserves. f) Where active frontage is provided, it shall incorporate canopy(s) with continuous coverage to a minimum depth of 2.5m or to within 600mm of the back of the adjacent kerb where the verge is too narrow to accommodate a full depth canopy. g) Delivery, loading and storage areas are to be located and screened from public. h) Street elevations designed to create visual interest through building form, articulation of walls and openings, architectural features, texture and colour, with emphasis given to ground level. i) Non-active portions of wall shall be articulated by means of form, colour and texture to provide visual interest. **Landscape**	c) Complies. Mandatory active street frontage proposed with a 0.2m setback. d) Complies. Vehicle access points are proposed at areas designated on the DAP map. e) Complies. The buildings enable passive surveillance through the windows facing the adjacent street reserve. f) Complies. Awning/canopy provided over the active frontage provided. g) N/A. No delivery loading areas proposed. h) Complies. The street elevation is designed to create visual interest through varied height articulation, curved walls and varying colours and texture. i) Complies. Non-active portions of the walls are articulated through varying colour and texture.

j) Landscape material used for footpaths shall be continued across driveways and entrance to Right of Ways/Laneways to maintain visual continuity. k) Street trees shall be provided at a rate of not less than 1 tree per 14m on both sides of all streets. l) Shade trees shall be provided to publicly accessible car parks at a rate of not less than 1 tree per 8 car bays.	j) Complies. Footpaths are continued across entrance and right of ways. k) Complies. Street trees are provided at a rate of not less than 1 tree per 14m. l) Complies. Shade trees are provided to car parks at a rate not less than 1 tree per 8 car bays.
Robustness m) The ground floor of all buildings in the Commercial area shall be designed with a minimum floor to ceiling height of 3m to enable Commercial uses.	m) Complies. The ground floor is designed with a floor to ceiling height of 4m.
Fencing n) Any fencing to the primary or secondary street frontage restricted to Residential uses only, no more than 1.8m high and shall be at least 50% visually permeable from 0.9m above ground level.	n) N/A. No fencing proposed as the development is not a Residential use.

6.0 Other Considerations

6.1 Traffic

Due to the nature and type of traffic frequenting the proposed development, Donald Veal Consulting were engaged to prepare a Transport Impact Statement to support the proposed development. A copy of their report is contained in **Appendix 3**. The below summary provides an overview of the relevant traffic considerations for the proposed development:

- A medical centre of this size would therefore generate in the order of 600vpd (300vpd inbound and 300vpd outbound). Thus, the PM peak hour trips would be about 60vph with most in the outbound direction.
- DVC considers that the surrounding road network has sufficient capacity to absorb this additional traffic without significant impact.
- The traffic generated by the site will have small morning and evening peaks associated with the arrival and departure of staff. However, the majority of generated traffic will be spread evenly over the remainder of the day as dictated by the spread of medical/health appointments during opening hours.
- The proposed parking is considered sufficient to meet the demands of the proposed development.

Ultimately the proposed development is appropriate with regard to the traffic movement to, around and from the site.

6.2 Acoustic

Due to the nature and type of noise involved with the proposed development, Lloyd George Acoustics were engaged to prepare an Acoustic Report to support the proposed development. A copy of their report is contained in **Appendix 4**.

The report concluded that compliance is demonstrated at all times, with 'good practice' measures recommended.

6.3 Bushfire

Due to the nature of the site being located within a DFES Bushfire Prone Area, Bushfire Smart were engaged to prepare a Bushfire Attack Level Report to support the proposed development. A copy of their report is contained in **Appendix 5**.

The report determined a BAL 12.5 rating for the subject site, indicating that the proposed development can be supported without the need for additional bushfire separation measures.

6.4 Waste

A Waste Management Plan (WMP) has been prepared by Talis Consultants to support the lodgement of this Development Application and is provided in **Appendix 6**.

As detailed within the WMP, the proposed development incorporates a bin storage area of sufficient size to accommodate the required refuse and recycling bins, consistent with the forecast waste generation volumes for the site.

7.0 Conclusion

Based on the contents of this planning report, it is clear that the development proposal is appropriate for approval by the Development Assessment Panel. As considered in detail within the contents of the planning report, the proposal represents the continued growth of Karnup, whilst also providing an important local service for residents in need. Furthermore, the development is consistent with the applicable planning framework as:

1. The proposed land use is capable of approval within the 'Commercial' zone consistent with the relevant zone objective.

2. The proposed development is consistent with Schedule 2, Clause 67 of the Planning and Development (Local Planning Schemes) Regulations 2015.

3. The proposed development seeks to offer a modern, well-designed commercial 'Medical Centre' development that will have no detrimental effects on surrounding land uses while providing a high-quality development.

4. The proposed development is compliant with the applicable development requirements with any variations appropriately justified.

Based on the above, the proposal is considered to warrant favourable consideration and approval from the Development Assessment Panel.

Appendices

APPENDIX 1 – Certificate of Title

WESTERN AUSTRALIA

TITLE NUMBER	
Volume	Folio
2868	**426**

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 432 ON DEPOSITED PLAN 404181

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

GOLD RIGHT PTY LTD OF 236 ADELAIDE TERRACE, PERTH

(AF M934819) REGISTERED 31/3/2015

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

1. RESTRICTIVE COVENANT BENEFIT - SEE DEPOSITED PLAN 404181 AND INSTRUMENT M934821
2. RESTRICTIVE COVENANT BURDEN - SEE DEPOSITED PLAN 404181 AND INSTRUMENT M934821
3. M934822 NOTIFICATION CONTAINS FACTORS AFFECTING THE WITHIN LAND. LODGED 31/3/2015.
4. M934823 NOTIFICATION SECTION 165 PLANNING & DEVELOPMENT ACT 2005 LODGED 31/3/2015.

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:	DP404181
PREVIOUS TITLE:	2866-651
PROPERTY STREET ADDRESS:	2 CHARLESTON ST, KARNUP.
LOCAL GOVERNMENT AUTHORITY:	CITY OF ROCKINGHAM

LANDGATE COPY OF ORIGINAL NOT TO SCALE 07/11/2025 02:30 PM Request number: 69006320

Landgate
www.landgate.wa.gov.au

WESTERN AUSTRALIA

TITLE NUMBER	
Volume	Folio
2868	**443**

RECORD OF CERTIFICATE OF TITLE

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BGRoberts

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 449 ON DEPOSITED PLAN 404181

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

GOLD RIGHT PTY LTD OF 236 ADELAIDE TERRACE, PERTH

(AF M934819) REGISTERED 31/3/2015

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

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PREVIOUS TITLE:	2866-651
PROPERTY STREET ADDRESS:	1 ISABELLINE TCE, KARNUP.
LOCAL GOVERNMENT AUTHORITY:	CITY OF ROCKINGHAM

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APPENDIX 2 – Development Plans

KCM007-26.pln

KARNUP MEDICAL CENTRE

hubble design
ARCHITECTURE + INTERIORS

CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

ISSUE FOR APPROVAL

Page No.	Title	REV	Issued	Published	Comment
A0-00	TITLE PAGE	01	☒	☒	
A0-01	LAYOUT LIST | LOCATION PLAN	01	☒	☒	
A0-02	SITE SURVEY	01	☒	☒	
A1-01	SITE PLAN	01	☒	☒	
A2-01	GROUND FLOOR	01	☒	☒	
A2-02	FIRST FLOOR	01	☒	☒	
A2-03	ROOF PLAN	01	☒	☒	
A3-01	ELEVATIONS 03 & 04	01	☒	☒	
A3-02	ELEVATIONS 01 & 02	01	☒	☒	



LOCATION PLAN | SATELLITE IMAGERY

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE:
LAYOUT LIST | LOCATION PLAN

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
N.T.S. @A3

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A0-01

hubble design
ARCHITECTURE + INTERIORS
421 OXFORD ST MOUNT HAWTHORN WA 6016 AUSTRALIA
+61 8 9242 3167
OFFICE@HUBBLE.COM.AU

NOTES:
1. LEVELS TO AHD ASSUMED FROM WATERCORP SEWER MANHOLE. NOTE: in some cases sewer manhold lid values as supplied by the WaterCorpoartion are not correct
2. IF PROPOSED SEWER GRADES ARE MINIMAL THE CLIENT MUST USE A PLUMBER TO CHECK THE CONNECTION R.L. TO ENSURE THERE IS ADEQUATE FALL.
3. SEWER LINES ARE PLOTTED FROM WATERCORP PLANS ONLY. IF BUILDING CLOSE TO SEWER LINE THE ACTUAL POSITION SHOULD BE IDENTIFIED BY ENGAGING A PLUMBER TO EXPOSE THE SEWER LINE IN THAT AREA.
4. DIMENSIONS OF BUILDINGS TAKEN FROM THIS PLAN SHOULD BE VERIFIED ON SITE FIRST.
5. BOUNDARY INFORMATION FROM PLAN OF SURVEY (LANDGATE). BOUNDARY CONFIGURATION IS ONLY OVER-LAIN WITH FENCES, WALLS ETC AS A BEST FIT. **IT DOES NOT REPRESENT THE ACTUAL LOCATION OF THE BOUNDARY.**
NO BOUNDARY RE-SURVEY HAS BEEN CONDUCTED AS PART OF THIS FEATURE SURVEY.
6. GENERAL EASEMENTS HAVE NOT BEEN CHECKED OR SHOWN. CLIENT TO CHECK TITLE FOR EASEMENTS
7. GARDEN: KEY FEATURES SHOWN ONLY. PAVING EXTENT IS ONLY APPROXIMATE. CHECK AS NECESSARY
8. ROOF : KEY FEATURES SHOWN ONLY WHERE RELATED TO LEVELS TAKEN
9. FLOOR LEVEL ASSUMED FROM DOOR STEP LEVEL WHERE ACCESS IS NOT POSSIBLE.

MHS

CHARLESTON STREET

DATUM: NAIL & PLATE IN BITUMEN 10.18m AHD

1.15m Cyclone fence.

PRmarking

BARE GROUND

CONCRETE PATH

peg found

6.01m

90°

8.5m

21.49m

paved xover

Main Sewer Line R.L. 8.46m
Connection up 1m
Connection R.L. 8.46m
Depth to Conn. 0.87m

other services near here

POWER DOME.

paved d-way

T.O.W 10.57

L.R.W.

T.O.W 10.55

T.O.W 10.58

PARAPET WALL

RIDGE 14.65

SEP

T.O.G 13.23

RIDGE 15.62

LOT 433

30m

Brick & ZA House.
Main floor Level
10.68m AHD from front
doorstep level.

1.8m CB fence. on wall

T.O.W 10.56

T.O.W 13.31

RIDGE 15.91

LOT 432
807m2
DP 404181

VERDIGRIS ROAD

PARKING

CONCRETE PATH

23.99m

DATUM: NAIL & PLATE IN L/S WALL 10.2m AHD

T.O.W 10.19

T.O.W 10.2

T.O.W 10.05

T.O.W 12.67

T.O.G 12.67

T.O.W 10.56

T.O.G 12.36

27.5m

T.O.W 10.19

T.O.W 9.95

T.O.W 9.84

RIDGE 14.62

LOT 449
843m2
DP 404181

31.347m

T.O.G 12.2

RIDGE 14.63

RIDGE 15.49

LOT 448

Brick & ZA House.
Main floor Level 9.6m
AHD from front
doorstep level.

rear of footprint from aerial

HYD

SEP

PRmarking

CONCRETE PATH

1.15m Cyclone fence.

90°9'58"

6.002m

8.5m

27.498m

T.O.G 12.2

T.O.G 12.2

T.O.G 12.2

GRASS

89°50'02"

other services near here

POWER DOME.

Main Sewer Line R.L. 7.89m
Connection up 1m
Connection R.L. 8.89m
Depth to Conn. 0.84m

WATER CORP VALVE

9.5m

ISABELLINE TERRACE

N

MHS	SEWER MANHOLE
MHD	DRAINAGE MANHOLE
LID	LID (SMALL GALVIN ETC)
ECB	ELECTRICAL CABLE BOX
EMB	ELECTRICAL METER BOX
CBX	COMMS JUNCTION BOX
TJB	TELSTRA JUNCTION BOX
DG	DRAINAGE GRATE
SEP	SIDE ENTRY PIT
CUL	DRAINAGE CULVERT
WM	WATER METER
	WATER CORP VALVE
HYD	FIRE HYDRANT
LP	LIGHT POLE
PP	POWER POLE
SP	STAY POLE
SW	STAY WIRE
	GATE
OH	OVERHEAD POWER
	OTHER FENCE (as nominated)
	CONTROL PEG/MARK
RW	RETAINING WALL
LRW	LIMESTONE RET. WALL
GB	GARDEN BED
SHR	SHRUB
T.O.W	TOP OF WALL
B.O.W	BOTTOM OF WALL
T.O.G.	TOP OF GUTTER
3H 2W	TREE 3hIgh 2wIde

CONCRETE
BRICK PAVING
BITUMEN
BLOCK PAVING
BUILDING FOOTPRINT

Monaghan MAPPING & SURVEYING
UNIT 11 / 4 FLINDELL ST,
OCONNOR, W.A. 6163.
Mob 0418 928065
Email : jmon @ aapt.net.au
Web: www.fremantlesurveying.com.au

	BY	DATE
DRAWN	JTM	5.9.25
CHK'D	JTM	5.9.25
APP'D		5.9.25
ISSUED	JTM	5.9.25

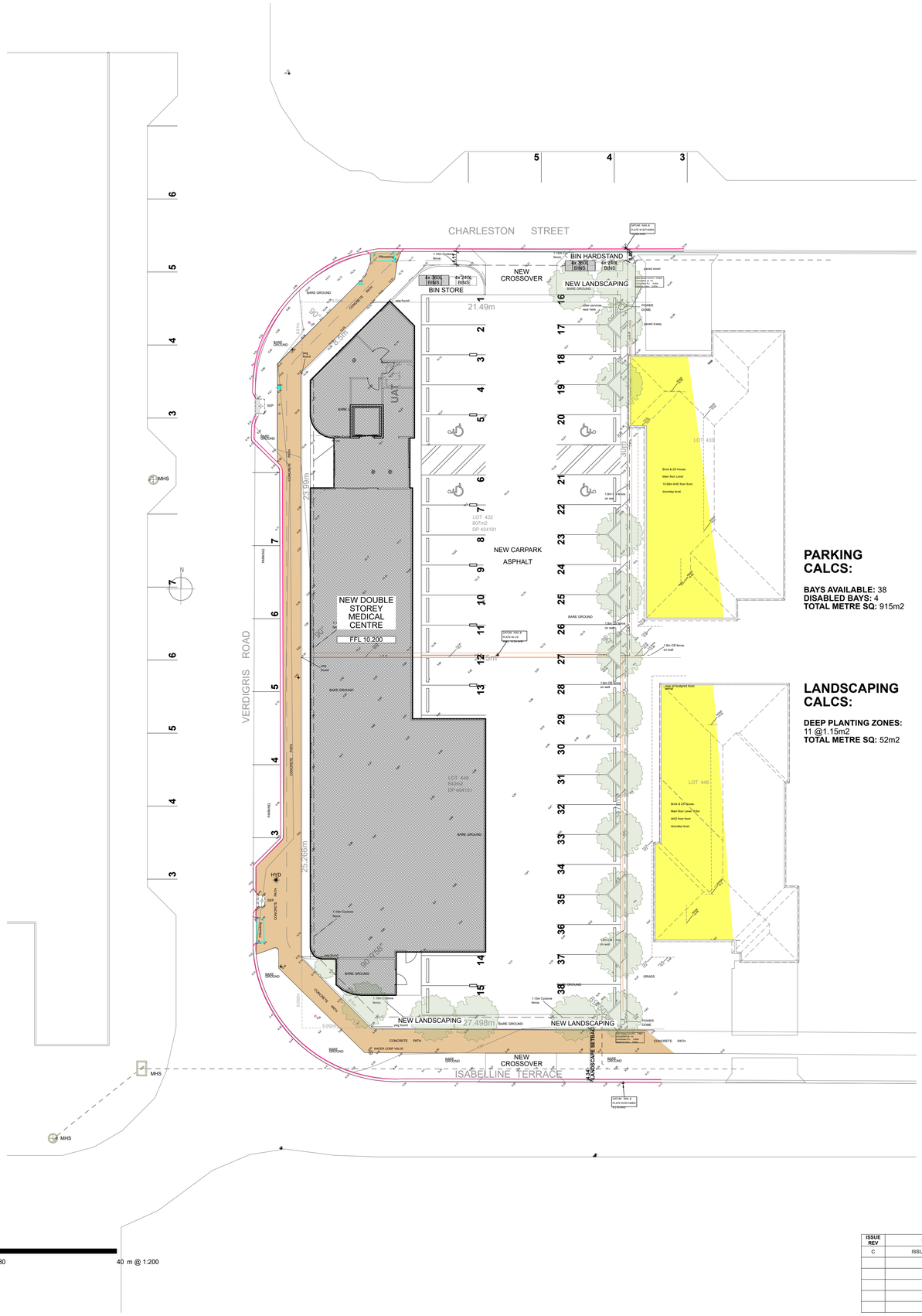
SITE FEATURE SURVEY
2 CHARLESTON ST &
1 ISABELLINE ST
KARNUP
Lot 432 & 449 on DP404181

CLIENT	HUBBLE ARCH.
SCALE	1 : 200
DATE	2.9.25
DATUM	AHD
DRAWN	JTM

DRAWING KAR 001

0m 1 2 3 4 5m

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PARKING CALCS:

BAYS AVAILABLE: 38
DISABLED BAYS: 4
TOTAL METRE SQ: 915m2

LANDSCAPING CALCS:

DEEP PLANTING ZONES:
11 @1.15m2
TOTAL METRE SQ: 52m2

ZONE LEGEND

CODE	PLAN	DESCRIPTION	STATUS

SITE LEGEND

SYMBOL	DESCRIPTION	STATUS

LANDSCAPING SURFACES

HATCH	SURFACE	DESCRIPTION

SITE LEVEL NOTES

EXISTING	EXISTING FINISHED GROUND LEVEL
0.000	NEW FINISHED GROUND LEVEL
FFL 0.000	NEW FINISHED FLOOR LEVEL

2 4 6 8 10 20 30 40 m @ 1:200

N

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

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PROJECT STATUS: DEVELOPMENT APPROVAL

SCALE: 1:200 @A1

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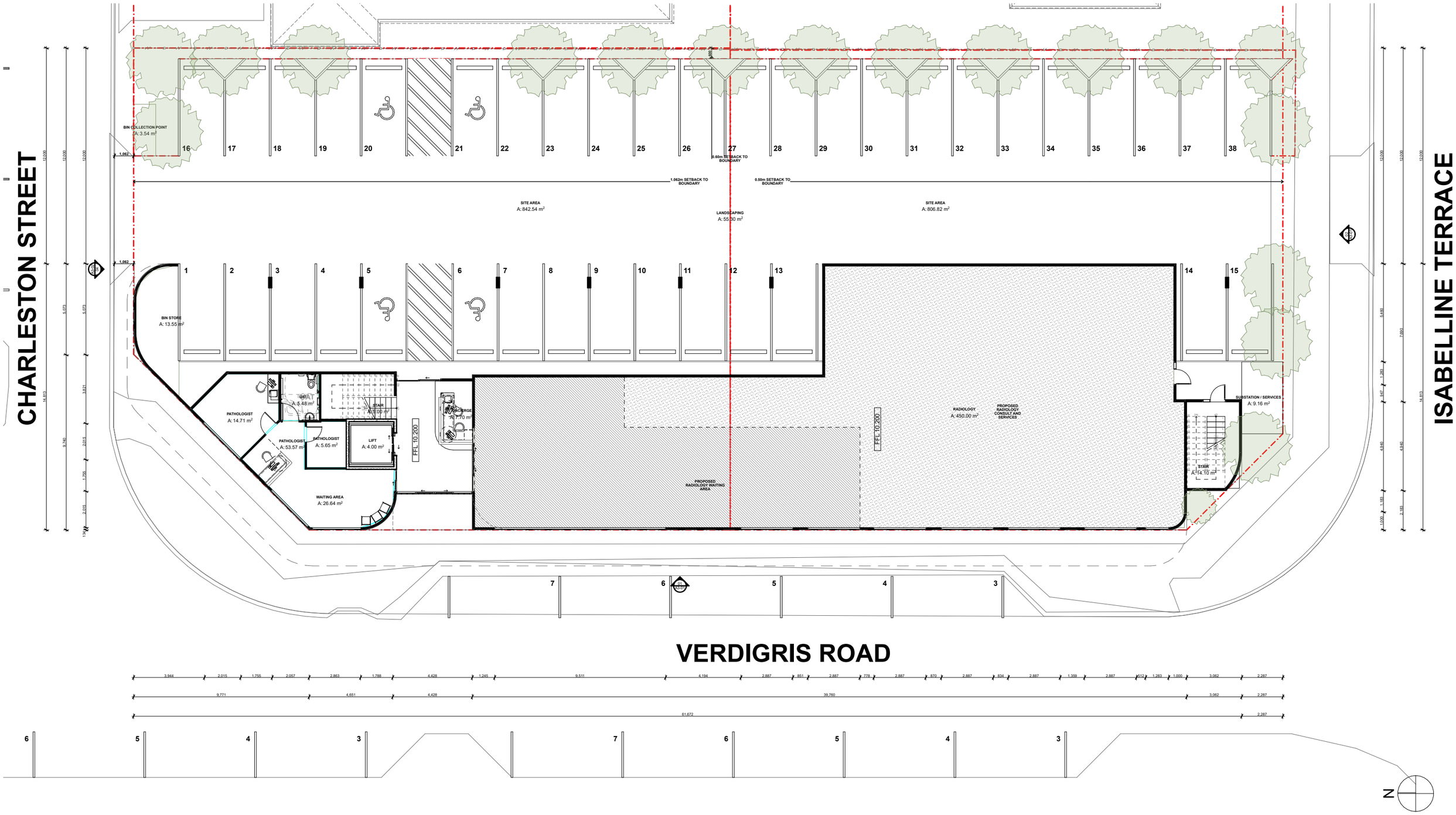
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KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

JUPITER HEALTH

PROJECT NO: KCM

DRAWING NO: **A1-01**

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+61 8 9242 3167
OFFICE@HUBBLE.COM.AU



ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE:
GROUND FLOOR

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
1:200 @A3

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
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CHARLESTON STREET

ISABELLINE TERRACE

VERDIGRIS ROAD

SITE AREA
A: 842.54 m²

SITE AREA
A: 806.82 m²

ALLIED HEALTH
A: 25.13 m²

ALLIED HEALTH
A: 13.44 m²

ALLIED HEALTH
A: 15.99 m²

UNISEX TOILET
A: 6.27 m²

UAT
A: 6.27 m²

WOMENS HEALTH / SKIN CLINIC ROOM 1
A: 12.00 m²

WOMENS HEALTH / SKIN CLINIC ROOM 2
A: 12.00 m²

WOMENS HEALTH / SKIN CLINIC ROOM 3
A: 12.00 m²

WOMENS HEALTH / SKIN CLINIC ROOM 4
A: 12.26 m²

INJECTION ROOM
A: 11.33 m²

ALLIED HEALTH
A: 16.26 m²

ALLIED HEALTH
A: 111.30 m²

STAIR
A: 11.95 m²

LIFT
A: 7.84 m²

PLANTER BOX

RECEPTION
A: 9.01 m²

THEATRE ROOM
A: 12.00 m²

TREATMENT ROOM
A: 15.02 m²

FFL 14.200

FFL 14.200

FFL 14.200

INJECTION ROOM
A: 12.00 m²

GP CONSULT ROOM 5
A: 12.00 m²

GP CONSULT ROOM 4
A: 12.00 m²

GP CONSULT ROOM 2
A: 12.00 m²

A/C AND PLANT
A: 20.65 m²

PLASTER ROOM
A: 9.07 m²

TEA ROOM
A: 9.34 m²

STAFF BALCONY
A: 9.23 m²

STORE
A: 8.30 m²

STAFF UAT
A: 6.27 m²

UAT
A: 6.27 m²

UAT
A: 6.27 m²

CLINIC
A: 180.20 m²

RECEPTION
A: 8.87 m²

PM OFFICE
A: 8.21 m²

GP TREATMENT ROOM
A: 18.00 m²

GP TREATMENT ROOM
A: 18.99 m²

STAFF ROOM
A: 17.92 m²

STAIR
A: 5.60 m²

PLANTER BOX

PLANTER BOX

GP CONSULT ROOM 3
A: 12.00 m²

TREATMENT ROOM
A: 12.00 m²

CLINIC (SKIN / WOMENS HEALTH)
A: 174.17 m²

2,141 3,649 3,179 4,863 4,217 2,390 2,887 983 2,136 171 9,060 2,887 605 2,887 4,393 844 2,887 863 2,887 244 1,143 5,554 2,287

4,863 4,217 1,935 4,325 2,307 17,660 2,172 11,361 2,183 879 2,287

51,901 2,287

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ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE:
FIRST FLOOR

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
1:200 @A3

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
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CHARLESTON STREET

SITE AREA
A: 842.54 m²

SURFMIST COLORBOND TRIMDEK ROOF AT 3° PITCH

SITE AREA
A: 806.82 m²

VERDIGRIS ROAD

N

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE:
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PROJECT STATUS:
DEVELOPMENT APPROVAL

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DRWN: | CHK'D:
| P.H.

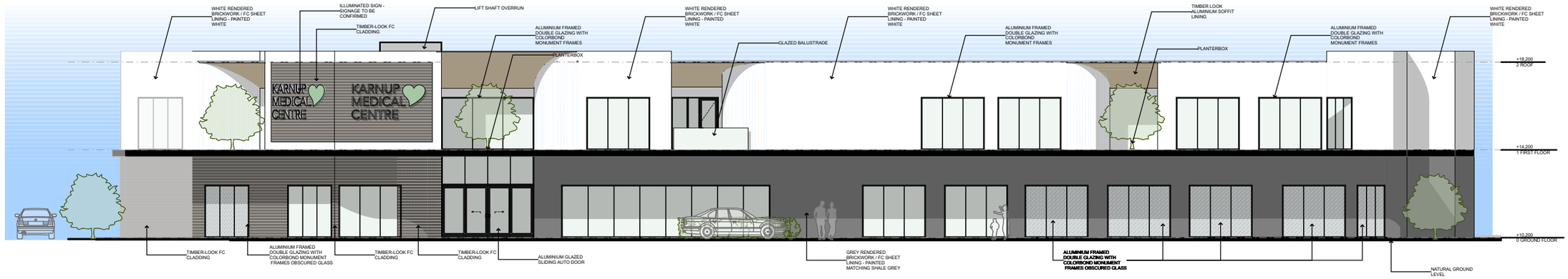
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CNR CHARLESTON KARNUP WA 6176
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JUPITER HEALTH

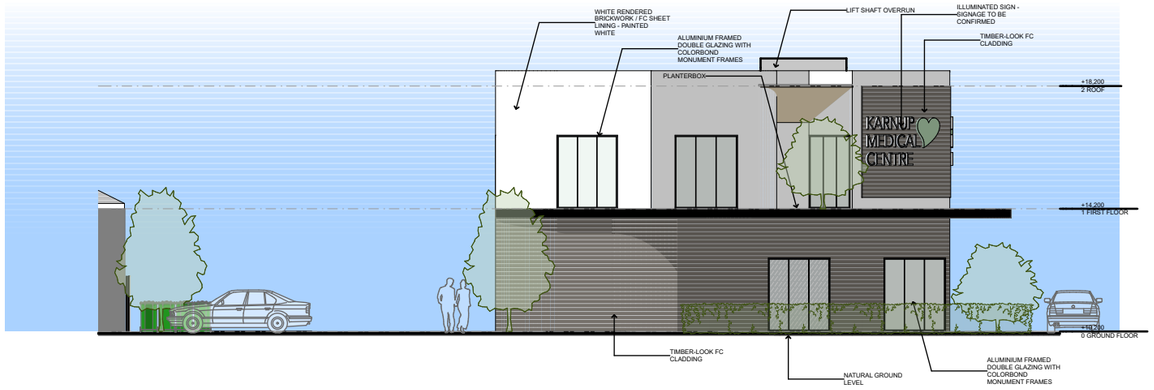
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DRAWING NO:
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01 A1-01 A1-02 A1-03 — WEST CONCEPTUAL ELEVATION (STREET) 1:200



02 A1-01 — NORTH CONCEPTUAL ELEVATION 1:200

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE: ELEVATIONS 03 & 04

PROJECT STATUS: DEVELOPMENT APPROVAL

SCALE:

DRWN: | CHK'D: # | P.H.

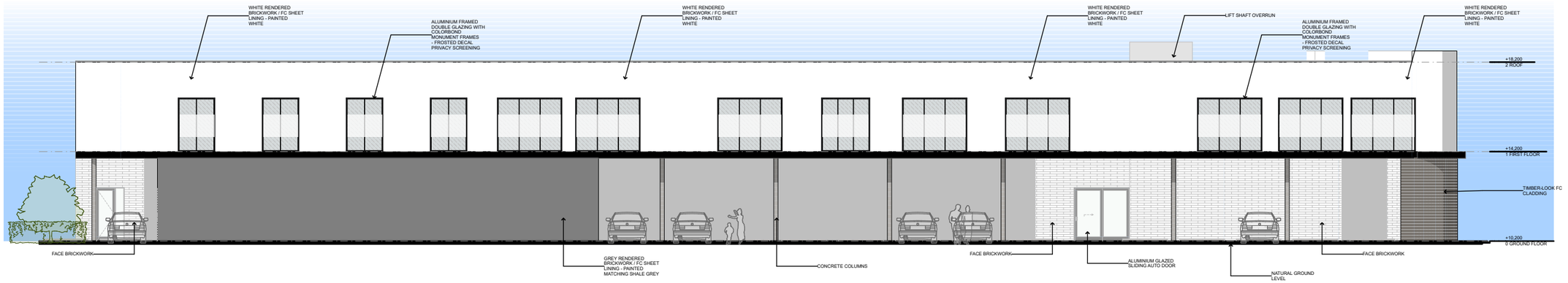
PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

JUPITER HEALTH

PROJECT NO: KCM

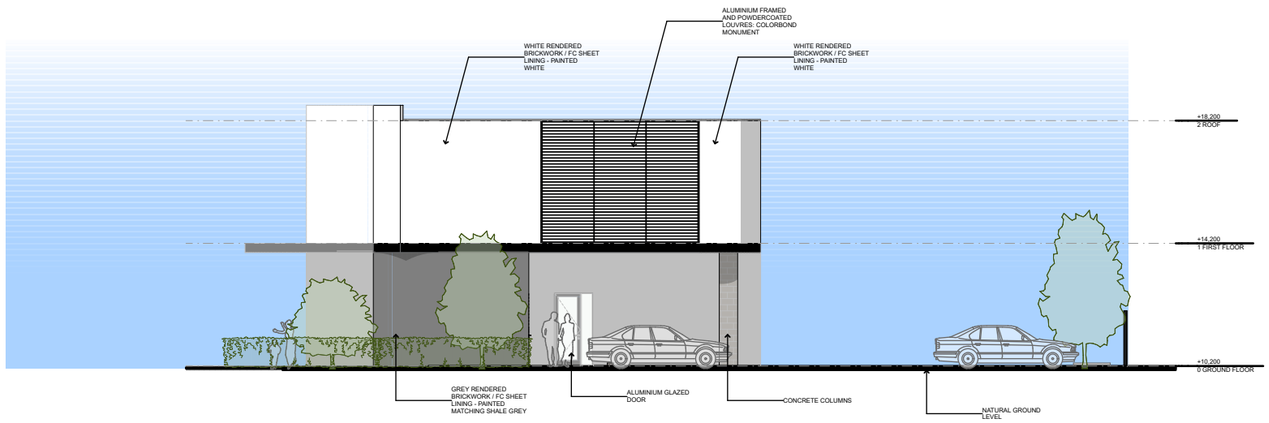
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03
A1-01

EAST CONCEPTUAL ELEVATION
1:200



04
A1-01

SOUTH CONCEPTUAL ELEVATION
1:200

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE:
ELEVATIONS 01 & 02

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A3-02

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APPENDIX 3 – Traffic Impact Statement



October 2025

Final

Karnup Medical Centre, Karnup

Prepared For:

Jupiter Health

Transport Impact Statement Report



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DOCUMENT ISSUE AUTHORISATION

Issue	Rev	Date	Description	Prepared By	Checked By	Approved By
0	0	20/10/2025	Draft Report	SGY/MG	DNV	DNV
1	0	22/10/2025	Final Report	SGY/MG	DNV	DNV

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Donald Veal Consultants Pty Ltd

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1. INTRODUCTION

1.1 BACKGROUND

Jupiter Health has commissioned Donald Veal Consultants (DVC) to prepare this Transport Impact Statement (TIS) report to support the development application for a proposed medical centre on the corner of Charleston Street, Verdigris Road and Isabelline Terrace in Karnup.

1.2 SCOPE OF THIS REPORT

This TIS has been prepared in accordance with the *Western Australian Planning Commission's (WAPC's) Transport Assessment Guidelines for Developments: Volume 4 Individual Developments (2016).*

The intent of this report is to provide the approving authority with sufficient transport information to confirm that the proponent has adequately considered the transport aspects of the development and that it would not have an adverse transport impact on the surrounding area.

It is expected that the number of vehicles generated during the peak hour will be modest. The level of trip generation is therefore considered to be a 'moderate impact' development according to the WAPC Guidelines. A "moderate impact" development is one that generates between 10 - 100 additional vehicle trips in the development's peak hour and would only require a brief Transport Impact Statement.

2. EXISTING SITE CONDITIONS

2.1 LOCATION

The development site is located on the corner of Charleston Street, Verdigris Road, and Isabelline Terrace in Karnup. The general locality is shown in **Figure 2.1**, with the site location shown in more detail in **Figure 2.2**.

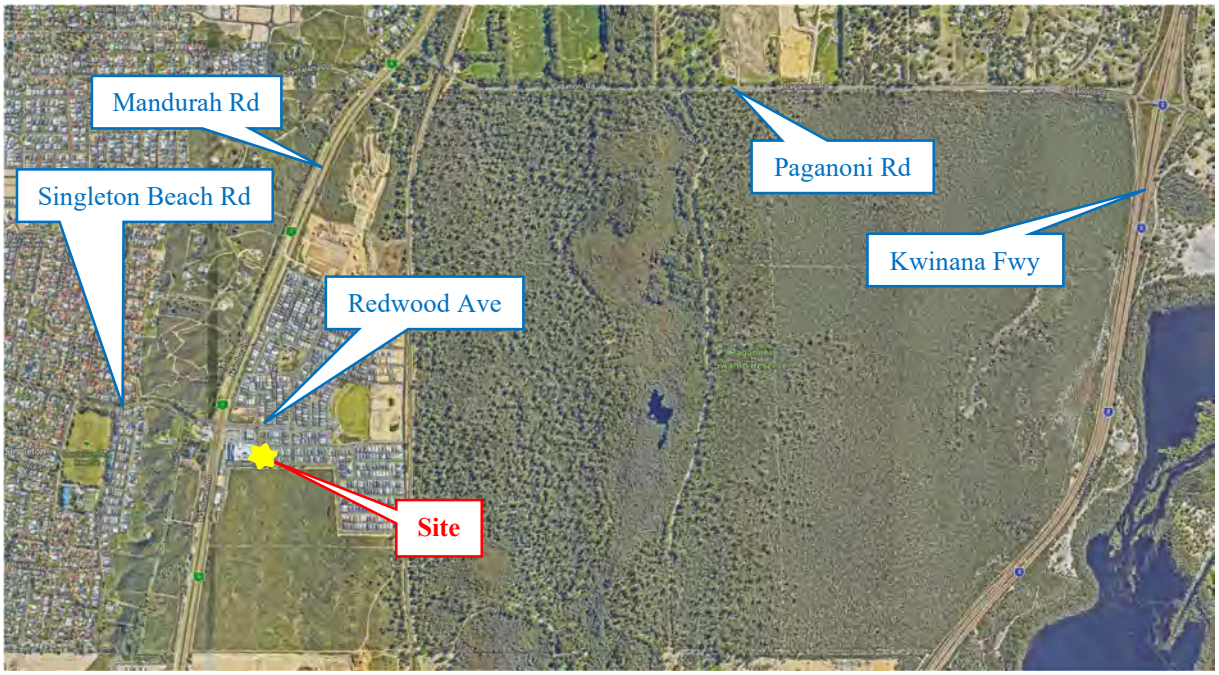


Figure 2.1: General Locality Map *Source: Metromap*

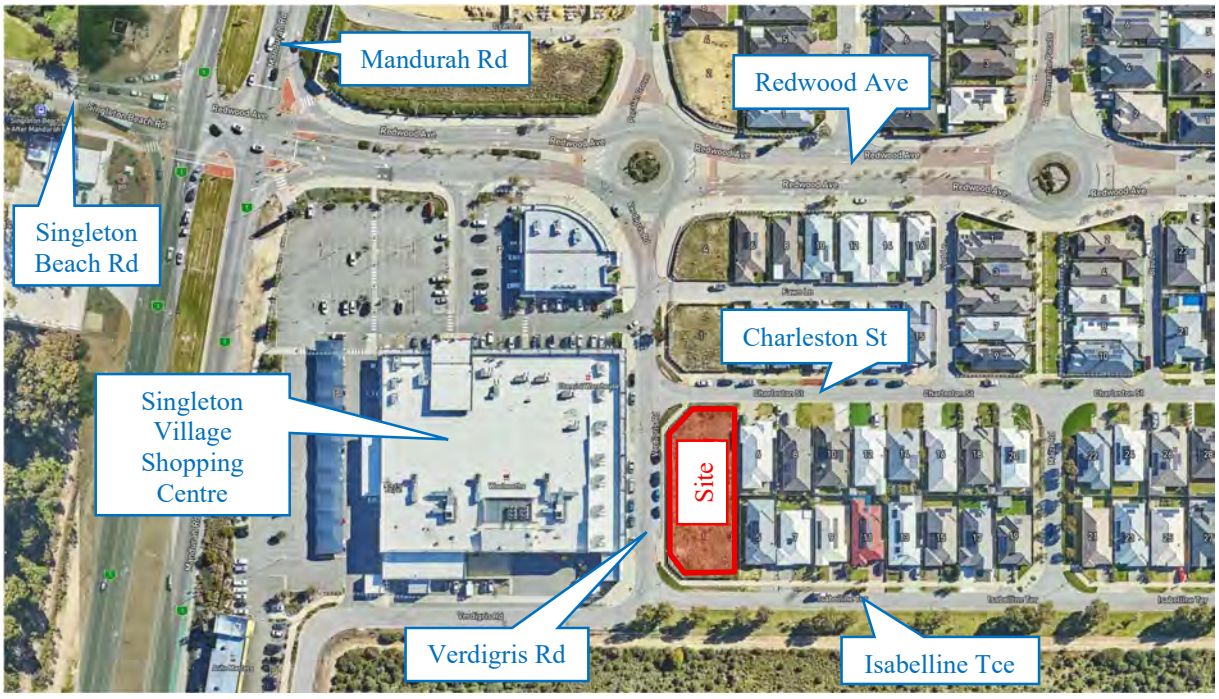


Figure 2.2: Site Location *Source: MetroMap*

The site is bounded to the north by Charleston Street, with Verdigris Road and Isabelline Terrace to the west and south respectively. The eastern boundary of the site is adjacent to low-density residential properties (see **Figure 2.2**). The subject site lies just southeast of the Mandurah Road – Singleton Beach Road – Redwood Avenue signalised intersection.

According to the City of Rockingham's Town Planning Scheme No.2, the site is situated in a Commercial Zone as shown in **Figure 2.3**.

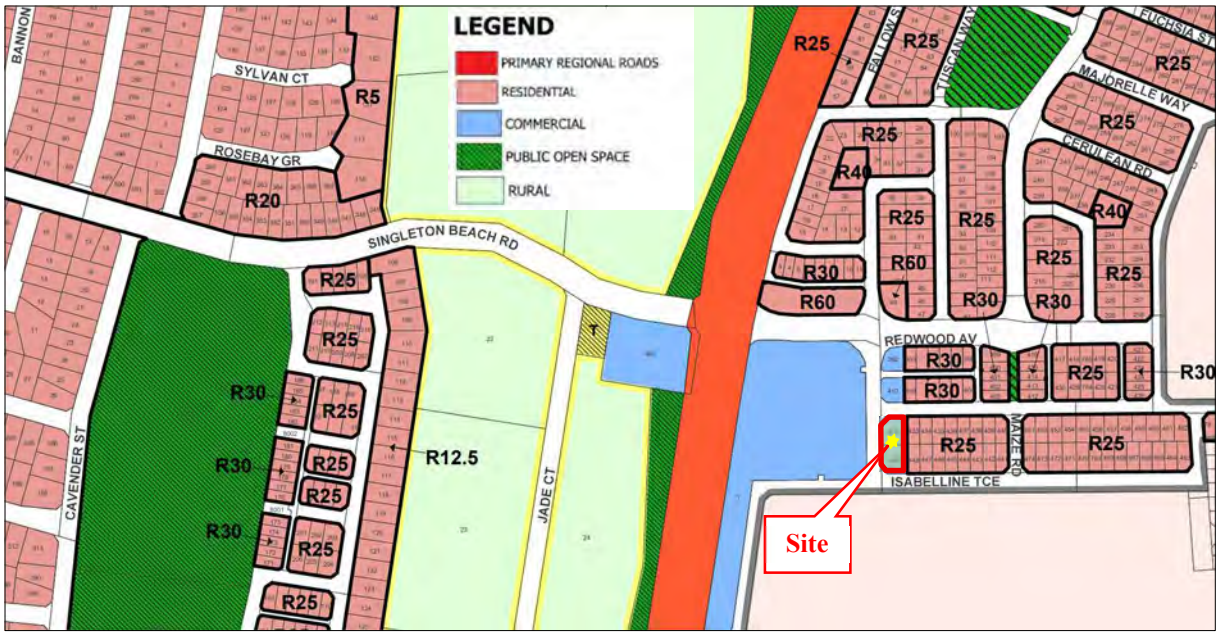


Figure 2.3: Town Planning Scheme Map *Source: City of Rockingham*

2.2 ADJACENT ROAD NETWORK

The subject site is located within a well-connected local road network in Karnup, WA, characterised primarily by low-volume residential streets. The site has direct frontage to Verdigris Road and is situated near both Isabelline Terrace and Charleston Street, all of which function as local access roads providing immediate connectivity within the surrounding residential precinct. The broader road network includes Singleton Beach Road to the west and Redwood Avenue to the east, which act as key local connectors facilitating movement within the suburb and providing connections to higher-order routes. These local roads ultimately connect to Mandurah Road (State Route 1), a major north–south arterial corridor that links the Karnup area with the regional centres of Rockingham and Mandurah.

Regional access is further enhanced by the Kwinana Freeway, located approximately 5 km east of the site. Access to the freeway is achieved via Mandurah Road, which intersects with Paganoni Road approximately 2 km north of the site. Paganoni Road then continues eastward for approximately 3 km to its interchange with the Kwinana Freeway.

Mandurah Road is classified as a Primary Distributor in Main Roads WA's (MRWA) Road Hierarchy with a posted speed limit of 70km/h past the site. It runs north-south and is constructed as a dual carriageway, with two lanes in each direction.

Singleton Beach Road and Redwood Avenue are classified as Local Distributors, whilst Charleston Street, Verdigris Road, and Isabelline Terrace are categorised as Access Roads, as shown in **Figure 2.4**. Singleton beach Road has a posted speed limit of 50km/h. All other local roads in this area are subject to the urban default speed limit of 50 km/h.

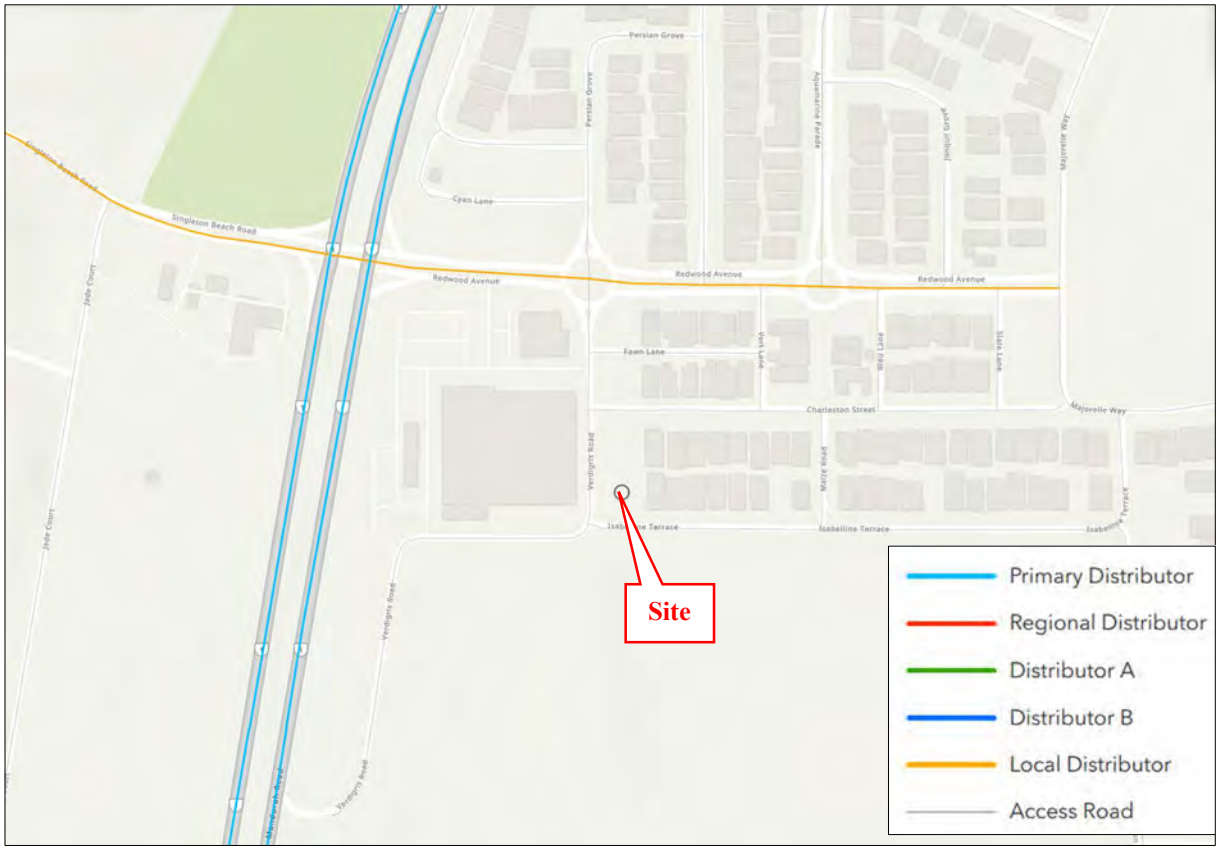


Figure 2.4: MRWA Functional Road Hierarchy Map *Source: MRWA*

2.3 CURRENT LAND USES

The subject site is surrounded by a diverse range of land uses, bordered by residential properties to the east and the Singleton Village Shopping Centre to the west, which includes a Woolworths supermarket, various shops such as cafés, restaurants, and a pharmacy. To the north, there are undeveloped lots awaiting subdivision, while to the south, the site is adjacent to extensive areas of natural vegetation and bushland. The subject site itself is currently vacant.

2.4 ACCESS ARRANGEMENTS

The site does not currently have a crossover from Charleston Street, Verdigris Road, or Isabelline Terrace. Footpaths run along both the Verdigris Road and Isabelline Terrace frontages, whilst there are also five embayed parking bays along Verdigris Road.

2.5 EXISTING TRAFFIC VOLUMES

The latest traffic flow data available for the roads near the site was extracted from MRWA's Traffic Map.

SCATS data of the intersection of Mandurah Road, Singleton Beach Road & Redwood Avenue, recorded between 19th and 25th of June 2023, show that Mandurah Road carried about 31,000 vehicles per day (vpd) just south of the intersection. Singleton Beach Road carried around 7,600 vpd and Redwood Avenue about 8,100 vpd. Peak hour weekday flows were generally around 10% of all day figures.

No data was available for Charleston Street, Verdigris Road or Isabelline Terrace.

2.6 CRASH HISTORY

The MRWA Crash Analysis Reporting System (CARS) was interrogated for crash data along the road sections adjacent the site, for the latest five-year period from January 2020 to December 2024.

The results of the search identified two recorded crashes along the roads near the site during the recording period, neither of which resulted in any casualties. One of the crashes involved an overtaking manoeuvre, whilst the other was an undefined single vehicle crash. Both crashes resulted in property damage only (1 major and 1 minor).

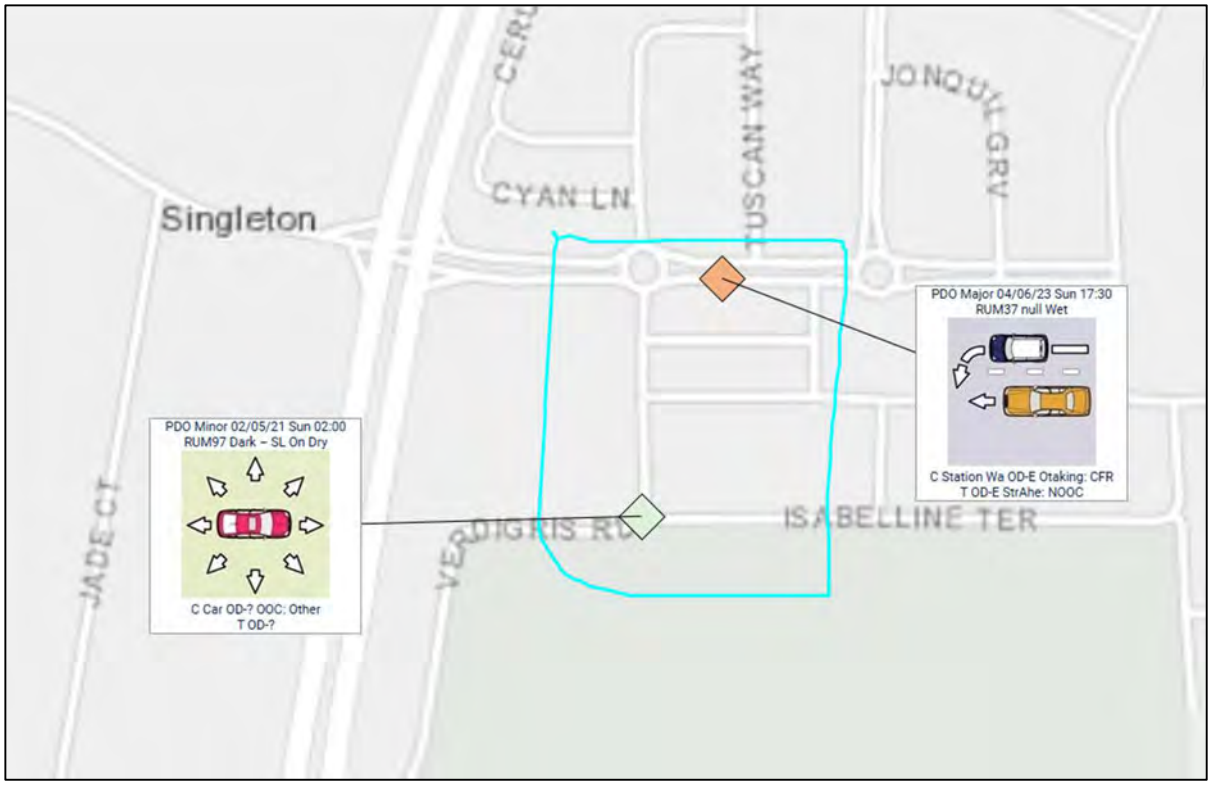


Figure 2.5: Crashes in the vicinity of the site *Source: CrashMap*

2.7 PLANNED CHANGES TO THE ROAD NETWORK

DVC is not aware of any proposed changes to the road network or significant planned developments within the vicinity of the site.

3. DEVELOPMENT PROPOSAL

3.1 PROPOSED DEVELOPMENT

The proposed development consists of a two storey Medical Centre. The new centre will include five GP consulting rooms, together with other associated facilities, such as a Radiology Suite, a pathologist, three women's health / skin care rooms, treatment rooms, three allied health rooms and injection and isolation rooms. The layouts for the ground and first floors are shown in **Figures 3.1 & 3.2**, respectively.

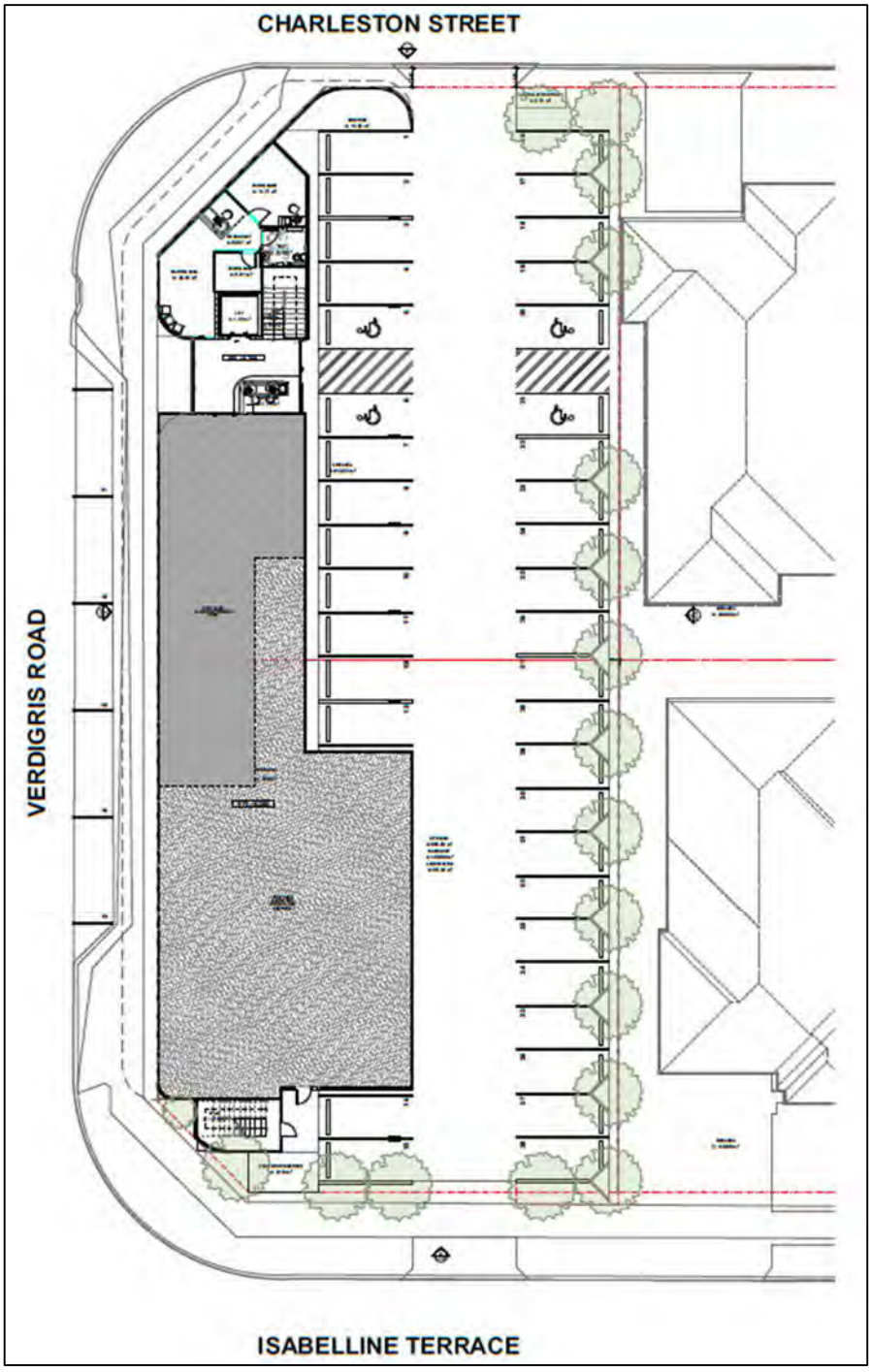


Figure 3.1: Proposed Development Plan-Ground Floor *Source: Hubble Design*

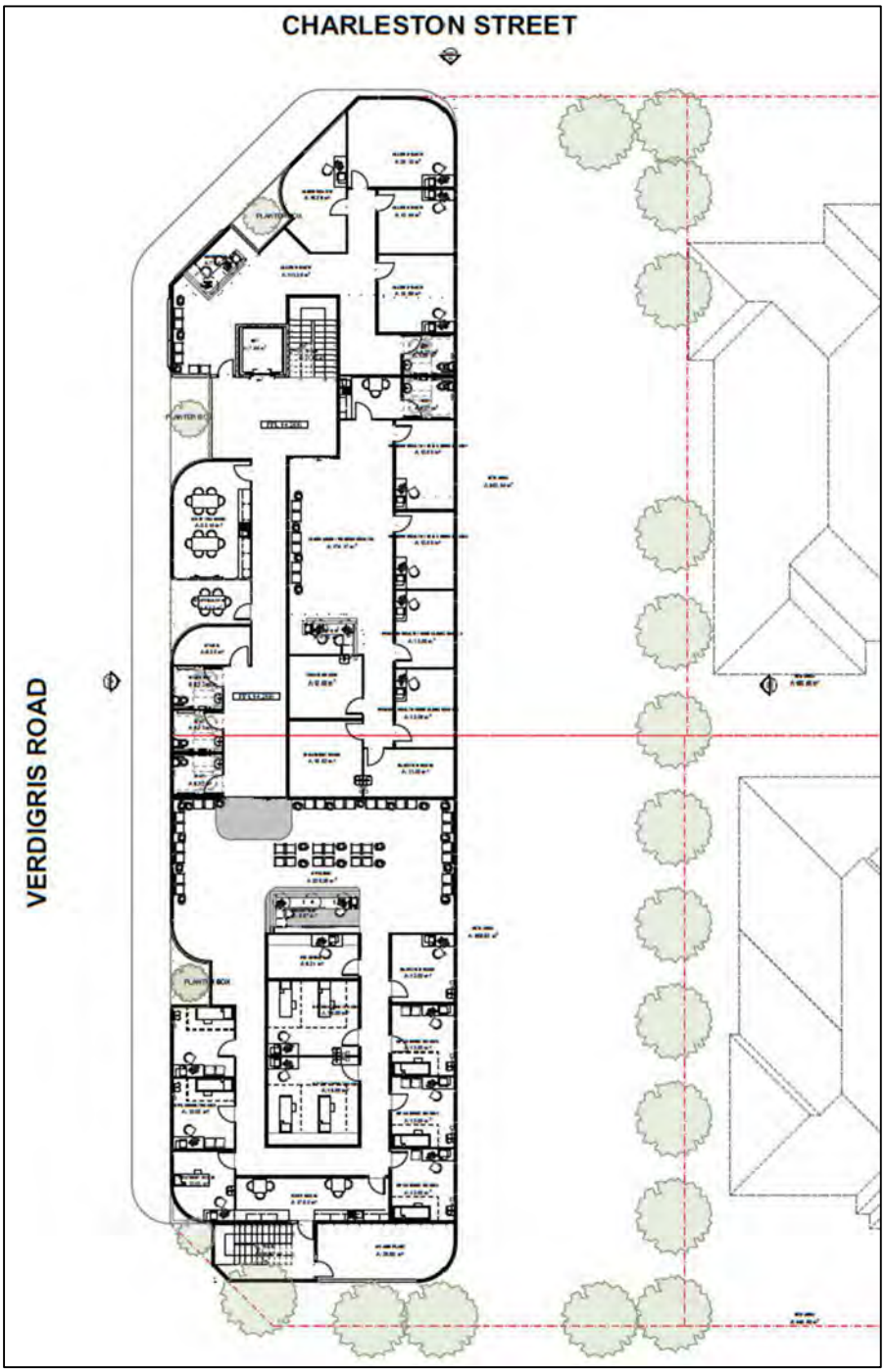


Figure 3.2: Proposed Development Plan-First Floor *Source: Hubble Design*

3.2 PROPOSED DRIVEWAY ACCESS AND PARKING AREAS

As shown in **Figure 3.1,** the site will be provided with two new crossovers. One each onto Isabelline Terrace and Charleston Street.

The development proposal contains 38 on-site parking bays in total, including four ACROD bays as also shown in **Figure 3.1**.

4. TRAFFIC IMPACT ASSESSMENT

4.1 TRIP GENERATION

The South Australian Director-General of Transport's 'Land Use Traffic Generation Guidelines', forecast that specialist medical practices generate some 50 vpd per 100m^2 floor area or 5 vph per 100m^2 floor area in the pm peak hour. According to the latest layout concepts, the proposed development has a floor area of approximately 1,200m^2, excluding toilets and staff rooms etc. A medical centre of this size would therefore generate in the order of 600vpd (300vpd inbound and 300vpd outbound). Thus, the PM peak hour trips would be about 60vph with most in the outbound direction.

This volume of traffic, being less than 100 trips in the peak hour, would constitute a Moderate impact according to the WAPC TIA Guidelines (Table 1, Volume 4), and therefore only requires a non-technical Transport Impact Statement.

DVC considers that the surrounding road network has sufficient capacity to absorb this additional traffic without significant impact. The traffic generated by the site will have small morning and evening peaks associated with the arrival and departure of staff. However, the majority of generated traffic will be spread evenly over the remainder of the day as dictated by the spread of medical/health appointments during opening hours.

4.2 PARKING PROVISION

The parking requirement for a Medical Centre is shown in Table 4 of the City of Rockingham's Town Planning Scheme No.2 and replicated here as **Figure 4.1**.

TABLE NO.4
CARPARKING TABLE *

USE CLASS	MINIMUM CARPARKING REQUIREMENT
Medical Centre	5 bays per practitioner

Figure 4.1: Parking requirements ***Source: City of Rockingham***

Based on the latest concept layouts and information provided by the proponent, it is currently envisaged that the medical team will consist of five practitioners across general practice, skin clinic, and women's health, supported by two nurses and three administrative staff. There will also be one phlebotomist in pathology.

The radiology clinic is currently expected to accommodate one radiologist, one sonographer and a receptionist, although this may be subject to change.

Hence, in total there would be eight practitioners plus six support staff. In accordance with the City's parking provision rates given in TPS 2, this would result in the need for around 40 parking bays.

However, it is understood that, in discussions with the City, it has been agreed that a reduced rate of 4 bays per practitioner would be acceptable. This would reduce that requirement to 32 bays.

As stated in section 3.2, the current drawings show 38 parking bays being provided - well in excess of the indicative requirements. This will provide some flexibility in terms of the number of practitioners allocated, especially to the radiology suite.

Whilst this assessment does not indicate any potential issues in terms of a parking provision, there are various options available for reducing the parking demand at a development. In this instance, for example, the site is within reasonable walking distance of public transport and has good pedestrian and cycling links. (See section 5).

Whilst use of such alternative modes is more likely to reduce parking demand for staff rather than patients, it should be noted that the required parking provision covers both of these elements. Indeed, any staff using bays are likely to do so all day. The availability of public transport, as well as other sustainable modes such as walking and cycling may well attract some staff to leave their cars at home.

Shared trips may also be considered, whereby visitors to the centre may combine their trip with a visit to other facilities in the locale, particularly the adjacent shopping centre, thus sharing demand on the various parking provisions.

There are also numerous on-street parking bays available along the local streets, which are designed to be used for short term visits to local residents and facilities.

4.3 RUBBISH COLLECTION

General rubbish collection will be carried out through the normal council verge collection. Any special medical waste may need to be collected by a certified private waste disposal service.

5. SUSTAINABLE TRANSPORT AND ROAD SAFETY

5.1 PEDESTRIANS AND CYCLISTS

There are footpaths on two sides of the development site, along both the Verdigris Road and Isabelline Terrace frontages, with pedestrian crossings over both Charleston Street and Verdigris Road, giving access to and from the adjacent shopping centre.

On-road cycle lanes are provided on Mandurah Road.

5.2 PUBLIC TRANSPORT

The nearest bus stops to the site are on Mandurah Road and Singleton Beach Road, some 200m and 350m walk away respectively.

5.3 ROAD SAFETY

No specific road safety issues have been identified. The area is primarily residential, and passing traffic speeds expected to be slow.

It is important to ensure that visibility is maintained at the access crossovers, not only to vehicles on the adjacent streets, but also to pedestrians on the southern footpath. These areas should be kept free of obstructions to sight lines, such as verge vegetation.

6. SUMMARY AND CONCLUSION

6.1 SUMMARY

Jupiter Health has commissioned Donald Veal Consultants (DVC) to prepare this Transport Impact Statement report to support their development application for a proposed medical centre on the corner of Charleston Street, Verdigris Road and Isabelline Terrace in Karnup.

The proposed development consists of a two storey Medical Centre. The new centre will include five GP consulting rooms, together with other associated areas, such as a Radiology Suite, a pathologist, three women's health / skin care rooms, treatment rooms, three allied health rooms and injection and isolation rooms.

The development proposal contains 38 on-site parking bays in total, including four ACROD bays. The site will be provided with two new crossovers, one each onto Isabelline Terrace and Charleston Street.

According to the latest layout concepts, the proposed development has a floor area of approximately 1,200m^2, excluding toilets and staff rooms etc. A medical centre of this size would therefore generate in the order of 600vpd (300vpd inbound and 300vpd outbound). Thus, the PM peak hour trips would be about 60vph with most in the outbound direction.

In accordance with the City's parking provision rates given in TPS 2, the proposal requires some 40 parking bays assuming eight practitioners at a rate of five per practitioner.

However, it is understood that, in discussions with the City, it has been agreed that a reduced rate of four bays per practitioner would be acceptable. This would reduce that requirement to 32 bays.

The current proposal to provide 38 parking bays will result in some flexibility in terms of the number of practitioners allocated, especially to the radiology suite.

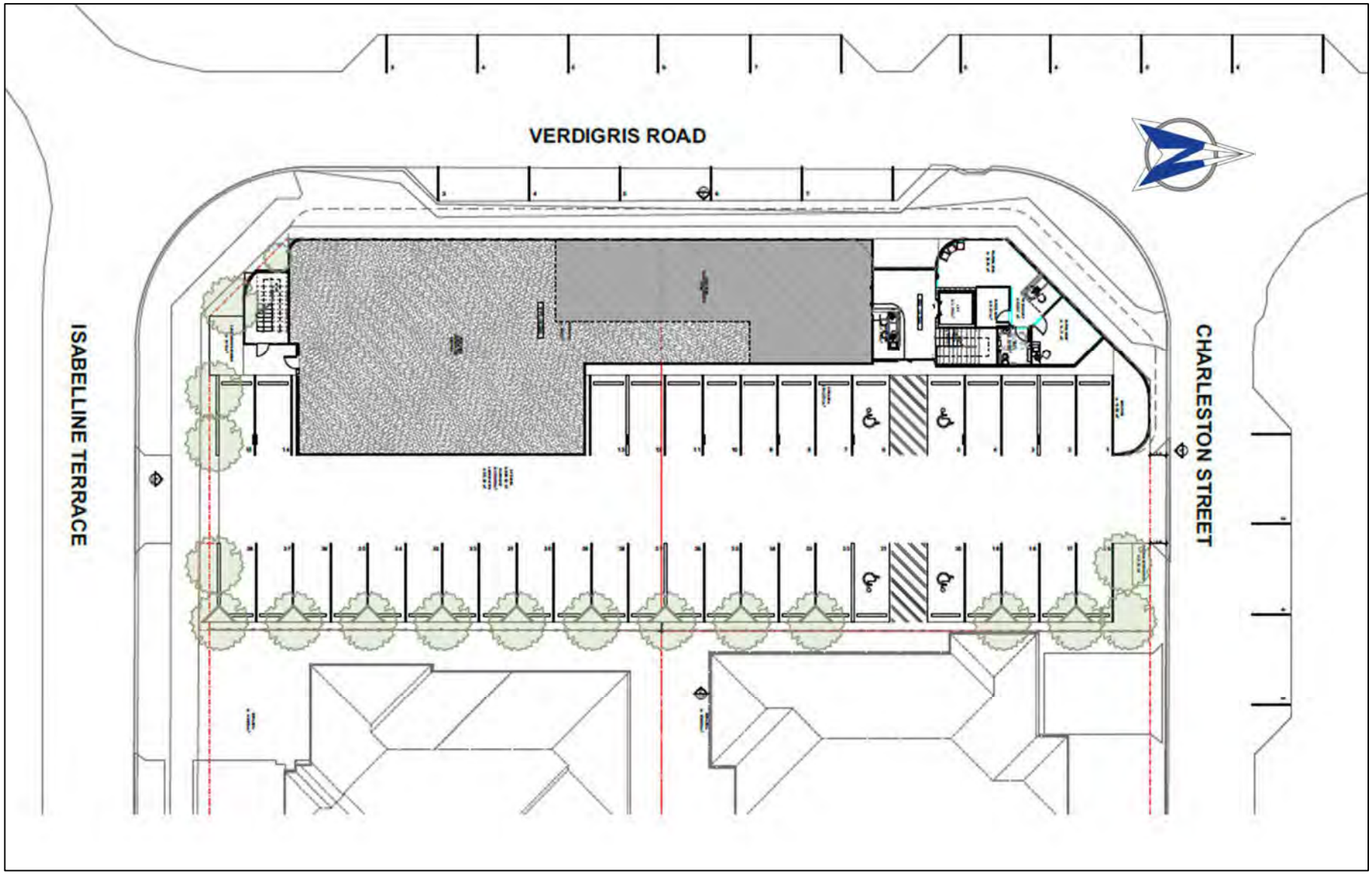
General rubbish collection will be carried out through the normal council verge collection. Any special medical waste may need to be collected by a certified private waste disposal service.

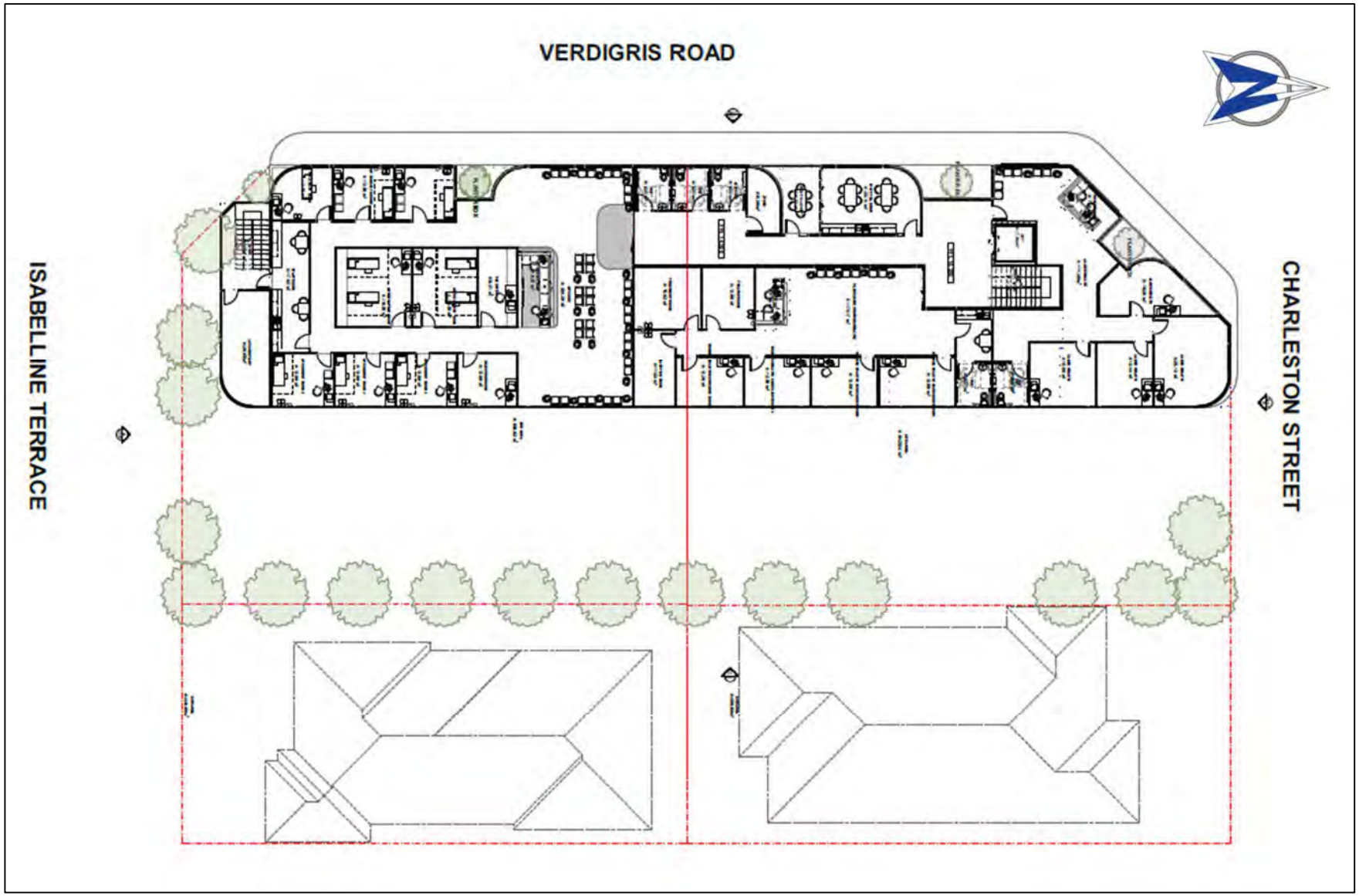
It is important to ensure that visibility is maintained at the access crossovers, not only to vehicles on the adjacent streets, but also to pedestrians on the southern footpath. These areas should be kept free of obstructions to sight lines, such as verge vegetation.

6.2 CONCLUSION

Based on this assessment, DVC supports the development proposal in terms of its traffic and road safety impacts on the adjacent road network.

APPENDIX A: DEVELOPMENT DRAWINGS


VERDIGRIS ROAD
ISABELLINE TERRACE
CHARLESTON STREET


VERDIGRIS ROAD
ISABELLINE TERRACE
CHARLESTON STREET

APPENDIX 4 – Acoustic Report

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Environmental Noise Assessment - Medical Centre

Lot 432 (#2) Charleston Street & Lot 449 (#1) Isabelline Terrace, Karnup, WA 6176

Reference: 250910711-01

Prepared for:
Hubble Design

Reference: 250910711-01

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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
31-Oct-25	0	Issued to Client	Rob Connolly	Terry George

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1. INTRODUCTION

Lloyd George Acoustics was engaged by Hubble Design to undertake an environmental noise assessment for a proposed medical centre to be located at Lot 432 (#2) Charleston Street & Lot 449 (#1) Isabelline Terrace, Karnup, WA 6176 - refer *Figure 1-1*.



Figure 1-1: Subject Site Location (Source: DPLH PlanWA)

The proposed operational hours are 8.00am to 6.00pm Monday to Saturday & 9.15am to 6.00pm on Sundays. There are no current plans to operate on Public Holidays.

With regard to noise emissions, consideration is given to noise from mechanical services 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.

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 provide the prescribed standard for noise 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.

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 4 dB, as determined in *Appendix B*. *Table 2-3* shows the assigned levels including the influencing factor at the receiving locations.

Table 2-3: Assigned Levels

Premises Receiving Noise	Time Of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
+4 dB IF Noise sensitive premises: highly sensitive area[1]	0700 to 1900 hours Monday to Saturday (Day)	49	59	69
	0900 to 1900 hours Sunday and public holidays (Sunday)	44	54	69
	1900 to 2200 hours all days (Evening)	44	54	59
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	39	49	59
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.

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 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.

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 9613-2:2024-01 algorithms selected, as they include the influence of meteorological conditions. 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)
Temperature (°C)	20
Humidity (%)	50
Wind Speed (m/s)	Up to 5
Wind Direction*	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 with receivers 1.4 metres above ground.

The area is suburban in nature with boundary fencing to the dwelling to the east being *Colorbond* from *Streetview*. Whilst *Colorbond* fencing is 1.8 metres high, it is modelled as 1.6 metres high to take into account the lightweight nature of the product and potential lesser acoustic performance of a denser product.

Figure 3-1 shows a 2D overview & *Figure 3-2* a 3D view of the noise model with the location of all relevant receivers identified.



Figure 3-1: Overview of Noise Model

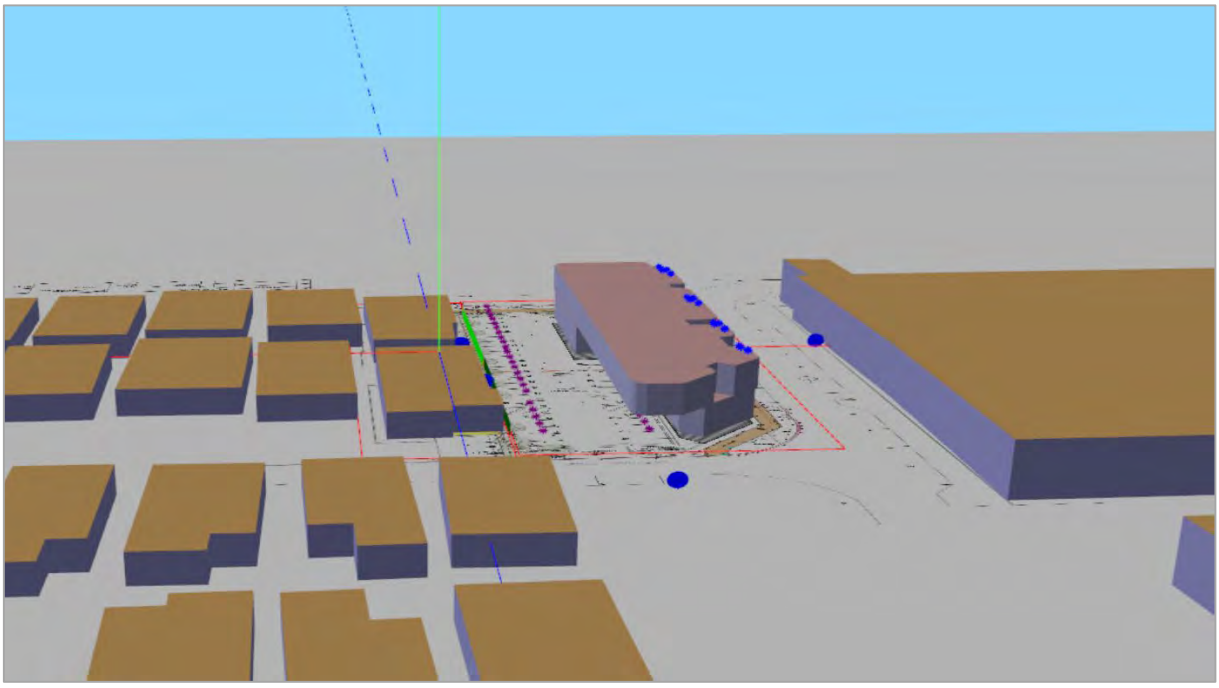


Figure 3-2: 3D View of Noise Model

3.3. Ground Absorption

The ground absorption has been assumed to be 0.0 (0%) for the roads and car park, and 0.6 (50%) elsewhere, 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*.

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	
Commercial Type Outdoor Condenser Units, e.g. Daikin FDYAN125A-C2V 12.5kW, 10 off max	73	77	70	70	65	59	54	49	**72**
Exhaust Fans , e.g. Fantech RCD355-6E,14 off	59	64	62	59	52	49	46	40	**60**
Car Door Closing, L_{max}	71	74	77	81	80	78	72	61	**84**

The following is noted in relation to *Table 3-2*:

- All sources are presumed L_{10} unless stated otherwise;
- All mechanical plant and L_{max} events are modelled as point sources;
- All noise sources are simultaneously active in each relevant scenario;
- Mechanical plant data is obtained from previous similar projects to be finalised at building permit stage;
- Condenser units are modelled as 1m above the roof, exhaust fans 0.5m above the roof;
- Car Door Closing Events are modelled at 1m above ground level.

4. RESULTS

The noise levels were predicted for various scenarios:

- Normal Operations (L_{10}) - All rooftop plant operational;
- Instantaneous Noise Events (L_{max}) - Car Door Closing Events.

4.1. Scenario 1

The results for the Normal Operations Scenario are provided in *Table 4-1*. A noise contour plot is also provided in *Figure 4-1* showing noise levels at ground floor.

Table 4-1: Scenario 1 Predicted Levels, L_{10} dB (A)

Receiver	Rooftop CU Mechanical Plant		Predicted Level
	Condenser Units	Extraction Fans	
R1 - 5 Charleston Street	31	21	32
R2 - 6 Charleston Street	27	15	27
R3 - 5 Isabelline Terrace	30	18	30
R4 - 2 Redwood Avenue (Commercial)	41	32	42
R5 - Future Commercial 1 Charleston Street	35	24	36

The dominant noise is from the rooftop mounted condenser units.

Figure 4-1



Predicted Noise level
L_{A10} dB

= 39
= 44
= 49

N

Signs and symbols

- Rooftop Plant
- Receiver
- Proposed Development
- Wall

Scale 1:700

0 3.5 7 14 21 28

Lot 432 (#2) Charleston Street & Lot 449 (#1) Isabelline Terrace, Karnup, WA 6176 Commercial Development - Predicted Noise L

L_{A10} Noise Level Contours - Mechanical Plant Only - No Noise Characteristics Included - Ground Floor

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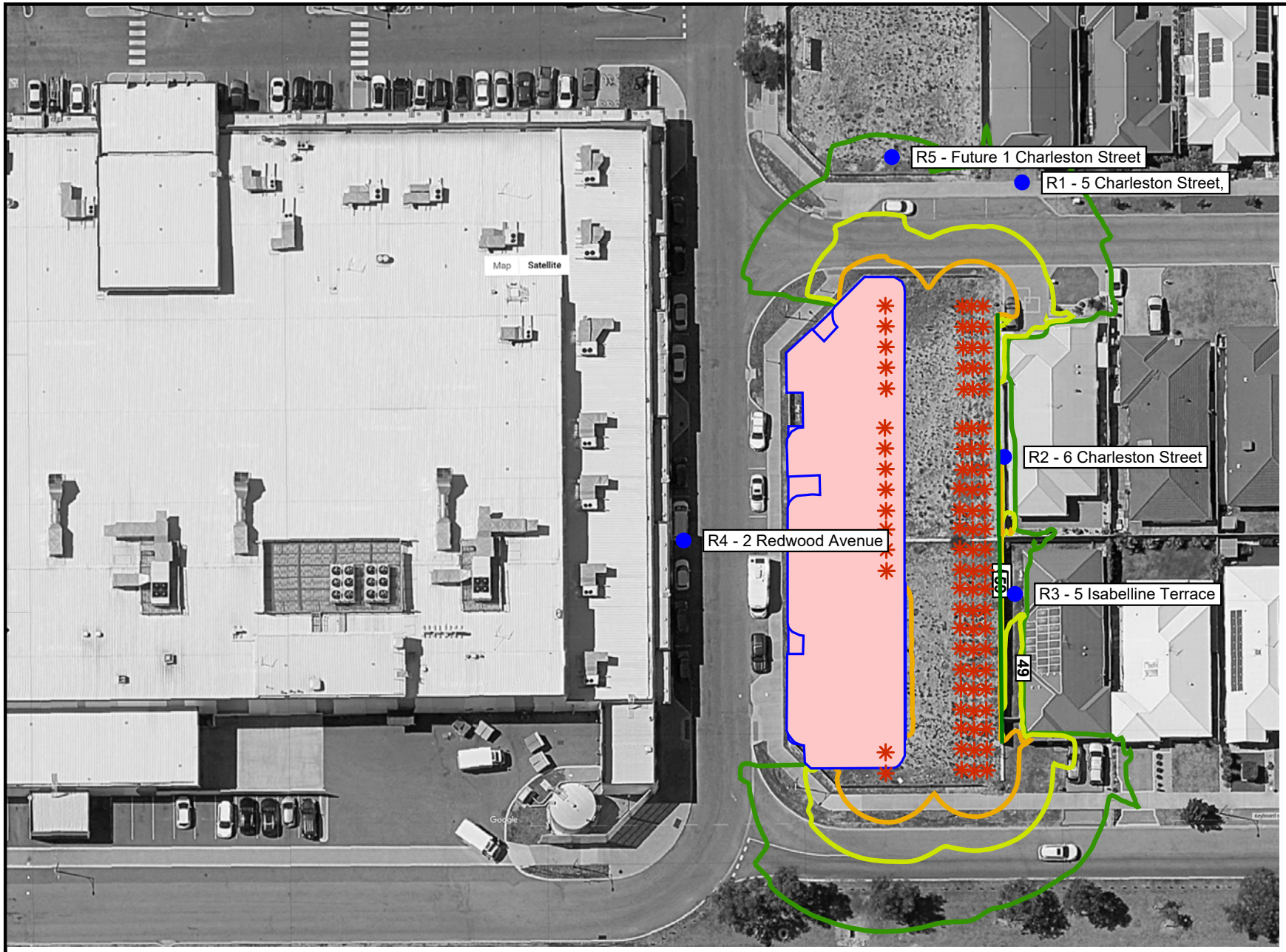
4.2. Scenario 2 - Instantaneous Noise Events (L_{max})

The results for the instantaneous noise events of closing car doors in any marked bays is provided in *Table 4-2*. A noise contour plot is also provided in *Figure 4-2* showing noise levels at ground floor.

Table 4-2: Scenario 2 Predicted Noise Levels, L_{max} dB (A)

Receiver	Highest Maximum Noise Level
R1 - 5 Charleston Street	50
R2 - 6 Charleston Street	54
R3 - 5 Isabelline Terrace	54
R4 - 2 Redwood Avenue (Commercial)	22
R5 - Future Commercial 1 Charleston Street	50

Figure 4-2



Predicted Noise level
L_{Amax} dB

= 49
= 54
= 59

N

Signs and symbols

- Rooftop Plant
- Receiver
- Proposed Development
- Wall

Scale 1:700

0 3.5 7 14 21 28

Lot 432 (#2) Charleston Street & Lot 449 (#1) Isabelline Terrace, Karnup, WA 6176 Commercial Development - Predicted Noise L

L_{Amax} Noise Level Contours - Car Doors Closing Only - No Noise Characteristics Included - Ground Floor

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5. ASSESSMENT

5.1. Scenario 1 – Normal Operations (L_{10})

Table 5-1 assesses the noise levels for Scenario 1, Normal Operations. Whilst intrusive noise characteristics are considered unlikely during the day, a 5 dB penalty is applied for possible tonality to be conservative.

Table 5-1: Scenario 1 – Normal Operations - Predicted Noise Levels and Assessment, dB L_{A10}

Receiver	Total	Adjusted Level[1]	Monday to Saturday Assigned Daytime Level	Monday to Saturday Assessment	Sunday & Public Holiday Assigned Daytime Level	Sunday & Public Holiday Assessment
R1 - 5 Charleston Street	32	37	49	***Complies***	44	***Complies***
R2 - 6 Charleston Street	27	32	49	***Complies***	44	***Complies***
R3 - 5 Isabelline Terrace	30	35	49	***Complies***	44	***Complies***
R4 - 2 Redwood Avenue (Commercial)	42	47	60	***Complies***	60	***Complies***
R5 - Future Commercial 1 Charleston Street	36	41	60	***Complies***	60	***Complies***

[1] Adjusted by + 5 dB for tonality

As demonstrated compliance is predicted at all identified receivers during all times as assessed.

5.2. Scenario 2 – Instantaneous Noise Events (L_{max})

Table 5-2 assesses the noise levels for Scenario 2, Instantaneous Noise Events. Intrusive noise characteristics are expected and as such a +10 dB penalty is applied for Impulsiveness.

Table 5-2: Scenario 2 – Instantaneous Events - Predicted Noise Levels and Assessment, dB L_{Amax}

Receiver	Total	Adjusted Level[1]	Monday to Saturday Day Assigned Daytime Level	Monday to Saturday Assessment	Sunday & Public Holiday Assigned Daytime Level	Sunday & Public Holiday Assessment
R1 - 5 Charleston Street	50	60	69	***Complies***	69	***Complies***
R2 - 6 Charleston Street	54	64	69	***Complies***	69	***Complies***
R3 - 5 Isabelline Terrace	54	64	69	***Complies***	69	***Complies***
R4 - 2 Redwood Avenue (Commercial)	22	32	80	***Complies***	80	***Complies***
R5 - Future Commercial 1 Charleston Street	50	60	80	***Complies***	80	***Complies***

[1] Adjusted by + 10 dB for impulsiveness

As demonstrated, compliance is predicted at all identified receivers during all times assessed.

6. RECOMMENDATIONS

Compliance is demonstrated to be achieved at all times as assessed, however the following 'good practice' recommendations are provided for information purposes only:

- At this stage, mechanical plant has not been designed such that the assessment has been based on nominal sound levels and assumed locations. As such, the following is recommended:
  - 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 for quiet operation;
  - All plant is to be appropriately vibration isolated to 95% isolation efficiency.

Further to the above, the following are to also be noted:

- All plant and equipment are to be maintained in good working order in order to minimise noise emissions.
- Any manufacturer's noise suppression parts are to be replaced following any maintenance;
- Waste collection shall occur 7.00am to 7.00pm Mondays to Saturdays (excluding public holidays) and 9.00am to 7.00pm Sundays and public holidays.

Appendix A – Development Plans

KCM007-26.pln

KARNUP MEDICAL CENTRE

hubble design
ARCHITECTURE + INTERIORS

CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

ISSUE FOR APPROVAL

Page No.	Title	REV	Issued	Published	Comment
A0-00	TITLE PAGE	01	☒	☒	
A0-01	LAYOUT LIST | LOCATION PLAN	01	☒	☒	
A0-02	SITE SURVEY	01	☒	☒	
A1-01	SITE PLAN	01	☒	☒	
A2-01	GROUND FLOOR	01	☒	☒	
A2-02	FIRST FLOOR	01	☒	☒	
A2-03	ROOF PLAN	01	☒	☒	
A3-01	ELEVATIONS 03 & 04	01	☒	☒	
A3-02	ELEVATIONS 01 & 02	01	☒	☒	



LOCATION PLAN | SATELLITE IMAGERY

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE:
LAYOUT LIST | LOCATION PLAN

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
N.T.S. @A3

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A0-01

hubble design
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OFFICE@HUBBLE.COM.AU

NOTES:
1. LEVELS TO AHD ASSUMED FROM WATERCORP SEWER MANHOLE. NOTE: in some cases sewer manhold lid values as supplied by the WaterCorpoartion are not correct
2. IF PROPOSED SEWER GRADES ARE MINIMAL THE CLIENT MUST USE A PLUMBER TO CHECK THE CONNECTION R.L. TO ENSURE THERE IS ADEQUATE FALL.
3. SEWER LINES ARE PLOTTED FROM WATERCORP PLANS ONLY. IF BUILDING CLOSE TO SEWER LINE THE ACTUAL POSITION SHOULD BE IDENTIFIED BY ENGAGING A PLUMBER TO EXPOSE THE SEWER LINE IN THAT AREA.
4. DIMENSIONS OF BUILDINGS TAKEN FROM THIS PLAN SHOULD BE VERIFIED ON SITE FIRST.
5. BOUNDARY INFORMATION FROM PLAN OF SURVEY (LANDGATE). BOUNDARY CONFIGURATION IS ONLY OVER-LAIN WITH FENCES, WALLS ETC AS A BEST FIT. **IT DOES NOT REPRESENT THE ACTUAL LOCATION OF THE BOUNDARY.**
NO BOUNDARY RE-SURVEY HAS BEEN CONDUCTED AS PART OF THIS FEATURE SURVEY.
6. GENERAL EASEMENTS HAVE NOT BEEN CHECKED OR SHOWN. CLIENT TO CHECK TITLE FOR EASEMENTS
7. GARDEN: KEY FEATURES SHOWN ONLY. PAVING EXTENT IS ONLY APPROXIMATE. CHECK AS NECESSARY
8. ROOF : KEY FEATURES SHOWN ONLY WHERE RELATED TO LEVELS TAKEN
9. FLOOR LEVEL ASSUMED FROM DOOR STEP LEVEL WHERE ACCESS IS NOT POSSIBLE.

MHS

CHARLESTON STREET

DATUM: NAIL & PLATE IN BITUMEN 10.18m AHD

1.15m Cyclone fence.

PRmarking

BARE GROUND

CONCRETE PATH

peg found

6.01m

90°

8.5m

21.49m

paved xover

Main Sewer Line R.L. 8.46m
Connection up 1m
Connection R.L. 8.46m
Depth to Conn. 0.87m

other services near here

POWER DOME.

paved d-way

T.O.W 10.57

L.R.W.

T.O.W 10.55

T.O.W 10.58

PARAPET WALL

RIDGE 14.65

SEP

T.O.G 13.23

RIDGE 15.62

LOT 433

30m

Brick & ZA House.
Main floor Level
10.68m AHD from front
doorstep level.

1.8m CB fence. on wall

T.O.W 10.56

T.O.W 13.31

RIDGE 15.91

LOT 432
807m2
DP 404181

VERDIGRIS ROAD

PARKING

CONCRETE PATH

23.99m

DATUM: NAIL & PLATE IN L/S WALL 10.2m AHD

T.O.W 10.19

T.O.W 10.2

T.O.W 10.05

T.O.W 12.67

T.O.G 12.67

T.O.W 10.56

T.O.G 12.36

27.5m

T.O.W 10.19

T.O.W 9.95

T.O.W 9.84

RIDGE 14.62

LOT 449
843m2
DP 404181

31.347m

T.O.G 12.2

RIDGE 14.63

RIDGE 15.49

LOT 448

Brick & ZA House.
Main floor Level 9.6m
AHD from front
doorstep level.

rear of footprint from aerial

HYD

SEP

PRmarking

CONCRETE PATH

1.15m Cyclone fence.

90°9'58"

6.002m

8.5m

27.498m

T.O.G 12.2

T.O.G 12.2

T.O.G 12.2

GRASS

89°50'02"

other services near here

POWER DOME.

Main Sewer Line R.L. 7.89m
Connection up 1m
Connection R.L. 8.89m
Depth to Conn. 0.84m

WATER CORP VALVE

9.5m

ISABELLINE TERRACE

N

MHS	SEWER MANHOLE
MHD	DRAINAGE MANHOLE
LID	LID (SMALL GALVIN ETC)
ECB	ELECTRICAL CABLE BOX
EMB	ELECTRICAL METER BOX
CBX	COMMS JUNCTION BOX
TJB	TELSTRA JUNCTION BOX
DG	DRAINAGE GRATE
SEP	SIDE ENTRY PIT
CUL	DRAINAGE CULVERT
WM	WATER METER
	WATER CORP VALVE
HYD	FIRE HYDRANT
LP	LIGHT POLE
PP	POWER POLE
SP	STAY POLE
SW	STAY WIRE
	GATE
OH	OVERHEAD POWER
	OTHER FENCE (as nominated)
	CONTROL PEG/MARK
RW	RETAINING WALL
LRW	LIMESTONE RET. WALL
GB	GARDEN BED
SHR	SHRUB
T.O.W	TOP OF WALL
B.O.W	BOTTOM OF WALL
T.O.G.	TOP OF GUTTER
3H 2W	TREE 3hIgh 2wIde

CONCRETE
BRICK PAVING
BITUMEN
BLOCK PAVING
BUILDING FOOTPRINT

Monaghan MAPPING & SURVEYING
UNIT 11 / 4 FLINDELL ST,
OCONNOR, W.A. 6163.
Mob 0418 928065
Email : jmon @ aapt.net.au
Web: www.fremantlesurveying.com.au

	BY	DATE
DRAWN	JTM	5.9.25
CHK'D	JTM	5.9.25
APP'D		5.9.25
ISSUED	JTM	5.9.25

SITE FEATURE SURVEY
2 CHARLESTON ST &
1 ISABELLINE ST
KARNUP
Lot 432 & 449 on DP404181

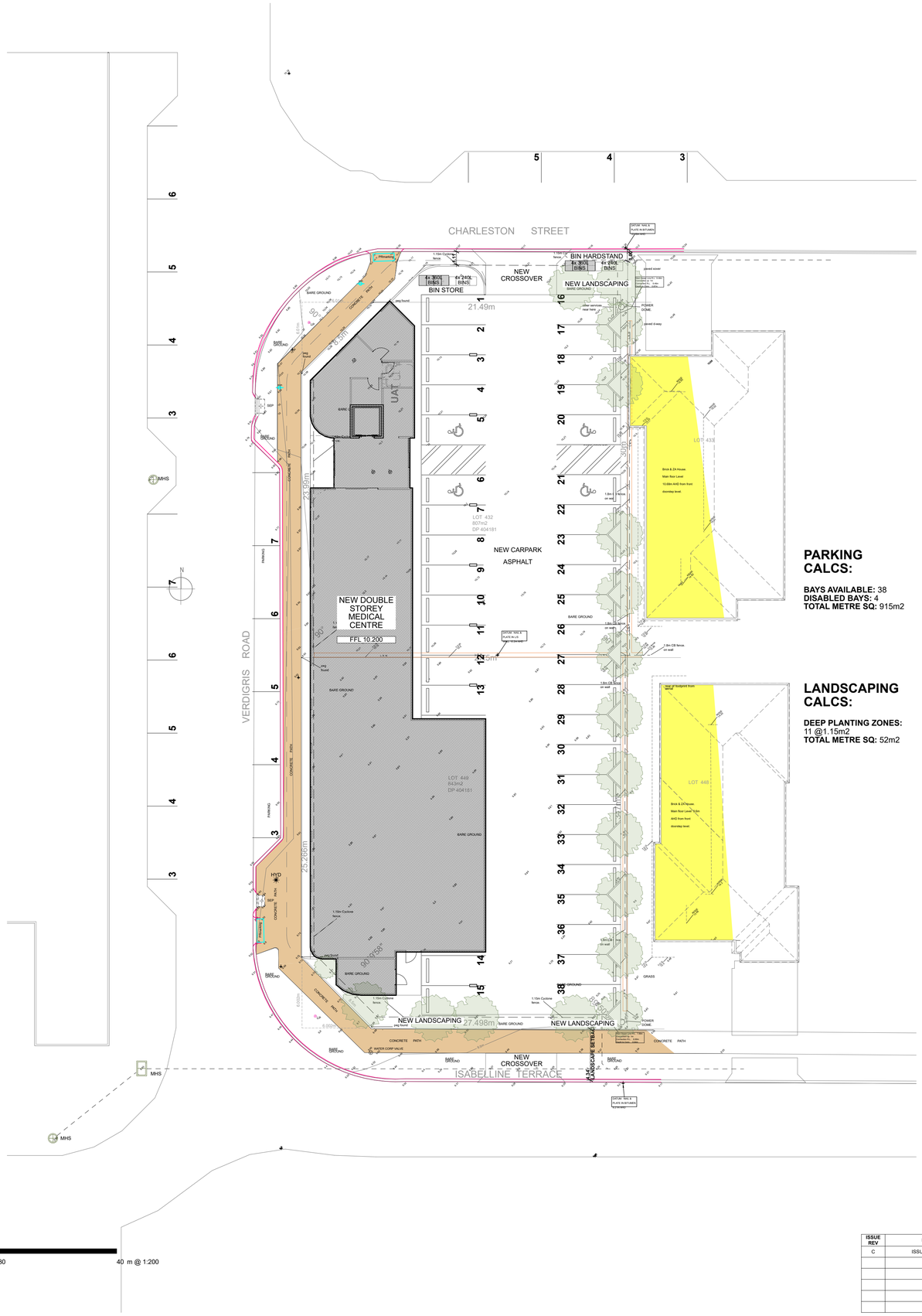
CLIENT	HUBBLE ARCH.
SCALE	1 : 200
DATE	2.9.25
DATUM	AHD
DRAWN	JTM

DRAWING KAR 001

0m 1 2 3 4 5m

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KCM007-06.pln



PARKING CALCS:

BAYS AVAILABLE: 38
DISABLED BAYS: 4
TOTAL METRE SQ: 915m2

LANDSCAPING CALCS:

DEEP PLANTING ZONES:
11 @1.15m2
TOTAL METRE SQ: 52m2

ZONE LEGEND

CODE	PLAN	DESCRIPTION	STATUS

SITE LEGEND

SYMBOL	DESCRIPTION	STATUS

LANDSCAPING SURFACES

HATCH	SURFACE	DESCRIPTION

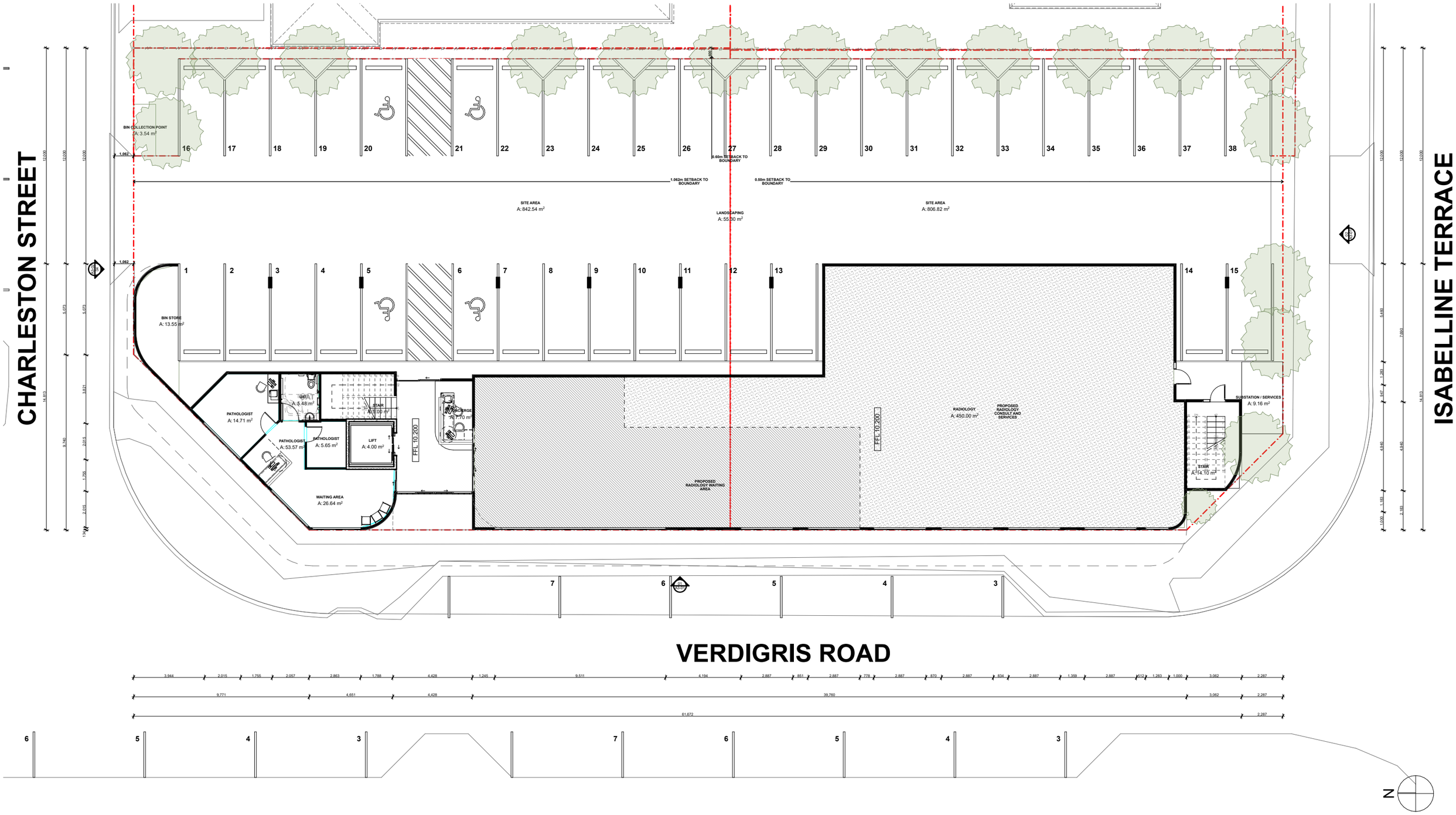
SITE LEVEL NOTES

XX.XXX	EXISTING FINISHED GROUND LEVEL
00.000	NEW FINISHED GROUND LEVEL
FFL 0.000	NEW FINISHED FLOOR LEVEL

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE: SITE PLAN
PROJECT STATUS: DEVELOPMENT APPROVAL
SCALE: 1:200 @A1
DRWN: | CHK'D: # | P.H.
PROJECT/CLIENT: **KARNUP MEDICAL CENTRE CNR CHARLESTON KARNUP WA 6176 AUSTRALIA** JUPITER HEALTH
PROJECT NO: KCM
DRAWING NO: **A1-01**

hubble design ARCHITECTURE + INTERIORS
421 OXFORD ST MOUNT HAWTHORN WA 6016 AUSTRALIA
+61 8 9242 3167
OFFICE@HUBBLE.COM.AU



ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE:
GROUND FLOOR

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
1:200 @A3

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A2-01

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KCM007-26.pln

CHARLESTON STREET

ISABELLINE TERRACE

SITE AREA
A: 842.54 m²

SITE AREA
A: 806.82 m²

ALLIED HEALTH
A: 25.13 m²

ALLIED HEALTH
A: 13.44 m²

ALLIED HEALTH
A: 15.99 m²

ALLIED HEALTH
A: 16.26 m²

ALLIED HEALTH
A: 111.30 m²

UNISEX TOILET
A: 6.27 m²

UAT
A: 6.27 m²

WOMENS HEALTH / SKIN CLINIC ROOM 1
A: 12.00 m²

WOMENS HEALTH / SKIN CLINIC ROOM 2
A: 12.00 m²

WOMENS HEALTH / SKIN CLINIC ROOM 3
A: 12.00 m²

WOMENS HEALTH / SKIN CLINIC ROOM 4
A: 12.26 m²

INJECTION ROOM
A: 11.33 m²

STAIR
A: 11.95 m²

LIFT
A: 7.84 m²

RECEPTION
A: 9.01 m²

THEATRE ROOM
A: 12.00 m²

TREATMENT ROOM
A: 15.02 m²

FFL 14.200

FFL 14.200

PLANTER BOX

PLANTER BOX

PLANTER BOX

PLANTER BOX

RAMP
A: 7.00 m²

TEA ROOM
A: 9.34 m²

STAFF BALCONY
A: 9.23 m²

STORE
A: 8.30 m²

STAFF UAT
A: 6.27 m²

UAT
A: 6.27 m²

UAT
A: 6.27 m²

CLINIC (SKIN / WOMENS HEALTH)
A: 174.17 m²

INJECTION ROOM
A: 12.00 m²

GP CONSULT ROOM 5
A: 12.00 m²

GP CONSULT ROOM 4
A: 12.00 m²

GP CONSULT ROOM 2
A: 12.00 m²

A/C AND PLANT
A: 20.65 m²

CLINIC
A: 180.20 m²

RECEPTION
A: 8.87 m²

PM OFFICE
A: 8.21 m²

GP TREATMENT ROOM
A: 18.00 m²

GP TREATMENT ROOM
A: 18.99 m²

STAFF ROOM
A: 17.92 m²

STAIR
A: 5.60 m²

GP CONSULT ROOM 3
A: 12.00 m²

TREATMENT ROOM
A: 12.00 m²

VERDIGRIS ROAD

2,141 3,649 3,179 4,863 4,217 2,390 2,887 983 2,136 971 9,060 2,887 605 2,887 4,393 844 2,887 863 2,887 244 1,143 5,554 2,287

4,863 4,217 1,935 4,325 2,307 17,660 2,172 11,361 2,183 879 2,287

51,901 2,287

N

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE:
FIRST FLOOR

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
1:200 @A3

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A2-02

hubble design
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CHARLESTON STREET

SITE AREA
A: 806.82 m²

SITE AREA
A: 842.54 m²

SURFMIST COLORBOND TRIMDEK ROOF AT 3° PITCH

VERDIGRIS ROAD

N

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE:
ROOF PLAN

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
1:200 @A3

DRWN: | CHK'D:
| P.H.

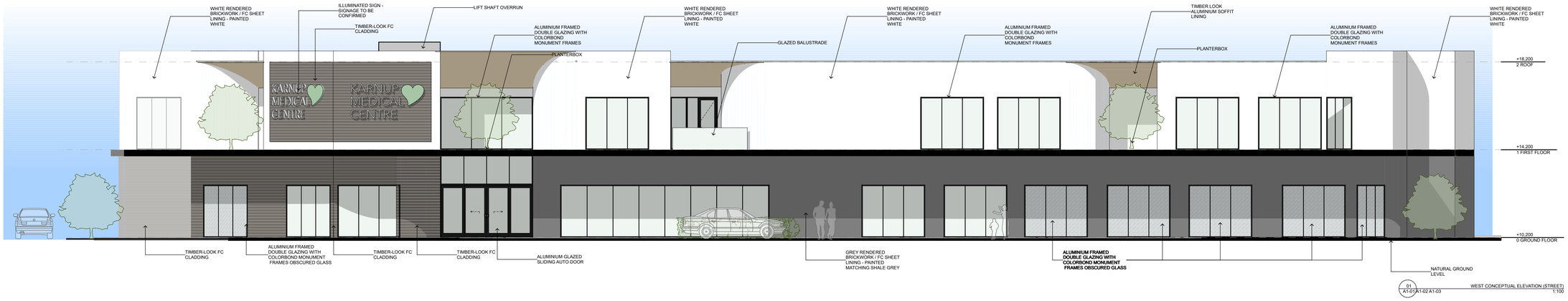
PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

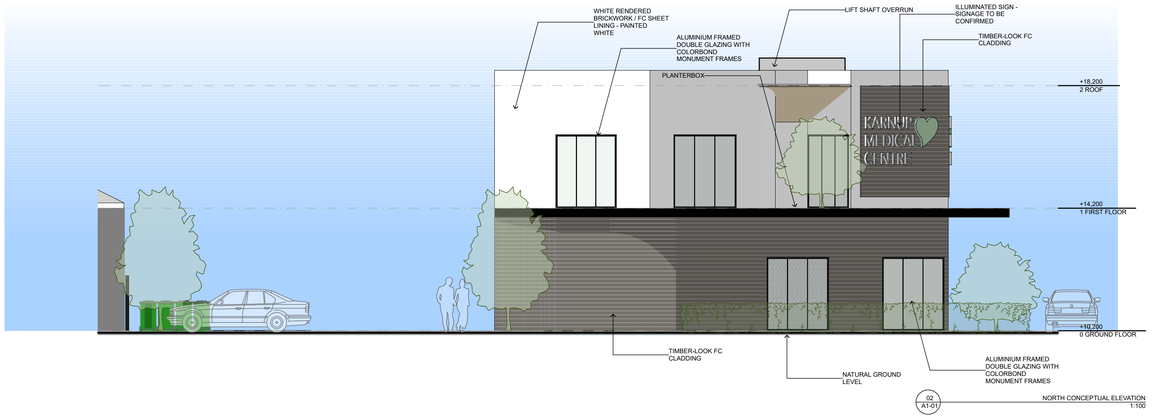
JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A2-03

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ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE: ELEVATIONS 03 & 04

PROJECT STATUS: DEVELOPMENT APPROVAL

SCALE: 1:100 @A3

DRWN: | CHKD: # | P.H.

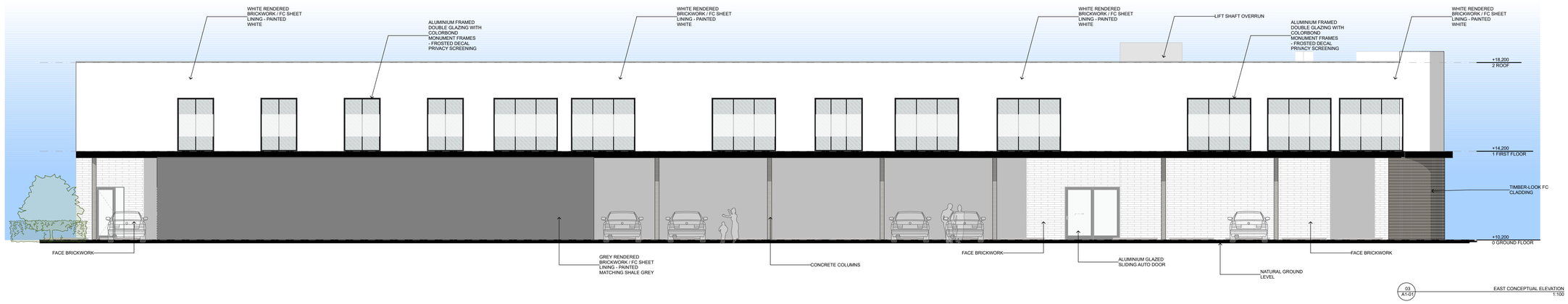
PROJECT/CLIENT: **KARNUP MEDICAL CENTRE**
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

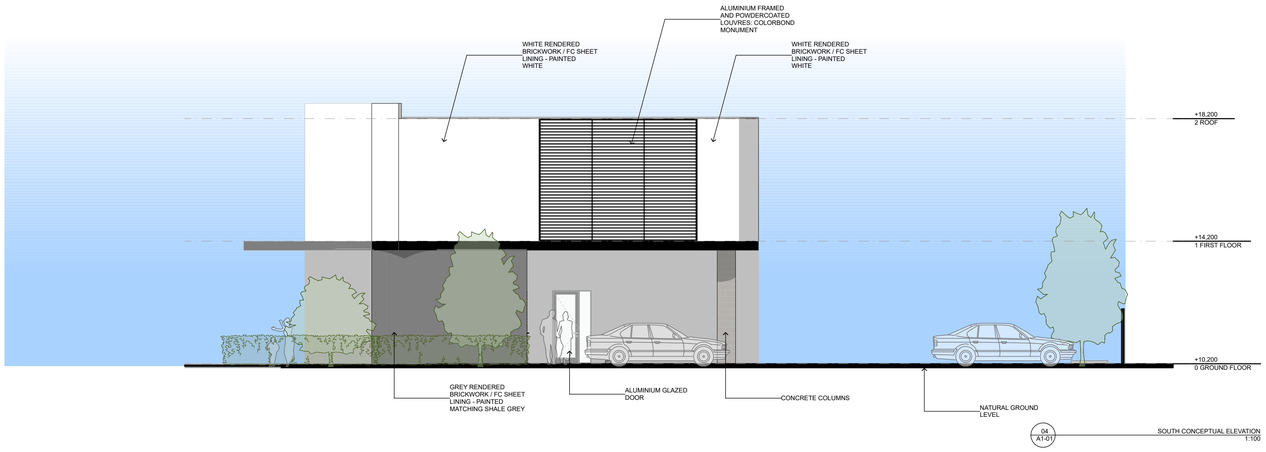
JUPITER HEALTH

PROJECT NO: KCM

DRAWING NO: **A3-01**

hubble design
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421 OXFORD ST MOUNT HAWTHORN WA 6016 AUSTRALIA
+61 8 6342 2167
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ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE: ELEVATIONS 01 & 02

PROJECT STATUS: DEVELOPMENT APPROVAL

SCALE: 1:100 @A3

DRWN: | CHKD: # | P.H.

PROJECT/CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO: KCM

DRAWING NO: **A3-02**

hubble design
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Appendix B – Influencing Factor Calculation

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 – 5 Charleston Street
- R2 – 6 Charleston Street
- R3 –5 Isabelline Terrace

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 an example also shown for R2 on *Figure B-1.*

Table B-1: Percentage of Land Types within 100m and 450m Radii

Receiver	Land Type	Within 100m	Within 450m
R1 R3	Type A - Industrial and Utility	0	0
	Type B – Commercial	26	5

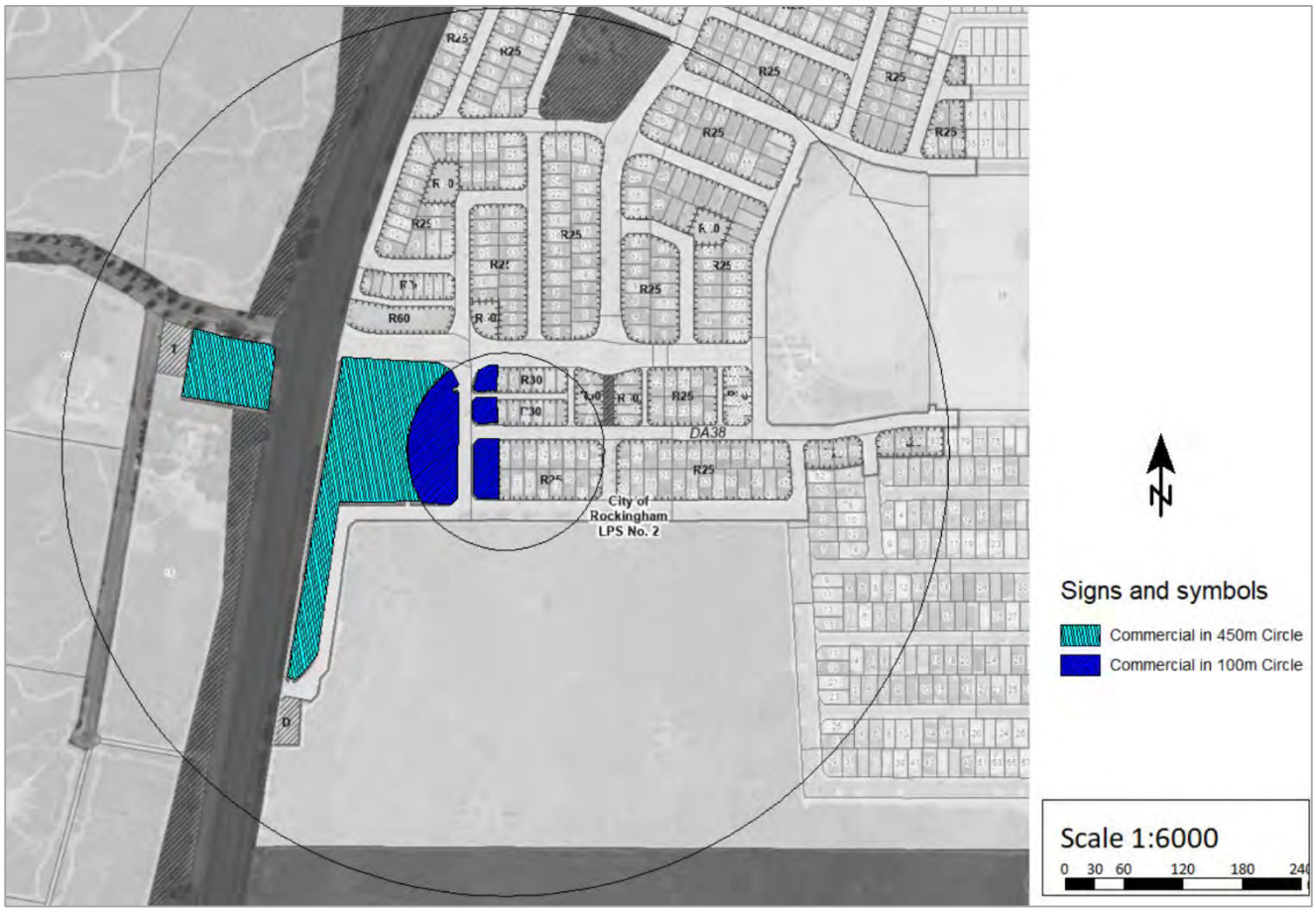


Figure B-1: Land Types within 100m and 450m Radii of R2

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 – R3	-	-	Mandurah Road (31,884 vpd 2021/22 #9122)

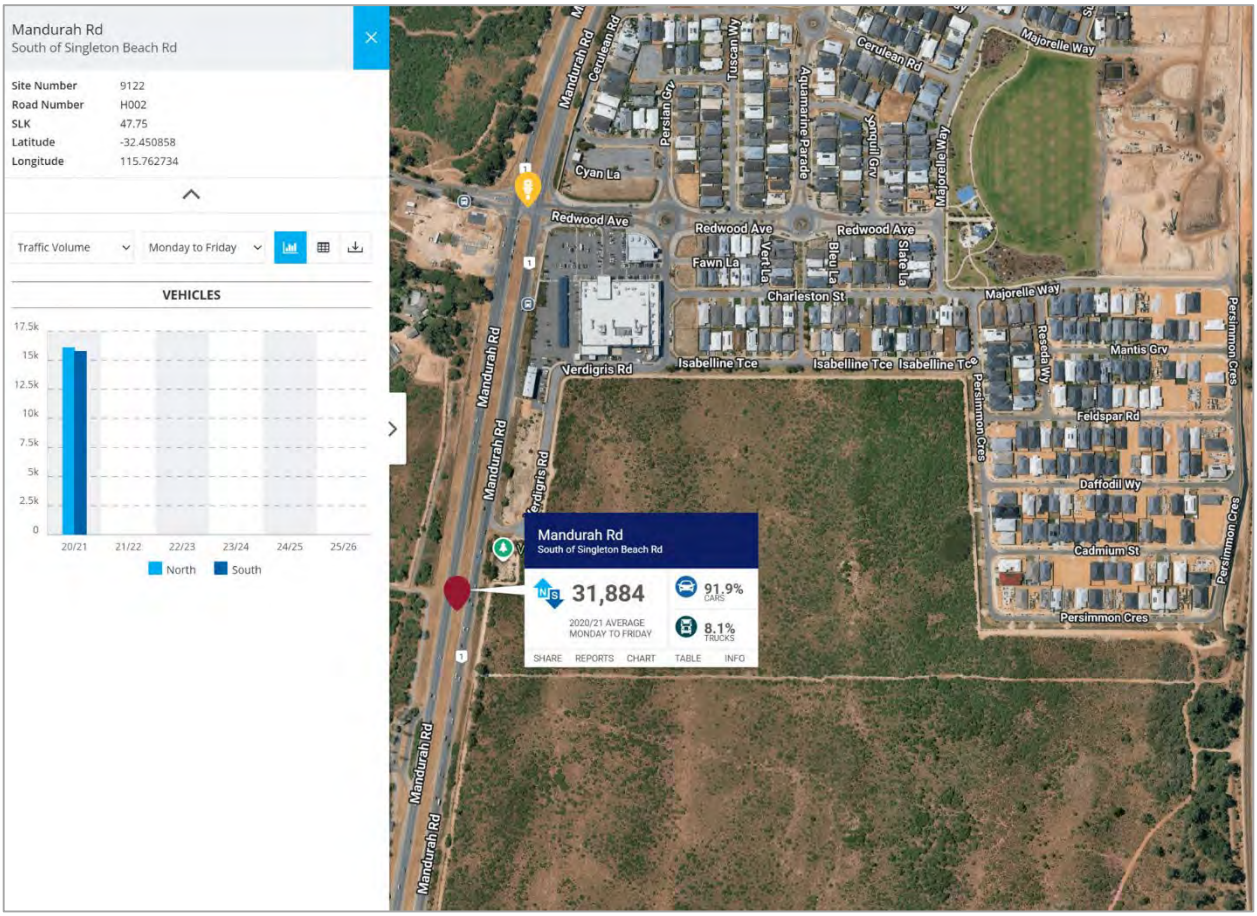


Figure B-2: MRWA Published Traffic Data

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 – R3	0.0	1.6	2.0	**4**

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*.

Appendix C – Terminology

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.

- **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.

- **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.

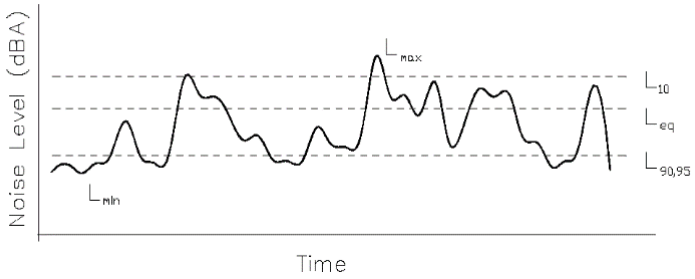
- **Major Road**

Is a road with an estimated average daily traffic count of more than 15,000 vehicles.

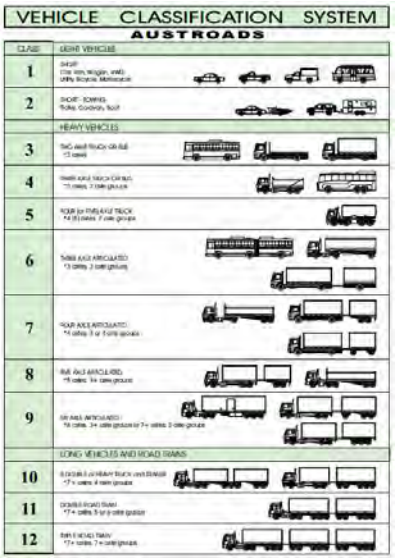
- **Secondary / Minor Road**

Is a road with an estimated average daily traffic count of between 6,000 and 15,000 vehicles.

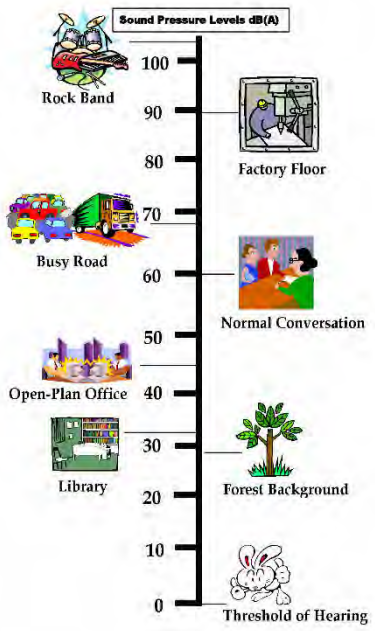
- **Chart of Noise Level Descriptors**



- **Austroads Vehicle Class**



- **Typical Noise Levels**



APPENDIX 5 – Bushfire Attack Level Report



Bushfire Attack Level (BAL) Report and Certificate

For project at: Lot 432 (#2) Charleston Street & Lot 449 (#1) Isabelline Street, Karnup

Client: Jupiter Health

Report Number: 24-23151

Assessment Date: 27 October 2025

Report Date: 28 October 2025

Version: Version 1

Prepared by a BPAD Accredited Practitioner

BUSHFIRE SMART

Bushfire Attack Level (BAL) Certificate

Determined in accordance with AS 3959-2018

This Certificate has been issued by a person accredited by Fire Protection Association Australia under the Bushfire Planning and Design (BPAD) Accreditation Scheme. The certificate details the conclusions of the full Bushfire Attack Level Assessment Report (full report) reviewed and verified by the Accredited Practitioner.

Property Details and Description of Works

Address Details	**Unit no**	**Street no**	**Lot no**	**Street name / Plan Reference**		
		2 & 1	432 & 449	Charleston Street and Isabelline Street		
	Suburb				**State**	**Postcode**
	Karnup				WA	6176
Local government area	City of Rockingham					
Main BCA class of the building	Class 9a	**Use(s) of the building**		Commercial Space		
Description of the building or works	One medical building spanning across two lots					

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance (m)	BAL
Method 1	Class C Shrubland	Flat/Upslope	28.6m	BAL – 12.5

BAL Report Prepared By

Prepared By: Sam Thomas	**Signature**

BPAD Accredited Practitioner Reviewer Details

Name Jess Calcutt	**Signature**
Company Details Bushfire Smart	

I hereby certify that I have reviewed the assessment of the above site and determined the Bushfire Attack Level stated above in accordance with the requirements of AS 3959-2018.

Jess Calcutt | Level 1 BPAD Accredited Assessor | Accreditation No.: BPAD 65772

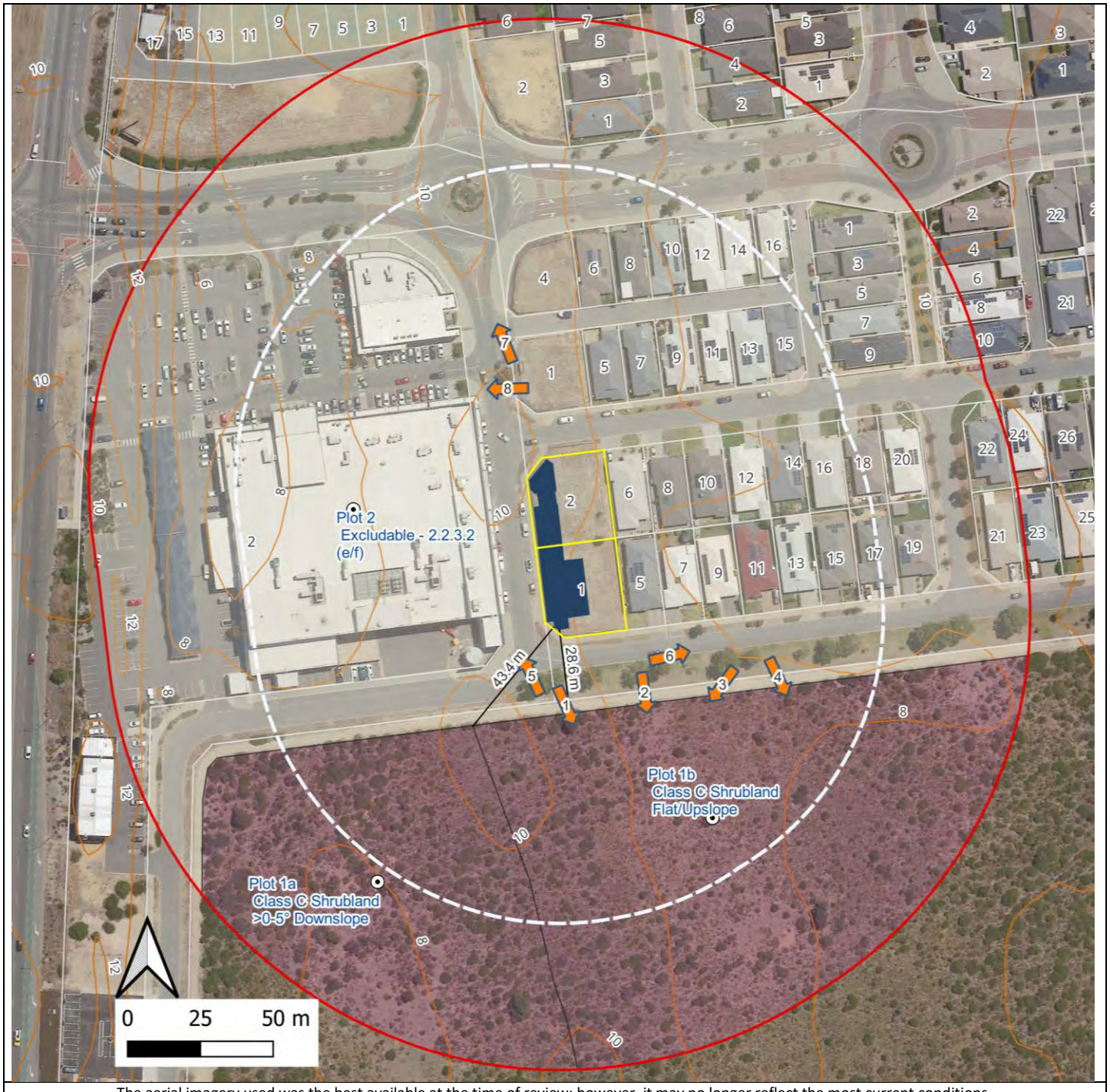
BPAD Bushfire Planning & Design Accredited Practitioner Level 1

Authorised Practitioner Stamp

Reliance on the assessment and determination of the Bushfire Attack Level contained in this report should not extend beyond a period of 12 months from the date of issue of the report. If this report was issued more than 12 months ago, it is recommended that the validity of the determination be confirmed with the Accredited Practitioner and where required an updated report issued.

Site Assessment & Site Plans

The assessment of this site was undertaken by a BPAD Accredited Practitioner for the purpose of determining the Bushfire Attack Level in accordance with AS 3959–2018 Simplified Procedure (Method 1).



The aerial imagery used was the best available at the time of review; however, it may no longer reflect the most current conditions.

Figure 1: Vegetation Classification	**Legend**
Lot 432 (#2) Charleston Street & Lot 449 (#1) Isabelline Street, Karnup	Proposed Structure; 150m area assessment; A Forest; D Scrub
Assessment Date: 27 October 2025 Prepared by: Sam Thomas Verified by: Jess Calcutt (BPAD 65772)	Site Boundary; Photo point; B Woodland; G Grassland 100m area assessment; Plot / Veg Class. & Slope; C Shrubland; Excluded

Vegetation Classification

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959 – 2018. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.

Plot:	1a/b	**Effective Slope** (°):	Varies	**Separation Distance** (m):	Varies
Vegetation Classification or Exclusion Clause:			Class C Shrubland - Closed heath C-10		
Description / Justification for Classification:					
Shrubland dominated by dense, continuous shrub layers not exceeding 2 m in height, with foliage cover >30%. The vegetation is impenetrable, with minimal spacing between individual shrubs, indicating a lack of canopy gaps. Understorey fuels are continuous and include unmanaged curing grasses and dry leaf litter, contributing to significant near-surface fuel loads.					



Photo ID: 1



Photo ID: 2



Photo ID: 3



Photo ID: 4

Plot:	2	Effective Slope (°):	N/A	Separation Distance (m):	N/A
Vegetation Classification or Exclusion Clause:			Excludable - 2.2.3.2 (e/f) Non-Vegetated Areas & Low Threat Vegetation		

Description / Justification for Classification:

Permanently non-vegetated spaces include public roads, driveways, car parking bays, and surrounding commercial and residential development. Low-threat vegetation includes private managed gardens, cropped verge grasses and isolated street trees understorey.



Photo ID: 5



Photo ID: 6



Photo ID: 7



Photo ID: 8

Relevant Fire Danger Index

The fire danger index for this site has been determined in accordance with Table 2.1 or otherwise determined in accordance with a jurisdictional variation applicable to the site.

Fire Danger Index			
FDI 40 ☐	FDI 50 ☐	FDI 80 ☒	FDI 100 ☐
Table 2.7	*Table 2.6*	*Table 2.5*	*Table 2.4*

Potential Bushfire Impacts

The potential bushfire impact to the site / proposed development from each of the identified vegetation plots are identified below.

Table 1: BAL Analysis

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1a	Class C Shrubland	>0-5°	43.4m	BAL – 12.5
1b	Class C Shrubland	Flat/Upslope	28.6m	BAL – 12.5
2	Excludable - 2.2.3.2 (e/f) Non-Vegetated Areas & Low Threat Vegetation	N/A	N/A	BAL – LOW

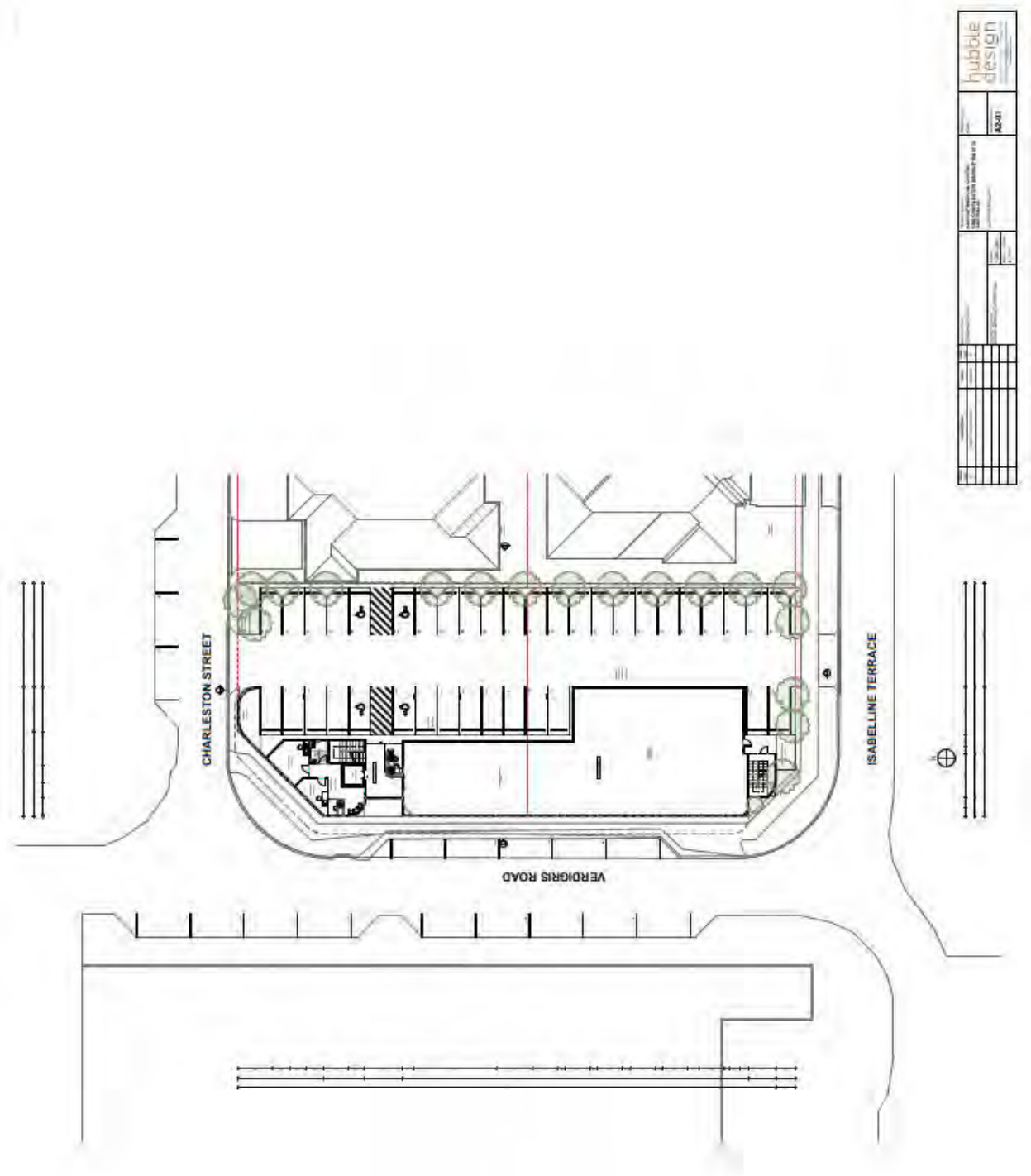
Determined Bushfire Attack Level (BAL)

The Determined Bushfire Attack Level (highest BAL) for the site / proposed development has been determined in accordance with clause 2.2.6 of AS 3959 – 2018 using the above analysis.

Determined Bushfire Attack Level	**BAL – 12.5**

Appendix 1: Plans and Drawings

Plans and drawings relied on to determine the bushfire attack level.



Appendix 2: Shielding Provisions

☒ Shielding **does not apply** to any elevations.
☐ Shielding **can be applied** to one or more elevations in accordance with AS 3959 Clause 3.5.

Note: Shielding can reduce an elevation to the next lower BAL, however, it cannot reduce below BAL 12.5.

Shielding may only be applied where all straight lines between the elevation and the source of bushfire attack are fully obstructed by another part of the same building, as outlined in AS 3959 Clause 3.5. Shielding applies to all elements of the wall, including openings, but does not apply to subfloors or roofs.

Appendix 3: Construction Requirements

The construction requirements for each determined Bushfire Attack Level (BAL) are outlined below. Depending on your BAL rating, as indicated in this report, construction must comply with the corresponding sections listed. Detailed construction specifications can be found within the relevant sections of AS3959-2018.

SECTION 3 GENERAL CONSTRUCTION REQUIREMENTS

3.1 GENERAL

This Section specifies general requirements for the construction of buildings for all Bushfire Attack Levels (BALs). The BALs and the corresponding Sections for specific construction requirements are listed in Table 3.1.

TABLE 3.1 (**BUSHFIRE ATTACK LEVCELS AND CORRESPONDING SECTIONS FOR SPECIFIC CONSTRUCTION REQUIREMENTS (AS3959:2018, p. 34).**

Bushfire Attack Level (BAL)	Classified Vegetation (Heat Flux Exposure)	Description of Predicted Bushfire Attack	Construction Section
BAL—LOW	See Clause 2.2.3.2	There is insufficient risk to warrant specific construction requirements	4
BAL—12.5	≤12.5 kW/m²	Ember attack	3 and 5
BAL—19	>12.5 kW/m² ≤19 kW/m²	Increasing levels of ember attack and burning debris ignited by windborne embers, together with increasing heat flux	3 and 6
BAL—29	>19 kW/m² ≤29 kW/m²	Increasing levels of ember attack and burning debris ignited by windborne embers, together with increasing heat flux	3 and 7
BAL—40	>29 kW/m² ≤40 kW/m²	Increasing levels of ember attack and burning debris ignited by windborne embers, together with increasing heat flux, with the increased likelihood of direct contact with flames	3 and 8
BAL—FZ	>40 kW/m²	Direct exposure to flames from the fire front, in addition to heat flux and ember attack	3 and 9

Appendix 4: Glossary of Terms

AS 3959 -2018	AS 3959 is the Australian Standard for Construction of Buildings in Bushfire-Prone Areas. It outlines the requirements for building design and construction to improve the resilience of structures against bushfire attacks.
BAL	Bushfire Attack Level, referring to the level of bushfire risk for a property, typically denoted by a rating (e.g., BAL 29), or to the report assessing this risk.
BCA	Building Code of Australia, a set of guidelines and regulations for building construction and safety.
BPAD Accreditation	The Bushfire Planning and Design (BPAD) Accreditation Scheme is administered by Fire Protection Association Australia (FPA Australia) to formally recognize professionals who provide bushfire assessment, planning, design, and advisory services. BPAD Accreditation confirms a practitioner's skills and gives confidence that bushfire services are provided by qualified professionals.
BPAD	Bushfire Planning and Design, involving measures to mitigate bushfire risks in urban planning and building design.
Effective Slope	The slope of the land under the vegetation in relation to a building, which affects the speed and intensity of a bushfire. Fires move faster uphill, so steeper slopes increase bushfire risk.
FDI	A numerical scale that indicates the severity of bushfire conditions based on factors like temperature, humidity, wind speed, and drought. Higher values mean greater fire danger.
Method 1	Method 1 for determining Bushfire Attack Level (BAL) ratings is a simplified approach outlined in *Australian Standard AS 3959: Construction of Buildings in Bushfire-Prone Areas*. It uses readily available information and basic measurements to determine the potential exposure of a building to bushfire hazards
Shielding	Shielding is the protection of an elevation of a structure that does not have line of sight to potential bushfire attack, reducing its exposure to radiant heat, embers, and direct flames during a bushfire.

APPENDIX 6 – Waste Management Plan

Waste Management Plan

Karnup Medical Centre

Prepared for Juniper Health c/- Hubble Design

14 October 2025

Project Number: WMP25111

DOCUMENT CONTROL

Version	Description	Date	Author	Reviewer	Approver
1.0	First Approved Release	14/10/2025	JL	DP	DP

Approval for Release

Name	Position	File Reference
Dilan Patel	Project Manager – Senior Waste Strategy Consultant	WMP25111-01_Waste Management Plan_1.0
Signature	dilanpatel	

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Executive Summary

Juniper Health is seeking development approval for the proposed medical centre located on the corner of Charleston Street, Karnup (the Proposal).

To satisfy the conditions of the development application the City of Rockingham (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.

Proposed Waste Collection Summary

Waste Type	Generation (L/week)	Bin Size (L)	Number of Bins	Collection Frequency	Collection
Refuse	747	240L	Four	Weekly	City of Rockingham
Recycling	747	240L	Four	Weekly	City of Rockingham

The City will collect refuse and recyclables from the Proposal utilising its kerbside collection service. The City's waste collection vehicle will service the bins from the Bin Hardstand on Charleston Street.

A building manager will oversee the relevant aspects of waste management at the Proposal.

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Figure 1: Locality Plan

1 Introduction

Juniper Health is seeking development approval for the proposed medical centre located on the corner of Charleston Street, Karnup (the Proposal).

To satisfy the conditions of the development application the City of Rockingham (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 Charleston Street to the north, residential development to the east, Isabelline Terrace to the south and Verdigris Road 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 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: 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 floor area (m^2) of the proposed Medical Centre – **1,494.6m^2**.

2.2 Waste Generation Rates

In order to achieve an accurate projection of waste volumes for the Proposal, consideration was given to the City of Gosnells *Information Sheet – Waste Collection* as this guideline provides generation rates specific to the use type and nature of the Proposal (Medical Centre).

Table 2-1 shows the waste generation rates which have been applied to the Proposal.

Table 2-1: Waste Generation Rates

Tenancy Use Type	City of Gosnells Guideline Reference	Refuse Generation Rate	Recycling Generation Rate
Pathologist, Concierge, Radiology, Allied Health, Women's Health Facilities, Treatment/Consult Rooms, Staff Rooms and Offices	Offices, Consulting Room, Medical Centre, Veterinary Centre	10L/100m^2/day	10L/100m^2/day

As medical waste is highly dependent on the nature and scale of medical practices undertaken, there are currently no medical/clinical waste generation rates available within published waste management guidelines. The Proposal will manage clinical waste (i.e. sharps, infectious waste, pathological waste, pharmaceuticals, chemical waste and non-regulated medical waste) in-situ utilising appropriately labelled Clinical Waste bins and Sharps containers stored throughout the Medical Centre. Accordingly, medical waste has not been included within this waste assessment.

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.

Waste generation volumes in litres per week (L/week) adopted for this waste assessment is shown in Table 2-2. It is estimated that the Proposal will generate 747L of refuse and 747L of recyclables each week.

Table 2-2: Estimated Waste Generation

Medical Centre	Area (m^2)	Waste Generation Rate (L/100m^2/day)	Waste Generation (L/week)
Refuse	1,494.6	10	**747**
Recyclables	1,494.6	10	**747**
		Total	**1,494**

3 Waste Storage

Waste materials generated within the Proposal will be collected in the bins located in the Bin Storage Area, as shown in Diagram 1, and discussed in the following sub-sections.

3.1 Internal Transfer of Waste

To promote positive recycling behaviour and maximise diversion from landfill, internal bins will be available throughout the Proposal for the source separation of refuse and recycling.

These internal bins will be collected by the staff/cleaners at least once each day and transferred to the 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.

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			
	240L	360L	660L	1,100L
Depth	0.730	0.848	0.780	1.070
Width	0.585	0.680	1.260	1.240
Height	1.060	1.100	1.200	1.330

Reference: SULO Bin Specification Data Sheets

3.3 Bin Storage Area Size

To ensure sufficient area is available for storage of the bins, the amount of bins required for the 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 and recyclables once each week.

Based on the results shown in Table 3-2 the Bin Storage Area has been sized to accommodate:

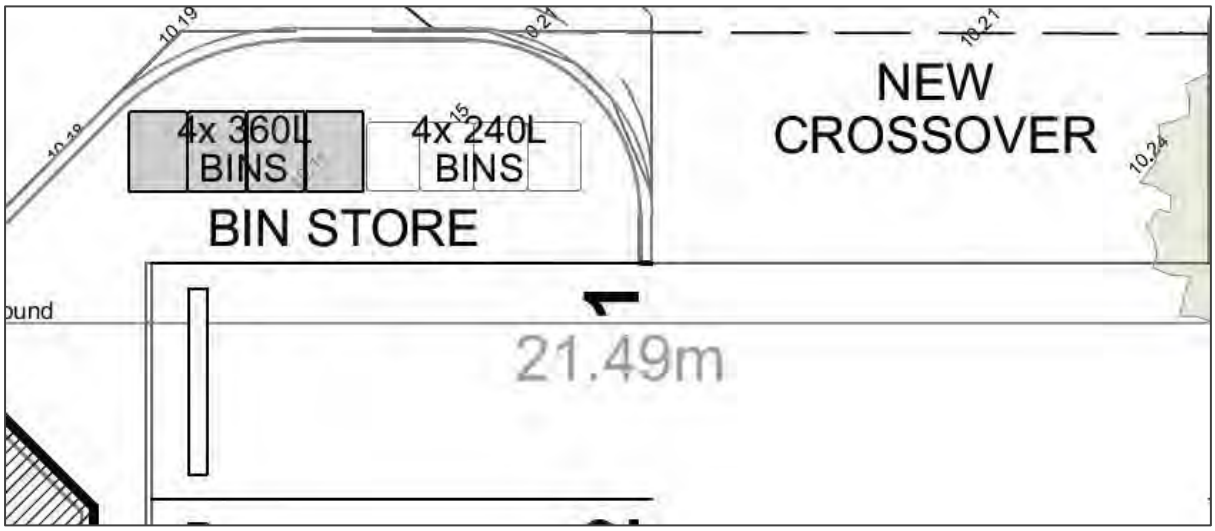
- Four 240L refuse bins; and
- Four 240L recycling bins.

Table 3-2: Bin Requirements for Bin Storage Area

Waste Stream	Waste Generation (L/week)	Number of Bins Required			
		240L	360L	660L	1,100L
Refuse	362	4	-	2	1
Recycling	522	4	3	2	1

The configuration of these bins within the Bin Storage Area is shown in Diagram 1. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 1 represents the maximum requirements assuming one collection each week of refuse and recyclables. Increased collection frequencies would reduce the required number of bins.

Diagram 1: Bin Storage Area



3.4 Bin Storage Area Design

The design of the Bin Storage Area will take into consideration:

- Smooth impervious floor sloped to a drain connected to the sewer system;
- Taps for washing of bins and Bin Storage Area;
- Adequate aisle width for easy manoeuvring of bins;
- No double stacking of bins;
- Ventilated to a suitable standard;
- Appropriate signage;
- 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 Area will be monitored by a building manager during the operation of the Proposal to ensure that the number of bins and collection frequency is sufficient.

4 Waste Collection

The City will service the Proposal by providing four 240L bins for refuse and four 360L bins for recyclables.

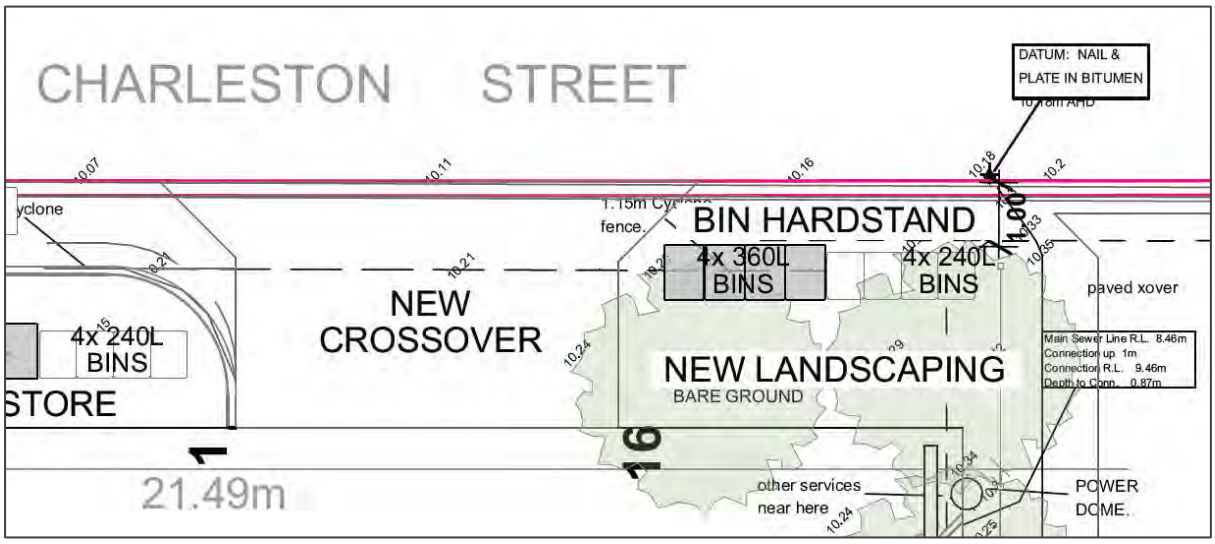
The City will collect refuse and recyclables weekly from the Proposal utilising its side arm waste collection vehicle.

The City will service bins from the Bin Hardstand on the verge on Charleston Street at the front of the Proposal, as shown in Diagram 2.

Bins will be presented for collection 1m from the verge with the wheels and handles facing away from the road. 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 City's side arm waste collection vehicle.

A building manager will ferry the bins to and from the Bin Hardstand on collection days. travel path between the Bin Storage Area and the Bin Hardstand will be of flat surface and kept free of obstacles. A building manager will return the bins to the Bin Storage Area as soon as possible on the same day following collection.

Diagram 2: Bin Hardstand



4.1 Medical Waste

The volumes of medical waste generated at the Proposal will be dependent on the nature and scale of the medical practises undertaken. Appropriate containers will be placed in all locations where particular categories of medical waste may be generated. Instructions on identification and separation of medical wastes will be posted at each waste collection point to remind staff of procedures. Suitably qualified medical waste service providers will be engaged to determine storage and collection requirements.

Sanitary wastes will be collected in situ. A suitably qualified sanitary waste collection and disposal provider will be engaged to determine storage and collection requirements.

The following points are indicative of minimum requirements for environmental best practice relating to controlled medical wastes and will be considered within the Proposal:

- Ensuring all clinical and related waste is properly contained;
- Ensuring staff/cleaners are aware of their individual responsibilities for waste management and obtain appropriate education and training to ensure correct procedures are followed;
- Ensuring all relevant measures are taken to reduce risk to staff, the community and the environment; and
- All waste containers to meet the Australian Standards and are to be of the appropriate colour and have suitable symbols/wording for the waste types to be deposited into that container.

4.2 Bulk and Speciality Waste

Bulk and speciality waste materials will be removed from the Proposal as they are generated on an 'as required' basis.

Adequate space will 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 materials will be removed from the Proposal once sufficient volumes have been accumulated to warrant disposal and will be monitored by the building manager who will organise their transport to the appropriate waste facility, as required.

5 Waste Management

A building manager will be engaged to complete the following tasks:

- Monitoring and maintenance of bins and the Bin Storage Area;
- Cleaning of bins and Bin Storage Area, when required;
- Ensure all staff/cleaners at the Proposal are made aware of this WMP and their responsibilities thereunder;
- Monitor staff/cleaner behaviour and identify requirements for further education and/or signage;
- Monitor medical waste accumulation and assist with/arrange its removal, as required;
- Monitor bulk and speciality waste accumulation and assist with its removal, as required;
- Regularly engage with staff/cleaners to develop opportunities to reduce waste volumes and increase resource recovery; and
- Regularly engage with the City to ensure efficient and effective waste service is maintained.

6 Conclusion

As demonstrated within this WMP, the Proposal provides a sufficiently sized Bin Storage Area for storage of refuse and recyclables, based on the estimated waste generation volumes and suitable configuration of bins. This indicates that an adequately designed Bin Storage Area has been provided, and collection of refuse and recyclables can be completed from the Proposal.

The above is achieved using:

- Four 240L refuse bins, collected once each week; and
- Four 240L recycling bins, collected once each week.

The City will collect refuse and recyclables from the Proposal utilising its kerbside collection service. The City's waste collection vehicle will service the bins from the Bin Hardstand on Charleston Street.

A building manager 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



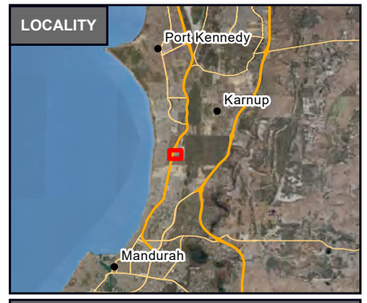
LEGEND

- Site Boundary

Cadastre

- Freehold
- Road
- Reserve

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LOCALITY

Karnup Medical Centre
2 Charleston St & 1 Isabelline Tce
Karnup WA 6176

Juniper Health c/- Hubble Design

N
0 5 10 15 20 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:500

Prepared:	E Jackson	Date:	13/10/2025
Reviewed:	A Brouwer	Revision:	A
Project:	WMP25111		

talis consultants

Figure 01

Data source: Roads, Cadastre - Landgate, 2025. Imagery: Nearmap, 2025.

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Assets | Engineering | Environment | Noise | Spatial | Waste

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ABN 85 967 691 321

Schedule of Submissions –
Proposed Medical Centre - Lot 432 (No.2) Charleston Street, Karnup and Lot 449 (No.1) Isabelline Terrace, Karnup - 20.2025.501.1

PUBLIC SCHEDULE OF SUBMISSIONS						
No.	Content Manager File No.	Name	Address	Email	Support / Object/Other	Comment
1	D25/271349	[redacted]	[redacted]	[redacted]	Object	Asking for consideration for local residents in regards to a 2 story building right next to houses. My home is in very close proximity to the prospective location and i will feel uncomfortable knowing people working in the building and people attending for medical reasons can see into my backyard and have an aerial view of my property. I also have serious concerns about the parking lots proposed, the intersection near verdigris and charleston are already very congested in the morning and after school hours (from 3-5pm heavy traffic every day) and the roundabout and vert lane entrance are often blocked, more traffic is going to be a big problem. This estate only has 1 entrance and exit and it is already too busy. We already have people parking in our rear laneways and on our verges destroying sprinklers and blocking our driveways, this problem is going to get so much worse. This tiny lot is not suitable for a busy business like a Drs office. Please don't let this happen, a 1 story business is fine. A 2 story business literally night next to houses and backyards in a residential street is shocking and will drastically reduce the value of our homes that are close in proximity. I won't feel safe having my children play in their front yard anymore. We deserve our privacy.
2	D25/275180	[redacted]	[redacted]	[redacted]	Object	We are one of the two neighbours who is directly next to this proposed development (6 Charleston Street), and would like to highlight concerns that we have with this development. Firstly, we don’t oppose the Medical Centre itself, but the following points we feel will have a

						detrimental effect on our home life and the lives of the immediate surrounding community. • Traffic congestion - Traffic is already an issue on Verdegris Road with the entry to the shopping centre frequently congested, leading to the roundabout on Redwood Avenue becoming blocked. Could this particular entrance (next to Chemist Warehouse) be changed to an EXIT ONLY. Therefore keeping traffic flowing as there is adequate access via Redwood Avenue. Also vehicles parking on verges either side of Charleston Street (even though there is no parking signage in place), is a visibility hazard and is becoming very dangerous. Further to this point, to help ease the congestion, we would like consideration to be given to the possibility of making the Medical Centre car park 'one way' only. With entry only on the Isabelline crossover and exit only on the Charleston Street crossover. We feel this would be a good option to help with traffic flow and reduce the amount of cars using the Charleston entrance. Vehicles will always naturally enter via the closest entry point being Charleston Street, meaning we will have to tolerate all the traffic if left as a two-way system also causing further congestion on Verdigris Road. • Tree plantings - Tree roots undermining our property - As a qualified arborist, I have major concerns regarding the close proximity to my boundary of these trees and how the root systems given time, could negatively effect the base slab of my house and garage. Also who would be responsible for maintaining the canopy overhang of these trees? I bought this property for its low garden maintenance after living on an acre with high maintenance. I don't want to be constantly cleaning my gutters and yard of the leaves. These trees will also be overhanging our properties washing line.

						• Acoustic wall - Despite the acoustic report, the constant car engines and door slamming noise pollution will have a detrimental effect on us. Therefore, we would like consideration to be given to the installation of an acoustic wall along our property line to help reduce any noise pollution produced by this development. • Bin handstand and refuse collection - The close proximity of the bin handstand to our property is concerning. The possibility of bad odours, flies, and maggots etc. is very high. We would like the bin hardstand moved to the west side of the Charleston Street crossover. Also we would like taken into consideration that all refuse be collected on a weekday and not weekends, as this will have less of an impact on us and the surrounding community. • Hours of operation - We notice the hours of operation are to be seven days a week, this will give us no respite from the operations of the Medical Centre. We consider Saturday mornings to be acceptable, but for the rest of the weekend to be ours to enjoy peacefully on our property, particularly as this this development is in very close proximity to a established residential area. • Window selection - We note from the plans that the first floor windows facing East (overlooking our property), appear to only have partially obscured glass through the centre. We would like this changed to fully obscured glass in order to respect our privacy. So as mentioned at the beginning of this email, we are not opposed to this development, but feel with these above proposals the Medical Centre would have a far more positive impact on us personally, our property, the surrounding properties and community. We hope to have a positive outcome on this matter for all parties concerned.

						Please could our concerns be forwarded to the Development Assessment Panel.
3.	D25/28236 5	[redacted]	[redacted]	[redacted]	Object	The coastal corridor between the Indian Ocean and the freeway is rapidly being developed and filling up as evident from the increasing Kwinana Freeway daily traffic congestion. Literally tens of thousands of people are populating the strip of endless suburbia between Rockingham and Mandurah. There is the business case and indeed the need for services all sorts, one of which are medical services. So yes, tick of approval to the proposed medical centre. While on the topic, ED presentations will inevitable equally multiply with the population increase and presumably outside the capacities of private medical services providers. End result, more pressure on existing ED at Rockingham Hospital and possibly Peel Health Campus. I believe there might be a niece product here for Horus Medical Pty Ltd that could be considered on a user pay basis.

Our Ref: 2527

16 February 2026

Casey Gillespie
City of Rockingham
Civic Boulevard
Rockingham WA 6168

Attn: Miss Nyah Cheater (Nyah.Cheater@rockingham.wa.gov.au)

Dear Madam,

20.2025.501.1 – AD25/208426 – PROPOSED MEDICAL CENTRE – LOT 432 (NO.2) CHARLESTON STREET, KARNUP & LOT 449 (NO.1) ISABELLINE TERRACE, KARNUP
REQUEST FOR FURTHER INFORMATION RESPONSE

Dynamic Planning acts on behalf of Gold Right Pty Ltd, the registered proprietor of Lot 432 (No. 2) Charleston Street, Karnup, and Lot 449 (No. 1) Isabelline Terrace, Karnup. This letter has been prepared in response to the Request for Further Information (RFI) received on 22 December 2025.

We have prepared a matrix outlining the items in the RFI along with our corresponding responses.

The following supporting documents are also attached:

- Attachment 1 – Amended Development Plans, including Landscape Plan
- Attachment 2 – Updated Waste Management Plan
- Attachment 3 – Updated Traffic Impact Statement
- Attachment 4 – Email Correspondence with the City of Rockingham

Please let us know if you have any questions or require further clarification.

Yours faithfully,

NEIL TEO
DIRECTOR

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Suite 15/29 Collier Road, Morley WA 6062
PO Box 688, Inglewood WA 6932
admin@dynamicplanning.net.au
www.dynamicplanning.net.au

COMMENTS OF THE CITY OF ROCKINGHAM	RESPONSES/ ACTIONS TAKEN
Development Plans and Technical Reports	
1. Please **amend the development plans** to address the following matters:	
• In accordance with the Singleton Village Neighbourhood Centre Detailed Area Plan (SVNCDAP), street elevations "shall be designed to create visual interest through building form, articulation of walls and openings, architectural features, texture and colour." While portions of the façade have adequately addressed this requirement, the City considers that the sections of the façade circled red below would benefit from further articulation through the incorporation of additional texture, architectural features and colour to break up the expanse of render proposed.	Part of the façade has been revised to incorporate face brickwork, providing additional texture and articulation to the building and breaking up the extent of rendered surfaces.
• The SVNCDAP also requires that "All buildings shall enable passive surveillance of adjacent street reserves" and that "a minimum of 66% of the ground floor street frontage be provided as transparent glazing that allows visual connectivity between the inside and outside of the building." Based on the City's assessment, approx. 28% of the ground floor street frontage is currently proposed as transparent glazing, which is well below the minimum requirement. Additional transparent glazing shall be provided along the ground floor street frontage to better achieve the required passive surveillance outcomes.	Approximately 55.2% of the ground floor street frontage is proposed as transparent glazing. While this remains below the 66% minimum specified under the SVNCDAP, the design has been developed to achieve an appropriate level of passive surveillance through the strategic placement of glazing to key publicly accessible areas. The extent of glazing is moderated by the functional requirements of the radiology tenancies, including patient privacy considerations for ground floor changing rooms, which necessitate double glazing and reduced transparency in certain locations.

	Notwithstanding this, the proposal maintains visual connectivity to the street where practicable and achieves a reasonable balance between passive surveillance objectives and operational/privacy requirements.
• Further information regarding the proposed ground floor layout of the Radiology Clinic is required. Noting that treatment rooms typically require increased privacy, it is recommended that such rooms be avoided along the primary street interface or, alternatively, that a combination of transparent and obscure glazing be incorporated to these rooms to better address the active street frontage requirements of the SVNCDAP.	The ground floor layout has been revised to incorporate the Radiology Clinic. This includes a waiting area, reception, consultation rooms, x-ray treatment rooms, changing rooms, comfort room, and a storage. Treatment rooms have been located away from the primary street interface. In addition, aluminium-framed, double-glazed windows with Colorbond Monument obscure glass are proposed along the Radiology Clinic frontage to provide increased privacy while responding to street interface requirements.
• The car park layout shown on the development plans is to demonstrate compliance with the following requirements of Australian Standard AS2890.1: o Where a single-sided aisle has angled parking on one (1) side and a vertical obstruction greater than 0.15m in height on the other (being the building wall in this instance), the aisle width is required to be increased by a minimum of 0.3m. Accordingly, the aisle width adjacent to car parking bays 28 to 37 is to be widened to a minimum 6.1m. o The design vehicle envelope of a parked car is required to be clear of any vertical obstructions. The columns supporting the upper floor encroach into the design	The car park layout has been revised to: o Increase the aisle width adjacent to car parking bays 26–34 to a minimum of 6.1 m o Allocate dedicated spaces for the columns supporting the upper floor outside of the car parking bays, so the vehicle envelopes are clear of vertical obstructions

vehicle envelope for car parking bays 1 to 13, and therefor do not comply with AS2890.1. o A minimum car parking bay dimension of 2.6m (width) x 5.4m (length) is required. The submitted Site Plan indicates a proposed car parking bay width of approximately 2.5m, which does not comply.	o Increase the parking bay width to a minimum of 2.6 m, resulting in a reduction in the total number of parking bays compared to the previous proposal
• A footpath should be provided between the building and parking bays 1-13 to improve pedestrian accessibility and to facilitate the maneuvering of bins to and from the verge for waste collection.	The ground floor layout has been revised to include a footpath between the building and parking bays 1–11, providing a safe pedestrian route and allowing for the practical movement of bins between the site and the verge.
• Please confirm whether there is a level difference between the car park and the rear entry to the Medical Centre. If a level difference exists, a compliant kerb ramp is required and should be clearly shown on the development plans.	There is no level difference between the car park and the rear entry to the Medical Centre.
2. Please **update the Waste Management Plan** to address the following:	
• Table 2.2 of the Waste Management Plan (WMP) calculates waste volumes based on a 5-day operating week, however, the Application Report states the Medical Centre will operate Monday to Sunday. Accordingly, the WMP is to be updated to recalculate waste volumes based on a 7-day operating week, noting that this will impact subsequent sections of the report (e.g., Table 3.2 and Section 3.3).	Table 2-2, Table 3-2, and Sections 2.3 and 3.3 have been updated to calculate waste volumes based on a 7-day operating week, consistent with the Application Report stating that the Medical Centre will operate Monday to Sunday.

• The City's recycling bins have a capacity of 360L, not 240L as stated in Section 3.3 and Section 6 of the submitted WMP.	Sections 3.3 and 6 have been updated to correctly state the City's recycling bin capacity as 360 L.
• The WMP indicates that medical and clinical waste (including sharps, infectious waste, chemical waste and pharmaceuticals) will be collected via specialised bin storage. Further information is requested regarding the frequency and method of collection of this specialty waste, and the size / type of commercial vehicle that will service the site for collection.	The Executive Summary, Section 3.3, and Section 6 have been updated to include details on the collection of medical and clinical wastes, including bin numbers and sizes, collection frequency, waste contractor, and point of collection. Section 3.1 has also been updated to include guidelines for the internal transfer of medical wastes, previously located in Section 4.1. Section 4.1 has been renumbered as Section 4.2 and now includes a description and diagram of a sample medical waste collection contractor's vehicle that will service the site.
3. Please **submit a Landscape Plan** that includes the following information:	
• Identification of all landscaped areas, noting that a minimum of 10% (165m2) of the site area is required to be landscaped in accordance with the City's Town Planning Scheme No.2;	At least 10% (165m²) of the site is landscaped. The landscaping has also been strategically designed, with canopy trees positioned to maximize shade to key outdoor areas. Accordingly, the proposal delivers functional and meaningful canopy coverage, contributing to improved amenity and thermal comfort.
• The number, species, and density of trees, shrubs and ground covers proposed. The City recommends that only ten (10) small	Fewer than ten (10) small shade trees are proposed within the car parking area, consistent with the City's recommendation. The proposed species include Crepe

shade trees be provided within the car park area (e.g., small Crepe Myrtle variety or Magnolia 'Little Gem');	Myrtle and Magnolia 'Little Gem'. Details of the tree species and their respective mature heights and canopy widths are provided in the Landscape Plan.
• Details of proposed landscaping within the adjacent verge, noting the City's preference for irrigated turf with feature trees provided at a rate of one (1) tree per 14m of frontage; and	The verge is proposed to be landscaped with feature trees. Feature trees are provided at a spacing generally consistent with the recommended rate by the City.
• An irrigation strategy.	The Landscape Plan shows the proposed location and orientation of irrigation lines and sprinkler systems. The layout has been designed to ensure efficient water use across the landscaped areas.
4. A **Stormwater Management Plan (SMP) is required** to demonstrate how the critical 1% Annual Exceedance Probability storm event will be managed on-site. The SMP is to include a Drainage Plan showing carpark grading, proposed elevations, inverts and dimensions of all drainage infrastructure, impervious area calculations, water storage estimates, soakwell sizing calculations and the adopted soil hydraulic conductivity.	The Stormwater Management Plan (SMP) is currently being prepared. The geotechnical investigations are expected to be completed by 16 February, and the hydraulic engineer has commenced design work. Pending finalization of the SMP, the City of Rockingham has confirmed that it may be submitted prior to lodgement of the Building Permit application. Please refer to Attachment 1 for the relevant email correspondence with the City.
Operational Details	
5. The Application Report states that a maximum of seven (7) practitioners will operate from the Medical Centre at any time, however, the Transport Impact Statement indicates eight (8) practitioners (5 general practitioners, 1 phlebotomist, 1 radiologist and 1 sonographer). Please confirm the maximum number of	The Traffic Impact Statement (TIS) has been updated to reflect the correct staffing numbers, comprising seven (7) practitioners and seven (7) support staff, as outlined below:

practitioners, as this has implications for the parking assessment, and provide updated plans and reports that correctly reflect the proposal.	*Practitioners* • Five in general practice, skin clinic, women's health • Radiologist • Sonographer *Support Staff* • Two nurses • Phlebotomist • Three administrative staff • Receptionist (radiology clinic)
6. Having regard to the nature of the proposed development, please advise whether it is anticipated that the site will be serviced by ambulances and whether consideration has been given to the provision of an ambulance bay on site.	The car parking layout has been revised to include an ambulance parking bay located near the street crossover.
7. The development plans do not identify any delivery, loading or storage areas. Please confirm the type, size and expected frequency of commercial vehicle(s) anticipated to service the development for the delivery of medical supplies, pharmaceuticals, medications, and diagnostic equipment. Additionally, please provide details regarding where these vehicles will be parked while on-site and how their presence will be accommodated without impacting vehicle circulation, parking or pedestrian safety.	The development plans do not identify any delivery, loading or storage areas. Please confirm the type, size and expected frequency of commercial vehicle(s) anticipated to service the development for the delivery of medical supplies, pharmaceuticals, medications, and diagnostic equipment. Additionally, please provide details regarding where these vehicles will be parked while on-site and how their presence will be accommodated without impacting vehicle circulation, parking or pedestrian safety.

Public Consultation	
8. The public consultation period for this Application concluded on Wednesday 17 December 2025. The City confirms that public submissions were received. A 'Summary of Submissions' has been attached, outlining the matters raised by submitters. It is requested you consider the issues identified and provide a response in the areas titled 'Applicant's Response'.	
<u>Amenity</u> • Privacy and safety concerns were raised regarding potential overlooking into surrounding residences from upper floor windows of the proposed development. It has been requested that the upper floor windows facing east be changed to fully obscured glass, instead of partially obscured, to protect the privacy of adjoining properties. • Concerns were raised regarding noise pollution from constant car engines and doors slamming, which may adversely impact adjoining properties. Despite the findings of the Acoustic Report, it is requested that consideration be given to installing an acoustic wall along the rear boundary to mitigate noise from the car parking area.	• The upper floor windows facing east, which were initially proposed with frosted decal privacy screening, are now proposed to be fully obscured to prevent overlooking of surrounding residences • The concerns regarding potential noise from vehicle movements and door closures within the car parking area are acknowledged. An Acoustic Report has been prepared in support of the application, which concludes that the proposal is capable of complying with the applicable environmental noise criteria. Notwithstanding this, the design has incorporated mitigation measures, including the provision of landscaping along the rear boundary. The proposed small shade trees and associated planting will provide a degree of acoustic buffering through soft landscaping, while also contributing to visual

	screening and improved amenity at the interface with adjoining residential properties. Having regard to the findings of the Acoustic Report and the incorporation of landscaping treatments, the installation of a solid acoustic wall along the rear boundary is not considered necessary. The proposal is therefore expected to operate within acceptable noise limits and without unreasonable impact on adjoining properties.
• The proposed bin hardstand is located close to adjoining residential properties, raising concerns regarding odour, flies, and maggots. It is requested that the bin hardstand be relocated to the western side of the Charleston Street crossover and that bin collection occur only on weekdays, with no collections on weekends.	• The concerns regarding odour, pests, and amenity impacts from the proposed bin hardstand are acknowledged. The bin hardstand has been designed in accordance with relevant guidelines, including adequate separation from adjoining residential boundaries and provision of appropriate screening. These design measures are intended to ensure that the bin area operates in a safe, hygienic, and visually unobtrusive manner, without adversely affecting neighboring properties. Relocation of the bin hardstand is not considered necessary, as the current design mitigates the key concerns while maintaining functional access for waste management.
• It is requested that the Medical Centre not operate on Saturday afternoons or on Sundays to provide respite for nearby residential properties.	• The proposed operational hours for the Medical Centre are 8:00 am to 6:00 pm Monday to Saturday, and 9:15 am to 6:00 pm on Sundays, with no current plans to operate on Public Holidays. These hours are

	consistent with typical medical centre operations and are necessary to accommodate the needs of patients, particularly given the variety of medical services provided. The building design, landscaping, and on-site parking are intended to minimise amenity impacts on nearby residential properties. Given these measures, the proposed Sunday and Saturday operations are not expected to result in unreasonable disturbance to adjoining residents. In any event, all operations will be required to comply with the Environmental Noise Protection Regulations, which the submitted acoustic report concludes compliance.
Traffic and Car Parking • Intersections near Charleston Street and Verdigris Road are already congested during peak school times (e.g., 7:00am to 9:00am and 3:00pm to 5:00pm), with the roundabout on Redwood Avenue often blocked. The proposed Medical Centre may exacerbate this congestion, given the estate only has one (1) entrance and exit.	• As outlined in the Traffic Impact Assessment, the site is expected to generate less than 100 trips during the peak hour, which constitutes a moderate impact. The surrounding road network is therefore considered to have sufficient capacity to accommodate the additional traffic without significant effects. While there will be minor morning and evening peaks associated with staff arrivals and departures, the majority of traffic is expected to be distributed evenly throughout the day, reflecting the staggered scheduling of medical and health appointments during operating hours.

• Concerns that Medical Centre clients may park on verges and in the street if on-site parking is insufficient, creating safety risks.	• As outlined in the Transport Impact Assessment, the site provides 33 on-site parking bays and five adjacent on-street bays, meeting the City's parking requirements. The development is also supported by a range of measures to minimize parking demand, including its proximity to public transport and well-connected pedestrian and cycling routes. Shared trips may further reduce demand, as visitors to the medical centre may combine their trip with visits to nearby facilities, particularly the adjacent shopping centre. Collectively, these measures are expected to ensure that on-street and verge parking by medical centre clients will be minimal, thereby mitigating potential safety risks for the surrounding area.
• It is requested that access and egress to the Medical Centre be one-way only, with the Isabelline Terrace crossover as entry and the Charleston Street crossover as exit. This is suggested to improve traffic flow and reduce use of Charleston Street, as both crossovers currently allow two-way access and residents are concerned that Charleston Street will attract the majority of vehicles.	• As shown in the plans, access and egress to the Medical Centre is one-way only, with Isabelline Terrace as entry and Charleston Street as exit. This arrangement is intended to improve traffic flow and minimize use of Charleston Street by site traffic, addressing resident concerns regarding potential congestion.
<u>Landscaping</u> • Concerns regarding proposed trees in the car parking area, as roots may impact adjoining house slabs over time. Clarification is requested on how this will be managed and who will be responsible for ensuring that canopies do not overhang neighbouring properties.	• The concerns regarding potential root impacts and canopy overhang are noted. The proposed trees within the car parking area are small shade species (e.g., Crepe Myrtle and Magnolia 'Little Gem') with non-invasive root systems and moderate mature

• Concerns that trees in the car park may drop leaves into backyards and gutters of adjoining residences, creating ongoing maintenance responsibilities for neighbours.	canopy spreads. These species are commonly used in urban environments where proximity to structures is required. Trees will be appropriately set back from property boundaries and planted in accordance with standard landscaping and engineering practices to minimize the risk of structural impact to adjoining properties. Responsibility for the establishment and ongoing maintenance of the landscaping, including pruning to prevent unreasonable canopy overhang, will rest with the medical centre. Trees can be managed through routine maintenance to ensure they remain within the site and do not adversely impact neighboring properties. With respect to leaf drop, this is an inherent and seasonal characteristic of urban landscaping and is not considered an unreasonable impact in a suburban context. The proposed species are small varieties and are not anticipated to generate excessive debris. Any minor leaf falling beyond the site boundary would be incidental and comparable to typical residential tree planting within established neighborhoods.
Property Values • Concerns that a two-storey development will significantly reduce the value of nearby residential properties. A single-storey commercial development is considered more appropriate.	The proposal has been assessed against the applicable provisions of the local planning framework and satisfies the relevant requirements relating to height, scale, and interface with adjoining residential land. On this basis, the two-storey built form is considered appropriate and

	compatible with the locality. There is no evidence to suggest that two storey development will have a detrimental impact on property values. In any event, property values is not a planning consideration relevant to the assessment and determination of the proposal.

Attachment 1 – Amended Development Plans including Landscape Plan

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KCM009-26.pln

KARNUP MEDICAL CENTRE

hubble design
ARCHITECTURE + INTERIORS

CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

ISSUE FOR APPROVAL

Page No.	Title	REV	Issued	Published	Comment
A0-00	TITLE PAGE	01	☒	☒	
A0-01	LAYOUT LIST | LOCATION PLAN	01	☒	☒	
A0-02	SITE SURVEY	01	☒	☒	
A1-01	SITE PLAN	01	☒	☒	
A1-02	LANDSCAPE PLAN	01	☒	☒	
A2-01	GROUND FLOOR	02 - WIP	☒	☒	
A2-02	FIRST FLOOR	01	☒	☒	
A2-03	ROOF PLAN	01	☒	☒	
A3-01	ELEVATIONS 03 & 04	02 - WIP	☒	☒	
A3-02	ELEVATIONS 01 & 02	01	☒	☒	



LOCATION PLAN | SATELLITE IMAGERY

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	19/1/2026	01

LAYOUT TITLE:
LAYOUT LIST | LOCATION PLAN

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
N.T.S. @A3

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A0-01

hubble design
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NOTES:
1. LEVELS TO AHD ASSUMED FROM WATERCORP SEWER MANHOLE. NOTE: in some cases sewer manhold lid values as supplied by the WaterCorpoartion are not correct
2. IF PROPOSED SEWER GRADES ARE MINIMAL THE CLIENT MUST USE A PLUMBER TO CHECK THE CONNECTION R.L. TO ENSURE THERE IS ADEQUATE FALL.
3. SEWER LINES ARE PLOTTED FROM WATERCORP PLANS ONLY. IF BUILDING CLOSE TO SEWER LINE THE ACTUAL POSITION SHOULD BE IDENTIFIED BY ENGAGING A PLUMBER TO EXPOSE THE SEWER LINE IN THAT AREA.
4. DIMENSIONS OF BUILDINGS TAKEN FROM THIS PLAN SHOULD BE VERIFIED ON SITE FIRST.
5. BOUNDARY INFORMATION FROM PLAN OF SURVEY (LANDGATE). BOUNDARY CONFIGURATION IS ONLY OVER-LAIN WITH FENCES, WALLS ETC AS A BEST FIT. **IT DOES NOT REPRESENT THE ACTUAL LOCATION OF THE BOUNDARY.**
NO BOUNDARY RE-SURVEY HAS BEEN CONDUCTED AS PART OF THIS FEATURE SURVEY.
6. GENERAL EASEMENTS HAVE NOT BEEN CHECKED OR SHOWN. CLIENT TO CHECK TITLE FOR EASEMENTS
7. GARDEN: KEY FEATURES SHOWN ONLY. PAVING EXTENT IS ONLY APPROXIMATE. CHECK AS NECESSARY
8. ROOF : KEY FEATURES SHOWN ONLY WHERE RELATED TO LEVELS TAKEN
9. FLOOR LEVEL ASSUMED FROM DOOR STEP LEVEL WHERE ACCESS IS NOT POSSIBLE.

MHS

CHARLESTON STREET

DATUM: NAIL & PLATE IN BITUMEN 10.18m AHD

1.15m Cyclone fence.

PRmarking

BARE GROUND

CONCRETE PATH

peg found

6.01m

90°

8.5m

21.49m

paved xover

Main Sewer Line R.L. 8.46m
Connection up 1m
Connection R.L. 8.46m
Depth to Conn. 0.87m

other services near here

POWER DOME.

paved d-way

T.O.W 10.57

L.R.W.

T.O.W 10.55

T.O.W 10.58

PARAPET WALL

RIDGE 14.65

SEP

T.O.G 13.23

RIDGE 15.62

LOT 433

30m

Brick & ZA House.
Main floor Level
10.68m AHD from front
doorstep level.

1.8m CB fence. on wall

T.O.W 10.56

T.O.W 13.31

RIDGE 15.91

LOT 432
807m2
DP 404181

VERDIGRIS ROAD

PARKING

CONCRETE PATH

23.99m

DATUM: NAIL & PLATE IN L/S WALL 10.2m AHD

T.O.W 10.19

T.O.W 10.2

T.O.W 10.05

T.O.W 12.67

T.O.G 12.67

T.O.W 10.56

T.O.G 12.36

27.5m

T.O.W 10.19

T.O.W 9.95

T.O.W 9.84

RIDGE 14.62

LOT 449
843m2
DP 404181

31.347m

T.O.G 12.2

RIDGE 14.63

RIDGE 15.49

LOT 448

Brick & ZA House.
Main floor Level 9.6m
AHD from front
doorstep level.

rear of footprint from aerial

HYD

SEP

PRmarking

CONCRETE PATH

1.15m Cyclone fence.

90°9'58"

6.002m

8.5m

27.498m

T.O.G 12.2

T.O.G 12.2

T.O.G 12.2

GRASS

89°50'02"

other services near here

POWER DOME.

Main Sewer Line R.L. 7.89m
Connection up 1m
Connection R.L. 8.89m
Depth to Conn. 0.84m

WATER CORP VALVE

9.5m

ISABELLINE TERRACE

N

MHS	SEWER MANHOLE
MHD	DRAINAGE MANHOLE
LID	LID (SMALL GALVIN ETC)
ECB	ELECTRICAL CABLE BOX
EMB	ELECTRICAL METER BOX
CBX	COMMS JUNCTION BOX
TJB	TELSTRA JUNCTION BOX
DG	DRAINAGE GRATE
SEP	SIDE ENTRY PIT
CUL	DRAINAGE CULVERT
WM	WATER METER
	WATER CORP VALVE
HYD	FIRE HYDRANT
LP	LIGHT POLE
PP	POWER POLE
SP	STAY POLE
SW	STAY WIRE
	GATE
OH	OVERHEAD POWER
	OTHER FENCE (as nominated)
	CONTROL PEG/MARK
RW	RETAINING WALL
LRW	LIMESTONE RET. WALL
GB	GARDEN BED
SHR	SHRUB
T.O.W	TOP OF WALL
B.O.W	BOTTOM OF WALL
T.O.G.	TOP OF GUTTER
3H 2W	TREE 3hIgh 2wIde

CONCRETE
BRICK PAVING
BITUMEN
BLOCK PAVING
BUILDING FOOTPRINT

Monaghan MAPPING & SURVEYING
UNIT 11 / 4 FLINDELL ST,
OCONNOR, W.A. 6163.
Mob 0418 928065
Email : jmon @ aapt.net.au
Web: www.fremantlesurveying.com.au

	BY	DATE
DRAWN	JTM	5.9.25
CHK'D	JTM	5.9.25
APP'D		5.9.25
ISSUED	JTM	5.9.25

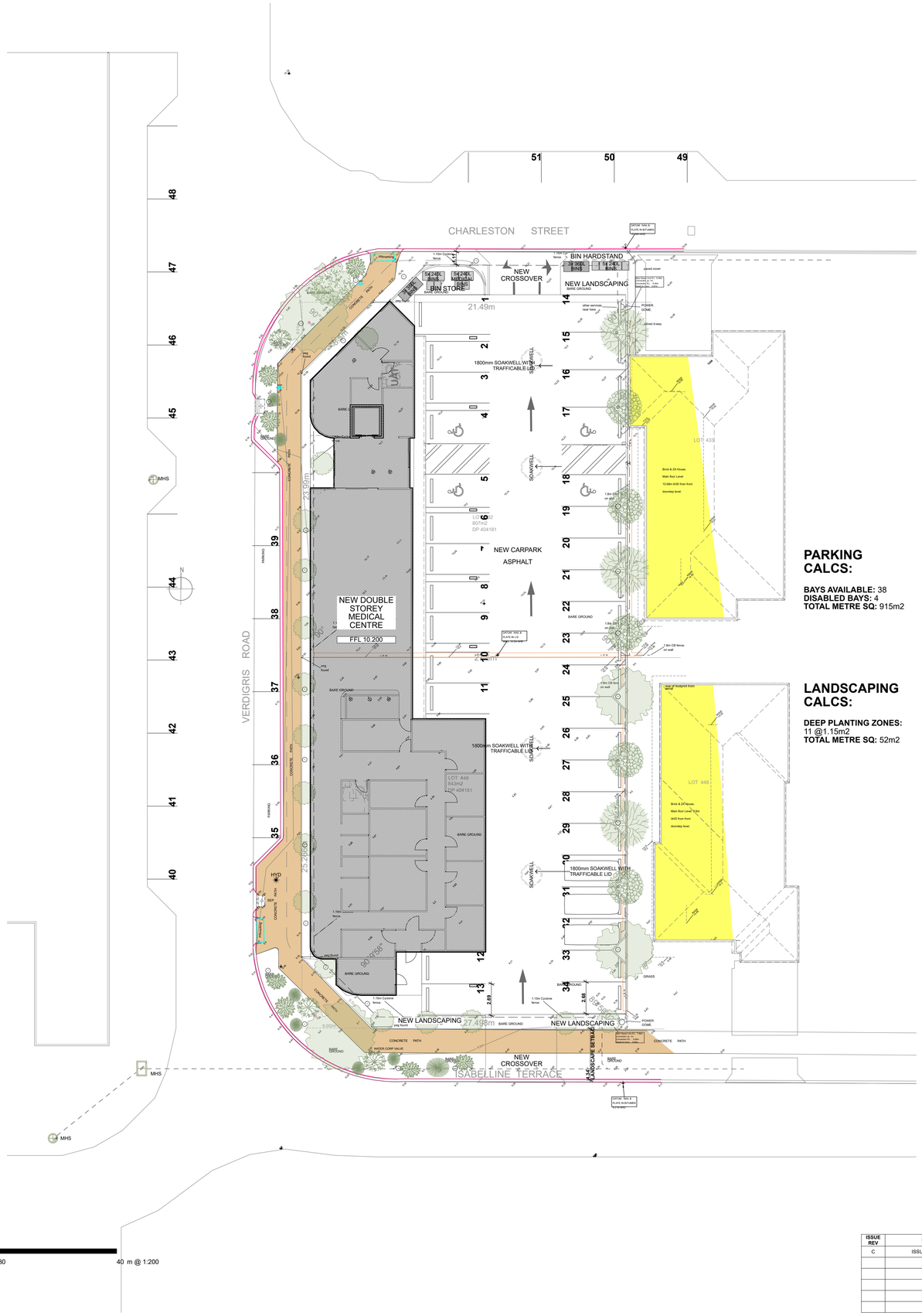
SITE FEATURE SURVEY
2 CHARLESTON ST &
1 ISABELLINE ST
KARNUP
Lot 432 & 449 on DP404181

CLIENT	HUBBLE ARCH.
SCALE	1 : 200
DATE	2.9.25
DATUM	AHD
DRAWN	JTM

DRAWING KAR 001

0m 1 2 3 4 5m

THIS DRAWING MAY NOT BE USED FOR ANY PURPOSE AND REMAINS THE PROPERTY OF MONAGHAN SURVEYING UNTIL ALL INVOICES AND FEES PAYABLE TO MONAGHAN SURVEYING ARE FULLY PAID. THE DRAWING MAY NOT BE REPRODUCED IN ANY WAY WITHOUT THE EXPRESS APPORVAL OF MONAGHAN SURVEYING.


CHARLESTON STREET
VERDIGRIS ROAD
ISABELLINE TERRACE
NEW DOUBLE STOREY MEDICAL CENTRE
FFL 10.200
NEW CROSSOVER
BIN HARDSTAND
BIN STORE
NEW LANDSCAPING
BARE GROUND
NEW CARPARK
ASPHALT
1800mm SOAKWELL WITH TRAFFICABLE LID
SOAKWELL
21.49m
27.498m
LOT 433
LOT 448
LOT 449
Brick & ZA House.
Main floor Level
10.68m AHD from front
doorstep level.
POWER DOME
GRASS
CONCRETE PATH
MHS
HYD
1.15m Cyclone fence
1.8m CB fence on wall
1.8m SW fence on wall
1.8m SW fence
1.8m SW gate
1.8m SW gate
1.8m SW gate
54 240L BINS
54 240L MEDICAL BINS
2 240L BINS
2 240L BINS
2 240L

KCM009-26.pln

PLANT SCHEDULE

SYMBOL	DESCRIPTION	STATUS	SPECIES NAME	HEIGHT	WIDTH	NOTE
	Bottlebrush - RED FLOWER	New	Callistemon 'Little John' (Dwarf Bottlebrush)	1.5m	1m	
	Common Everlasting - YELLOW FLOWER	New	Chrysocephalum apiculatum	0.2m	0.5m	
	Kangaroo Paw - ORANGE FLOWER	New	Anigozanthos 'Bush Ranger'	0.6m	0.5m	
	Lagerstroemia Archeriana Crepe Myrtle - light pink flower	New	Lagerstroemia 'Pinky Pink'	1.2 - 1.5m	1.5m	
	Lilly Pilly Hedge	New	Dwarf Lilly Pilly ('Allyn Magic' & 'Minor')	3m	0.5 - 1m	
	Lilly pilly hedge	New				
	Magnolia 'Little Gem'	New		4m	0.5 - 1m	
	Waterhousea Sweeper (Weeping Lilly Pilly)	New		3-5m	3m	



ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	19/1/2026	01

LAYOUT TITLE: LANDSCAPE PLAN

PROJECT STATUS: DEVELOPMENT APPROVAL

SCALE:

DRWN: | CHK'D: # | P.H.

PROJECT|CLIENT: **KARNUP MEDICAL CENTRE CNR CHARLESTON KARNUP WA 6176 AUSTRALIA**

JUPITER HEALTH

PROJECT NO: KCM

DRAWING NO: **A1-02**

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CHARLESTON STREET EXIT

ISABELLINE TERRACE ENTRY

BIN COLLECTION POINT
A: 3.54 m²

1.062

1800mm SOAKWELL WITH TRAFFICABLE LID

SOAKWELL

1.062m SETBACK TO BOUNDARY

SITE AREA
A: 842.54 m²

0.18m SETBACK TO BOUNDARY

02 - WIP

SHORT TERM 5 MINUTE PARKING FOR SMALL DELIVERY TRUCK / VANS

APPROXIMATE SIZE OF SMALL DELIVERY TRUCK / VANS (4.2m x 2.1m). THE TRUCKS COME ON A MONTHLY BASIS

SITE AREA
A: 806.82 m²

LANDSCAPING
A: 35.67 m²

0.50m SETBACK TO BOUNDARY

SHORT TERM LOADING / DROP OFF ZONE

2,600

3,346 596 2,600 2,600 633 2,800 2,576 2,800 650 2,600 2,600 619 2,800 2,600 745 2,800 2,600

NON-MOUNTABLE KERB

MOUNTABLE RAMP KERB TO COUNCILS REQUIREMENTS

NON-MOUNTABLE KERB

MODIFIED PARKING BAYS TO BE CLEAR OF OBSTRUCTION

14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34

1 2 3 4 5 6 7 8 9 10 11 12 13

BIN STORE
A: 17.03 m²

AMBULANCE PARKING

PATHOLOGIST
A: 14.71 m²

UAT
A: 5.48 m²

STAIR
A: 4.00 m²

PATHOLOGIST
A: 53.57 m²

PATHOLOGIST
A: 5.65 m²

LIFT
A: 4.00 m²

WAITING AREA
A: 26.64 m²

FFL 10.200

CHARGE
A: 7.70 m²

PROPOSED RADIOLOGY WAITING AREA

RECEPTION
A: 8.87 m²

PROPOSED RADIOLOGY CONSULT AND SERVICES

RADIOLOGY
A: 450.00 m²

XRAY TREATMENT ROOM
A: 18.99 m²

XRAY TREATMENT ROOM
A: 18.99 m²

UAT
A: 6.16 m²

CHANGING ROOM
A: 3.79 m²

CHANGING ROOM
A: 3.79 m²

CHANGING ROOM
A: 3.79 m²

CHANGING ROOM
A: 6.07 m²

STORE
A: 10.09 m²

STAIR
A: 14.10 m²

SUBSTATION / SERVICES
A: 9.16 m²

39 38 37 36 35

48 47 46 45 44 43 42 41 40

3,944 2,015 1,754 2,058 2,863 1,788 4,428 630 10,626 11,550 2,880 928 2,880 841 2,880 1,396 2,880 417 1,282 1,000 3,062 2,287

9,771 4,651 4,428 39,760 3,062 2,287

61,672 2,287

VERDIGRIS ROAD

N

ISSUE REV	DESCRIPTION	DATE	DWG REV
	Not in Transmittal Set	Work in Progress	02 - WIP
C	ISSUE FOR APPROVAL	19/1/2026	01

LAYOUT TITLE:
GROUND FLOOR

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
1:200 @A3

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A2-01

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KCM009-26.pln

CHARLESTON STREET

ISABELLINE TERRACE

VERDIGRIS ROAD

SITE AREA
A: 842.54 m²

SITE AREA
A: 806.82 m²

ALLIED HEALTH
A: 25.13 m²

ALLIED HEALTH
A: 13.44 m²

ALLIED HEALTH
A: 15.99 m²

ALLIED HEALTH
A: 16.26 m²

ALLIED HEALTH
A: 111.30 m²

UNISEX
A: 6.27 m²

UAT WOMENS HEALTH / SKIN CLINIC ROOM 1
A: 6.27 m²

WOMENS HEALTH / SKIN CLINIC ROOM 1
A: 12.00 m²

WOMENS HEALTH / SKIN CLINIC ROOM 2
A: 12.00 m²

WOMENS HEALTH / SKIN CLINIC ROOM 3
A: 12.00 m²

WOMENS HEALTH / SKIN CLINIC ROOM 4
A: 12.26 m²

INJECTION ROOM
A: 11.33 m²

INJECTION ROOM
A: 12.00 m²

GP CONSULT ROOM 5
A: 12.00 m²

GP CONSULT ROOM 4
A: 12.00 m²

GP CONSULT ROOM 2
A: 12.00 m²

A/C AND PLANT
A: 20.65 m²

STAIR
A: 11.95 m²

LIFT
A: 7.84 m²

RECEPTION
A: 9.01 m²

THEATRE ROOM
A: 12.00 m²

TREATMENT ROOM
A: 15.02 m²

CLINIC
A: 80.20 m²

RECEPTION
A: 8.87 m²

PM OFFICE
A: 8.21 m²

GP TREATMENT ROOM
A: 11.99 m²

GP TREATMENT ROOM
A: 11.99 m²

STAFF ROOM
A: 17.92 m²

STAIR
A: 5.60 m²

PLANTER BOX

PLANTER BOX

PLANTER BOX

FFL 14.200

FFL 14.200

FFL 14.200

TEA ROOM
A: 9.34 m²

STAFF BALCONY
A: 9.23 m²

STORE
A: 8.30 m²

UAT
A: 6.27 m²

UAT
A: 6.27 m²

UAT
A: 6.27 m²

CLINIC (SKIN / WOMENS HEALTH)
A: 174.17 m²

GP CONSULT ROOM 3
A: 12.00 m²

TREATMENT ROOM
A: 12.00 m²

2,141 3,649 3,179 4,863 4,217 2,390 2,887 983 2,136 271 9,060 2,887 605 2,887 4,393 844 2,887 863 2,887 244 1,143 5,554 2,287

4,863 4,217 1,935 4,325 2,307 17,660 2,172 11,361 2,183 879 2,287

51,901 2,287

N

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	19/1/2026	01

LAYOUT TITLE:
FIRST FLOOR

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
1:200 @A3

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A2-02

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CHARLESTON STREET

SITE AREA
A: 842.54 m²

SURFMIST COLORBOND TRIMDEK ROOF AT 3° PITCH

SITE AREA
A: 806.82 m²

VERDIGRIS ROAD

N

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	19/1/2026	01

LAYOUT TITLE:
ROOF PLAN

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
1:200 @A3

DRWN: | CHK'D:
| P.H.

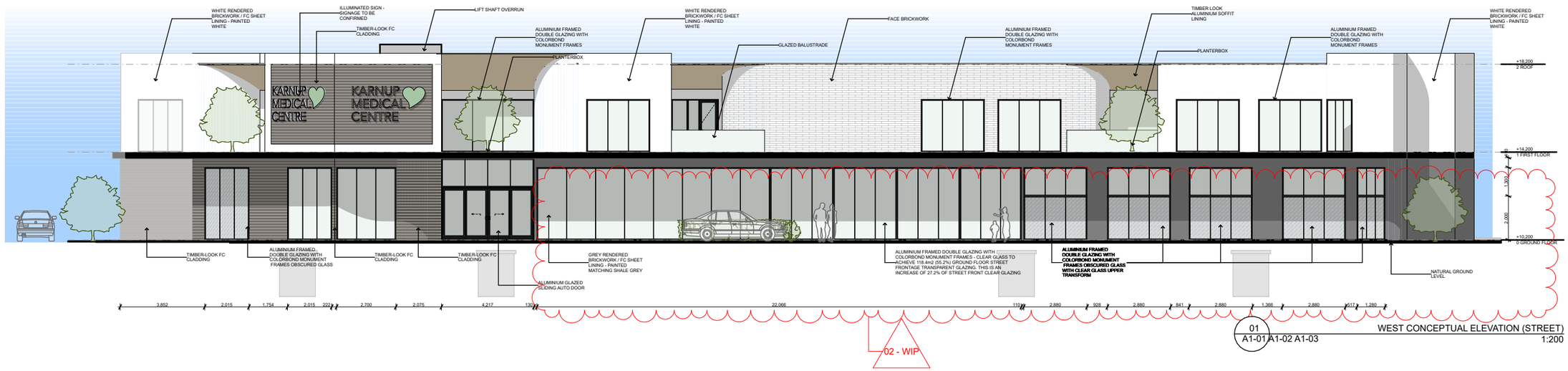
PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

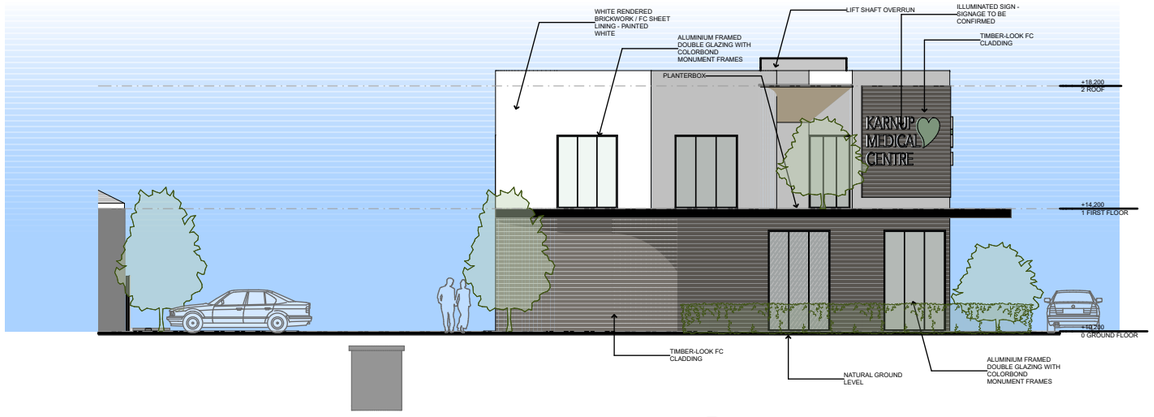
PROJECT NO:
KCM

DRAWING NO:
A2-03

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01 A1-01 A1-02 A1-03 — WEST CONCEPTUAL ELEVATION (STREET) 1:200



02 A1-01 — NORTH CONCEPTUAL ELEVATION 1:200

ISSUE REV	DESCRIPTION	DATE	DWG REV
	Not in Transmittal Set	Work in Progress	02 - WIP
C	ISSUE FOR APPROVAL	19/1/2026	01

LAYOUT TITLE: ELEVATIONS 03 & 04

PROJECT STATUS: DEVELOPMENT APPROVAL

SCALE:

DRWN: | CHK'D: # | P.H.

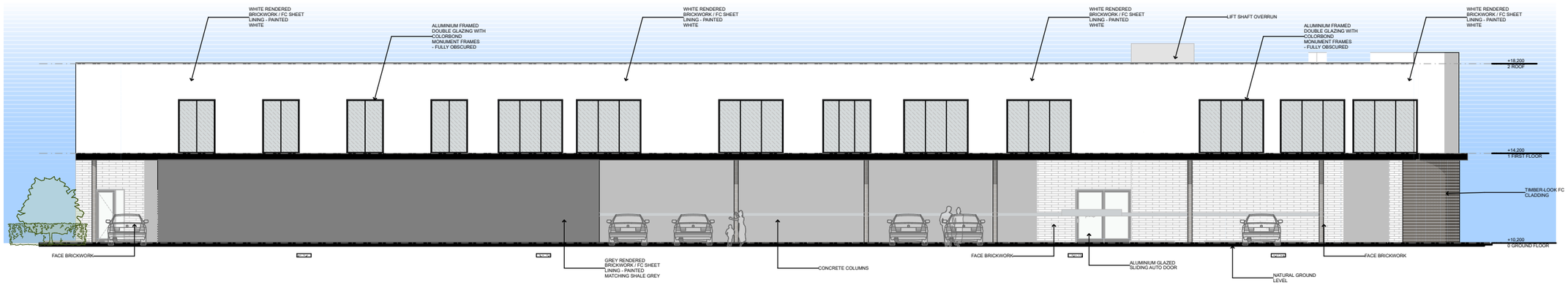
PROJECT|CLIENT: **KARNUP MEDICAL CENTRE CNR CHARLESTON KARNUP WA 6176 AUSTRALIA**

JUPITER HEALTH

PROJECT NO: KCM

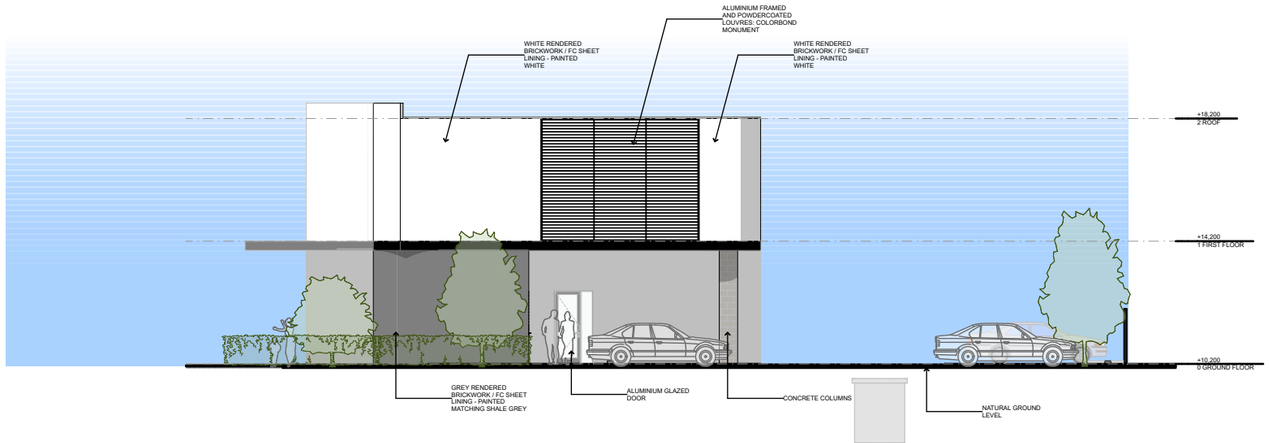
DRAWING NO: **A3-01**

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03
A1-01

EAST CONCEPTUAL ELEVATION
1:200



04
A1-01

SOUTH CONCEPTUAL ELEVATION
1:200

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	19/1/2026	01

LAYOUT TITLE:
ELEVATIONS 01 & 02

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A3-02

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Attachment 2 – Updated Waste Management Plan

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Suite 15/29 Collier Road, Morley WA 6062
PO Box 688, Inglewood WA 6932
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www.dynamicplanning.net.au

Waste Management Plan

Karnup Medical Centre

Prepared for Juniper Health c/- Hubble Design

14 January 2026

Project Number: WMP25111

DOCUMENT CONTROL

Version	Description	Date	Author	Reviewer	Approver
1.0	First Approved Release	14/10/2025	JL	DP	AB
2.0	Second Approved Release	14/01/2026	JL	AB	AB

Approval for Release

Name	Position	File Reference
Ann Brouwer	Project Manager – Waste Management Plan Lead (WA)	WMP25111-01_Waste Management Plan_2.0
Signature	Ann Brouwer Digitally signed by Ann Brouwer Date: 2026.01.14 08:59:06 +08'00'	

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Executive Summary

Juniper Health is seeking development approval for the proposed medical centre located on the corner of Charleston Street, Karnup (the Proposal).

To satisfy the conditions of the development application the City of Rockingham (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.

Proposed Waste Collection Summary

Waste Type	Generation (L/week)	Bin Size (L)	Number of Bins	Collection Frequency	Collection
Refuse	1,046	240L	Five	Once each week	City of Rockingham
Recycling	1,046	360L	Three	Once each week	City of Rockingham
Medical Waste	-	240L	Five	Once each fortnight	Private Contractor

The City will collect refuse and recyclables from the Proposal utilising its kerbside collection service. The City's waste collection vehicle will service the bins from the Bin Hardstand on Charleston Street.

A suitably qualified medical waste collection contractor will collect the medical waste directly from the Bin Storage Area, from a stopping point on Charleston Street.

A building manager will oversee the relevant aspects of waste management at the Proposal.

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Figure 1: Locality Plan

1 Introduction

Juniper Health is seeking development approval for the proposed medical centre located on the corner of Charleston Street, Karnup (the Proposal).

To satisfy the conditions of the development application the City of Rockingham (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 Charleston Street to the north, residential development to the east, Isabelline Terrace to the south and Verdigris Road 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 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: 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 floor area (m^2) of the proposed Medical Centre – **1,494.6m^2**.

2.2 Waste Generation Rates

In order to achieve an accurate projection of waste volumes for the Proposal, consideration was given to the City of Gosnells *Information Sheet – Waste Collection* as this guideline provides generation rates specific to the use type and nature of the Proposal (Medical Centre).

Table 2-1 shows the waste generation rates which have been applied to the Proposal. Seven days of operation has been assumed for the Medical Centre.

Table 2-1: Waste Generation Rates

Tenancy Use Type	City of Gosnells Guideline Reference	Refuse Generation Rate	Recycling Generation Rate
Pathologist, Concierge, Radiology, Allied Health, Women's Health Facilities, Treatment/Consult Rooms, Staff Rooms and Offices	Offices, Consulting Room, Medical Centre, Veterinary Centre	10L/100m^2/day	10L/100m^2/day

As medical waste is highly dependent on the nature and scale of medical practices undertaken, there are currently no medical/clinical waste generation rates available within published waste management guidelines. The Proposal will manage clinical waste (i.e. sharps, infectious waste, pathological waste, pharmaceuticals, chemical waste and non-regulated medical waste) in-situ utilising appropriately labelled Clinical Waste bins and Sharps containers stored throughout the Medical Centre. Accordingly, medical waste has not been included within this waste assessment.

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.

Waste generation volumes in litres per week (L/week) adopted for this waste assessment is shown in Table 2-2. It is estimated that the Proposal will generate 1,046L of refuse and 1,046L of recyclables each week.

Table 2-2: Estimated Waste Generation

Medical Centre	Area (m^2)	Waste Generation Rate (L/100m^2/day)	Waste Generation (L/week)
Refuse	1,494.6	10	**1,046**
Recyclables	1,494.6	10	**1,046**
		Total	**2,092**

3 Waste Storage

Waste materials generated within the Proposal will be collected in the bins located in the Bin Storage Area, as shown in Diagram 1, and discussed in the following sub-sections.

3.1 Internal Transfer of Waste

To promote positive recycling behaviour and maximise diversion from landfill, internal bins will be available throughout the Proposal for the source separation of refuse and recycling.

Appropriate containers for medical waste/sharps will be placed in all locations where particular types may be generated. Instructions on identification and separation of medical wastes will be posted at each waste collection point to remind staff of procedures.

The following points are indicative of minimum requirements for environmental best practice relating to controlled medical wastes and will be considered within the Proposal:

- Ensuring all clinical and related waste is properly contained;
- Ensuring staff/cleaners are aware of their individual responsibilities for waste management and obtain appropriate education and training to ensure correct procedures are followed;
- Ensuring all relevant measures are taken to reduce risk to staff, the community and the environment; and
- All waste containers to meet the Australian Standards and are to be of the appropriate colour and have suitable symbols/wording for the waste types to be deposited into that container.

These internal bins will be collected by the staff/cleaners at least once each day and transferred to the 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.

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			
	240L	360L	660L	1,100L
Depth	0.730	0.848	0.780	1.070
Width	0.585	0.680	1.260	1.240
Height	1.060	1.100	1.200	1.330

Reference: SULO Bin Specification Data Sheets

3.3 Bin Storage Area Size

To ensure sufficient area is available for storage of the bins, the amount of bins required for the 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 and recyclables once each week.

The number of medical waste bins required for the Bin Storage Area has been based on previous project experience, tenant knowledge, and collections once each fortnight.

Based on the results shown in Table 3-2 the Bin Storage Area has been sized to accommodate:

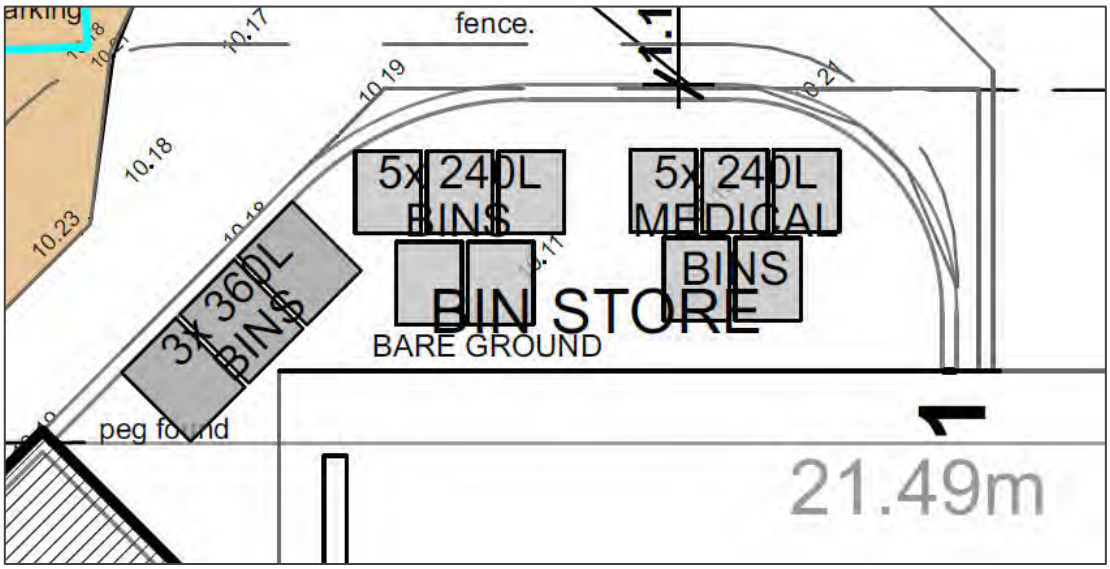
- Five 240L refuse bins;
- Three 360L recycling bins; and
- Five 240L medical waste bins.

Table 3-2: Bin Requirements for Bin Storage Area

Waste Stream	Waste Generation (L/week)	Number of Bins Required			
		240L	360L	660L	1,100L
Refuse	1,046	5	-	2	1
Recycling	1,046	5	3	2	1
Medical Waste	-	5	-	-	-

The configuration of these bins within the Bin Storage Area is shown in Diagram 1. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 1 represents the maximum requirements assuming one collection each week of refuse and recyclables and one collection each fortnight of medical waste.

Diagram 1: Bin Storage Area



3.4 Bin Storage Area Design

The design of the Bin Storage Area will take into consideration:

- Smooth impervious floor sloped to a drain connected to the sewer system;
- Taps for washing of bins and Bin Storage Area;

- Adequate aisle width for easy manoeuvring of bins;
- No double stacking of bins;
- Ventilated to a suitable standard;
- Appropriate signage;
- 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 Area will be monitored by a building manager during the operation of the Proposal to ensure that the number of bins and collection frequency is sufficient.

4 Waste Collection

4.1 Refuse and Recyclables

The City will service the Proposal and provide five 240L bins for refuse and three 360L bins for recyclables.

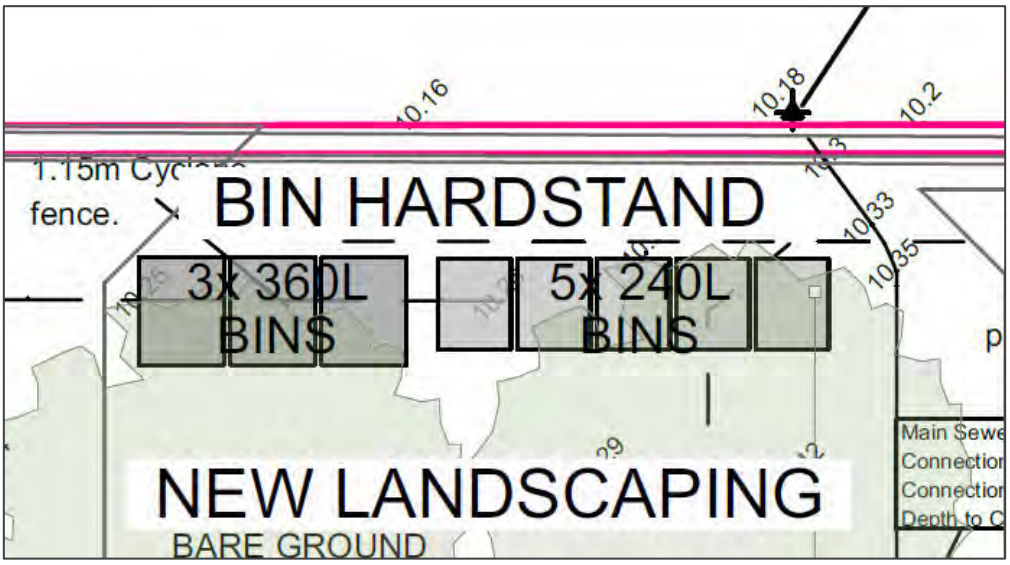
The City will collect refuse and recyclables once each week from the Proposal utilising its side arm waste collection vehicle.

The City will service bins from the Bin Hardstand on the verge on Charleston Street at the front of the Proposal, as shown in Diagram 2.

Bins will be presented for collection 1m from the verge with the wheels and handles facing away from the road. 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 City's side arm waste collection vehicle.

A building manager will ferry the bins to and from the Bin Hardstand on collection days. Travel path between the Bin Storage Area and the Bin Hardstand will be of flat surface and kept free of obstacles. A building manager will return the bins to the Bin Storage Area as soon as possible on the same day following collection.

Diagram 2: Bin Hardstand



4.2 Medical Waste

A suitably qualified medical waste collection contractor will service the five 240L medical waste bins at the Proposal.

The medical waste collection contractor will collect medical waste weekly from the Proposal utilising a Pantech truck/medical van, refer Diagram 3.

The medical waste collection contractor's vehicle will service the bins directly from the Bin Storage Area from a stopping point on Charleston Street.

Diagram 3: Example Medical Waste Collection Vehicle



4.3 Bulk and Speciality Waste

Bulk and speciality waste materials will be removed from the Proposal as they are generated on an 'as required' basis.

Adequate space will 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 materials will be removed from the Proposal once sufficient volumes have been accumulated to warrant disposal and will be monitored by the building manager who will organise their transport to the appropriate waste facility, as required.

5 Waste Management

A building manager will be engaged to complete the following tasks:

- Monitoring and maintenance of bins and the Bin Storage Area;
- Cleaning of bins and Bin Storage Area, when required;
- Ensure all staff/cleaners at the Proposal are made aware of this WMP and their responsibilities thereunder;
- Monitor staff/cleaner behaviour and identify requirements for further education and/or signage;
- Monitor medical waste accumulation and assist with/arrange its removal, as required;
- Monitor bulk and speciality waste accumulation and assist with its removal, as required;
- Regularly engage with staff/cleaners to develop opportunities to reduce waste volumes and increase resource recovery; and
- Regularly engage with the City/private contractor to ensure efficient and effective waste service is maintained.

6 Conclusion

As demonstrated within this WMP, the Proposal provides a sufficiently sized Bin Storage Area for storage of refuse and recyclables, based on the estimated waste generation volumes and suitable configuration of bins. This indicates that an adequately designed Bin Storage Area has been provided, and collection of refuse and recyclables can be completed from the Proposal.

The above is achieved using:

- Five 240L refuse bins, collected once each week;
- Three 360L recycling bins, collected once each week; and
- Five 240L medical waste bins, collected once each fortnight.

The City will collect refuse and recyclables from the Proposal utilising its kerbside collection service. The City's waste collection vehicle will service the bins from the Bin Hardstand on Charleston Street.

A suitably qualified medical waste collection contractor will collect the medical waste directly from the Bin Storage Area, from a stopping point on Charleston Street.

A building manager 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



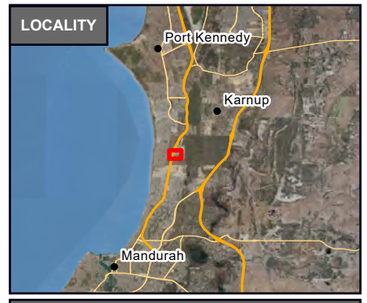
LEGEND

- Site Boundary

Cadastre

- Freehold
- Road
- Reserve

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LOCALITY

Karnup Medical Centre
2 Charleston St & 1 Isabelline Tce
Karnup WA 6176

Juniper Health c/- Hubble Design

N
0 5 10 15 20 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:500

Prepared:	E Jackson	Date:	13/10/2025
Reviewed:	A Brouwer	Revision:	A
Project:	WMP25111		

talis consultants

Figure 01

Data source: Roads, Cadastre - Landgate, 2025. Imagery: Nearmap, 2025.

Document Path: \\server\talis\SECTIONS\Waste\PROJECTS\WMP2025\WMP25111 - Karnup Medical Centre, Karnup\GIS\Maps\WMP25111 - Karnup Medical Centre\WMP25111 - Karnup Medical Centre.aprx



Assets | Engineering | Environment | Noise | Spatial | Waste

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ABN 85 967 691 321

Attachment 3 – Updated Transport Impact Statement

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February 2026

Final - Rev 1

Karnup Medical Centre, Karnup

Prepared For:

Jupiter Health

Transport Impact Statement Report



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DOCUMENT ISSUE AUTHORISATION

Issue	Rev	Date	Description	Prepared By	Checked By	Approved By
0	0	20/10/2025	Draft Report	SGY/MG	DNV	DNV
1	0	22/10/2025	Final Report	SGY/MG	DNV	DNV
1	1	6/02/2026	Final Report – Rev 1	MG	DNV	DNV

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Donald Veal Consultants Pty Ltd

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1. INTRODUCTION

1.1 BACKGROUND

Jupiter Health has commissioned Donald Veal Consultants (DVC) to prepare this Transport Impact Statement (TIS) report to support the development application for a proposed medical centre on the corner of Charleston Street, Verdigris Road and Isabelline Terrace in Karnup.

1.2 SCOPE OF THIS REPORT

This TIS has been prepared in accordance with the *Western Australian Planning Commission's (WAPC's) Transport Assessment Guidelines for Developments: Volume 4 Individual Developments (2016).*

The intent of this report is to provide the approving authority with sufficient transport information to confirm that the proponent has adequately considered the transport aspects of the development and that it would not have an adverse transport impact on the surrounding area.

It is expected that the number of vehicles generated during the peak hour will be modest. The level of trip generation is therefore considered to be a 'moderate impact' development according to the WAPC Guidelines. A "moderate impact" development is one that generates between 10 - 100 additional vehicle trips in the development's peak hour and would only require a brief Transport Impact Statement.

1.3 THIS REVISION

This revision of the report provides a revised assessment based on amended design drawings.

2. EXISTING SITE CONDITIONS

2.1 LOCATION

The development site is located on the corner of Charleston Street, Verdigris Road, and Isabelline Terrace in Karnup. The general locality is shown in **Figure 2.1**, with the site location shown in more detail in **Figure 2.2**.

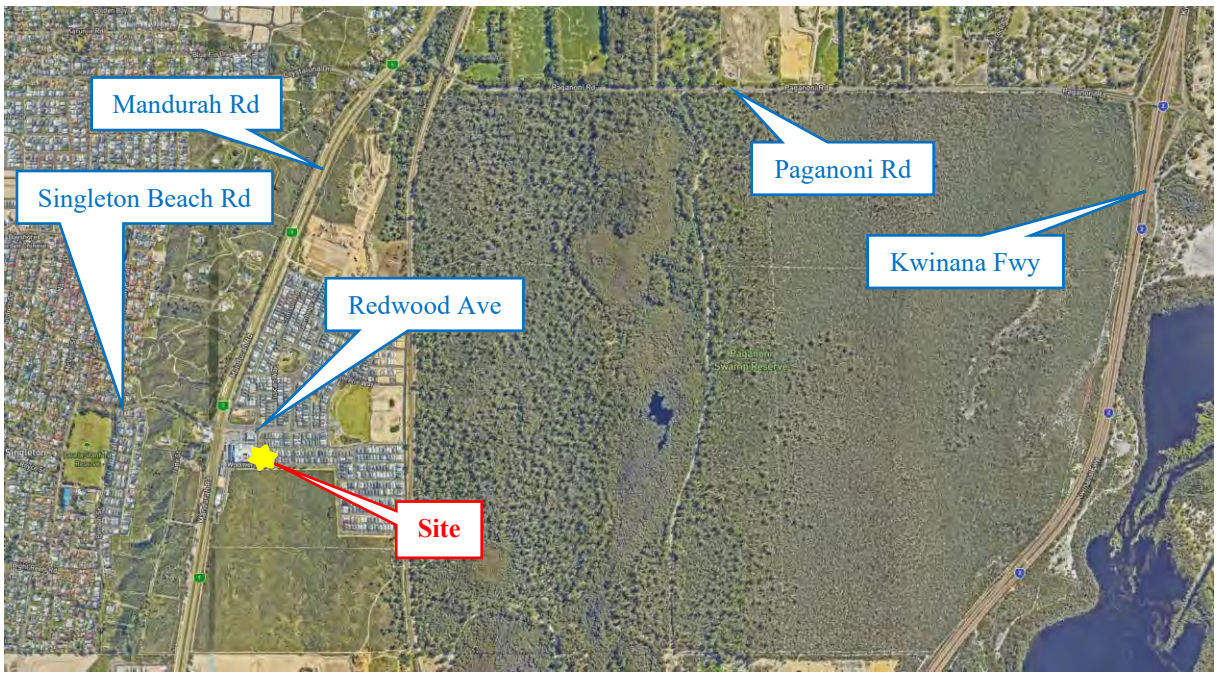


Figure 2.1: General Locality Map *Source: Metromap*

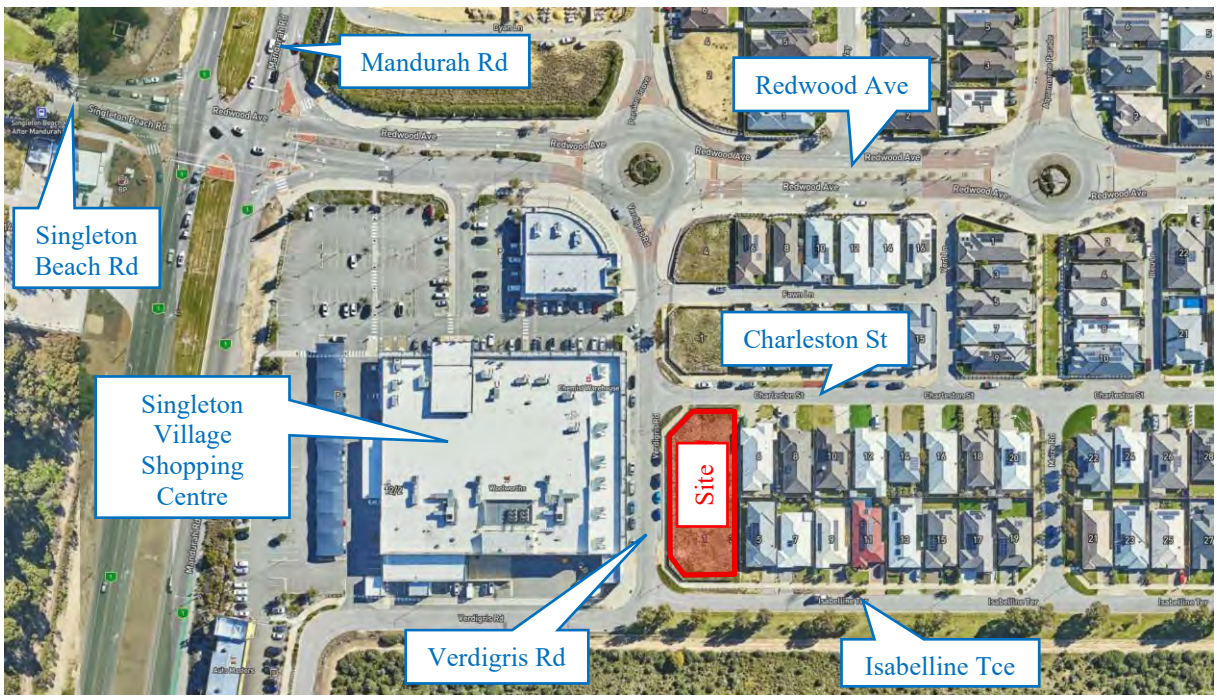


Figure 2.2: Site Location *Source: MetroMap*

The site is bounded to the north by Charleston Street, with Verdigris Road and Isabelline Terrace to the west and south respectively. The eastern boundary of the site is adjacent to low-density residential properties (see **Figure 2.2**). The subject site lies just southeast of the Mandurah Road – Singleton Beach Road – Redwood Avenue signalised intersection.

According to the City of Rockingham's Town Planning Scheme No.2, the site is situated in a Commercial Zone as shown in **Figure 2.3**.



Figure 2.3: Town Planning Scheme Map *Source: City of Rockingham*

2.2 ADJACENT ROAD NETWORK

The subject site is located within a well-connected local road network in Karnup, WA, characterised primarily by low-volume residential streets. The site has direct frontage to Verdigris Road and is situated near both Isabelline Terrace and Charleston Street, all of which function as local access roads providing immediate connectivity within the surrounding residential precinct. The broader road network includes Singleton Beach Road to the west and Redwood Avenue to the east, which act as key local connectors facilitating movement within the suburb and providing connections to higher-order routes. These local roads ultimately connect to Mandurah Road (State Route 1), a major north–south arterial corridor that links the Karnup area with the regional centres of Rockingham and Mandurah.

Regional access is further enhanced by the Kwinana Freeway, located approximately 5 km east of the site. Access to the freeway is achieved via Mandurah Road, which intersects with Paganoni Road approximately 2 km north of the site. Paganoni Road then continues eastward for approximately 3 km to its interchange with the Kwinana Freeway.

Mandurah Road is classified as a Primary Distributor in Main Roads WA's (MRWA) Road Hierarchy with a posted speed limit of 70km/h past the site. It runs north-south and is constructed as a dual carriageway, with two lanes in each direction.

Singleton Beach Road and Redwood Avenue are classified as Local Distributors, whilst Charleston Street, Verdigris Road, and Isabelline Terrace are categorised as Access Roads, as shown in **Figure 2.4**. Singleton beach Road has a posted speed limit of 50km/h. All other local roads in this area are subject to the urban default speed limit of 50 km/h.

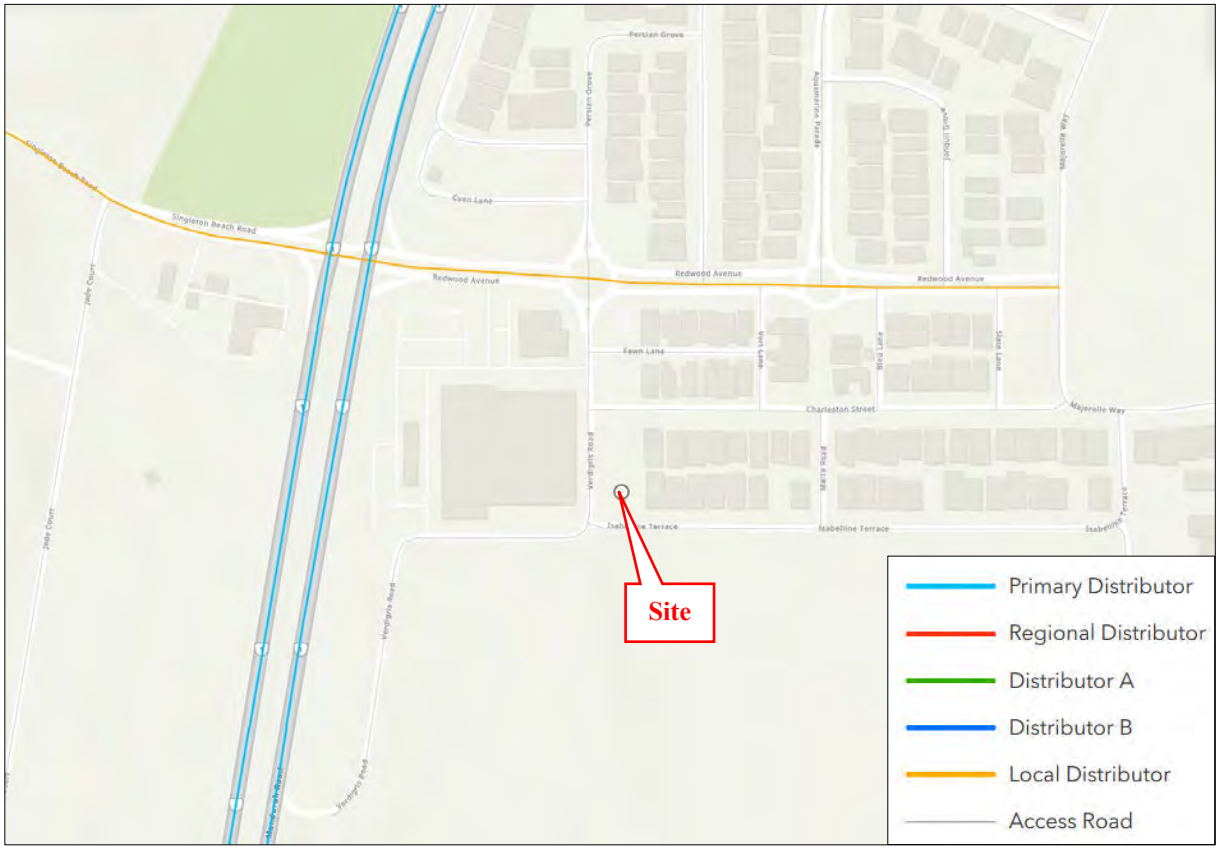


Figure 2.4: MRWA Functional Road Hierarchy Map *Source: MRWA*

2.3 CURRENT LAND USES

The subject site is surrounded by a diverse range of land uses, bordered by residential properties to the east and the Singleton Village Shopping Centre to the west, which includes a Woolworths supermarket, various shops such as cafés, restaurants, and a pharmacy. To the north, there are undeveloped lots awaiting subdivision, while to the south, the site is adjacent to extensive areas of natural vegetation and bushland. The subject site itself is currently vacant.

2.4 ACCESS ARRANGEMENTS

The site does not currently have a crossover from Charleston Street, Verdigris Road, or Isabelline Terrace. Footpaths run along both the Verdigris Road and Isabelline Terrace frontages, whilst there are also five embayed parking bays along Verdigris Road.

2.5 EXISTING TRAFFIC VOLUMES

The latest traffic flow data available for the roads near the site was extracted from MRWA's Traffic Map.

SCATS data of the intersection of Mandurah Road, Singleton Beach Road & Redwood Avenue, recorded between 19th and 25th of June 2023, show that Mandurah Road carried about 31,000 vehicles per day (vpd) just south of the intersection. Singleton Beach Road carried around 7,600 vpd and Redwood Avenue about 8,100 vpd. Peak hour weekday flows were generally around 10% of all day figures.

No data was available for Charleston Street, Verdigris Road or Isabelline Terrace.

2.6 CRASH HISTORY

The MRWA Crash Analysis Reporting System (CARS) was interrogated for crash data along the road sections adjacent the site, for the latest five-year period from January 2020 to December 2024.

The results of the search identified two recorded crashes along the roads near the site during the recording period, neither of which resulted in any casualties. One of the crashes involved an overtaking manoeuvre, whilst the other was an undefined single vehicle crash. Both crashes resulted in property damage only (1 major and 1 minor).

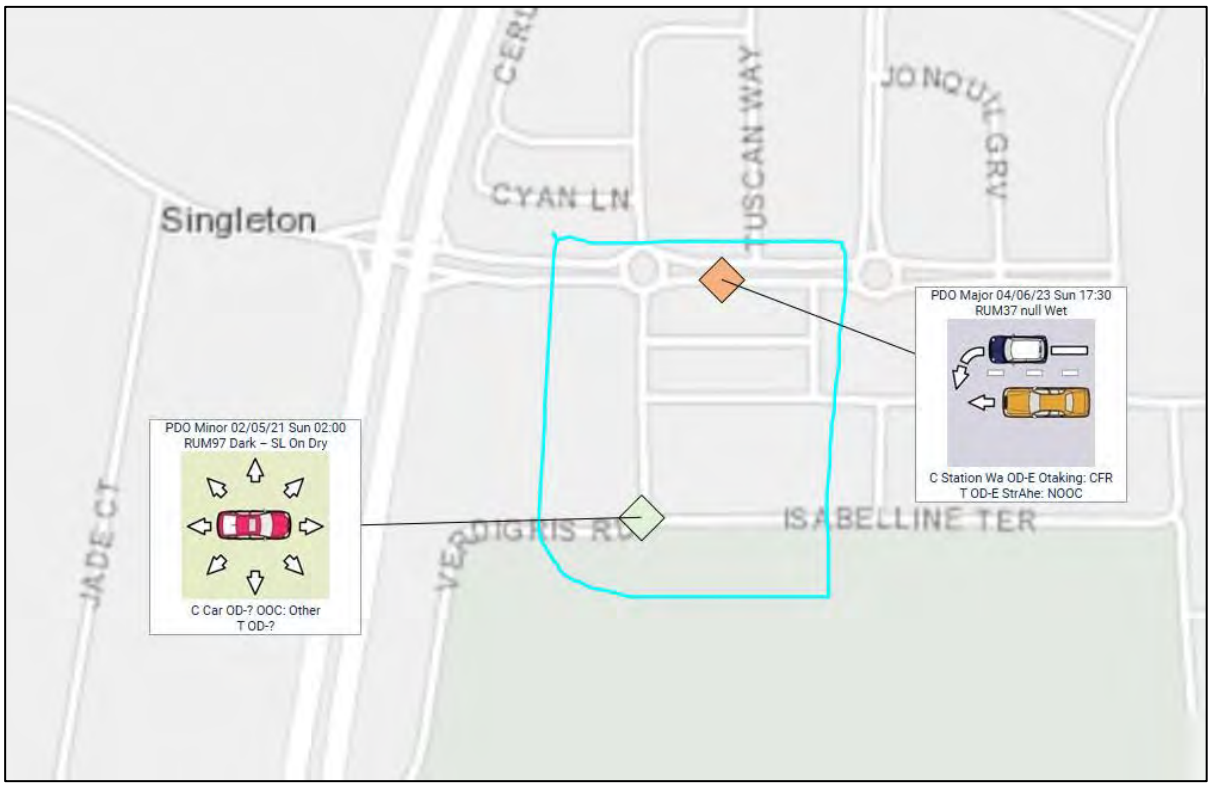


Figure 2.5: Crashes in the vicinity of the site *Source: CrashMap*

2.7 PLANNED CHANGES TO THE ROAD NETWORK

DVC is not aware of any proposed changes to the road network or significant planned developments within the vicinity of the site.

3. DEVELOPMENT PROPOSAL

3.1 PROPOSED DEVELOPMENT

The proposed development consists of a two storey Medical Centre. The new centre will include five GP consulting rooms, together with other associated facilities, such as a Radiology Suite, a pathologist, three women's health / skin care rooms, treatment rooms, three allied health rooms and injection and isolation rooms. The ground floor layout is shown in **Figure 3.1**, and the full DA drawing package is included in **Appendix A**.

3.2 PROPOSED DRIVEWAY ACCESS AND PARKING AREAS

As shown in **Figure 3.1,** the site will be provided with two new crossovers: one each onto Isabelline Terrace and Charleston Street. It will have 33 on-site parking bays in total, including four ACROD bays. An additional ambulance parking bay is also provided onsite and five parallel on-street parking bays already exist along Verdigris Road, bordering the property.

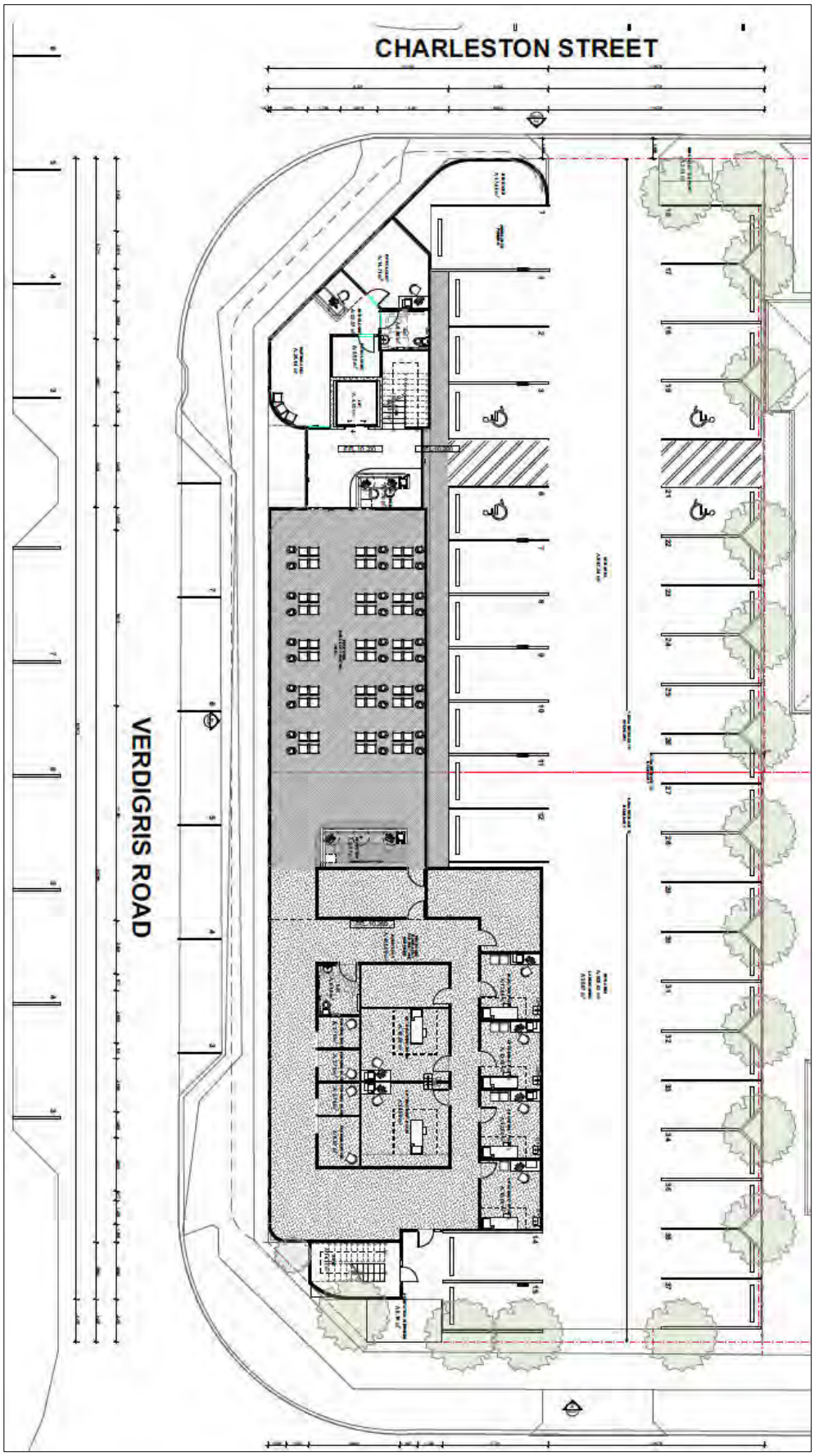


Figure 3.1: Proposed Development Plan-Ground Floor *Source: Hubble Design*

4. TRAFFIC IMPACT ASSESSMENT

4.1 TRIP GENERATION

The South Australian Director-General of Transport's 'Land Use Traffic Generation Guidelines', forecast that specialist medical practices generate some 50 vpd per 100m^2 floor area or 5 vph per 100m^2 floor area in the pm peak hour. The proposed development has a floor area of approximately 1,200m^2, excluding toilets and staff rooms etc. A medical centre of this size would therefore generate in the order of 600vpd (300vpd inbound and 300vpd outbound). Thus, the PM peak hour trips would be about 60vph with most in the outbound direction.

This volume of traffic, being less than 100 trips in the peak hour, would constitute a Moderate impact according to the WAPC TIA Guidelines (Table 1, Volume 4), and therefore only requires a non-technical Transport Impact Statement.

DVC considers that the surrounding road network has sufficient capacity to absorb this additional traffic without significant impact. The traffic generated by the site will have small morning and evening peaks associated with the arrival and departure of staff. However, the majority of generated traffic will be spread evenly over the remainder of the day as dictated by the spread of medical/health appointments during opening hours.

4.2 PARKING PROVISION

The parking requirement for a Medical Centre is shown in Table 4 of the City of Rockingham's Town Planning Scheme No.2, replicated here as **Figure 4.1**. However, we are advised the City, in discussions with the applicant, has been agreed to accept a reduced parking rate of 4 bays per practitioner.

TABLE NO.4
CARPARKING TABLE *

USE CLASS	MINIMUM CARPARKING REQUIREMENT
Medical Centre	5 bays per practitioner

Figure 4.1: Parking requirements *Source: City of Rockingham*

Based on the Development Application layouts and information provided by the proponent, we understand staffing will comprise of seven practitioners plus seven support staff. Five practitioners will be employed across general practice, skin clinic, and women's health, supported by two nurses, a phlebotomist in pathology and three administrative staff. The radiology clinic will employ two practitioners being a radiologist and a sonographer, supported by a receptionist.

In accordance with the City's agreed parking provision rate of four bays per practitioner, this would result in a requirement for 28 parking bays. With 33 bays provided on site and five on-street bays adjacent the site, the City's parking requirements are met.

Whilst this assessment does not indicate any potential issues in terms of a parking provision, there are various options available for reducing the parking demand at a development. In this instance, for example, the site is within reasonable walking distance of public transport and has good pedestrian and cycling links. (See section 5).

Whilst use of such alternative modes is more likely to reduce parking demand for staff rather than patients, it should be noted that the required parking provision covers both of these elements.

Shared trips may also be considered, whereby visitors to the centre may combine their trip with a visit to other facilities in the locale, particularly the adjacent shopping centre, thus sharing demand on the various parking provisions.

There are also numerous on-street parking bays available along the local streets, which are designed to be used for short term visits to local residents and facilities.

The Development Application plans also indicate the provision of an ambulance parking bay (see **Figure 3.1**).

4.3 RUBBISH COLLECTION

General rubbish collection will be carried out through the normal council verge collection. Medical waste will be collected by a certified private waste disposal contractor, with 240L bins serviced by small collection trucks most likely on a fortnightly basis.

5. SUSTAINABLE TRANSPORT AND ROAD SAFETY

5.1 PEDESTRIANS AND CYCLISTS

There are footpaths on two sides of the development site, along both the Verdigris Road and Isabelline Terrace frontages, with pedestrian crossings over both Charleston Street and Verdigris Road, giving access to and from the adjacent shopping centre.

On-road cycle lanes are provided on Mandurah Road.

5.2 PUBLIC TRANSPORT

The nearest bus stops to the site are on Mandurah Road and Singleton Beach Road, some 200m and 350m walk away respectively.

5.3 ROAD SAFETY

No specific road safety issues have been identified. The area is primarily residential, and passing traffic speeds expected to be slow.

It is important to ensure that visibility is maintained at the access crossovers, not only to vehicles on the adjacent streets, but also to pedestrians on the southern footpath. These areas should be kept free of obstructions to sight lines, such as verge vegetation.

6. SUMMARY AND CONCLUSION

6.1 SUMMARY

Jupiter Health has commissioned Donald Veal Consultants (DVC) to prepare this Transport Impact Statement report to support their development application for a proposed medical centre on the corner of Charleston Street, Verdigris Road and Isabelline Terrace in Karnup.

The proposed development consists of a two storey Medical Centre. The new centre will include five GP consulting rooms, together with other associated areas, such as a Radiology Suite, a pathologist, three women's health / skin care rooms, treatment rooms, three allied health rooms and injection and isolation rooms.

The development proposal contains 33 on-site parking bays in total, including four ACROD bays and there are five on-street parking bays adjacent the site. In addition, the Development Application plans also indicate the provision of an onsite ambulance parking bay. The site will be provided with two new crossovers, one each onto Isabelline Terrace and Charleston Street.

The Development Application plans show a floor area of approximately 1,200m^2, excluding toilets and staff rooms etc. A medical centre of this size would therefore generate in the order of 600vpd (300vpd inbound and 300vpd outbound). Thus, the PM peak hour trips would be about 60vph with most in the outbound direction.

We are advised the City of Rockingham, in discussions with the applicant, has been agreed to accept a reduced parking rate of 4 bays per practitioner as opposed to 5 bays required by its Town Planning Scheme No.2. Based on the advised staffing levels of seven practitioners plus seven support staff and in accordance with the City's agreed parking provision rate of four bays per practitioner, this would result in a requirement for 28 parking bays. With 33 bays provided on site and five on-street bays adjacent the site, the City's parking requirements are met.

General rubbish collection will be carried out through the normal council verge collection. Medical waste will be collected by a certified private waste disposal service.

It is important to ensure that visibility is maintained at the access crossovers, not only to vehicles on the adjacent streets, but also to pedestrians on the southern footpath. These areas should be kept free of obstructions to sight lines, such as verge vegetation.

6.2 CONCLUSION

Based on this assessment, DVC supports the development proposal in terms of its traffic and road safety impacts on the adjacent road network.

APPENDIX A: DEVELOPMENT APPLICATION PLAN

KCM007-26.pln

KARNUP MEDICAL CENTRE

hubble design
ARCHITECTURE + INTERIORS

CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

ISSUE FOR APPROVAL

Page No.	Title	REV	Issued	Published	Comment
A0-00	TITLE PAGE	01	☒	☒	
A0-01	LAYOUT LIST | LOCATION PLAN	01	☒	☒	
A0-02	SITE SURVEY	01	☒	☒	
A1-01	SITE PLAN	01	☒	☒	
A2-01	GROUND FLOOR	01	☒	☒	
A2-02	FIRST FLOOR	01	☒	☒	
A2-03	ROOF PLAN	01	☒	☒	
A3-01	ELEVATIONS 03 & 04	01	☒	☒	
A3-02	ELEVATIONS 01 & 02	01	☒	☒	



LOCATION PLAN | SATELLITE IMAGERY

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE:
LAYOUT LIST | LOCATION PLAN

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
N.T.S. @A3

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A0-01

hubble design
ARCHITECTURE + INTERIORS
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+61 8 9242 3167
OFFICE@HUBBLE.COM.AU

NOTES:
1. LEVELS TO AHD ASSUMED FROM WATERCORP SEWER MANHOLE. NOTE: in some cases sewer manhold lid values as supplied by the WaterCorpoartion are not correct
2. IF PROPOSED SEWER GRADES ARE MINIMAL THE CLIENT MUST USE A PLUMBER TO CHECK THE CONNECTION R.L. TO ENSURE THERE IS ADEQUATE FALL.
3. SEWER LINES ARE PLOTTED FROM WATERCORP PLANS ONLY. IF BUILDING CLOSE TO SEWER LINE THE ACTUAL POSITION SHOULD BE IDENTIFIED BY ENGAGING A PLUMBER TO EXPOSE THE SEWER LINE IN THAT AREA.
4. DIMENSIONS OF BUILDINGS TAKEN FROM THIS PLAN SHOULD BE VERIFIED ON SITE FIRST.
5. BOUNDARY INFORMATION FROM PLAN OF SURVEY (LANDGATE). BOUNDARY CONFIGURATION IS ONLY OVER-LAIN WITH FENCES, WALLS ETC AS A BEST FIT. **IT DOES NOT REPRESENT THE ACTUAL LOCATION OF THE BOUNDARY.**
NO BOUNDARY RE-SURVEY HAS BEEN CONDUCTED AS PART OF THIS FEATURE SURVEY.
6. GENERAL EASEMENTS HAVE NOT BEEN CHECKED OR SHOWN. CLIENT TO CHECK TITLE FOR EASEMENTS
7. GARDEN: KEY FEATURES SHOWN ONLY. PAVING EXTENT IS ONLY APPROXIMATE. CHECK AS NECESSARY
8. ROOF : KEY FEATURES SHOWN ONLY WHERE RELATED TO LEVELS TAKEN
9. FLOOR LEVEL ASSUMED FROM DOOR STEP LEVEL WHERE ACCESS IS NOT POSSIBLE.

MHS

CHARLESTON STREET

DATUM: NAIL & PLATE IN BITUMEN 10.18m AHD

1.15m Cyclone fence.

PRmarking

BARE GROUND

CONCRETE PATH

peg found

6.01m

90°

8.5m

21.49m

paved xover

Main Sewer Line R.L. 8.46m
Connection up 1m
Connection R.L. 8.46m
Depth to Conn. 0.87m

other services near here

POWER DOME.

paved d-way

T.O.W 10.57

L.R.W.

T.O.W 10.55

T.O.W 10.58

PARAPET WALL

RIDGE 14.65

SEP

T.O.G 13.23

RIDGE 15.62

LOT 433

30m

Brick & ZA House.
Main floor Level
10.68m AHD from front
doorstep level.

1.8m CB fence. on wall

T.O.W 10.56

T.O.W 13.31

RIDGE 15.91

LOT 432
807m2
DP 404181

VERDIGRIS ROAD

PARKING

CONCRETE PATH

23.99m

DATUM: NAIL & PLATE IN L/S WALL 10.2m AHD

T.O.W 10.19

T.O.W 10.2

T.O.W 10.05

T.O.W 12.67

T.O.G 12.67

T.O.W 10.56

T.O.G 12.36

27.5m

T.O.W 10.19

T.O.W 9.95

T.O.W 9.84

RIDGE 14.62

LOT 449
843m2
DP 404181

31.347m

T.O.G 12.2

RIDGE 14.63

RIDGE 15.49

LOT 448

Brick & ZA House.
Main floor Level 9.6m
AHD from front
doorstep level.

rear of footprint from aerial

HYD

SEP

PRmarking

CONCRETE PATH

1.15m Cyclone fence.

90°9'58"

6.002m

8.5m

27.498m

T.O.G 12.2

T.O.G 12.2

T.O.G 12.2

GRASS

89°50'02"

other services near here

POWER DOME.

Main Sewer Line R.L. 7.89m
Connection up 1m
Connection R.L. 8.89m
Depth to Conn. 0.84m

WATER CORP VALVE

9.5m

ISABELLINE TERRACE

N

MHS	SEWER MANHOLE
MHD	DRAINAGE MANHOLE
LID	LID (SMALL GALVIN ETC)
ECB	ELECTRICAL CABLE BOX
EMB	ELECTRICAL METER BOX
CBX	COMMS JUNCTION BOX
TJB	TELSTRA JUNCTION BOX
DG	DRAINAGE GRATE
SEP	SIDE ENTRY PIT
CUL	DRAINAGE CULVERT
WM	WATER METER
	WATER CORP VALVE
HYD	FIRE HYDRANT
LP	LIGHT POLE
PP	POWER POLE
SP	STAY POLE
SW	STAY WIRE
	GATE
OH	OVERHEAD POWER
	OTHER FENCE (as nominated)
	CONTROL PEG/MARK
RW	RETAINING WALL
LRW	LIMESTONE RET. WALL
GB	GARDEN BED
SHR	SHRUB
T.O.W	TOP OF WALL
B.O.W	BOTTOM OF WALL
T.O.G.	TOP OF GUTTER
3H 2W	TREE 3hIgh 2wIde

CONCRETE
BRICK PAVING
BITUMEN
BLOCK PAVING
BUILDING FOOTPRINT

Monaghan MAPPING & SURVEYING
UNIT 11 / 4 FLINDELL ST,
OCONNOR, W.A. 6163.
Mob 0418 928065
Email : jmon @ aapt.net.au
Web: www.fremantlesurveying.com.au

	BY	DATE
DRAWN	JTM	5.9.25
CHK'D	JTM	5.9.25
APP'D		5.9.25
ISSUED	JTM	5.9.25

SITE FEATURE SURVEY
2 CHARLESTON ST &
1 ISABELLINE ST
KARNUP
Lot 432 & 449 on DP404181

CLIENT	HUBBLE ARCH.
SCALE	1 : 200
DATE	2.9.25
DATUM	AHD
DRAWN	JTM

DRAWING KAR 001

0m 1 2 3 4 5m

THIS DRAWING MAY NOT BE USED FOR ANY PURPOSE AND REMAINS THE PROPERTY OF MONAGHAN SURVEYING UNTIL ALL INVOICES AND FEES PAYABLE TO MONAGHAN SURVEYING ARE FULLY PAID. THE DRAWING MAY NOT BE REPRODUCED IN ANY WAY WITHOUT THE EXPRESS APPORVAL OF MONAGHAN SURVEYING.

PARKING CALCS:

BAYS AVAILABLE: 38
DISABLED BAYS: 4
TOTAL METRE SQ: 915m2

LANDSCAPING CALCS:

DEEP PLANTING ZONES:
11 @1.15m2
TOTAL METRE SQ: 52m2

ZONE LEGEND

CODE	PLAN	DESCRIPTION	STATUS

SITE LEGEND

SYMBOL	DESCRIPTION	STATUS

LANDSCAPING SURFACES

HATCH	SURFACE	DESCRIPTION

SITE LEVEL NOTES

EXIST. 0.000	EXISTING FINISHED GROUND LEVEL
0.000	NEW FINISHED GROUND LEVEL
FFL 0.000	NEW FINISHED FLOOR LEVEL

N

2 4 6 8 10 20 30 40 m @ 1:200

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE: SITE PLAN

PROJECT STATUS: DEVELOPMENT APPROVAL

SCALE: 1:200 @A1

DRWN: | CHK'D: # | P.H.

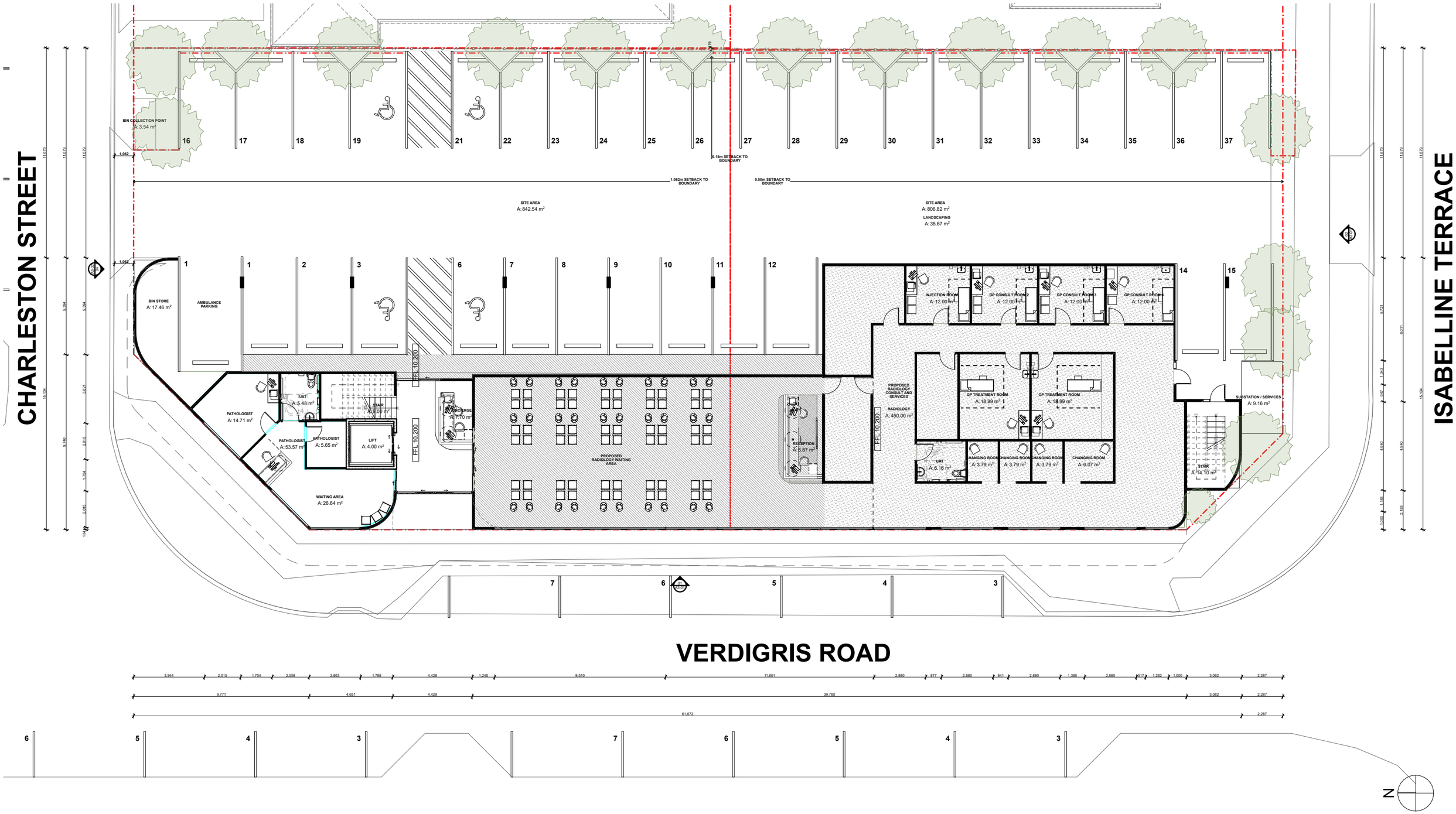
PROJECT/CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

JUPITER HEALTH

PROJECT NO: KCM

DRAWING NO: **A1-01**

hubble design
ARCHITECTURE + INTERIORS
421 OXFORD ST MOUNT HAWTHORN WA 6016 AUSTRALIA
08 9201 1911
OFFICE@HUBBLE.COM.AU



ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE:
GROUND FLOOR

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
1:200 @A3

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

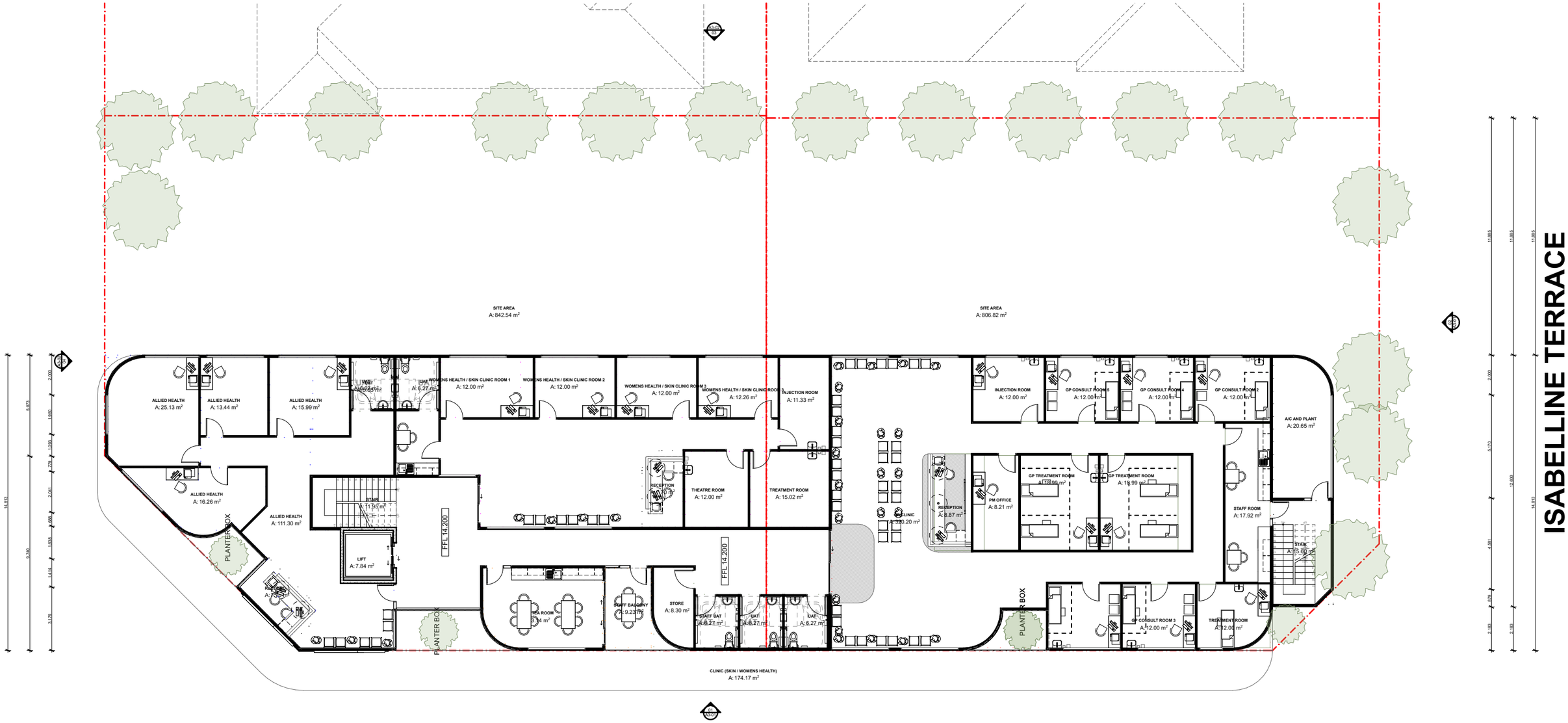
DRAWING NO:
A2-01

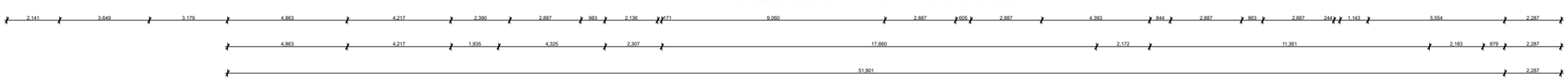
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CHARLESTON STREET

ISABELLINE TERRACE

VERDIGRIS ROAD





N

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE:
FIRST FLOOR

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
1:200 @A3

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A2-02

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ARCHITECTURE + INTERIORS
421 OXFORD ST MOUNT HAWTHORN WA 6016 AUSTRALIA
+61 8 9242 3167
OFFICE@HUBBLE.COM.AU

CHARLESTON STREET

SITE AREA
A: 806.82 m²

SITE AREA
A: 842.54 m²

SURFMIST COLORBOND TRIMDEK ROOF AT 3° PITCH

VERDIGRIS ROAD

N

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE:
ROOF PLAN

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
1:200 @A3

DRWN: | CHK'D:
| P.H.

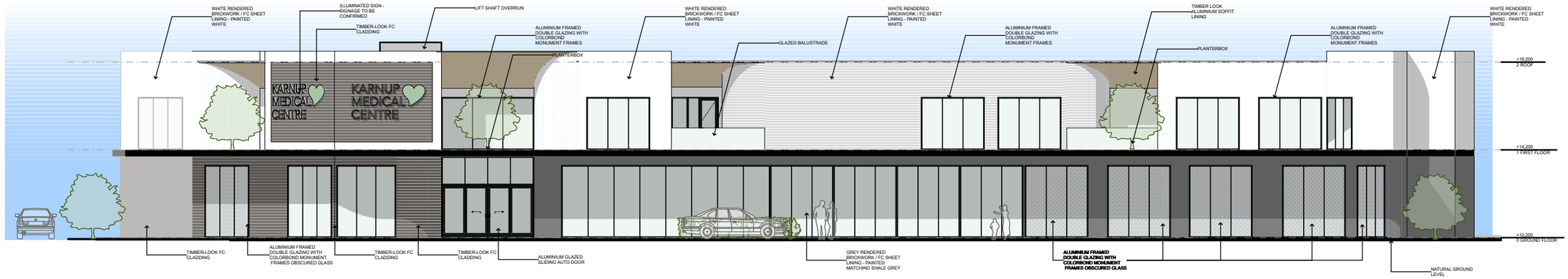
PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

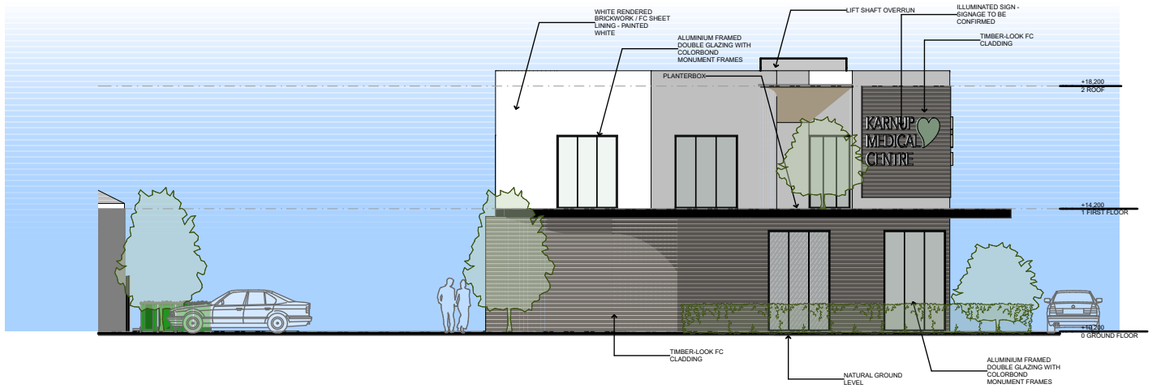
PROJECT NO:
KCM

DRAWING NO:
A2-03

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01 A1-01 A1-02 A1-03 WEST CONCEPTUAL ELEVATION (STREET) 1:200



02 A1-01 NORTH CONCEPTUAL ELEVATION 1:200

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE: ELEVATIONS 03 & 04

PROJECT STATUS: DEVELOPMENT APPROVAL

SCALE:

DRWN: | CHK'D: # | P.H.

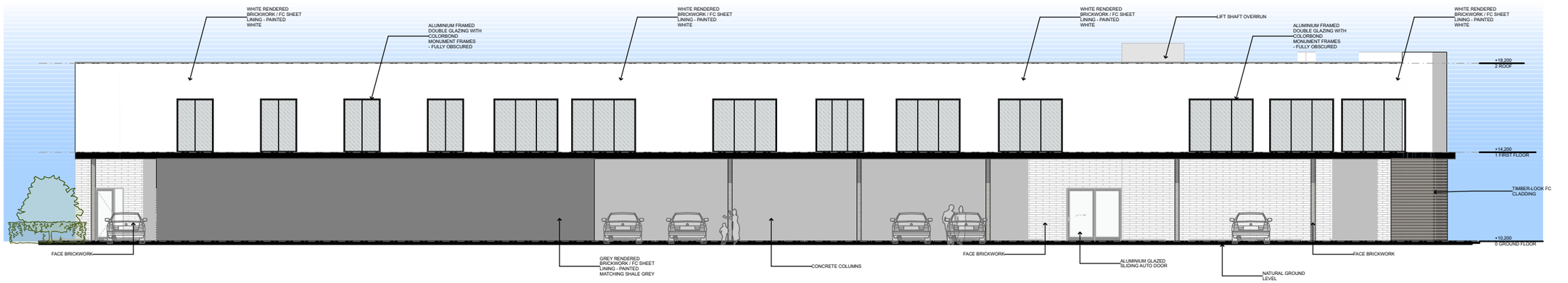
PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

JUPITER HEALTH

PROJECT NO: KCM

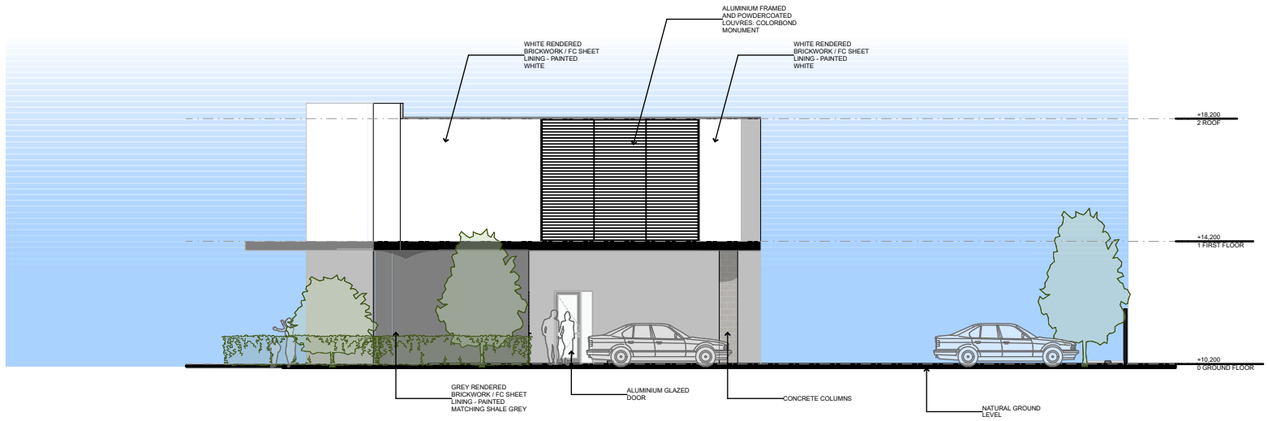
DRAWING NO: **A3-01**

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+61 8 9242 3167
OFFICE@HUBBLE.COM.AU



03
A1-01

EAST CONCEPTUAL ELEVATION
1:200



04
A1-01

SOUTH CONCEPTUAL ELEVATION
1:200

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	30/9/2025	01

LAYOUT TITLE:
ELEVATIONS 01 & 02

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A3-02

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ARCHITECTURE + INTERIORS
421 OXFORD ST MOUNT HAWTHORN WA 6016 AUSTRALIA
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OFFICE@HUBBLE.COM.AU

Attachment 4 – Email Correspondence with the City of Rockingham

(08) 9275 4433
Suite 15/29 Collier Road, Morley WA 6062
PO Box 688, Inglewood WA 6932
admin@dynamicplanning.net.au
www.dynamicplanning.net.au

Narci Tanchiatco

From: Nyah Cheater <Nyah.Cheater@rockingham.wa.gov.au>
Sent: Thursday, February 12, 2026 7:39 AM
To: Neil Teo; Narci Tanchiatco
Cc: DPD-Public; Reegan Cake; Debbie Hill; Casey Gillespie; Leanne Cramer
Subject: RE: Development Application - Request for Further Information - Proposed Medical Centre - Lot 432 (No.2) Charleston Street, Karnup & Lot 449 (No.1) Isabelline Terrace, Karnup - 20.2025.501.1 (Our Ref: 2527)

Follow Up Flag: Follow up
Flag Status: Flagged

Good Morning Neil and Narci,

Thank you for your patience.

I am writing to confirm that the City is satisfied for the Stormwater Management Plan to be submitted prior to applying for a Building Permit. Should Development Approval be granted, this will be included as a condition of approval.

You are welcome to submit the documentation prepared to date, with the detailed stormwater design and supporting analysis to be provided prior to lodgement of the Building Permit application.

Please let me know should you have any further questions.

Kind regards,
Nyah

Nyah Cheater - Senior Planning Officer

PO Box 2142 Rockingham DC WA 6967
Civic Boulevard Rockingham Western Australia
telephone **+61 8 9528 0429** facsimile **+61 8 9592 1705**
email **Nyah.Cheater@rockingham.wa.gov.au**
web **rockingham.wa.gov.au**

From: Neil Teo <neil.teo@dynamicplanning.net.au>
Sent: Monday, 9 February 2026 10:24 AM
To: Nyah Cheater <Nyah.Cheater@rockingham.wa.gov.au>
Cc: DPD-Public <dpd@dynamicplanning.net.au>; Reegan Cake <reegan.cake@dynamicplanning.net.au>; Debbie Hill <Debbie.Hill@rockingham.wa.gov.au>; Casey Gillespie <Casey.Gillespie@rockingham.wa.gov.au>; Leanne Cramer <Leanne.Cramer@rockingham.wa.gov.au>; Narci Tanchiatco <narci@dynamicplanning.net.au>

Subject: RE: Development Application - Request for Further Information - Proposed Medical Centre - Lot 432 (No.2) Charleston Street, Karnup & Lot 449 (No.1) Isabelline Terrace, Karnup - 20.2025.501.1 (Our Ref: 2527)

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Hi Nyah,

In addition to Narci's comments, we have in similar developments, had the submission and approval of a stormwater management plan prior to the submission of a building licence as a condition of planning approval. Could we approach it in this manner, as this wouldn't delay the progress of the application and it is a matter that can reasonably be resolved at the detailed design phase during construction drawings?

Thank you.

Kind regards,
Neil Teo | **Director**



Dynamic Planning and Developments | Suite 15/29 Collier Road MORLEY WA 6062

PO Box 688 INGLEWOOD WA 6932 | **W:** www.dynamicplanning.net.au

P: (08) 9275 4433 | **M:** 0431 111 659 | **E:** neil.teo@dynamicplanning.net.au

TOWN PLANNING AND PROJECT COORDINATION | CONCEPT THROUGH TO DELIVERY

This email is intended for only the recipient it was sent to. To read our full disclaimer, please click here.

From: Narci Tanchiatco <narci@dynamicplanning.net.au>
Sent: Friday, 6 February 2026 3:06 PM
To: Nyah Cheater <Nyah.Cheater@rockingham.wa.gov.au>
Cc: DPD-Public <dpd@dynamicplanning.net.au>; Neil Teo <neil.teo@dynamicplanning.net.au>; Reegan Cake <reegan.cake@dynamicplanning.net.au>; Debbie Hill <Debbie.Hill@rockingham.wa.gov.au>; Casey Gillespie <Casey.Gillespie@rockingham.wa.gov.au>; Leanne Cramer <Leanne.Cramer@rockingham.wa.gov.au>
Subject: RE: Development Application - Request for Further Information - Proposed Medical Centre - Lot 432 (No.2) Charleston Street, Karnup & Lot 449 (No.1) Isabelline Terrace, Karnup - 20.2025.501.1 (Our Ref: 2527)

Hi Nyah,

This email refers to one item in the RFI regarding the Stormwater Management Plan (*see below*).

> 4. A Stormwater Management Plan (SMP) is required to demonstrate how the critical 1% Annual Exceedance Probability storm event will be managed on-site. The SMP is to include a Drainage Plan showing carpark grading, proposed elevations, inverts and dimensions of all drainage infrastructure, impervious area calculations, water storage estimates, soakwell sizing calculations and the adopted soil hydraulic conductivity.

The client has advised that the geotechnical plans are expected to be completed by February 16, and the hydraulic engineers have already begun their work. However, the client is seeking clarification on why such a detailed stormwater analysis is being requested at this stage. Typically, this level of detail is required for building permit acceptance rather than at this phase of the process.

With that in mind, would it be acceptable to submit the documentation currently available, with the understanding that the finalized stormwater plans will be provided once completed?

Thank you very much—we appreciate your assistance.

Kind regards,

Narci Tanchiatco | **Planner**



Dynamic Planning and Developments | Suite 15/29 Collier Road MORLEY WA 6062
PO Box 688 INGLEWOOD WA 6932
P: (08) 9275 4433 | **E:** narci@dynamicplanning.net.au | **W:** www.dynamicplanning.net.au
TOWN PLANNING AND PROJECT COORDINATION | CONCEPT THROUGH TO DELIVERY



This email is intended for only the recipient it was sent to. To read our full disclaimer, please click here.

From: Narci Tanchiatco
Sent: Wednesday, February 4, 2026 8:14 AM
To: 'Casey Gillespie' <Casey.Gillespie@rockingham.wa.gov.au>; Nyah Cheater <Nyah.Cheater@rockingham.wa.gov.au>
Cc: Leanne Cramer <Leanne.Cramer@rockingham.wa.gov.au>; DPD-Public <dpd@dynamicplanning.net.au>; Neil Teo <neil.teo@dynamicplanning.net.au>; Reegan Cake <reegan.cake@dynamicplanning.net.au>; Debbie Hill <Debbie.Hill@rockingham.wa.gov.au>

Subject: RE: Development Application - Request for Further Information - Proposed Medical Centre - Lot 432 (No.2) Charleston Street, Karnup & Lot 449 (No.1) Isabelline Terrace, Karnup - 20.2025.501.1 (Our Ref: 2527)

Noted on this, Casey. Please let us know once the extension has been granted.

Thank you very much.

Kind regards,
Narci Tanchiatco | Planner



Dynamic Planning and Developments | Suite 15/29 Collier Road MORLEY WA 6062
PO Box 688 INGLEWOOD WA 6932
P: (08) 9275 4433 | E: narci@dynamicplanning.net.au | W: www.dynamicplanning.net.au
TOWN PLANNING AND PROJECT COORDINATION | CONCEPT THROUGH TO DELIVERY



This email is intended for only the recipient it was sent to. To read our full disclaimer, please click here.

From: Casey Gillespie <Casey.Gillespie@rockingham.wa.gov.au>
Sent: Wednesday, February 4, 2026 7:49 AM
To: Narci Tanchiatco <narci@dynamicplanning.net.au>; Nyah Cheater <Nyah.Cheater@rockingham.wa.gov.au>
Cc: Leanne Cramer <Leanne.Cramer@rockingham.wa.gov.au>; DPD-Public <dpd@dynamicplanning.net.au>; Neil Teo <neil.teo@dynamicplanning.net.au>; Reegan Cake <reegan.cake@dynamicplanning.net.au>; Debbie Hill <Debbie.Hill@rockingham.wa.gov.au>
Subject: RE: Development Application - Request for Further Information - Proposed Medical Centre - Lot 432 (No.2) Charleston Street, Karnup & Lot 449 (No.1) Isabelline Terrace, Karnup - 20.2025.501.1 (Our Ref: 2527)

Good Morning Narci,
Thanks for the email and advice below. The City will note the detail and action with the DAP Secretariat seeking a further extension at the Applicant's request.

Should the DAP require anything further, the City will advise,

Regards,

Casey

Casey Gillespie - Principal Planner (DAP and Planning Reform)

PO Box 2142 Rockingham DC WA 6967
Civic Boulevard Rockingham Western Australia
telephone **+61 8 9528 0374** facsimile **+61 8 9592 1705**
email **Casey.Gillespie@rockingham.wa.gov.au**
web **rockingham.wa.gov.au**

From: Narci Tanchiatco <narci@dynamicplanning.net.au>
Sent: Tuesday, 3 February 2026 4:58 PM
To: Nyah Cheater <Nyah.Cheater@rockingham.wa.gov.au>
Cc: Leanne Cramer <Leanne.Cramer@rockingham.wa.gov.au>; DPD-Public <dpd@dynamicplanning.net.au>; Neil Teo <neil.teo@dynamicplanning.net.au>; Reegan Cake <reegan.cake@dynamicplanning.net.au>; Casey Gillespie <Casey.Gillespie@rockingham.wa.gov.au>; Debbie Hill <Debbie.Hill@rockingham.wa.gov.au>
Subject: RE: Development Application - Request for Further Information - Proposed Medical Centre - Lot 432 (No.2) Charleston Street, Karnup & Lot 449 (No.1) Isabelline Terrace, Karnup - 20.2025.501.1 (Our Ref: 2527)

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Hi Nyah,

I am writing again in relation to the Request for Information (RFI) issued by the City of Rockingham, for which responses are currently due by 17 February 2026.

We respectfully request an extension of time to submit our responses until 6 March 2026. Our client is currently in the process of engaging a geotechnical surveyor to undertake site investigations required to inform the preparation of the stormwater plans. As the geotechnical report is expected to take approximately two weeks to prepare, an extension would be greatly appreciated.

Please let us know if any further information is required to support this request.

Thank you for your time and understanding.

Kind regards,
Narcie Tanchiatco | **Planner**

Dynamic Planning and Developments | Suite 15/29 Collier Road MORLEY WA 6062

PO Box 688 INGLEWOOD WA 6932 | **W:** www.dynamicplanning.net.au

P: (08) 9275 4433 | **E:** narci@dynamicplanning.net.au

TOWN PLANNING AND PROJECT COORDINATION | CONCEPT THROUGH TO DELIVERY

This email is intended for only the recipient it was sent to. To read our full disclaimer, please click here.

From: Narci Tanchiatco <narci@dynamicplanning.net.au>
Sent: Thursday, January 22, 2026 11:31 AM
To: Nyah Cheater <Nyah.Cheater@rockingham.wa.gov.au>
Cc: Leanne Cramer <Leanne.Cramer@rockingham.wa.gov.au>; DPD-Public <dpd@dynamicplanning.net.au>; Neil Teo <neil.teo@dynamicplanning.net.au>; Reegan Cake <reegan.cake@dynamicplanning.net.au>; Casey Gillespie <Casey.Gillespie@rockingham.wa.gov.au>; Debbie Hill <Debbie.Hill@rockingham.wa.gov.au>
Subject: RE: Development Application - Request for Further Information - Proposed Medical Centre - Lot 432 (No.2) Charleston Street, Karnup & Lot 449 (No.1) Isabelline Terrace, Karnup - 20.2025.501.1 (Our Ref: 2527)

Hi Nyah,

Thank you very much for your prompt response, and we appreciate your consideration of our request.

Kind regards,
Narcie Tanchiatco | **Planner**

Dynamic Planning and Developments | Suite 15/29 Collier Road MORLEY WA 6062

PO Box 688 INGLEWOOD WA 6932 | **W:** www.dynamicplanning.net.au

P: (08) 9275 4433 | **E:** narci@dynamicplanning.net.au

TOWN PLANNING AND PROJECT COORDINATION | CONCEPT THROUGH TO DELIVERY

This email is intended for only the recipient it was sent to. To read our full disclaimer, please click here.

From: Nyah Cheater <Nyah.Cheater@rockingham.wa.gov.au>
Sent: Thursday, January 22, 2026 11:28 AM
To: Narci Tanchiatco <narci@dynamicplanning.net.au>
Cc: Leanne Cramer <Leanne.Cramer@rockingham.wa.gov.au>; DPD-Public <dpd@dynamicplanning.net.au>; Neil Teo <neil.teo@dynamicplanning.net.au>; Reegan Cake <reegan.cake@dynamicplanning.net.au>; Casey Gillespie <Casey.Gillespie@rockingham.wa.gov.au>; Debbie Hill <Debbie.Hill@rockingham.wa.gov.au>
Subject: RE: Development Application - Request for Further Information - Proposed Medical Centre - Lot 432 (No.2) Charleston Street, Karnup & Lot 449 (No.1) Isabelline Terrace, Karnup - 20.2025.501.1 (Our Ref: 2527)

You don't often get email from nyah.cheater@rockingham.wa.gov.au. Learn why this is important

Good Morning Narcie,

Thank you for your email.

I can confirm that the City is agreeable to an extension of time for the Applicant's response to the City's Request for Further Information, until Tuesday, 17 February 2026.
I will liaise with the DAP Secretariat to confirm the revised "stop the clock" timeframe accordingly.

Please let me know should you have any questions in the meantime.

Kind regards,
Nyah

Nyah Cheater - Senior Planning Officer

PO Box 2142 Rockingham DC WA 6967
Civic Boulevard Rockingham Western Australia
telephone **+61 8 9528 0429** facsimile **+61 8 9592 1705**
email **Nyah.Cheater@rockingham.wa.gov.au**
web **rockingham.wa.gov.au**

From: Narci Tanchiatco <narci@dynamicplanning.net.au>
Sent: Thursday, 22 January 2026 10:22 AM
To: Debbie Hill <Debbie.Hill@rockingham.wa.gov.au>; Nyah Cheater <Nyah.Cheater@rockingham.wa.gov.au>
Cc: Leanne Cramer <Leanne.Cramer@rockingham.wa.gov.au>; DPD-Public <dpd@dynamicplanning.net.au>; Neil Teo <neil.teo@dynamicplanning.net.au>; Reegan Cake <reegan.cake@dynamicplanning.net.au>
Subject: RE: Development Application - Request for Further Information - Proposed Medical Centre - Lot 432 (No.2) Charleston Street, Karnup & Lot 449 (No.1) Isabelline Terrace, Karnup - 20.2025.501.1 (Our Ref: 2527)

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Hi Debbie and Nyah,

I am writing in relation to the Request for Information (RFI) issued by the City of Rockingham, for which responses are currently due by 27 January.

We respectfully request an extension of time to submit our responses, until mid-February (February 17). This additional time would assist us in ensuring that the information provided is complete, accurate, and of the quality expected by the City, particularly given the scope of the information requested and current scheduling constraints.

We trust that this request will not cause inconvenience and appreciate your consideration. Please let us know if any further information is required to support this request.

Thank you for your time and understanding.

Kind regards,
Narcie Tanchiatco | **Planner**

Dynamic Planning and Developments | Suite 15/29 Collier Road MORLEY WA 6062

PO Box 688 INGLEWOOD WA 6932 | **W:** www.dynamicplanning.net.au

P: (08) 9275 4433 | **E:** narci@dynamicplanning.net.au

TOWN PLANNING AND PROJECT COORDINATION | CONCEPT THROUGH TO DELIVERY

This email is intended for only the recipient it was sent to. To read our full disclaimer, please click here.

From: Reegan Cake <reegan.cake@dynamicplanning.net.au>
Sent: Tuesday, January 6, 2026 4:49 PM
To: Debbie Hill <Debbie.Hill@rockingham.wa.gov.au>
Cc: Nyah Cheater <Nyah.Cheater@rockingham.wa.gov.au>; Leanne Cramer <Leanne.Cramer@rockingham.wa.gov.au>; DPD-Public <dpd@dynamicplanning.net.au>; Neil Teo <neil.teo@dynamicplanning.net.au>; Narci Tanchiatco <narci@dynamicplanning.net.au>; Pando Beleski <pando@dynamicplanning.net.au>
Subject: RE: Development Application - Request for Further Information - Proposed Medical Centre - Lot 432 (No.2) Charleston Street, Karnup & Lot 449 (No.1) Isabelline Terrace, Karnup - 20.2025.501.1

Hi Debbi,

Thanks for the email – short email to confirm receipt and advise that we will liaise with the project team and issue a response within the 21 days!

Kind regards,
Reegan Cake | **Planning Manager**

Dynamic Planning and Developments | Suite 15/29 Collier Road MORLEY WA 6062

PO Box 688 INGLEWOOD WA 6932 | **W:** www.dynamicplanning.net.au

P: (08) 9275 4433 | **M:** 0408 952 388 | **E:** reegan.cake@dynamicplanning.net.au

TOWN PLANNING AND PROJECT COORDINATION | CONCEPT THROUGH TO DELIVERY

This email is intended for only the recipient it was sent to. To read our full disclaimer, please click here.

From: Debbie Hill <Debbie.Hill@rockingham.wa.gov.au>
Sent: Monday, 22 December 2025 1:07 PM
To: DPD-Public <dpd@dynamicplanning.net.au>
Cc: Nyah Cheater <Nyah.Cheater@rockingham.wa.gov.au>; Leanne Cramer <Leanne.Cramer@rockingham.wa.gov.au>
Subject: Development Application - Request for Further Information - Proposed Medical Centre - Lot 432 (No.2) Charleston Street, Karnup & Lot 449 (No.1) Isabelline Terrace, Karnup - 20.2025.501.1

Good afternoon Mr Gobetti

Please find attached correspondence regarding your Development Application for Lot 432 (No.2) Charleston Street, Karnup & Lot 449 (No.1) Isabelline Terrace, Karnup.

Should you have any queries with respect to this advice, please contact the assessing officer, Miss Nyah Cheater, via the details contained within.

Kind regards

Debbie Hill - Planning Administration Officer

PO Box 2142 Rockingham DC WA 6967
Civic Boulevard Rockingham Western Australia
telephone **+61 8 9527 0748** facsimile **+61 8 9592 1705**
email **Debbie.Hill@rockingham.wa.gov.au**
web **rockingham.wa.gov.au**

Our Ref: 2527

27 March 2026

Casey Gillespie
City of Rockingham
Civic Boulevard
Rockingham WA 6168

Attn: Miss Nyah Cheater (Nyah.Cheater@rockingham.wa.gov.au)

Dear Madam,

20.2025.501.1 – AD26/37001 – REQUEST FOR FURTHER INFORMATION - PROPOSED MEDICAL CENTRE – LOT 432 (NO.2) CHARLESTON STREET, KARNUP & LOT 449 (NO.1) ISABELLINE TERRACE, KARNUP

REQUEST FOR FURTHER INFORMATION RESPONSE

Dynamic Planning acts on behalf of Gold Right Pty Ltd, the registered proprietor of Lot 432 (No. 2) Charleston Street, Karnup, and Lot 449 (No. 1) Isabelline Terrace, Karnup. This letter has been prepared in response to the Request for Further Information (RFI) received on 3 March 2026.

We have prepared a matrix outlining the items in the RFI along with our corresponding responses.

The following supporting documents are also attached:

- Attachment 1 – Amended Development Plans, including Landscape Plan
- Attachment 2 – Updated Waste Management Plan
- Attachment 3 – Updated Traffic Impact Statement

Please let us know if you have any questions or require further clarification.

Yours faithfully,

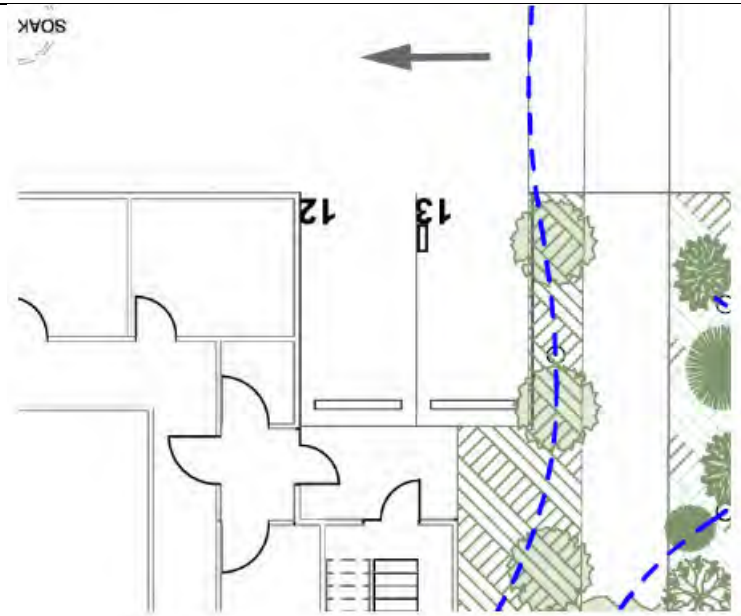
NEIL TEO
DIRECTOR

(08) 9275 4433
Suite 15/29 Collier Road, Morley WA 6062
PO Box 688, Inglewood WA 6932
admin@dynamicplanning.net.au
www.dynamicplanning.net.au

COMMENTS OF THE CITY OF ROCKINGHAM	RESPONSES/ ACTIONS TAKEN
Amended Development Plans	
1. The northern boundary of the development site has been incorrectly depicted. As currently shown, a portion of the proposed development encroaches into the Charleston Street verge. All development must be within the legal property boundary. Encroachment into the verge constitutes a fundamental design issue and represents a fatal flaw in the current proposal. The development plans are required to be amended to accurately reflect the correct boundary alignment, with all built form, infrastructure and associated works to be wholly contained within the property boundaries.	The development plans have been amended to accurately reflect the correct northern property boundary. All built form, infrastructure, and associated works are now wholly contained within the legal development site, and no encroachment into the Charleston Street verge is proposed. In response to the previous design, the bin storage area has been relocated from the Charleston Street verge and is now fully contained within the development boundary. No structures or built form elements are located within the verge. A bin hardstand is retained within the verge area; however, this is limited to a surface treatment only and is intended solely to facilitate kerbside waste collection. It does not constitute built form or encroachment and will not impact the function or integrity of the verge. Accordingly, the amended proposal fully addresses the boundary discrepancy and resolves the encroachment issue identified, ensuring compliance with the requirement that all development be contained within the legal property boundary.

2. The following matters require amendment in relation to the proposed **car parking design**:	
• The proposed 'Short-Term Loading / Drop-off Zone' within the internal driveway aisle will obstruct vehicle movements and restrict access to parking bays 25 to 28. The location and configuration must be reconsidered to ensure it is appropriately integrated into the overall design and does not compromise parking, circulation or access arrangements.	The short-term loading/drop-off zone has been relocated adjacent to the car parking bays and is no longer positioned within the internal driveway aisle. The revised design ensures that the loading/drop-off function is appropriately integrated into the overall parking layout and does not interfere with primary circulation paths. Importantly, the amended location removes any conflict with access to parking bays 25 to 28. Adequate maneuvering space has been maintained in accordance with the applicable design standards, ensuring that vehicle movements within the driveway aisle are not obstructed and that all parking bays remain fully accessible. Accordingly, the revised arrangement resolves the previously identified concerns and maintains safe and efficient parking, circulation, and access throughout the site.
• AS2890.1 requires an ambulance bay dimension of 2.4m (width) by 5.4m (length) and a shared area with the same dimension located directly adjacent (minimum width 4.8m). The plans show a width of 3.346m. Please amend the plans to demonstrate compliance.	The ambulance bay has been revised to comply with the requirements of AS2890.1. The bay is now designed with dimensions of 3.35m (width) by 6.36m (length), with an adjacent shared area of equal dimensions, providing a total minimum width of 6.70m, as required under the standard. The shared area is accommodated within the private bin pick-up bay, allowing it to function dually as an ambulance standing area when required.

	As outlined in Section 4.2 – Medical Waste, the medical waste collection contractor will service the site once per week outside the medical centre's normal operating hours. This operational arrangement ensures that the bin pick-up bay is available for ambulance use at all times during operating hours, thereby supporting the shared use arrangement in accordance with AS2890.1. Accordingly, the amended design demonstrates full compliance with the dimensional and operational requirements for ambulance bays.
• AS2890.1 requires the design vehicle envelope of a parked car to be clear of any vertical obstructions. The column supporting the upper floor and the wall located directly adjacent to car parking bay 12 is encroaching into the design vehicle envelope therefore does not conform to AS2890.1. Please amend the plans to demonstrate compliance.	The plans have been amended to ensure compliance with AS2890.1 in relation to clearance of the design vehicle envelope. Specifically, the parking bay layout has been revised to ensure that no vertical obstructions encroach into the design vehicle envelope. All parking bays are now clear of vertical obstructions within the required envelope, and the layout demonstrates full compliance with AS2890.1.

	
3. A **revised Landscape Plan** is required addressing the following:	
• As outlined in the City's previous Request for Further Information dated 22 December 2025, a minimum of 10% of the site area (165m²) is required to be provided as landscaping in accordance with the City's Town Planning Scheme No. 2. The Landscaping Plan submitted appears to demonstrate approximately 80–90m² of landscaping within the site boundaries, which falls significantly short of the required minimum.	As shown in the revised Landscape Plan and the annotated landscape schedule, the proposed development provides a total of 170 m² of landscaping within the site boundaries, which represents 10.30% of the total site area. This exceeds the minimum landscaping requirement of 165 m² (10% of the site area) as outlined in the City's Request for Further Information dated 22 December 2025 and in accordance with the provisions of Town Planning Scheme No. 2 (TPS2).

A revised Landscape Plan is to clearly demonstrate the provision of no less than 165m² of landscaping across the site, with dimensions and areas clearly annotated to confirm compliance. Should any variation to this requirement under TPS2 be proposed, it must be clearly articulated and appropriately justified in accordance with the relevant planning framework.	The revised Landscape Plan includes clearly dimensioned planting areas and annotated calculations to demonstrate compliance with the minimum landscaping requirement. In addition, a further 141 m² of landscaping is proposed outside the site boundary, which, while not contributing toward the TPS2 minimum requirement, provides additional visual amenity and landscape enhancement to the surrounding streetscape and public realm.
• For visual consistency, it is recommended that 1 x species is chosen for the tree wells along the eastern boundary that adjoins the proposed car park;	In response to the recommendation, a single tree species, Magnolia 'Little Gem', will be planted along the eastern boundary adjoining the proposed car park to ensure visual consistency.
• The proposed landscaping within all verge areas is to be clearly shown as irrigated turf with street trees, due to the proximity of streetlights and drainage services; and	The proposed landscaping within all verge areas has been updated and is now shown as irrigated turf with street trees.
• Please confirm and annotate what landscaping treatment the green hatching represents on the Landscape Plan, as this is unclear.	The Landscape Plan has been updated to include a legend clarifying the landscaping surfaces, including the green hatching.
4. The **Waste Management Plan** is to be amended:	
• The amended Waste Management Plan received 16 February 2026 indicates that specialty medical waste will be collected weekly by a private contractor directly from the bin storage area on Charleston Street. Please be advised that waste collected by private contractors is required to be managed	The plans and Waste Management Plan have been amended to address the issue identified in the City's correspondence. A designated private bin pick-up bay is now provided wholly within the site, adjacent to the ambulance bay. All medical

and collected entirely within the site boundaries. Collection activities are not to occur from the verge or public realm. The Waste Management Plan is to be amended accordingly to demonstrate internalised waste collection arrangements that do not impact the adjoining street verge or public land.	waste collection by private contractors will occur from this internal location. Collection from the Charleston Street verge or any part of the public realm is no longer proposed. The Waste Management Plan has been updated accordingly to reflect these internalized waste collection arrangements. Please refer to the Executive Summary, Section 4.2 – Medical Waste, and the Conclusion of the Waste Management Plan. Accordingly, the revised proposal ensures that all medical waste management and collection activities are contained entirely within the site boundaries and do not impact the adjoining verge or public land.
Clarification on Operations	
5. The City notes that a maximum of seven (7) health care practitioners are proposed to operate from the premises at any one time, comprising: • Two (2) practitioners (one sonographer and one radiologist) within the Radiology and Pathology clinic on the ground floor; and • Five (5) practitioners across the GP and Women's Health Clinic on the upper floor. The City queries the relatively small number of practitioners proposed in comparison to the substantial number of consulting and treatment rooms shown across both levels of the development. The ratio of practitioners to consulting/treatment rooms appears inconsistent and suggests that the scale and design of the building	The proposed development will operate as a medical centre consistent with the intent of the City of Rockingham Local Planning Scheme No. 2. The premises will accommodate a total of seven practitioners operating across the site. At any one time, no more than five practitioners will be practicing on the upper level and two practitioners on the lower level. Five practitioners will provide general practice services, including approved subspecialty services such as women's health, skin cancer diagnosis and treatment, and cosmetic medicine. The pathology collection centre will operate solely as a specimen collection facility and will not have a medical practitioner or pathologist onsite. The centre will be staffed

may accommodate a greater number of practitioners than currently indicated. Furthermore, no Pathologist has been identified in relation to the proposed Pathology clinic. Additional clarification is therefore sought regarding: • The intended operational model of the medical centre; • The purpose and intended use of all consulting and treatment rooms; • The maximum number of practitioners and support staff proposed on site at any one time (including future capacity); and • Confirmation as to whether a Pathologist will operate from the premises. This information is required to enable the City to properly assess the scale and intensity of the proposed development, including parking demand, traffic generation and overall compliance with the relevant planning framework.	by a phlebotomist only, who is classified as clinical support or administrative staff and does not constitute an additional medical practitioner for the purposes of occupancy or intensity of use. The operational model is comparable to existing medical centres within the region, including facilities such as Jupiter Health Singleton, which operates with a similar scale and practitioner capacity. While the approved hours of operation allow for staggered practitioner scheduling, practitioner numbers onsite at any given time will remain capped as outlined above. The proposed use is not expected to generate traffic volumes beyond those typically associated with a medical centre of this scale. Practitioner numbers onsite at any given time are limited, which will manage peak appointment scheduling and associated vehicle movements. Parking demand will be generated primarily by staff and patients attending scheduled appointments. The development is designed to operate within the applicable parking requirements of the City of Rockingham Local Planning Scheme and relevant local planning policies. Overall site occupancy will remain controlled through capped practitioner numbers and appointment-based service delivery, ensuring the development operates at an intensity compatible with surrounding land uses and in accordance with the objectives of the local planning framework.

Car Parking Bay Shortfall	
	In response to the comment regarding landscaping, the extent of landscaping on the site has been increased to achieve a higher-quality built form outcome, improved streetscape presentation, and enhanced amenity for users. This has resulted in a reduction in on-site parking provision from 33 bays to 26 bays, including four ACROD bays, and a corresponding shortfall of nine (9) bays. Notwithstanding this shortfall, it is considered that the overall parking demand generated by the development can be appropriately accommodated within the surrounding locality. The subject site benefits from an established street network with available on-street parking, including five (5) parallel bays along Verdigris Road directly adjoining the site, and a further twelve (12) bays along Charleston Street and Verdigris Road opposite the development. These bays are conveniently located and suitable for short-stay visitors, which aligns with the typical parking demand profile of a medical centre. As outlined in the Transport Impact Assessment, there are a number of recognized mechanisms to reduce reliance on on-site parking provision. The site is located within reasonable walking distance of public transport services and is supported by existing pedestrian and cycling infrastructure, which provides opportunities for staff and some visitors to access the site via alternative modes of transport. While it is acknowledged that such modes are more likely to be utilized by staff, the parking requirement applies to both staff and

	patients, and any reduction in staff parking demand will directly increase availability for visitors. Furthermore, the site is located directly opposite an established shopping centre, which provides a substantial supply of publicly accessible parking. Given the complementary nature of land uses, there is a strong likelihood of shared or linked trips, whereby visitors to the medical centre may also attend the shopping centre (or vice versa), allowing for a practical and efficient sharing of parking resources within the locality. It is also noted that on-street parking within the surrounding road network is specifically intended to support short-term parking for nearby residents and local services, including developments such as the proposed medical centre. On balance, the modest parking shortfall is considered acceptable when weighed against the improved landscaping outcomes and the availability of alternative parking options and transport modes. The proposal achieves a reasonable and appropriate balance between parking provision, site functionality, and enhanced landscape and urban design outcomes.

Attachment 1 – Amended Development Plans including Landscape Plan

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KARNUP MEDICAL CENTRE

hubble design
ARCHITECTURE + INTERIORS

CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

ISSUE FOR APPROVAL

Page No.	Title	REV	Issued	Published	Comment
A0-00	TITLE PAGE	01	☒	☒	
A0-01	LAYOUT LIST | LOCATION PLAN	01	☒	☒	
A0-02	SITE SURVEY	01	☒	☒	
A1-01	SITE PLAN	01	☒	☒	
A1-02	LANDSCAPE PLAN	01	☒	☒	
A1-03	LANDSCAPE PLAN - ANNOTATION	01	☒	☒	
A2-01	GROUND FLOOR	02 - WIP	☒	☒	
A2-02	FIRST FLOOR	01	☒	☒	
A2-03	ROOF PLAN	01	☒	☒	
A3-01	ELEVATIONS 03 & 04	01	☒	☒	
A3-02	ELEVATIONS 01 & 02	01	☒	☒	



LOCATION PLAN | SATELLITE IMAGERY

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	6/3/2026	01

LAYOUT TITLE:
LAYOUT LIST | LOCATION PLAN

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
N.T.S. @A3

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A0-01

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NOTES:
1. LEVELS TO AHD ASSUMED FROM WATERCORP SEWER MANHOLE. NOTE: in some cases sewer manhold lid values as supplied by the WaterCorpoartion are not correct
2. IF PROPOSED SEWER GRADES ARE MINIMAL THE CLIENT MUST USE A PLUMBER TO CHECK THE CONNECTION R.L. TO ENSURE THERE IS ADEQUATE FALL.
3. SEWER LINES ARE PLOTTED FROM WATERCORP PLANS ONLY. IF BUILDING CLOSE TO SEWER LINE THE ACTUAL POSITION SHOULD BE IDENTIFIED BY ENGAGING A PLUMBER TO EXPOSE THE SEWER LINE IN THAT AREA.
4. DIMENSIONS OF BUILDINGS TAKEN FROM THIS PLAN SHOULD BE VERIFIED ON SITE FIRST.
5. BOUNDARY INFORMATION FROM PLAN OF SURVEY (LANDGATE). BOUNDARY CONFIGURATION IS ONLY OVER-LAIN WITH FENCES, WALLS ETC AS A BEST FIT. **IT DOES NOT REPRESENT THE ACTUAL LOCATION OF THE BOUNDARY.**
NO BOUNDARY RE-SURVEY HAS BEEN CONDUCTED AS PART OF THIS FEATURE SURVEY.
6. GENERAL EASEMENTS HAVE NOT BEEN CHECKED OR SHOWN. CLIENT TO CHECK TITLE FOR EASEMENTS
7. GARDEN: KEY FEATURES SHOWN ONLY. PAVING EXTENT IS ONLY APPROXIMATE. CHECK AS NECESSARY
8. ROOF : KEY FEATURES SHOWN ONLY WHERE RELATED TO LEVELS TAKEN
9. FLOOR LEVEL ASSUMED FROM DOOR STEP LEVEL WHERE ACCESS IS NOT POSSIBLE.

MHS

CHARLESTON STREET

DATUM: NAIL & PLATE IN BITUMEN 10.18m AHD

1.15m Cyclone fence.

PRmarking

BARE GROUND

CONCRETE PATH

peg found

6.01m

90°

8.5m

21.49m

paved xover

Main Sewer Line R.L. 8.46m
Connection up 1m
Connection R.L. 8.46m
Depth to Conn. 0.87m

other services near here

POWER DOME.

paved d-way

T.O.W 10.57

L.R.W.

T.O.W 10.55

T.O.W 10.58

PARAPET WALL

RIDGE 14.65

SEP

T.O.G 13.23

RIDGE 15.62

LOT 433

30m

Brick & ZA House.
Main floor Level
10.68m AHD from front
doorstep level.

1.8m CB fence. on wall

T.O.W 10.56

T.O.W 13.31

RIDGE 15.91

LOT 432
807m2
DP 404181

VERDIGRIS ROAD

PARKING

CONCRETE PATH

23.99m

DATUM: NAIL & PLATE IN L/S WALL 10.2m AHD

T.O.W 10.19

T.O.W 10.2

T.O.W 10.05

T.O.W 12.67

T.O.G 12.67

T.O.W 10.56

T.O.G 12.36

27.5m

T.O.W 10.19

T.O.W 9.95

T.O.W 9.84

RIDGE 14.62

LOT 449
843m2
DP 404181

31.347m

T.O.G 12.2

RIDGE 14.63

RIDGE 15.49

LOT 448

Brick & ZA House.
Main floor Level 9.6m
AHD from front
doorstep level.

rear of footprint from aerial

HYD

SEP

PRmarking

CONCRETE PATH

1.15m Cyclone fence.

90°9'58"

6.002m

8.5m

27.498m

T.O.G 12.2

T.O.G 12.2

T.O.G 12.2

GRASS

89°50'02"

other services near here

POWER DOME.

Main Sewer Line R.L. 7.89m
Connection up 1m
Connection R.L. 8.89m
Depth to Conn. 0.84m

WATER CORP VALVE

9.5m

ISABELLINE TERRACE

N

MHS	SEWER MANHOLE
MHD	DRAINAGE MANHOLE
LID	LID (SMALL GALVIN ETC)
ECB	ELECTRICAL CABLE BOX
EMB	ELECTRICAL METER BOX
CBX	COMMS JUNCTION BOX
TJB	TELSTRA JUNCTION BOX
DG	DRAINAGE GRATE
SEP	SIDE ENTRY PIT
CUL	DRAINAGE CULVERT
WM	WATER METER
	WATER CORP VALVE
HYD	FIRE HYDRANT
LP	LIGHT POLE
PP	POWER POLE
SP	STAY POLE
SW	STAY WIRE
	GATE
OH	OVERHEAD POWER
	OTHER FENCE (as nominated)
	CONTROL PEG/MARK
RW	RETAINING WALL
LRW	LIMESTONE RET. WALL
GB	GARDEN BED
SHR	SHRUB
T.O.W	TOP OF WALL
B.O.W	BOTTOM OF WALL
T.O.G.	TOP OF GUTTER
3H 2W	TREE 3hIgh 2wIde

CONCRETE
BRICK PAVING
BITUMEN
BLOCK PAVING
BUILDING FOOTPRINT

Monaghan MAPPING & SURVEYING
UNIT 11 / 4 FLINDELL ST,
OCONNOR, W.A. 6163.
Mob 0418 928065
Email : jmon @ aapt.net.au
Web: www.fremantlesurveying.com.au

	BY	DATE
DRAWN	JTM	5.9.25
CHK'D	JTM	5.9.25
APP'D		5.9.25
ISSUED	JTM	5.9.25

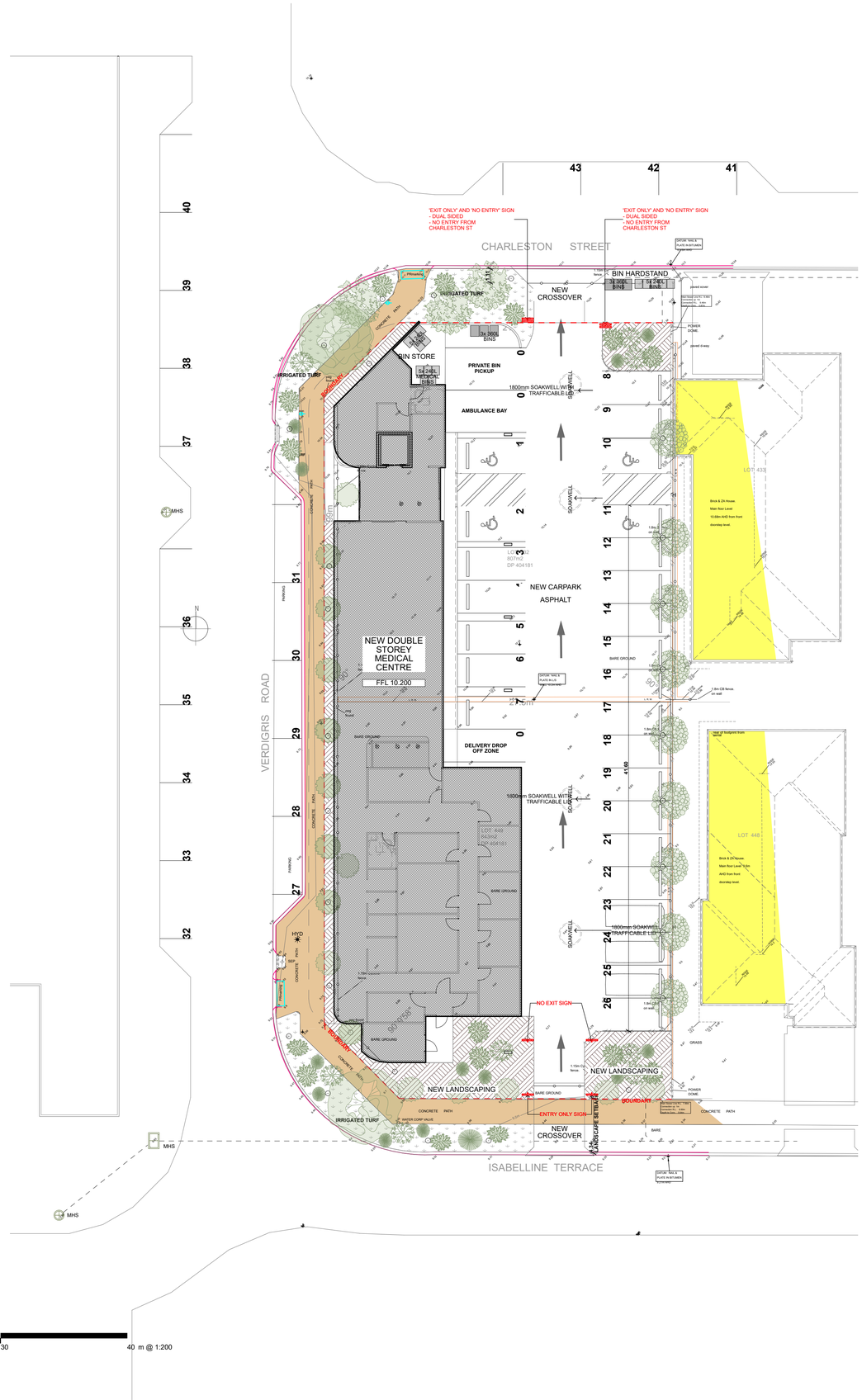
SITE FEATURE SURVEY
2 CHARLESTON ST &
1 ISABELLINE ST
KARNUP
Lot 432 & 449 on DP404181

CLIENT	HUBBLE ARCH.
SCALE	1 : 200
DATE	2.9.25
DATUM	AHD
DRAWN	JTM

DRAWING KAR 001

0m 1 2 3 4 5m

THIS DRAWING MAY NOT BE USED FOR ANY PURPOSE AND REMAINS THE PROPERTY OF MONAGHAN SURVEYING UNTIL ALL INVOICES AND FEES PAYABLE TO MONAGHAN SURVEYING ARE FULLY PAID. THE DRAWING MAY NOT BE REPRODUCED IN ANY WAY WITHOUT THE EXPRESS APPORVAL OF MONAGHAN SURVEYING.



SITE CALCS:

LOT A: 807m2
LOT B: 843m2

TOTAL SITE AREA: 1650m2

Therefore we require 165m2 of Soft landscaping at 10%

PARKING CALCS:

BAYS AVAILABLE: 26
DISABLED BAYS: 4
TOTAL METRE SQ: 915m2
STREET PARKING: 17

LANDSCAPING CALCS:

DEEP PLANTING ZONES:
9 @1.15m2
TOTAL METRE SQ DSA:
10.35m2

SOFT LANDSCAPE SPACE:
170m2
TOTAL LANDSCAPING:
170+10.35
TOTAL = 170.35m2

ZONE LEGEND

CODE	PLAN	DESCRIPTION	STATUS

SITE LEGEND

SYMBOL	DESCRIPTION	STATUS

LANDSCAPING SURFACES

HATCH	SURFACE	DESCRIPTION
	05 Grass - Green	IRRIGATED TURF
	05 Soil	

SITE LEVEL NOTES

0000	EXISTING FINISHED GROUND LEVEL
0.000	NEW FINISHED GROUND LEVEL
FFL 0.000	NEW FINISHED FLOOR LEVEL

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	6/3/2026	01

LAYOUT TITLE: SITE PLAN

PROJECT STATUS: DEVELOPMENT APPROVAL

SCALE: 1:200 @A1

DRWN: | CHK'D: # | P.H.

PROJECT/CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

JUPITER HEALTH

PROJECT NO: KCM

DRAWING NO: **A1-01**

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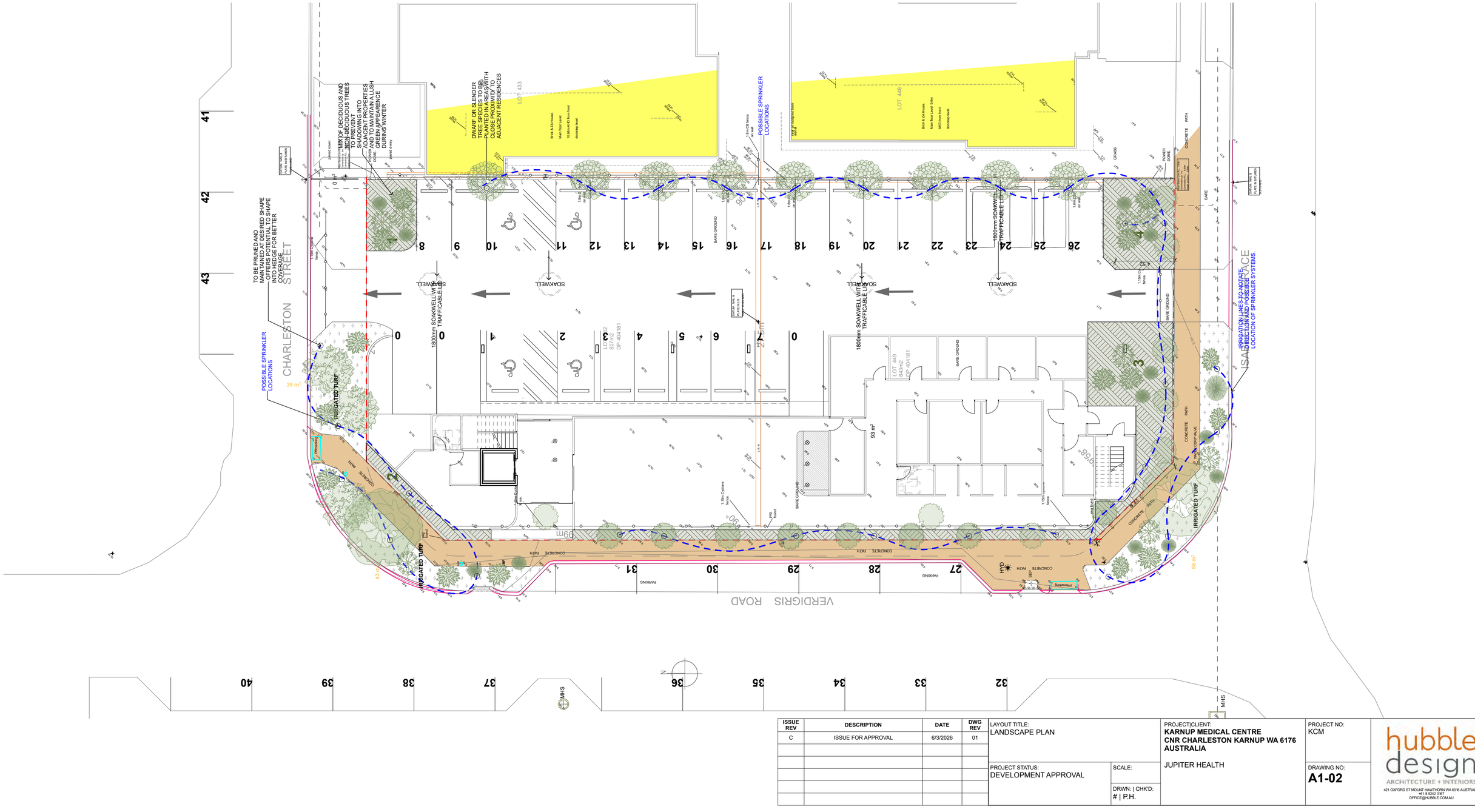
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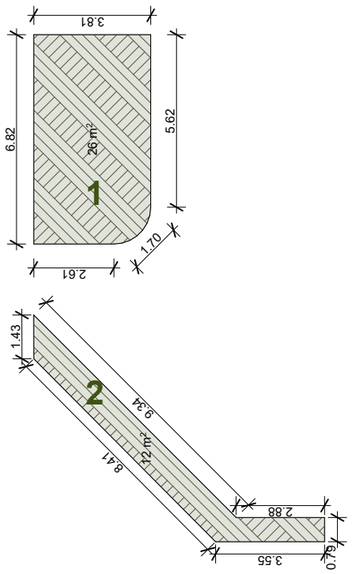
PLANT SCHEDULE

SYMBOL	DESCRIPTION	STATUS	SPECIES NAME	HEIGHT	WIDTH	NOTE
	Bottlebrush - RED FLOWER	New	Callistemon 'Little John' (Dwarf Bottlebrush)	1.5m	1m	
	Common Everlasting - YELLOW FLOWER	New	Chrysocephalum apiculatum	0.2m	0.5m	
	Kangaroo Paw - ORANGE FLOWER	New	Anigozanthos 'Bush Ranger'	0.6m	0.5m	
	Lilly Pilly Hedge	New	Dwarf Lilly Pilly ('Allyn Magic' & 'Minor')	3m	0.5 - 1m	
	Magnolia 'Little Gem'	New		4m	0.5 - 1m	
S	SPRINLER	New				
	Waterhousea Sweeper (Weeping Lilly Pilly)	New		3-5m	3m	

LANDSCAPING SURFACES

HATCH	SURFACE	DESCRIPTION
	05 Grass - Green	IRRIGATED TURF
	05 Soil	

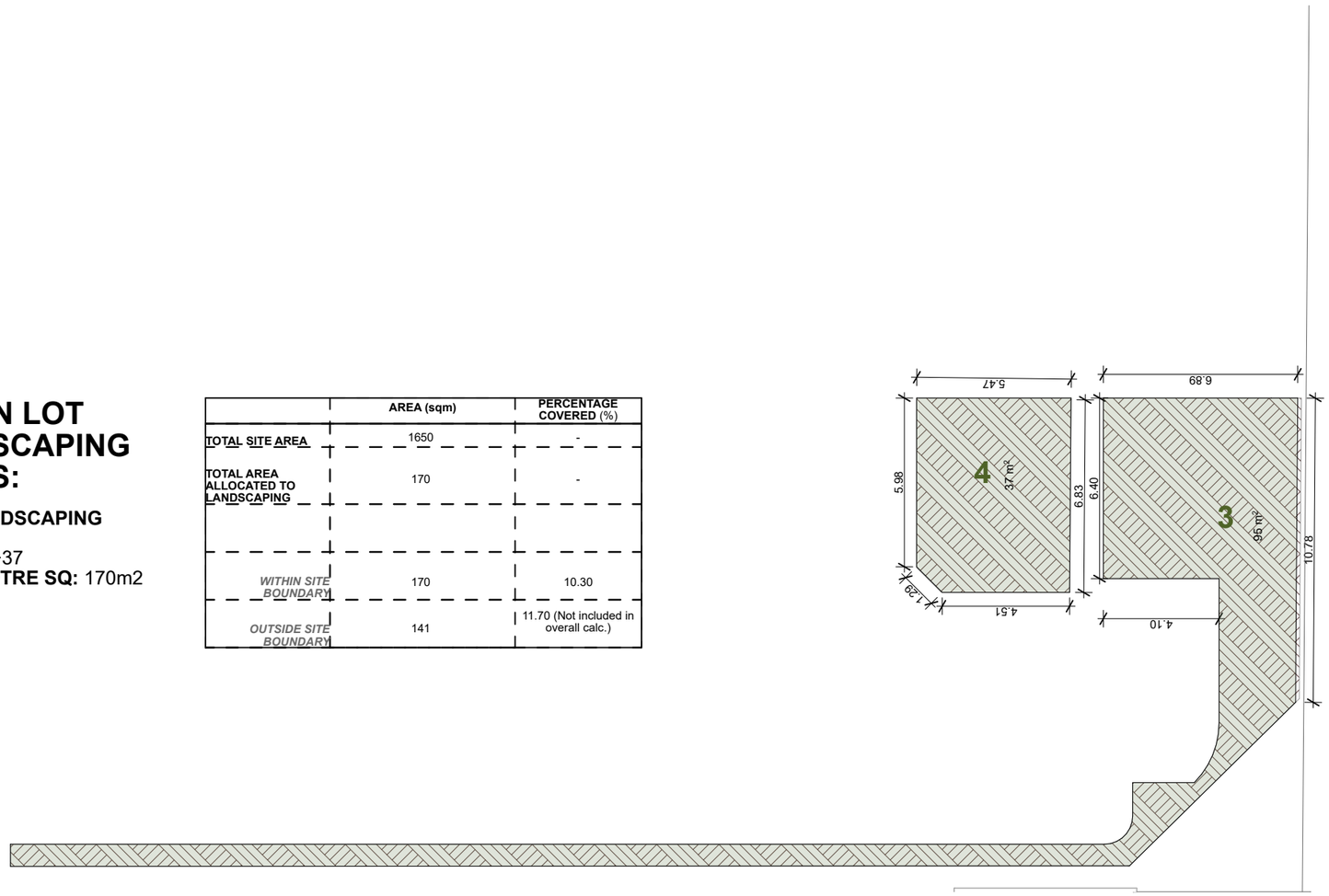

CHARLESTON STREET
VERDIGRIS ROAD
ISAAC PLACE
LOT 433
LOT 448
LOT 449
843m2
DP 404181
LOT 2
807m2
DP 404181
MIX OF DECIDUOUS AND NON-DECIDUOUS TREES TO REFLECT SHADOWING INTO ADJACENT PROPERTIES AND MATCH LUSH GREEN APPEARENCE DURING WINTER
DWARF OR SLENDER TREE SPECIES TO BE PLANTED IN AREAS WITH CLOSE PROXIMITY TO ADJACENT RESIDENCES
POSSIBLE SPRINKLER LOCATIONS
TO BE PRUNED AND MAINTAINED AT DESIRED SHAPE OVER TIME TO ENABLE PATH TO MATURE INTO HEDGE FOR BETTER COVERAGE
1800mm SOAKWELL WITH TRAFFICABLE LID
SOAKWELL
IRRIGATED TURF
CONCRETE PATH
BARE GROUND
PARKING
GRASS
POWER POLE
1.8m Colorbond fence
1.5m Chainlink fence
1.15m Cyclone fence
Brick & SA Houses
Main Floor Level
10.68m AHD floor level
doorstep level
Brick & SA Houses
Main Floor Level 9.8m
AHD floor level
doorstep level
Roof of Woodgard Bath
Retail
Proposed Retail Building
Proposed Medical Centre Building
Proposed Carpark
Proposed Canopy
Proposed Awning
Proposed Entry
Proposed Ramp
Proposed Planting
Proposed Grass
Proposed Concrete
Proposed Bitumen
Proposed Kerb
Proposed Fence
Proposed Gate
Proposed Retaining
Proposed Steps
Proposed Bollard
Proposed Light Pole
Proposed Sign
Proposed Bin Store
Proposed Trolley Bay
Proposed Accessible Parking
Proposed Parking
Proposed Crossover
Proposed Footpath
Proposed Landscaping
Proposed Irrigation
Proposed Drainage
Proposed Sewer
Proposed Water
Proposed Gas
Proposed Electrical
Proposed Telecommunications
Proposed Stormwater
Proposed Sewer Manhole
Proposed Water Meter
Proposed Gas Meter
Proposed Electrical Pit
Proposed Telecommunications Pit
Proposed Stormwater Pit
Proposed Sewer Pit
Proposed Water Pit
Proposed Gas Pit
Proposed Electrical Transformer
Proposed Telecommunications Cabinet
Proposed Stormwater Cabinet
Proposed Sewer Cabinet
Proposed Water Cabinet
Proposed Gas Cabinet
Proposed Electrical Cabinet



WITHIN LOT LANDSCAPING CALCS:

SOFT LANDSCAPING CAL:
26+12+95+37
TOTAL METRE SQ: 170m2

	AREA (sqm)	PERCENTAGE COVERED (%)
TOTAL SITE AREA	1650	-
TOTAL AREA ALLOCATED TO LANDSCAPING	170	-
WITHIN SITE BOUNDARY	170	10.30
OUTSIDE SITE BOUNDARY	141	11.70 (Not included in overall calc.)



ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	6/3/2026	01

LAYOUT TITLE:
LANDSCAPE PLAN - ANNOTATION

PROJECT STATUS:

SCALE:

DRWN: | CHK'D:
| P.H.

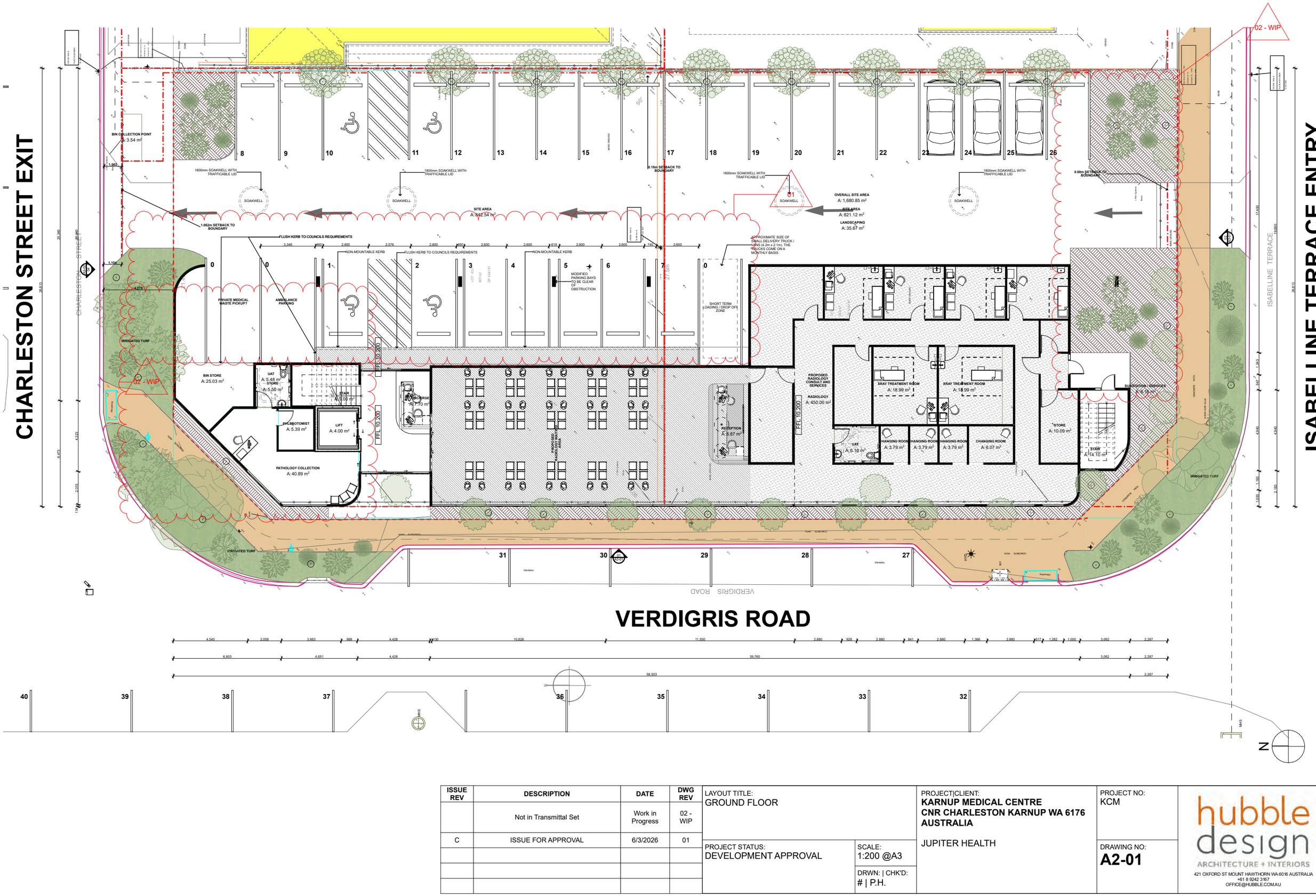
PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A1-03

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ISSUE REV	DESCRIPTION	DATE	DWG REV
	Not in Transmittal Set	Work in Progress	02 - WIP
C	ISSUE FOR APPROVAL	6/3/2026	01

LAYOUT TITLE:
GROUND FLOOR

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
1:200 @A3

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A2-01

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KCM010-26.pln

CHARLESTON STREET

ISABELLINE TERRACE

VERDIGRIS ROAD

SITE AREA
A: 842.54 m²

SITE AREA
A: 806.82 m²

ALLIED HEALTH
A: 18.26 m²

ALLIED HEALTH
A: 15.99 m²

UAT
A: 6.27 m²

UAT
A: 6.27 m²

ALLIED HEALTH
A: 114.67 m²

STAIR
A: 11.95 m²

LIFT
A: 7.84 m²

PLANTER BOX

PLANTER BOX

FFL 14.200

FFL 14.200

FFL 14.200

WOMENS HEALTH / SKIN CLINIC ROOM 3
A: 12.00 m²

WOMENS HEALTH / SKIN CLINIC ROOM 2
A: 12.26 m²

INJECTION ROOM
A: 11.33 m²

RECEPTION
A: 9.01 m²

THEATRE ROOM
A: 12.00 m²

TREATMENT ROOM
A: 15.02 m²

CLINIC
A: 80.20 m²

RECEPTION
A: 8.87 m²

PM OFFICE
A: 8.21 m²

GP TREATMENT ROOM
A: 12.00 m²

GP TREATMENT ROOM
A: 12.99 m²

INJECTION ROOM
A: 12.00 m²

GP CONSULT ROOM 1
A: 12.00 m²

STAFF ROOM
A: 29.83 m²

PLANT
A: 5.85 m²

STAIR
A: 5.60 m²

TEA ROOM
A: 9.34 m²

STAFF BALCONY
A: 9.23 m²

STORE
A: 8.30 m²

STAFF UAT
A: 6.27 m²

UAT
A: 6.27 m²

UAT
A: 6.27 m²

CLINIC (SKIN / WOMENS HEALTH)
A: 174.17 m²

GP CONSULT ROOM 3
A: 12.00 m²

TREATMENT ROOM
A: 12.00 m²

3,179 4,863 4,217 2,390 2,887 983 2,136 271 9,060 2,887 605 2,887 4,393 844 2,887 863 2,887 244 1,143 5,554 2,287

4,863 4,217 1,935 4,325 2,307 17,660 2,172 11,361 2,183 879 2,287

51,901 2,287

N

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	6/3/2026	01

LAYOUT TITLE:
FIRST FLOOR

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
1:200 @A3

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A2-02

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OFFICE@HUBBLE.COM.AU

CHARLESTON STREET

SITE AREA
A: 842.54 m²

SURFMIST COLORBOND TRIMDEK ROOF AT 3° PITCH

SITE AREA
A: 806.82 m²

VERDIGRIS ROAD

N

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	6/3/2026	01

LAYOUT TITLE:
ROOF PLAN

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:
1:200 @A3

DRWN: | CHK'D:
| P.H.

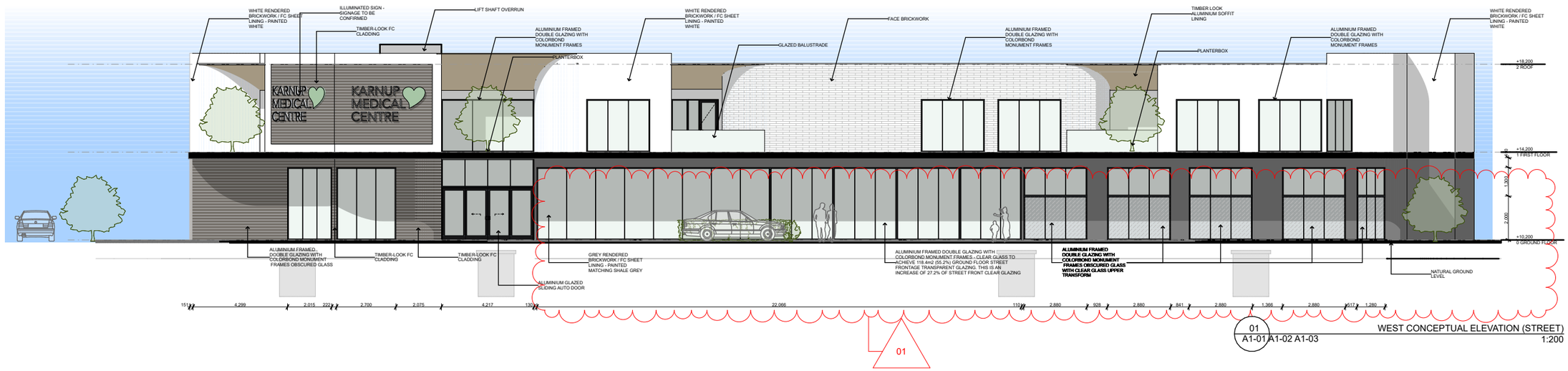
PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

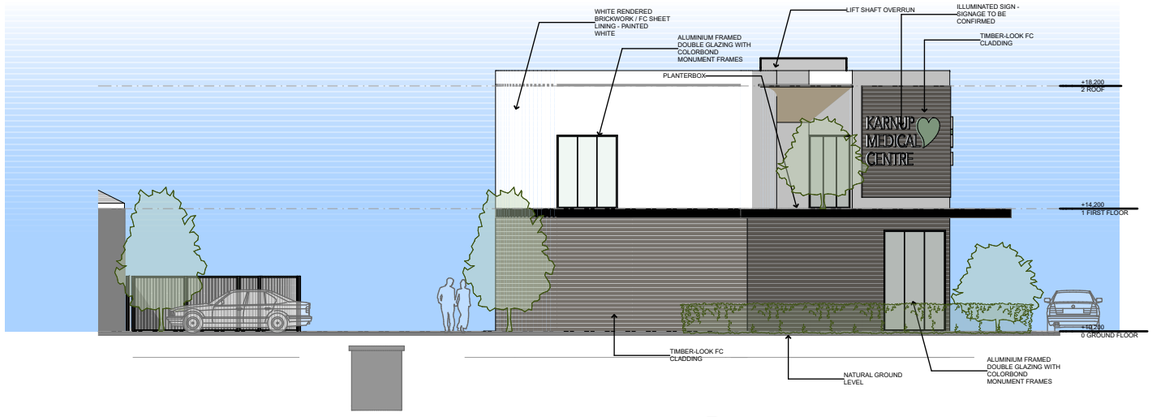
PROJECT NO:
KCM

DRAWING NO:
A2-03

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01 A1-01 A1-02 A1-03
WEST CONCEPTUAL ELEVATION (STREET)
1:200



02 A1-01
NORTH CONCEPTUAL ELEVATION
1:200

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	6/3/2026	01

LAYOUT TITLE: ELEVATIONS 03 & 04

PROJECT STATUS: DEVELOPMENT APPROVAL

SCALE:

DRWN: | CHK'D: # | P.H.

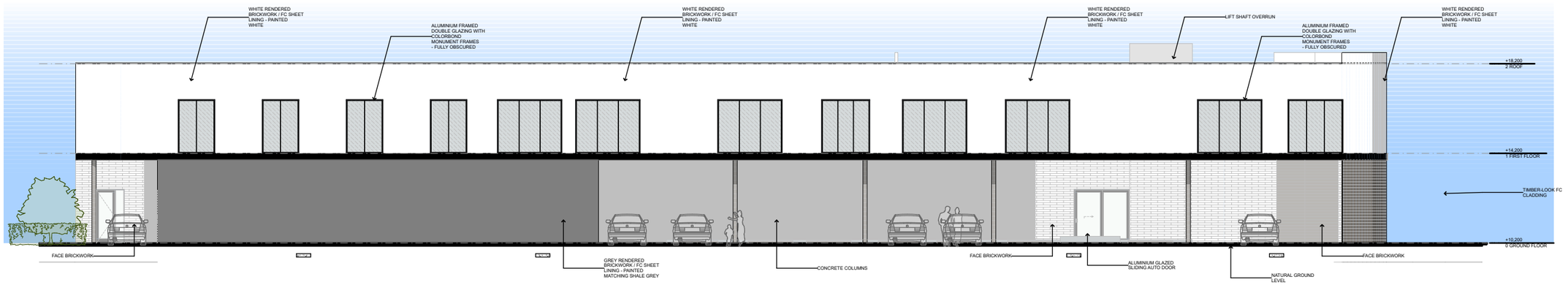
PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176 AUSTRALIA

JUPITER HEALTH

PROJECT NO: KCM

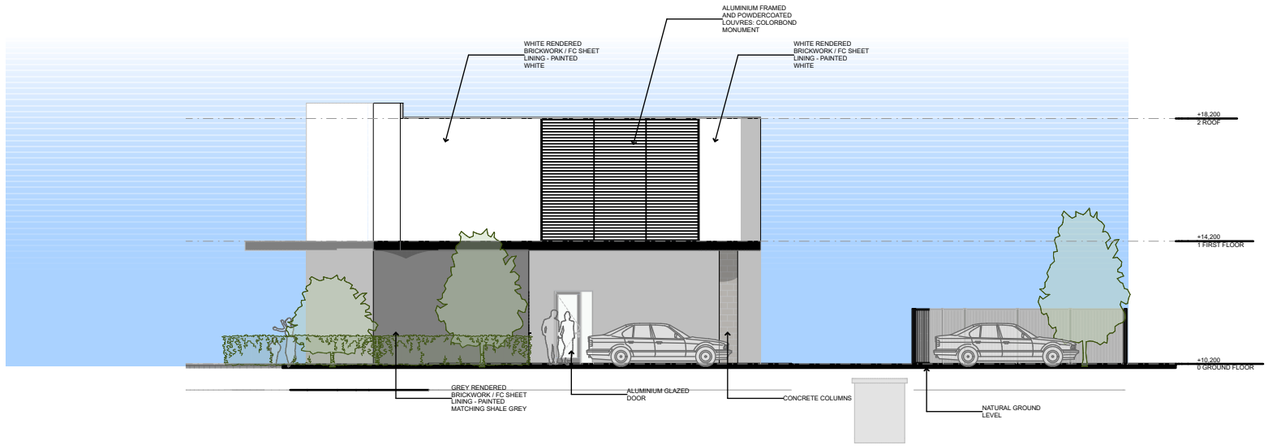
DRAWING NO: **A3-01**

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03
A1-01

EAST CONCEPTUAL ELEVATION
1:200



04
A1-01

SOUTH CONCEPTUAL ELEVATION
1:200

ISSUE REV	DESCRIPTION	DATE	DWG REV
C	ISSUE FOR APPROVAL	6/3/2026	01

LAYOUT TITLE:
ELEVATIONS 01 & 02

PROJECT STATUS:
DEVELOPMENT APPROVAL

SCALE:

DRWN: | CHK'D:
| P.H.

PROJECT|CLIENT:
KARNUP MEDICAL CENTRE
CNR CHARLESTON KARNUP WA 6176
AUSTRALIA

JUPITER HEALTH

PROJECT NO:
KCM

DRAWING NO:
A3-02

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Attachment 2 – Updated Waste Management Plan

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Waste Management Plan

Karnup Medical Centre

Prepared for Juniper Health c/- Hubble Design

17 March 2026

Project Number: WMP25111

DOCUMENT CONTROL					
Version	**Description**	**Date**	**Author**	**Reviewer**	**Approver**
1.0	First Approved Release	14/10/2025	JL	DP	AB
2.0	Second Approved Release	14/01/2026	JL	AB	AB
3.0	Third Approved Release	16/03/2026	JL	AB	AB
4.0	Fourth Approved Release	17/03/2026	JL	AB	AB

Approval for Release		
Name	**Position**	**File Reference**
Ann Brouwer	Project Manager – Waste Management Plan Lead (WA)	WMP25111-01_Waste Management Plan_4.0
Signature		

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Executive Summary

Juniper Health is seeking development approval for the proposed medical centre located on the corner of Charleston Street, Karnup (the Proposal).

To satisfy the conditions of the development application the City of Rockingham (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.

Proposed Waste Collection Summary

Waste Type	Generation (L/week)	Bin Size (L)	Number of Bins	Collection Frequency	Collection
Refuse	1,046	240L	Five	Once each week	City of Rockingham
Recycling	1,046	360L	Three	Once each week	City of Rockingham
Medical Waste	-	240L	Five	Once each week	Private Contractor

The City will collect refuse and recyclables from the Proposal utilising its kerbside collection service. The City's waste collection vehicle will service the bins from the Bin Hardstand on Charleston Street.

A suitably qualified medical waste collection contractor will collect the medical waste directly from the Bin Storage Area from the private bin pick-up bay.

A building manager will oversee the relevant aspects of waste management at the Proposal.

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1 Introduction

Juniper Health is seeking development approval for the proposed medical centre located on the corner of Charleston Street, Karnup (the Proposal).

To satisfy the conditions of the development application the City of Rockingham (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 Charleston Street to the north, residential development to the east, Isabelline Terrace to the south and Verdigris Road 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 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: 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 waste generating floor areas (m^2) of the proposed Medical Centre – **1,494.6m^2**.

2.2 Waste Generation Rates

In order to achieve an accurate projection of waste volumes for the Proposal, consideration was given to the City of Gosnells *Information Sheet – Waste Collection* as this guideline provides generation rates specific to the use type and nature of the Proposal (Medical Centre).

Table 2-1 shows the waste generation rates which have been applied to the Proposal. Seven days of operation has been assumed for the Medical Centre.

Table 2-1: Waste Generation Rates

Tenancy Use Type	City of Gosnells Guideline Reference	Refuse Generation Rate	Recycling Generation Rate
Pathologist, Concierge, Radiology, Allied Health, Women's Health Facilities, Treatment/Consult Rooms, Staff Rooms and Offices	Offices, Consulting Room, Medical Centre, Veterinary Centre	10L/100m^2/day	10L/100m^2/day

As medical waste is highly dependent on the nature and scale of medical practices undertaken, there are currently no medical/clinical waste generation rates available within published waste management guidelines. The Proposal will manage clinical waste (i.e. sharps, infectious waste, pathological waste, pharmaceuticals, chemical waste and non-regulated medical waste) in-situ utilising appropriately labelled Clinical Waste bins and Sharps containers stored throughout the Medical Centre. Accordingly, medical waste has not been included within this waste assessment.

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.

Waste generation volumes in litres per week (L/week) adopted for this waste assessment is shown in Table 2-2. It is estimated that the Proposal will generate 1,046L of refuse and 1,046L of recyclables each week.

Table 2-2: Estimated Waste Generation

Medical Centre	Area (m^2)	Waste Generation Rate (L/100m^2/day)	Waste Generation (L/week)
Refuse	1,494.6	10	**1,046**
Recyclables	1,494.6	10	**1,046**
		Total	**2,092**

3 Waste Storage

Waste materials generated within the Proposal will be collected in the bins located in the Bin Storage Area, as shown in Diagram 1, and discussed in the following sub-sections.

3.1 Internal Transfer of Waste

To promote positive recycling behaviour and maximise diversion from landfill, internal bins will be available throughout the Proposal for the source separation of refuse and recycling.

Appropriate containers for medical waste/sharps will be placed in all locations where particular types may be generated. Instructions on identification and separation of medical wastes will be posted at each waste collection point to remind staff of procedures.

The following points are indicative of minimum requirements for environmental best practice relating to controlled medical wastes and will be considered within the Proposal:

- Ensuring all clinical and related waste is properly contained;
- Ensuring staff/cleaners are aware of their individual responsibilities for waste management and obtain appropriate education and training to ensure correct procedures are followed;
- Ensuring all relevant measures are taken to reduce risk to staff, the community and the environment; and
- All waste containers to meet the Australian Standards and are to be of the appropriate colour and have suitable symbols/wording for the waste types to be deposited into that container.

These internal bins will be collected by the staff/cleaners at least once each day and transferred to the 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.

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			
	240L	360L	660L	1,100L
Depth	0.730	0.848	0.780	1.070
Width	0.585	0.680	1.260	1.240
Height	1.060	1.100	1.200	1.330

Reference: SULO Bin Specification Data Sheets

3.3 Bin Storage Area Size

To ensure sufficient area is available for storage of the bins, the amount of bins required for the 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 and recyclables once each week.

The number of medical waste bins required for the Bin Storage Area has been based on previous project experience, tenant knowledge, and collections once each week.

Based on the results shown in Table 3-2 the Bin Storage Area has been sized to accommodate:

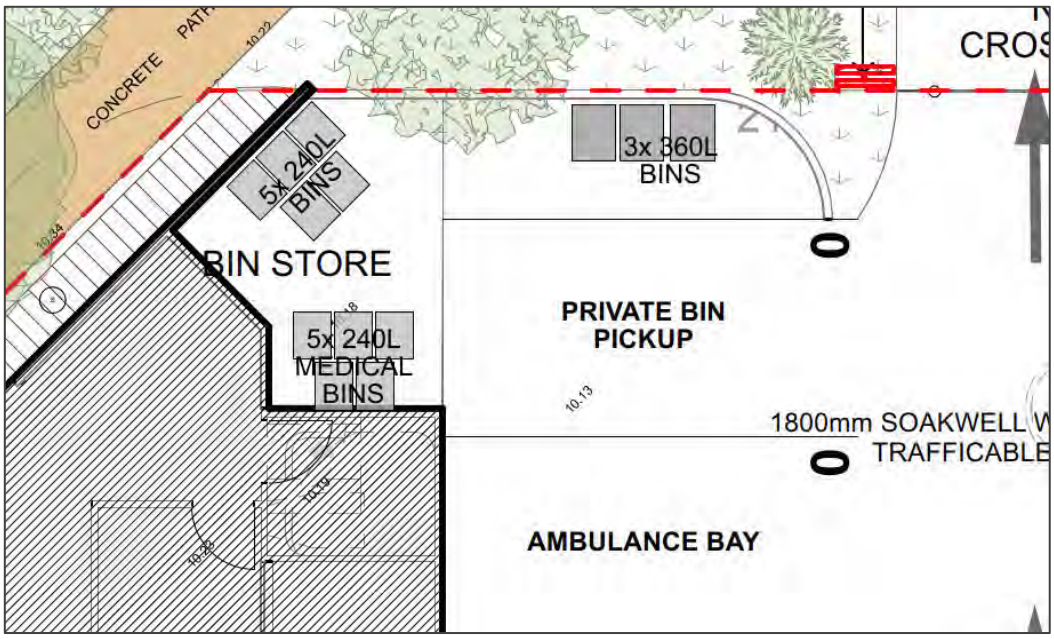
- Five 240L refuse bins;
- Three 360L recycling bins; and
- Five 240L medical waste bins.

Table 3-2: Bin Requirements for Bin Storage Area

Waste Stream	Waste Generation (L/week)	Number of Bins Required			
		240L	360L	660L	1,100L
Refuse	1,046	5	-	2	1
Recycling	1,046	5	3	2	1
Medical Waste	-	5	-	-	-

The configuration of these bins within the Bin Storage Area is shown in Diagram 1. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 1 represents the maximum requirements assuming one collection each week of refuse, recyclables and medical waste.

Diagram 1: Bin Storage Area & Private Bin Pick-up Bay



3.4 Bin Storage Area Design

The design of the Bin Storage Area will take into consideration:

- Located behind the building setback line and within property boundary;

- Smooth impervious floor sloped to a drain connected to the sewer system;
- Taps for washing of bins and Bin Storage Area;
- Adequate aisle width for easy manoeuvring of bins;
- No double stacking of bins;
- Ventilated to a suitable standard;
- Appropriate signage;
- Designed to not permit stormwater to enter into the drain;
- 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 Area will be monitored by a building manager during the operation of the Proposal to ensure that the number of bins and collection frequency is sufficient.

4 Waste Collection

4.1 Refuse and Recyclables

The City will service the Proposal and provide five 240L bins for refuse and three 360L bins for recyclables.

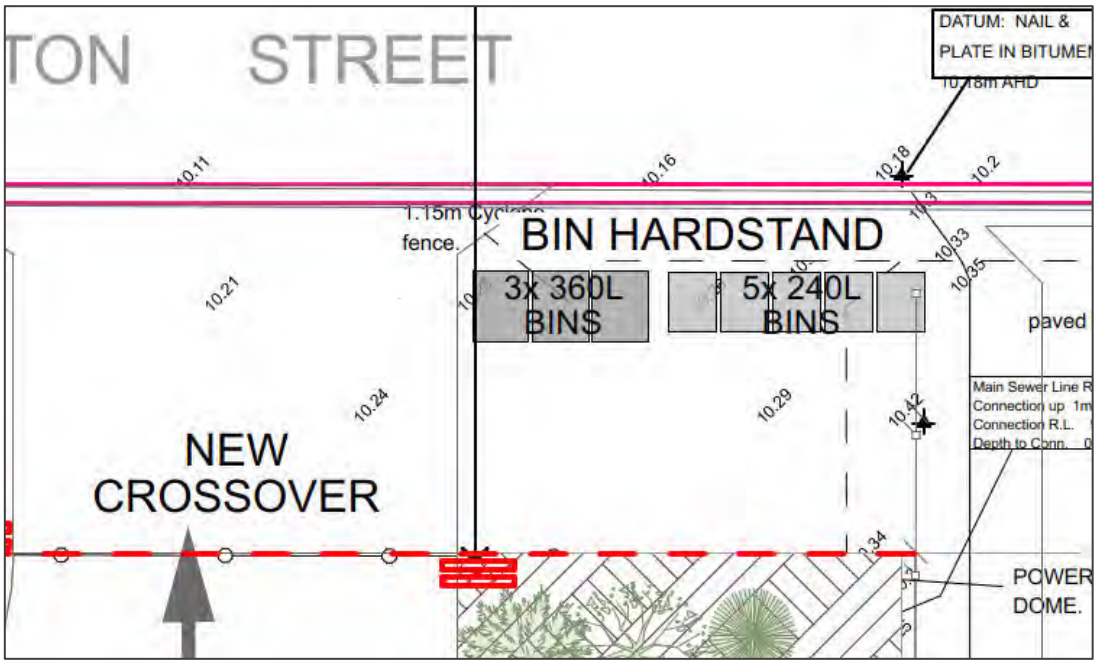
The City will collect refuse and recyclables once each week from the Proposal utilising its side arm waste collection vehicle.

The City will service bins from the Bin Hardstand on the verge on Charleston Street at the front of the Proposal, as shown in Diagram 2.

Bins will be presented for collection 1m from the verge with the wheels and handles facing away from the road. 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 City's side arm waste collection vehicle.

A building manager will ferry the bins to and from the Bin Hardstand on collection days. Travel path between the Bin Storage Area and the Bin Hardstand will be of flat surface and kept free of obstacles. A building manager will return the bins to the Bin Storage Area as soon as possible on the same day following collection.

Diagram 2: Bin Hardstand



4.2 Medical Waste

A suitably qualified medical waste collection contractor will service the five 240L medical waste bins at the Proposal.

The medical waste collection contractor will collect medical waste once each week from the Proposal utilising a Pantech truck/medical van, refer Diagram 3.

The medical waste collection contractor's vehicle will service the bins directly from the Bin Storage Area via the private bin pick-up bay, refer Diagram 1.

It is proposed that servicing will be conducted outside the medical centre's normal operating hours to allow the utilization of the private bin pick up bay as shared area for the ambulance bay as required under AS2890.1.

Diagram 3: Example Medical Waste Collection Vehicle



4.3 Bulk and Speciality Waste

Bulk and speciality waste materials will be removed from the Proposal as they are generated on an 'as required' basis.

Adequate space will 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 materials will be removed from the Proposal once sufficient volumes have been accumulated to warrant disposal and will be monitored by the building manager who will organise their transport to the appropriate waste facility, as required.

5 Waste Management

A building manager will be engaged to complete the following tasks:

- Monitoring and maintenance of bins and the Bin Storage Area;
- Cleaning of bins and Bin Storage Area, when required;
- Ensure all staff/cleaners at the Proposal are made aware of this WMP and their responsibilities thereunder;
- Monitor staff/cleaner behaviour and identify requirements for further education and/or signage;
- Monitor medical waste accumulation and assist with/arrange its removal, as required;
- Monitor bulk and speciality waste accumulation and assist with its removal, as required;
- Regularly engage with staff/cleaners to develop opportunities to reduce waste volumes and increase resource recovery; and
- Regularly engage with the City/private contractor to ensure efficient and effective waste service is maintained.

6 Conclusion

As demonstrated within this WMP, the Proposal provides a sufficiently sized Bin Storage Area for storage of refuse and recyclables, based on the estimated waste generation volumes and suitable configuration of bins. This indicates that an adequately designed Bin Storage Area has been provided, and collection of refuse and recyclables can be completed from the Proposal.

The above is achieved using:

- Five 240L refuse bins, collected once each week;
- Three 360L recycling bins, collected once each week; and
- Five 240L medical waste bins, collected once each week.

The City will collect refuse and recyclables from the Proposal utilising its kerbside collection service. The City's waste collection vehicle will service the bins from the Bin Hardstand on Charleston Street.

A suitably qualified medical waste collection contractor will collect the medical waste directly from the Bin Storage Area from the private bin pick-up bay.

A building manager will oversee the relevant aspects of waste management at the Proposal.

Figures

Figure 1: Locality Plan

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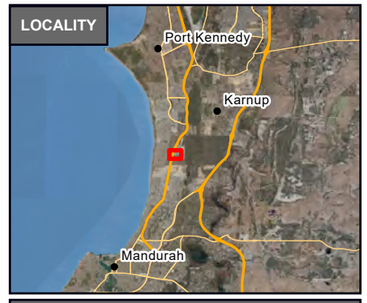
LEGEND

- Site Boundary

Cadastre

- Freehold
- Road
- Reserve

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LOCALITY

Karnup Medical Centre
2 Charleston St & 1 Isabelline Tce
Karnup WA 6176

Juniper Health c/- Hubble Design

N
0 5 10 15 20 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:500

Prepared:	E Jackson	Date:	13/10/2025
Reviewed:	A Brouwer	Revision:	A
Project:	WMP25111		

talis consultants

Figure 01

Data source: Roads, Cadastre - Landgate, 2025. Imagery: Nearmap, 2025.

Document Path: \\server\talis\SECTIONS\Waste\PROJECTS\WMP2025\WMP25111 - Karnup Medical Centre, Karnup\GIS\Maps\WMP25111 - Karnup Medical Centre\WMP25111 - Karnup Medical Centre.aprx



Assets | Engineering | Environment | Noise | Spatial | Waste

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Attachment 3 – Updated Transport Impact Statement

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March 2026

Final - Rev 2

Karnup Medical Centre, Karnup

Prepared For:

Jupiter Health

Transport Impact Statement Report



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DOCUMENT ISSUE AUTHORISATION

Issue	Rev	Date	Description	Prepared By	Checked By	Approved By
0	0	20/10/2025	Draft Report	SGY/MG	DNV	DNV
1	0	22/10/2025	Final Report	SGY/MG	DNV	DNV
1	1	6/02/2026	Final Report – Rev 1	MG	DNV	DNV
0	2	19/03/2026	Draft Report Rev 2	SZ	DNV	DNV
1	2	27/03/2026	Final Report – Rev 2	SZ	DNV	DNV

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Donald Veal Consultants Pty Ltd

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1. INTRODUCTION

1.1 BACKGROUND

Jupiter Health has commissioned Donald Veal Consultants (DVC) to prepare this Transport Impact Statement (TIS) report to support the development application for a proposed medical centre on the corner of Charleston Street, Verdigris Road and Isabelline Terrace in Karnup.

1.2 SCOPE OF THIS REPORT

This TIS has been prepared in accordance with the *Western Australian Planning Commission's (WAPC's) Transport Assessment Guidelines for Developments: Volume 4 Individual Developments (2016).*

The intent of this report is to provide the approving authority with sufficient transport information to confirm that the proponent has adequately considered the transport aspects of the development and that it would not have an adverse transport impact on the surrounding area.

It is expected that the number of vehicles generated during the peak hour will be modest. The level of trip generation is therefore considered to be a 'moderate impact' development according to the WAPC Guidelines. A "moderate impact" development is one that generates between 10 - 100 additional vehicle trips in the development's peak hour and would only require a brief Transport Impact Statement.

1.3 THIS REVISION

Revision 1 of the report provided a revised assessment based on amended design drawings.

Revision 2 further assesses the development's impact based on new updates to the design drawings.

2. EXISTING SITE CONDITIONS

2.1 LOCATION

The development site is located on the corner of Charleston Street, Verdigris Road, and Isabelline Terrace in Karnup. The general locality is shown in **Figure 2.1**, with the site location shown in more detail in **Figure 2.2**.

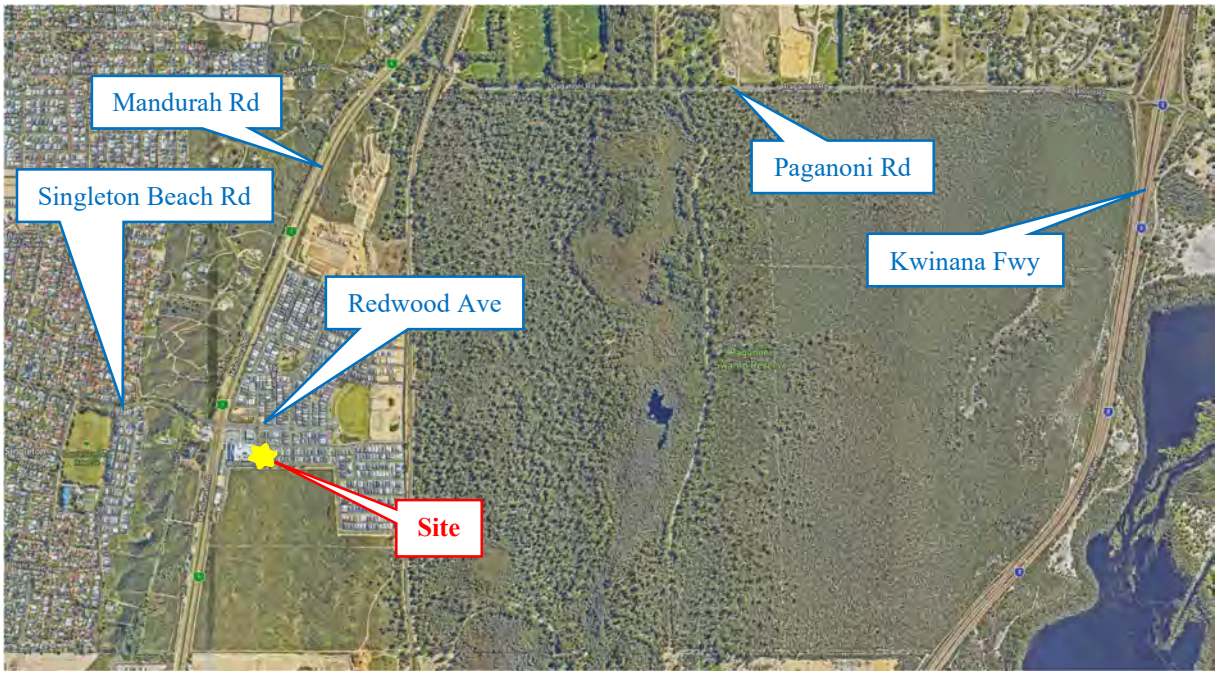


Figure 2.1: General Locality Map *Source: Metromap*

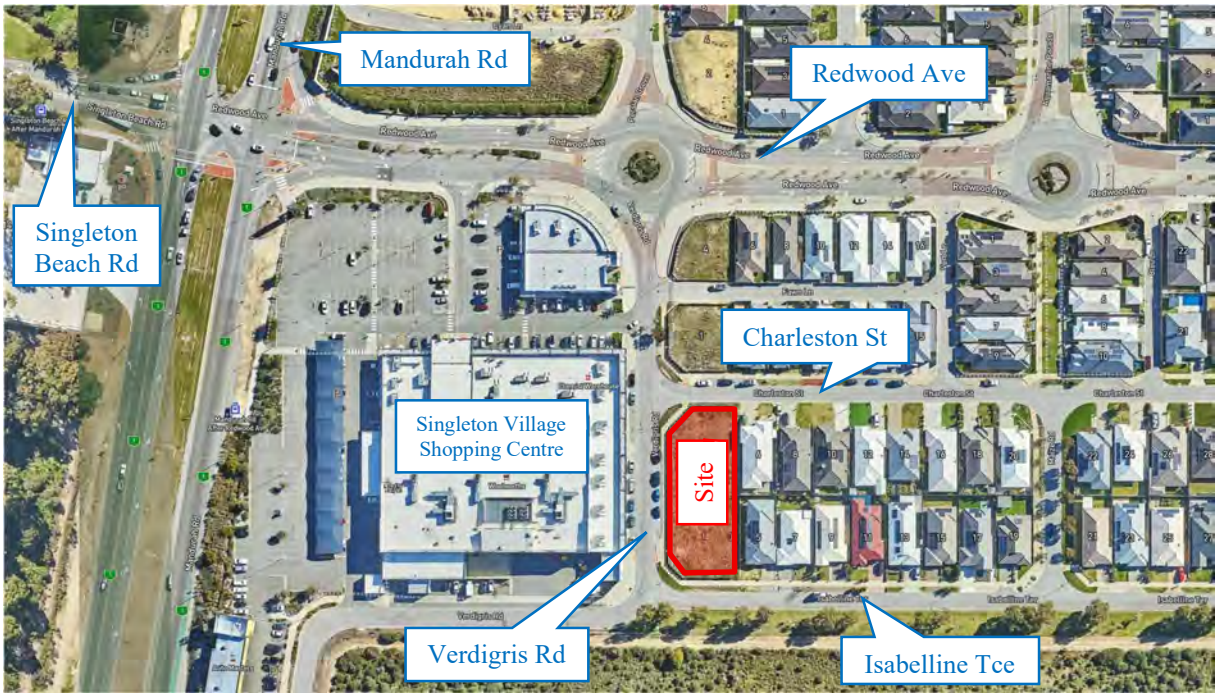


Figure 2.2: Site Location *Source: MetroMap*

The site is bounded to the north by Charleston Street, with Verdigris Road and Isabelline Terrace to the west and south respectively. The eastern boundary of the site is adjacent to low-density residential properties (see **Figure 2.2**). The subject site lies just southeast of the Mandurah Road – Singleton Beach Road – Redwood Avenue signalised intersection.

According to the City of Rockingham's Town Planning Scheme No.2, the site is situated in a Commercial Zone as shown in **Figure 2.3**.

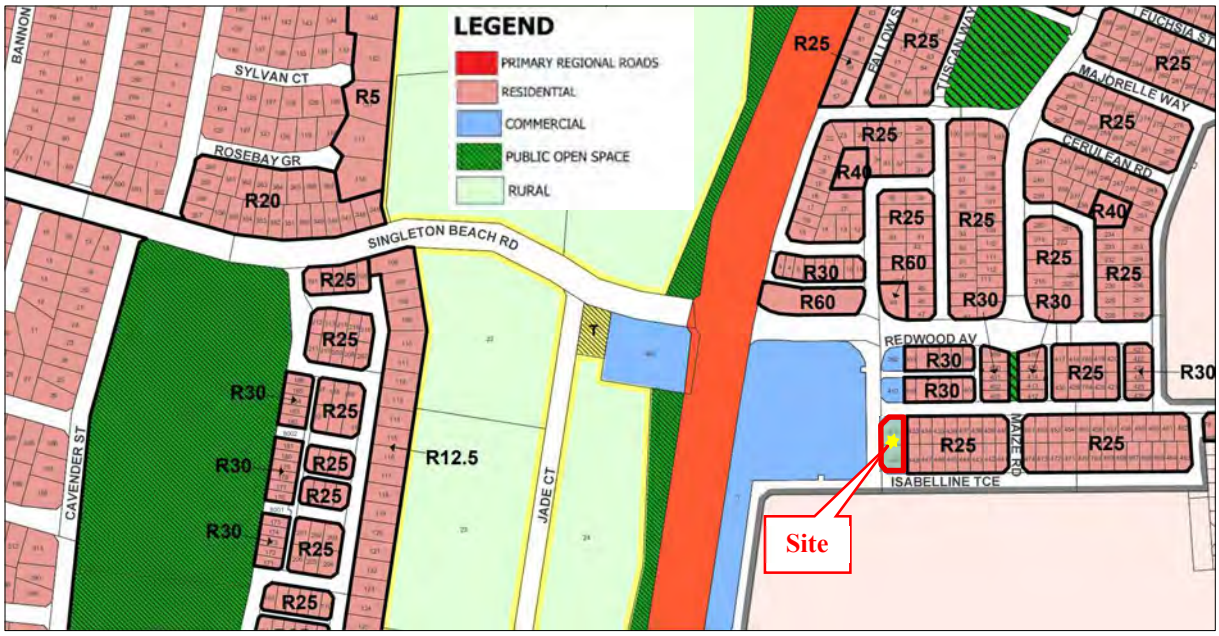


Figure 2.3: Town Planning Scheme Map *Source: City of Rockingham*

2.2 ADJACENT ROAD NETWORK

The subject site is located within a well-connected local road network in Karnup, WA, characterised primarily by low-volume residential streets. The site has direct frontage to Verdigris Road and is situated near both Isabelline Terrace and Charleston Street, all of which function as local access roads providing immediate connectivity within the surrounding residential precinct. The broader road network includes Singleton Beach Road to the west and Redwood Avenue to the east, which act as key local connectors facilitating movement within the suburb and providing connections to higher-order routes. These local roads ultimately connect to Mandurah Road (State Route 1), a major north–south arterial corridor that links the Karnup area with the regional centres of Rockingham and Mandurah.

Regional access is further enhanced by the Kwinana Freeway, located approximately 5 km east of the site. Access to the freeway is achieved via Mandurah Road, which intersects with Paganoni Road approximately 2 km north of the site. Paganoni Road then continues eastward for approximately 3 km to its interchange with the Kwinana Freeway.

Mandurah Road is classified as a Primary Distributor in Main Roads WA's (MRWA) Road Hierarchy with a posted speed limit of 70km/h past the site. It runs north-south and is constructed as a dual carriageway, with two lanes in each direction.

Singleton Beach Road and Redwood Avenue are classified as Local Distributors, whilst Charleston Street, Verdigris Road, and Isabelline Terrace are categorised as Access Roads, as shown in **Figure 2.4**. Singleton beach Road has a posted speed limit of 50km/h. All other local roads in this area are subject to the urban default speed limit of 50 km/h.

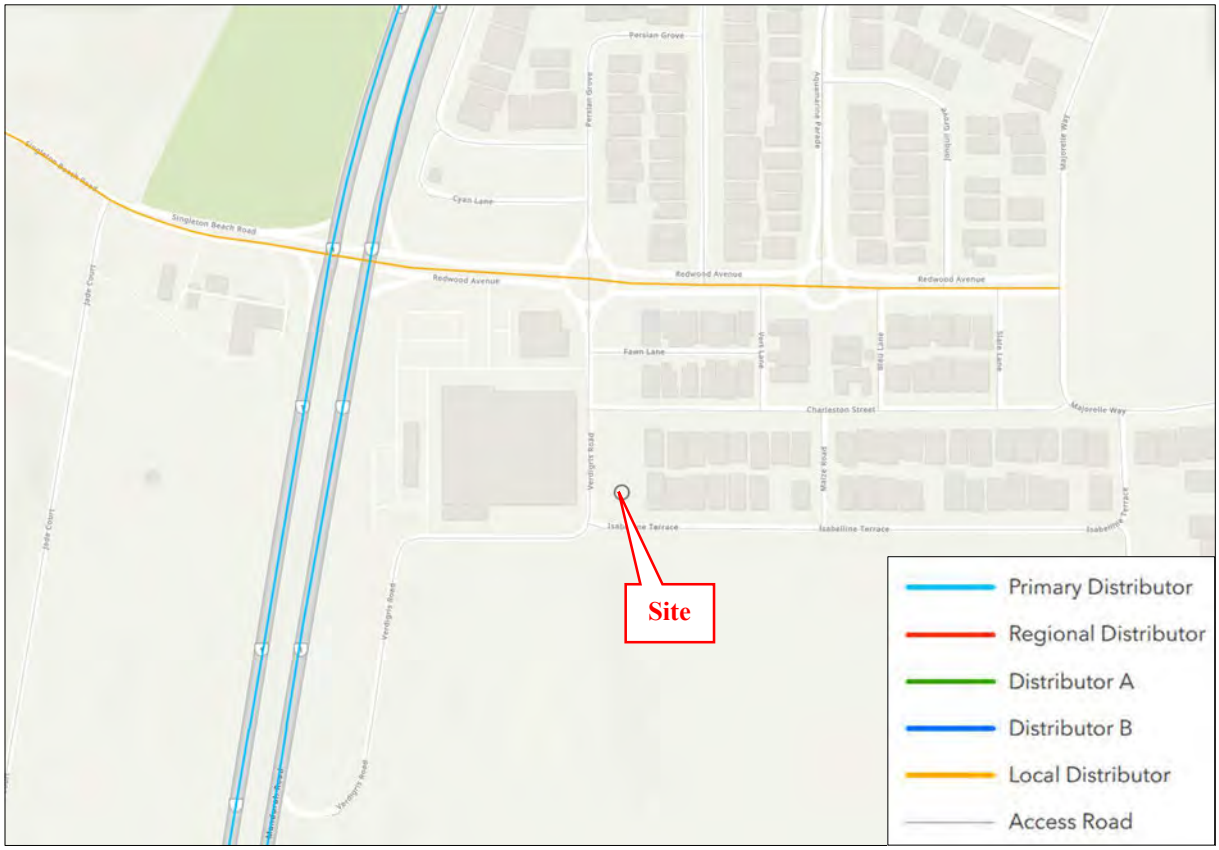


Figure 2.4: MRWA Functional Road Hierarchy Map *Source: MRWA*

2.3 CURRENT LAND USES

The subject site is surrounded by a diverse range of land uses, bordered by residential properties to the east and the Singleton Village Shopping Centre to the west, which includes a Woolworths supermarket, various shops such as cafés, restaurants, and a pharmacy. To the north, there are undeveloped lots awaiting subdivision, while to the south, the site is adjacent to extensive areas of natural vegetation and bushland. The subject site itself is currently vacant.

2.4 ACCESS ARRANGEMENTS

The site does not currently have a crossover from Charleston Street, Verdigris Road, or Isabelline Terrace. Footpaths run along both the Verdigris Road and Isabelline Terrace frontages, whilst there are also five embayed parking bays along Verdigris Road.

2.5 EXISTING TRAFFIC VOLUMES

The latest traffic flow data available for the roads near the site was extracted from MRWA's Traffic Map.

SCATS data of the intersection of Mandurah Road, Singleton Beach Road & Redwood Avenue, recorded between 19th and 25th of June 2023, show that Mandurah Road carried about 31,000 vehicles per day (vpd) just south of the intersection. Singleton Beach Road carried around 7,600 vpd and Redwood Avenue about 8,100 vpd. Peak hour weekday flows were generally around 10% of all day figures.

No data was available for Charleston Street, Verdigris Road or Isabelline Terrace.

2.6 CRASH HISTORY

The MRWA Crash Analysis Reporting System (CARS) was interrogated for crash data along the road sections adjacent the site, for the latest five-year period from January 2020 to December 2024.

The results of the search identified two recorded crashes along the roads near the site during the recording period, neither of which resulted in any casualties. One of the crashes involved an overtaking manoeuvre, whilst the other was an undefined single vehicle crash. Both crashes resulted in property damage only (1 major and 1 minor).

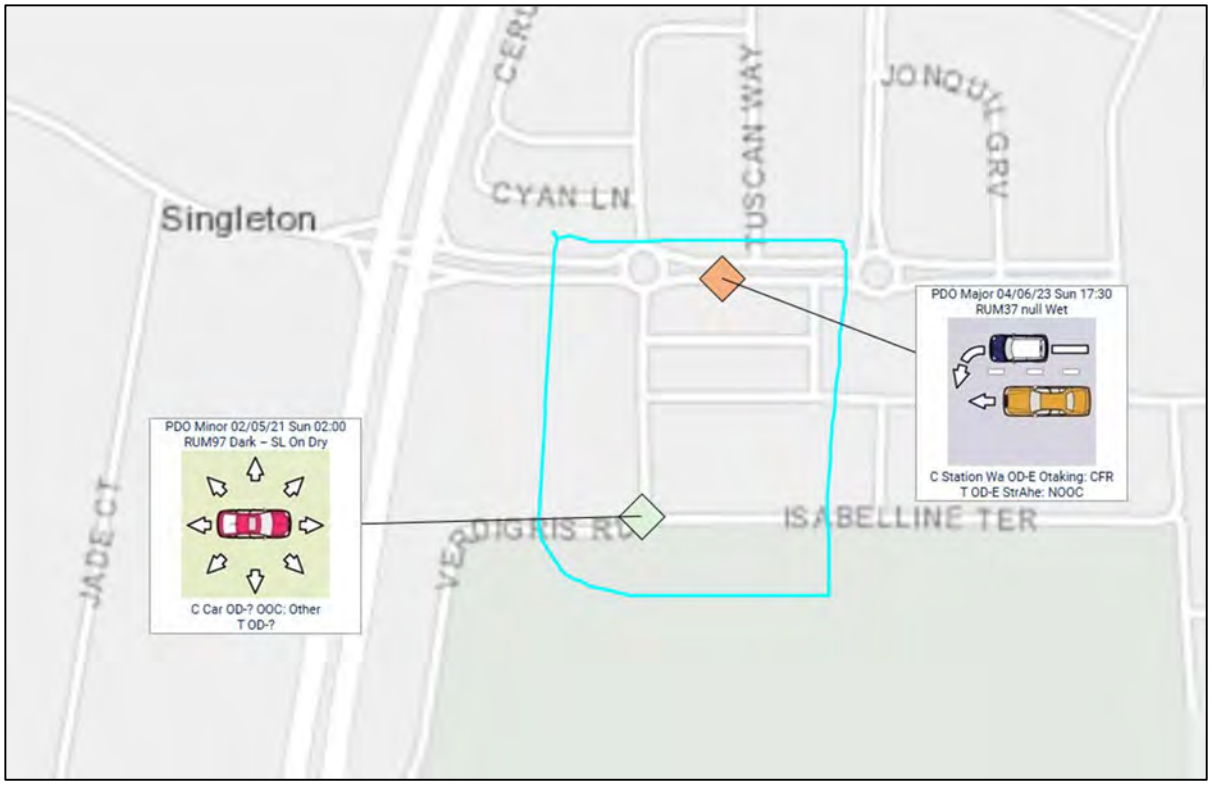


Figure 2.5: Crashes in the vicinity of the site *Source: CrashMap*

2.7 PLANNED CHANGES TO THE ROAD NETWORK

DVC is not aware of any proposed changes to the road network or significant planned developments within the vicinity of the site.

3. DEVELOPMENT PROPOSAL

3.1 PROPOSED DEVELOPMENT

The proposed development consists of a two storey Medical Centre. The new centre will include five GP consulting rooms, together with other associated facilities, such as a Radiology Suite, a pathologist, three women's health / skin care rooms, treatment rooms, three allied health rooms and injection and isolation rooms. The ground floor layout is shown in **Figure 3.1**, and the full DA drawing package is included in **Appendix A**.

3.2 PROPOSED DRIVEWAY ACCESS AND PARKING AREAS

As shown in **Figure 3.1,** the site will be provided with two new crossovers: one each onto Isabelline Terrace and Charleston Street. Traffic through the site will be one-way, with entry only from Isabelline Terrace and exit only onto Charleston Street. This one-way arrangement will be signposted at both accesses, which will each be 4m in width to dissuade two-way use. The vast majority of drivers will approach southwards along Verdigris Road, turn left into Isabelline Terrace and left into the site. On exit, they will turn left onto Charleston Street and then right onto Verdigris Road.

The development will have 26 on-site parking bays in total, including four ACROD bays. An additional ambulance parking bay is also provided onsite and five parallel on-street parking bays already exist along Verdigris Road, bordering the property. There are another 12 on-street bays opposite the site on Charleston Street and Verdigris Road.

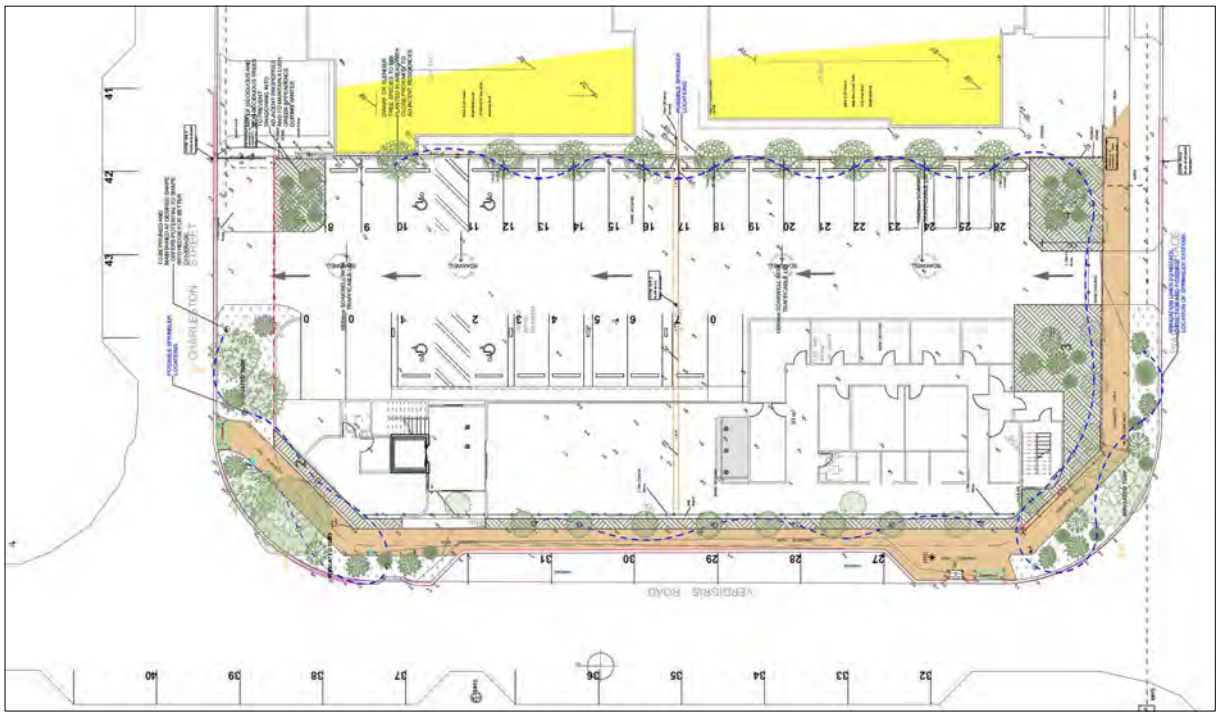


Figure 3.1: Proposed Development Plan showing on and off-site Parking *Source: Hubble Design (A1-02 Rev C 6/03/2026)*

4. TRAFFIC IMPACT ASSESSMENT

4.1 TRIP GENERATION

The staffing levels for the proposed development comprise seven practitioners and eight support staff. Each practitioner is expected to generate three patient visits at any one time, being one in consultation with a practitioner and two waiting for their appointment. Hence, some 15 inbound trips are expected to be generated by staff at the start of the working day and the same number outbound at the close. Additionally, assuming each practitioner consults with four patients per hour, this would generate 56 movements per hour comprising 28 inbound and 28 outbound trips.

Hence, during the peak hour some 28 trips are forecast to enter off Isabelline Terrace, and the same number expected to exit onto Charleston Street.

This volume of traffic, being less than 100 trips in the peak hour, would constitute a moderate impact according to the WAPC TIA Guidelines (Table 1, Volume 4), and therefore only requires a non-technical Transport Impact Statement.

DVC considers that the surrounding road network has sufficient capacity to absorb this additional traffic without significant impact.

4.2 PARKING PROVISION

The parking requirement for a Medical Centre is shown in Table 4 of the City of Rockingham's Town Planning Scheme No.2 (TPS2), replicated here as **Figure 4.1**.

TABLE NO.4
CARPARKING TABLE *

USE CLASS	MINIMUM CARPARKING REQUIREMENT
Medical Centre	5 bays per practitioner

Figure 4.1: Parking requirements *Source: City of Rockingham*

Based on the Development Application layouts and information provided by the proponent, we understand staffing will comprise of seven practitioners plus seven support staff. Five practitioners will be employed across general practice, skin clinic, and women's health, supported by two nurses, a phlebotomist in pathology and three administrative staff. The radiology clinic will employ two practitioners being a radiologist and a sonographer, supported by a receptionist.

In accordance with the City's TPS2 parking provision rate of five bays per practitioner, this would result in a requirement for 35 parking bays. With 26 onsite bays and five on-street bays immediately adjacent the site, totalling 31 bays, the development falls four bays short of the City's parking requirements.

This shortfall is not anticipated to result in any significant issues in terms of a parking provision as there are various options available for reducing the parking demand at a development. For example, the site is within reasonable walking distance of public transport and has good pedestrian and cycling links. (See section 5).

Whilst use of such alternative modes is more likely to reduce parking demand for staff rather than patients, it should be noted that the required parking provision covers both elements.

Shared trips may also be considered, whereby visitors to the medical centre may combine their trip with a visit to other facilities in the locale, particularly the adjacent Singleton Village Shopping Centre, thus sharing demand on the various parking provisions. The shopping centre includes a Chemist Warehouse outlet, which has a pharmacy and is likely to be visited should patients be issued with a prescription.

In addition, there are numerous on-street parking bays available along the local streets, which are designed to be used for short term visits. **Figure 3.1** shows nine on-street bays on Verdigris Road opposite the development site, plus there are three more on the opposite side of Charleston Street.

The Development Application plans also indicate the provision of an ambulance parking bay (see **Figure 3.1**).

4.3 RUBBISH COLLECTION

General rubbish collection will be carried out through the normal council verge collection. Medical waste will be collected by a certified private waste disposal contractor, with 240L bins serviced by small collection trucks most likely on a fortnightly basis.

5. SUSTAINABLE TRANSPORT AND ROAD SAFETY

5.1 PEDESTRIANS AND CYCLISTS

There are footpaths on two sides of the development site, along both the Verdigris Road and Isabelline Terrace frontages, with pedestrian crossings over both Charleston Street and Verdigris Road, giving access to and from the adjacent shopping centre.

On-road cycle lanes are provided on Mandurah Road.

5.2 PUBLIC TRANSPORT

The nearest bus stops to the site are on Mandurah Road and Singleton Beach Road, some 200m and 350m walk away respectively.

5.3 ROAD SAFETY

No specific road safety issues have been identified. The area is primarily residential, and passing traffic speeds expected to be slow.

It is important to ensure that visibility is maintained at the access crossovers, not only to vehicles on the adjacent streets, but also to pedestrians on the southern footpath. These areas should be kept free of obstructions to sight lines, such as verge vegetation.

6. SUMMARY AND CONCLUSION

6.1 SUMMARY

Jupiter Health has commissioned Donald Veal Consultants (DVC) to prepare this Transport Impact Statement report to support their development application for a proposed medical centre on the corner of Charleston Street, Verdigris Road and Isabelline Terrace in Karnup.

The proposed development consists of a two storey Medical Centre. The new centre will include five GP consulting rooms, together with other associated areas, such as a Radiology Suite, a pathologist, three women's health / skin care rooms, treatment rooms, three allied health rooms and injection and isolation rooms.

The development proposal contains 26 on-site parking bays in total, including four ACROD bays and there are five on-street parking bays adjacent the site. In addition, the Development Application plans also indicate the provision of an onsite ambulance parking bay. The proposed development will have separate entry and exit points, with vehicles entering from Isabelline Terrace and exiting onto Charleston Street.

The development proposal is forecast to generate some 56 trips during the peak hour evenly split between the entry and exit points.

Based on the City of Rockingham's TPS2 requirement of 5 bays per practitioner and advised staffing levels of seven practitioners plus seven support staff, the development requires 35 parking bays. With 31 bays being available, comprising 26 onsite and five on-street adjacent the site, the development falls only four bays short of the City's parking requirements. This is not expected to create any significant parking issues as there are good public transport connections, opportunities for local staff to walk or cycle to work and likelihood of shared trip purposes with patients also visiting the pharmacy or other outlets within the Singleton Village Shopping Centre.

General rubbish collection will be carried out through the normal council verge collection. Medical waste will be collected by a certified private waste disposal service.

It is important to ensure that visibility is maintained at the egress crossover and the area be kept free of obstructions to sight lines, with low vegetation maintained in the verge on either side.

6.2 CONCLUSION

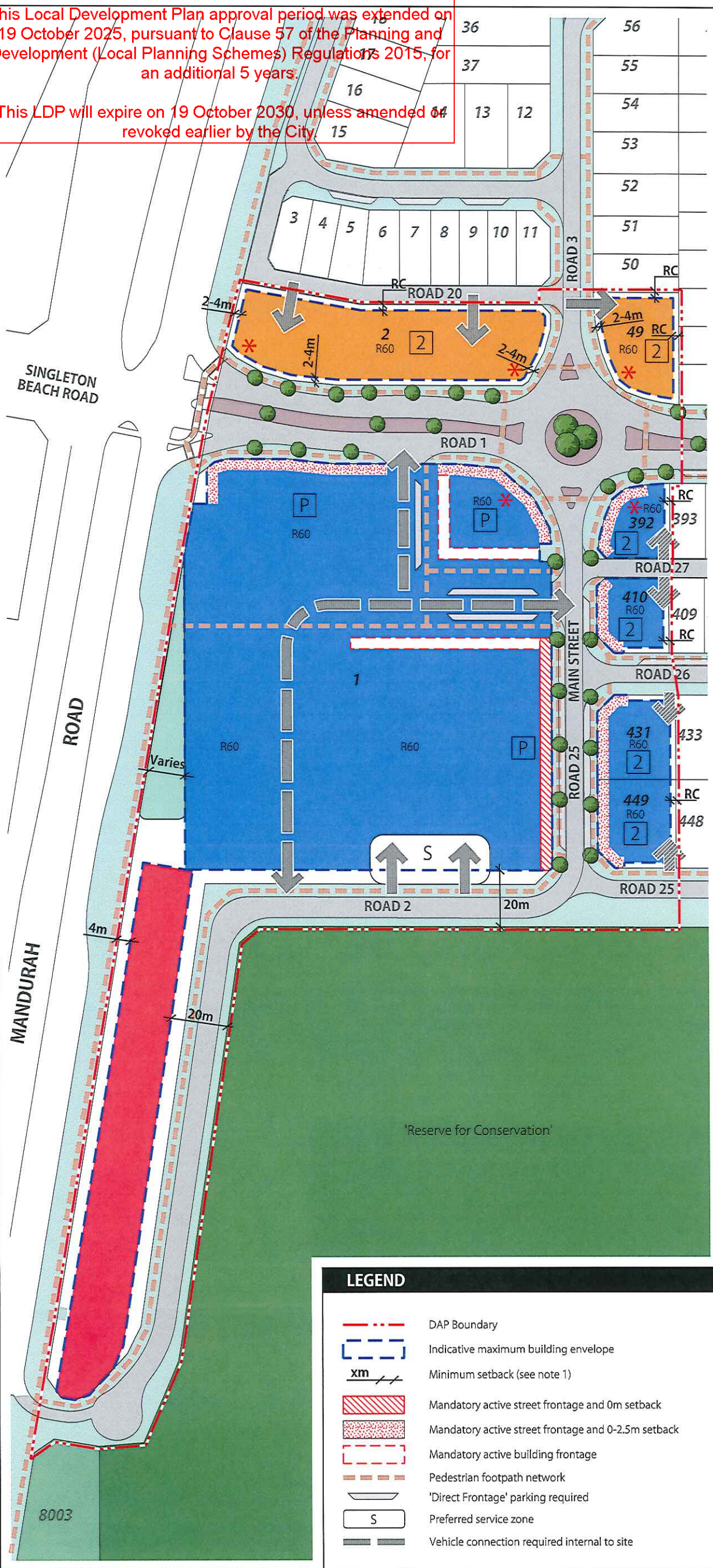
Based on this assessment, DVC supports the development proposal in terms of its traffic and road safety impacts on the adjacent road network.

APPENDIX A: DEVELOPMENT APPLICATION PLAN

LOCAL DEVELOPMENT PLAN APPROVAL EXTENDED

This Local Development Plan approval period was extended on 19 October 2025, pursuant to Clause 57 of the Planning and Development (Local Planning Schemes) Regulations 2015, for an additional 5 years.

This LDP will expire on 19 October 2030, unless amended or revoked earlier by the City.



PROVISIONS

The provisions of the City of Rockingham Town Planning Scheme No.2 (TPS2) and Residential Design Codes (R-Codes) are varied as detailed within this Detailed Area Plan (DAP). All other requirements of TPS2 and the R-Codes shall be satisfied in all other matters.

1. OBJECTIVE

The objective of this DAP is to establish a 'Main Street' based Neighbourhood Activity Centre, and of a scale appropriate to its role as the focal point for the local community.

2. STANDARDS

All development in the DAP area shall be consistent with the DAP and the following standards:

a) Structure:	i.	Road 25 is deemed to be the 'Main Street' for the Neighbourhood Activity Centre.
	ii.	The proposed internal access way is deemed a street for the purpose of street interface and landscape.
b) Street interface:	i.	All buildings shall enable passive surveillance of adjacent street reserves.
	ii.	Where active frontage is provided, it shall incorporate a canopy(s) with continuous coverage to a minimum depth of 2.5m or to within 600mm of the back of the adjacent kerb where the verge is too narrow to accommodate a full-depth canopy, and extend across the entire street frontage of the building.
	iii.	Delivery, loading and storage areas are to be located and screened to minimise the visual impact on the public domain.
	iv.	Street elevations shall be designed to create visual interest through building form, articulation of walls and openings, architectural features, texture and colour, with particularly emphasis given to the ground level.
	v.	Non-active portions of wall shall be articulated by means of form, colour and texture to provide visual interest.
c) Landscape:	i.	The landscape material used for the footpaths shall be continued across driveways and the entrance to Right of Ways/laneways to maintain visual continuity of the pedestrian network and aid pedestrian legibility.
	ii.	Street trees shall be provided at a rate of not less than 1 tree per 14m on both sides of all streets.
	iii.	Shade trees shall be provided to publically accessible car parks at a rate of not less than 1 tree per 8 car bays.
	iv.	The 'special landscape area' notated on the DAP shall be landscaped to provide screening to the adjacent car park area, as seen from Mandurah Road, to the satisfaction of the City of Rockingham.
d) Robustness:	i.	The ground floor of all buildings in the Commercial area shall be designed with a minimum floor-to-ceiling height of 3m to enable Commercial uses, even if used for interim Residential use.
e) Fencing:	i.	Any fencing to the primary or secondary street frontage shall be restricted to Residential uses only, no more than 1.8m high and shall be at least 50% visually permeable from 0.9m above ground level. Solid portions of fencing shall be masonry construction. Colorbond fencing is not permitted within a primary street setback area.

3. DEFINITIONS

For the purpose of this DAP, the following definitions will apply:

- ***Active (street or building) frontage:*** An active frontage shall incorporate shopfronts (to retail, office or other Commercial uses) with a minimum of 66% of the ground floor street frontage as transparent glazing that allows visual connectivity between the inside and outside of the building. Additionally, any tenancy with active frontage to a street shall incorporate a primary pedestrian entry from that street.
  For development in the north-western portion of the 'core' Commercial site, the mandatory active street frontage provision applies only if this portion of the site is developed for built-form purposes.
- ***Architectural response to a corner:*** An architectural response to a corner shall consist of a prominent feature that provides visual emphasis. It may consist of a raised and/or projecting building element, significant roof form, a differentiation of material or a significant opening(s) or balcony/verandah structure.

This Detailed Area Plan has been approved under delegation by the Director, Planning & Development Services under clause 4.23.1(c) of the City of Rockingham Town Planning Scheme No.2:

Director, Planning & Development Services
City of Rockingham

Date 7/4/14.

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LEGEND

- DAP Boundary
- Indicative maximum building envelope
- xm — Minimum setback (see note 1)
- Mandatory active street frontage and 0m setback
- Mandatory active street frontage and 0-2.5m setback
- Mandatory active building frontage
- Pedestrian footpath network
- 'Direct Frontage' parking required
- S — Preferred service zone
- Vehicle connection required internal to site
- Special landscape zone
- Architectural response to corner required
- Mandatory vehicle access point
- Preferred vehicle access point
- Residential (R60)
- Commercial (R60)
- Commercial (Residential not permitted)
- 2 — Minimum building height in storeys
- P — Minimum parapet height of 5.5m

NOTE 1
For setbacks: RC = as per R Codes
Where a range is provided, the setbacks shall be a minimum and a maximum

SINGLETON VILLAGE NEIGHBOURHOOD ACTIVITY CENTRE DETAILED AREA PLAN

KARNUP

for: Golden Group

NORTH

Scale 1: 1500 @ A3 | NTS @ A2

0 15 30 45 60 75 metres

COMPILED: DPS		DRAWN BY:	NM/LW
DATE:	06/06/2013	REVISED:	31/03/2014
GRID:	MGA 50	DATUM:	AHD
DRAWING NUMBER:	GOGKA-4-007L	JOBCODE:	GOGKATCP
FILE ID: M:\GOGKA\BASE\DETAILED AREA PLANS\GOGKA-4-007L.dgn			

Development Planning Strategies
28 Brown St, East Perth WA 6004 | PO BOX 6697 EAST PERTH 6892
P (08) 9268 7900 | F (08) 9268 7999 | E dps@dpswa.com.au
www.dpsplanning.com.au



BUILT FORM CONCEPT FOR SINGLETON VILLAGE NEIGHBOURHOOD ACTIVITY CENTRE DAP

KARNUP
for: Golden Group

NORTH

NTS @ A3

0 15 30 45 60 metres

COMPILED: DPS \ TAYLOR ROBINSON		DRAWN BY:	NM\LW
DATE:	20/02/2014	REVISED:	02/04/2014
GRID:	MGA 50	DATUM:	AHD
DRAWING NUMBER:	GOGKA-4-008e	JOBCODE:	GOGKATCP
FILE ID: M:\GOGKA\BASE\DETAILED AREA PLANS\GOGKA-4-008e.dgn			

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www.dpsplanning.com.au

PART C – CITY OF COCKBURN

1. Declarations of Due Consideration

2. Disclosure of Interests

3. Form 1 DAP Applications

3.1 Lot 168 (81) Quill Way, Henderson - Mixed Commercial Development (Henderson Business Hub) – DAP/25/03034

4. Form 2 DAP Applications

Nil

5. Section 31 SAT Reconsiderations

Nil

Part C – Item 3.1 - Lot 168 (81) Quill Way, Henderson
Mixed Commercial Development (Henderson Business Hub)

Form 1 – Responsible Authority Report
(Regulation 12)

DAP Name:	Metro Outer Development Assessment Panel
Local Government Area:	City of Cockburn
Applicant:	Element (SLR)
Owner:	Scope Property Group Pty Ltd
Value of Development:	$200 million ☐ Mandatory (Regulation 5) ☒ Opt In (Regulation 6)
Responsible Authority:	City of Cockburn
Authorising Officer:	Riley Brown
LG Reference:	DAP25/005
DAP File No:	DAP/25/03034
Application Received Date:	18 December 2025
Report Due Date:	20 April 2026
Application Statutory Process Timeframe:	90 Days
Attachment(s):	1. Development Application Report 2. Original Development Plans 3. Amended Development Plans 4. Coloured Perspectives 5. Original Traffic Impact Statement 6. Amended Traffic Impact Statement 7. Amened Swept Path and Sightline Assessment 8. Landscaping Plan 9. Bushfire Management Plan 10. Air Quality Assessment (with Addendums) 11. Acoustic Report (with Technical Note) 12. Stormwater Management Plan 13. Waste Management Plan 14. Sustainable Design Assessment 15. Retail Analysis 16. Public Art Plan 17. Design Review Panel Minutes 18. Objection from Hero Properties 19. Schedule of Remaining Submissions 20. Referral Advice – DevWA 21. Referral Advice – MRWA 22. Referral Advice – DPLH 23. Referral Advice – DEED (Formerly JTSI)

	24. Referral Advice – DoD 25. Referral Advice – DWER 26. Referral Advice – DoH 27. Applicant's Response to Concerns	
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 Development Assessment Panel resolves to:

Refuse DAP Application reference DAP/25/03034 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 Local Planning Scheme No. 3, for the following reasons:

Reasons

1. The proposed development is not supported as it has not adequately demonstrated that the surrounding road network can safely and efficiently accommodate the additional traffic generated and relies on upgrades that are not resolved or secured, resulting in unacceptable transport impacts (clause 67(t) of the deemed provisions)

2. The proposal (as amended) results in a 424 car parking bay shortfall pursuant to the Town Planning Scheme No. 3 and has not justified varied parking rates against the Western Australian Planning Commission's WA Planning Manual: Non-Residential Car Parking Rates in Perth and Peel. Spillover parking in industrial areas presents a considerable risk to pedestrians and road users alike (clause 67(s)(ii) of the deemed provisions).

3. The proposal does not comply with the recommended separation distances required by the Environmental Protection Authority's Separation Distances between Industrial and Sensitive Land Uses as an existing ship building industry (emitting gas, noise, dust and odour) is located less than 200m from the proposed sensitive land use ('Hotel') (clause 67(m)(i) of the deemed provisions).

4. The proposal is inconsistent with the objectives of State Planning Policy 4.1 – Industrial Interface as it intensifies tourist development within an established industrial area, contributing to land use conflict and potential constraint on existing and future industrial operations, contrary to the strategic intent of the area (Clause 67(e) of the deemed provisions).

5. The economic and amenity impact associated with the introduction of a noise-sensitive land use within a strategic industrial precinct is significant. Given the onus is on noise emitting operators to comply with the Environmental Protection (Noise) Regulations 1997, the proposal presents an unacceptable risk of land-use sterilisation (clause 67(x) of the deemed provisions)

6. The application fails to adequately demonstrate that the proposal can achieve acceptable air quality outcomes for a sensitive land use, due to deficiencies in the submitted air quality assessment, resulting in uncertainty and potential risk to future occupants, contrary to the City and State Government precautionary approach concerning the habitable uses ('Hotel') within the Kwinana Air Quality Buffer.

7. To approve the development would be inconsistent with the principles of orderly and proper planning.

Details: outline of development application

Region Scheme	Metropolitan Region Scheme
Region Scheme - Zone/Reserve	Industrial
Local Planning Scheme	City of Cockburn Local Planning Scheme 3
Local Planning Scheme - Zone/Reserve	Strategic Industry
Structure Plan/Precinct Plan	NA
Structure Plan/Precinct Plan	Australian Marine Complex Strategic Infrastructure and Land Use Plan
Use Class and permissibility:	Office (D) Hotel (A) Tavern (A) Shop (P) Health Studio (A) Medical Centre (D) Reception Centre (A) - **now removed** Restaurant (A) Lunch Bar (P)
Lot Size:	1.8472 Ha
Existing Land Use:	Motel Tavern

	Shop Petrol Station
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	No

Proposal:

The proposal seeks development approval for a largescale mixed commercial precinct comprising five individual buildings arranged across the site. The development has been conceived as an integrated business hub accommodating a broad mix of complementary commercial, hospitality, health and community-oriented uses. Collectively, the buildings are intended to operate as a cohesive precinct rather than standalone developments, supporting employment, services, and visitor activity within the locality. The large-scale mixed commercial precinct comprising five individual buildings arranged across the site. The development has been conceived as an integrated business hub accommodating a broad mix of complementary commercial, hospitality, health and community-oriented uses. Collectively, the buildings are intended to operate as a cohesive precinct rather than standalone developments, supporting employment, services, and visitor activity within the locality.

In terms of built form, the development includes a hotel building (Building 1) with a maximum height of approximately 37 metres across ten storeys. This is complemented by a centrally located Social Hub (Building 2), which reaches 24 metres over five storeys and contains a range of social, hospitality and communal uses. Two office buildings form the primary commercial components of the-site: Building 3 has a height of 56 metres and comprises 13 storeys, while Building 4 is the tallest element at approximately 59 metres across 15 storeys.

A fifth building accommodates medical and office uses (Building 5) and is lower in scale, with a height of approximately 22 metres over five storeys. The varied heights across the site respond to differences in land use intensity and assist in articulating the precinct skyline.

Car parking is provided across the precinct to service the anticipated demand generated by the range of uses. The hotel (Building 1) is allocated 118 on-site car parking bays, while the Social Hub (Building 2) includes 59 bays. Office Building 3 is supported by 217 parking bays, and a further 343 bays are allocated collectively to

Office Building 4 and the Medical/Office Building 5. In total, the development provides 737 car parking bays across the site, ensuring adequate provision for staff, visitors and patrons.

The development delivers a substantial amount of commercial and community floorspace. Office uses account for approximately 21,531 square metres of net lettable area (NLA). Retail, shop and restaurant uses comprise approximately 2,837 square metres NLA, supporting day-to-day services and active ground-floor interfaces. A tavern with a floorspace of approximately 668 square metres NLA forms part of the Social Hub and contributes to the precinct's hospitality and social function.

Additional non-retail uses further diversify the site. A medical centre of approximately 1,155 square metres NLA supports health-related services, while a health studio of approximately 836 square metres NLA provides wellness and fitness-oriented uses. The proposal also includes a convention centre of approximately 800 square metres NLA.

It is important to note that the Reception Centre (Convention Centre) was removed in a later iteration of plans. These have been reflected in the amended plans, however some technical reports as well as the applicant's planning report may still reference this land use.

Proposed Land Use	Hotel Tavern Shop Lunch Bar Restaurant Office Medical Centre Health Studio Reception Centre - **now removed**
Proposed Net Lettable Area	29,041m2
Proposed No. Storeys	15
Proposed No. Dwellings	NA

Background:

The subject land is located within the Henderson locality and is positioned within the Australian Marine Complex (AMC) employment area. The site occupies a unique planning position as the only lot within the immediate area zoned *Local Centre*, distinguishing it from the surrounding industrial-zoned land. This zoning establishes a strategic role for the site in accommodating a mix of commercial, service and

employment-supporting uses that respond to the needs of the surrounding workforce and industrial precinct.

The broader Henderson area is identified for ongoing industrial and defence-related development, with associated growth in employment and daily movement within the area. In this context, the Local Centre zoning facilitates the provision of support services and non-industrial uses that are compatible with, but functionally distinct from, the surrounding industrial development pattern. The range of land uses proposed on the site aligns with this planning intent and represents a land-use outcome that differs from the predominantly industrial character currently observed in the locality.

The precinct is expected to see an increase in interest and investment from both the public and private sectors due to significant projects slated for the South-West Corridor (such as AUKUS, Westport and the future Defence Precinct)

The site currently features a small motel, tavern (Ship and Dock Inn), self-serve petrol station and a number of retail offerings (shops and lunch bars).



Figure one – existing retail offerings at rear of subject site



Figure two – existing two-storey Ship & Dock Inn



Figure three – existing motel accommodation

During the 1980s and 1990s, the area formed part of what was known as a *Clause 32* area under the Metropolitan Region Scheme. At that time, the planning controls were relatively transitional in nature and were intended to facilitate the early development of marine-related industry and associated activities, while allowing flexibility as the precinct matured. Clause 32 application required determination by the Western Australian Planning Commission, highlighting the strategic importance of the area.

Following the gazettal of the City of Cockburn Town Planning Scheme No. 3 (TPS3) in 2003, the AMC was formally recognised as a precinct of strategic importance. The scheme introduced a more refined planning approach by carving the AMC out into *Special Use* zones, supported by Development Areas and overlaid structure plans. This framework was designed to tightly manage land use outcomes, ensure coordinated subdivision and development, and preserve the primacy of marine, defence and heavy industrial activities within the precinct. The structure plans provided detailed guidance for lot layout, access, servicing and land use distribution during the establishment phase of the AMC.

Over time, however, as the AMC became substantially subdivided and developed, the original Special Use and Development Area controls were increasingly viewed as complex and, in some respects, outdated. By the late 2010s, the City undertook a comprehensive review of the planning framework applying to the AMC, informed by landowner engagement, agency consultation and alignment with contemporary State planning policy. This culminated in Scheme Amendment No. 144, which was adopted in 2019.

Scheme Amendment No. 144 replaced the former *Special Use 2* and *Special Use 22* zones with the *Strategic Industry* zone, as contemplated by the Planning and Development (Local Planning Schemes) Regulations 2015. The amendment also removed Development Area controls and revoked the associated structure plans, on the basis that they had fulfilled their original purpose and were no longer required to guide orderly development. In doing so, the amendment sought to modernise the planning framework, simplify development assessment, and most importantly, reinforce the strategic industrial role of the AMC.

The introduction of the *Strategic Industry* zone was a deliberate and policy-driven decision. The zone is expressly intended to protect industrial land of State and regional significance, and to ensure that land uses within such areas support, or at least do not undermine, the long-term operation and expansion of strategic industries. The accompanying Scheme Amendment Report at the time made clear that the intent was not to broaden land use permissibility to accommodate sensitive or incompatible uses, but rather to provide certainty, flexibility within an industrial context, and alignment with the Metropolitan Region Scheme's industrial zoning and the State Planning Framework.

This planning history is highly relevant to the assessment of the current proposal. While the Local Centre zoning of the subject site is acknowledged, the broader AMC planning framework has consistently and progressively moved toward stronger protection of strategic industrial functions. The evolution from Clause 32 controls, through Special Use zones and structure plans, to the Strategic Industry zone reflects an overarching policy objective: to safeguard the AMC as a critical industrial precinct and to avoid land-use outcomes that could compromise its function, efficiency, or future viability.

It is also relevant to note that the subject site was deliberately excluded from Scheme Amendment No. 144 and was retained as a Local Centre zone, resulting in its current position as an enclave within the broader Strategic Industry zoning of the Australian Marine Complex. This approach reflected the established pattern of development on the site at the time of the amendment, which comprised non-industrial commercial uses that more closely aligned with the purpose and objectives of the Local Centre zone than with an industrial zoning. Rezoning the land to Strategic Industry would not have achieved a meaningful planning outcome, as it would have immediately rendered the majority of existing lawful uses non-conforming, without delivering any strategic industrial benefit. The retention of the Local Centre zoning was therefore a pragmatic and transitional measure to acknowledge existing development, rather than an indication that the site was intended to operate independently of, or contrary to, the strategic industrial function and policy direction applying to the surrounding precinct.

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
Environmental Protection Act 1986
Environmental Protection (Noise) Regulations 1997

State Government Policies

State Planning Policy 3.7 - Bushfire
State Planning Policy 4.2 - Activity Centres for Perth and Peel
State Planning Policy 7.0 - Design of the Built Environment

Structure Plans/Activity Centre Plans

Australian Marine Complex Strategic Infrastructure and Land Use Plan

Local Policies

Local Planning Policy 1.12 - Noise Attenuation
Local Planning Policy 1.14 - Waste Management
Local Planning Policy 1.15 - Tourist Accommodation
Local Planning Policy 3.1 - Commercial Development
Local Planning Policy 5.13 - Percent for Art
Local Planning Policy 5.16 - Design Review Pabel
Local Planning Policy 5.18 - Street Trees

Consultation:

Public Consultation

The application was publicly advertised for a period of 14 days between 9 January and 23 January. The proposal was published on the City's Comment on Cockburn website, and a letter was sent to 53 nearby landowners/operators.

A total of 4 submission were received (2 objections and 2 non-objection). A schedule of submissions is provided as Attachments 18 and 19, but a summary of the issues raised in the objections is provided in the table below

Issue Raised	Officer comments
Proximity of retail tenancies to Henderson Defence Precinct (security)	The Department of Defence are aware of the proposal and have not raised any objections from a National Security perspective. The specific tenants of the proposed retail tenancies are not yet known and will likely not require further development approvals (as Shop is a P use).
Introduction of a noise sensitive land use in an industrial precinct	Agreed that this is a concern and may prejudice the operation of existing landowners within proximity to the subject site.
Inconsistency with Industrial Zoning under the Metropolitan Region Scheme	Whilst the site is zoned Industrial under the MRS, the City is predominantly conducting an assessment under the Local Planning Scheme. Under the Local Planning Scheme, the site is zoned local centre. However, the City does acknowledge that the surrounding area is an industrial zoning at both the regional and local schemes and can appreciate the land-use conflict that this creates.
Non-compliance with SPP4.1 – Industrial Interface	Agree with objectors concerns relating to compliance with the SPP, in particular the land-use conflict that arises from the introduction of hospitality-focuses land uses within a strategic industrial precinct.
Bulk and Scale	Generally the City is not concerned with the bulk and scale proposed. It is unlikely to impact any nearby residential amenity. There are no built form codes for the area and the planning framework does not prescribe maximum heights, setback requirements etc. The overall bulk and scale was not a major concern of the Design Review Panel
Non-alignment with objectives of Local Centre Zone in the context of the Henderson Locality	The Local Centre zoning under TPS3 does not prescribe an intent limited to maintaining existing uses or serving only the Henderson industrial workforce, and no such restriction is explicitly articulated in the local planning framework. While it is acknowledged that SPP 4.2 emphasises a local role for centres, it also allows flexibility in scale and form where proposals are supported by strategic justification and respond to their context, rather than reflecting historical development patterns alone. Accordingly, the objection places undue reliance on past site use and inferred intent, rather than the actual statutory provisions and performance-based nature of the applicable planning framework.
Prejudicing operation of the Australian Marine Complex	Agree that this is a significant concern.

Referrals/consultation with Government/Service Agencies

The proposal was referred to a number of State and Federal Government agencies. The below table indicates the agencies that were consulted along with the reason the proposal was referred and a summary of their response. The full responses from each agency are provided as attachments 20 through 26.

Agency	Reason for Referral	Summary of Response
MainRoadsWA (MRWA)	Potential impact on *Primary Regional Road* Reservation under the Metropolitan Region Scheme	Non-supportive of proposal due to projected failure of nearby intersection.
Department of Planning, Lands and Heritage (DPLH)	Potential impact on *Other Regional Road* Reservation under the Metropolitan Region Scheme	DPLH notes the requirement for intersection upgrade/signalisation. Recommends further modelling to inform upgrade requirements.
Department of Energy and Economic Diversification (Formerly Jobs, Tourism, Science and Innovation) (DEED formerly JTSI)	Key stakeholder within AMC. Previously involved with the development of the nearby Common User Facility.	No Comment
Department of Defence (DoD)	Proximity of development to Henderson Defence Precinct	No national security concerns. Requests City to consider parking implications and impact on future infrastructure needs for the precinct.
Department of Health (DoH)	Technical advice on Air Quality Assessment and potential contamination of petrol station site.	DoH raised concerns about the adequacy of the air quality assessment, including limited monitoring scope and uncertainty in results. DoH does not support introducing a sensitive land use (hotel) within the industrial area and Kwinana Air Quality Buffer. DoH recommended consideration of potential site contamination

		associated with the former service station.
DevelopmentWA (DevWA)	Key stakeholder within AMC	DevelopmentWA's generally supports the proposal that is intended to enhance services for the Australian Marine Complex (AMC). While most land uses are supported, DevelopmentWA raises significant concerns regarding the proposed hotel due to potential air quality, noise, traffic and parking impacts that could conflict with current and future heavy industrial operations at the AMC and Common User Facility. The agency requests further detailed investigation and consultation to ensure the development does not constrain the AMC's strategic industrial and defence functions.
Department of Water and Environmental Regulation (DWER)	Technical advice on Air Quality Assessment and Stormwater Management Plan	DWER does not object in principle, but raised concerns with the air quality assessment methodology, including unspecified monitoring methods, siting, and standards. Monitoring was too limited in duration to be representative, failing to capture seasonal variability. Air quality results were inappropriately compared against guideline averaging periods, limiting the reliability of conclusions.

Design Review Panel Advice

The proposal was referred to the City's Local Design Review Panel (DRP) in accordance with Local Planning Policy 5.16 (LPP 5.16). Pursuant to clause 3(c) of LPP 5.16, a review by the DRP is required for any proposal with an estimated cost of $10million or more.

The role of the DRP is to provide an independent assessment of the proposal against the 10 principles of State Planning Policy 7.0 – Design of the Built Environment. Two

DRP meetings were held on 24 September 2025 (DRP1) and 26 November 2025 (DRP2). The minutes of each meeting are provided as attachment 17.

Between the first and second reviews, the project moved from a car-park-dominated layout of relatively disconnected buildings toward a more legible, people-oriented precinct with a defined “social hub,” stronger pedestrian links, and early commitments to active ESD measures.

DRP1 characterized the scheme as a collection of individual elements in a sea of parking with limited streetscape activation, minimal coordination of built form, and insufficient information across several design quality principles. DRP2 acknowledged substantial progress especially the inclusion and reconfiguration of the tavern site into a central social hub, improved east-west and north-south pedestrian routes, more landscaping (including parklet spaces), and better internal amenity in key components while still flagging fundamental issues with the hotel’s street interface and the office building’s bulk and siting.

The most notable step forward is the creation of a central social hub by incorporating the tavern site into the scheme, replacing an earlier low-scale, poorly integrated tavern that previously constrained the master planning and suppressed a “social heart.” The Panel explicitly calls the new tavern and social hub “a significant improvement,” praising the grouping of social uses, generous floor-to-floor heights in these areas, and the overall increase in communal and social space. This addresses DRP1’s call to establish a distinctive sense of place and a generous public space that could anchor the mixed-use development

DRP2 recognizes stronger, more legible pedestrian movement in both directions through the site, along with a general increase in onsite landscaping and the introduction of multiple “parklet style” public spaces. Some mature Norfolk Island pines have been retained. This was another shift responding to DRP1’s recommendation to explore rearranging-built form to keep these site defining trees and lift the landscape quality.

DRP2 commends the hotel, mixed-use and social hub buildings for showing greater articulation and material diversity compared to the earlier iteration, nudging the scheme toward the “high-tech coastal/marine” character the Panel encouraged at DRP1.

The hotel still turns its back to the street: the main entrance faces an internal car park, and the loading dock occupies a prominent corner on the streetscape. The Panel again asks to relocate the entrance to the corner or closer to the street and to shift the loading dock inside the site. They also reiterate that truck parking on the verge is not supported and should be removed.

In its concluding remarks, DRP2 cautions against using the immediate industrial context as the main precedent for massing, articulation, and street interface decisions.

Given the scheme's mixed-use, precinct scale, the Panel urges the team to draw from appropriate mixed-use precedents particularly to rethink the siting and expression of the office building.

The City acknowledges the applicant's willingness to respond to the comments of the DRP in a positive way and is supportive of the design adaptations made between DRP1 and DRP2, and then within the Development Application itself.

Notwithstanding that there were a number of yellow/red items remaining in the minutes of DRP2, the City is supportive of the built form outcome and notes there have been some further design evolution post DRP2. The applicant response to the outstanding matters has been provided in their Development Application Report.

Planning Assessment:

Zoning

The subject site is located within the Local Centre zone pursuant to the City's Town Planning Scheme 3 (TPS3). The objectives of the Local Centre zone are as follows:

'To provide for convenience retailing, local offices, health, welfare and community facilities which serve the local community, consistent with the local - serving role of the centre.'

Under the Metropolitan Region Scheme (MRS), the site is zoned Industrial. Pursuant to the MRS text, the purpose of the industrial zone is to:

'provide for manufacturing industry, the storage and distribution of goods and associated uses'

The Quill Way Local Centre zone is surrounded by the Strategic Industry Zone. Although the site is not zoned Strategic Industry, it is important to note the objectives of the zone, which is:

'To provide for Strategic Industrial areas of State or Regional significance; and to provide for a range of industrial activities associated with defence, resource and marine activities.'

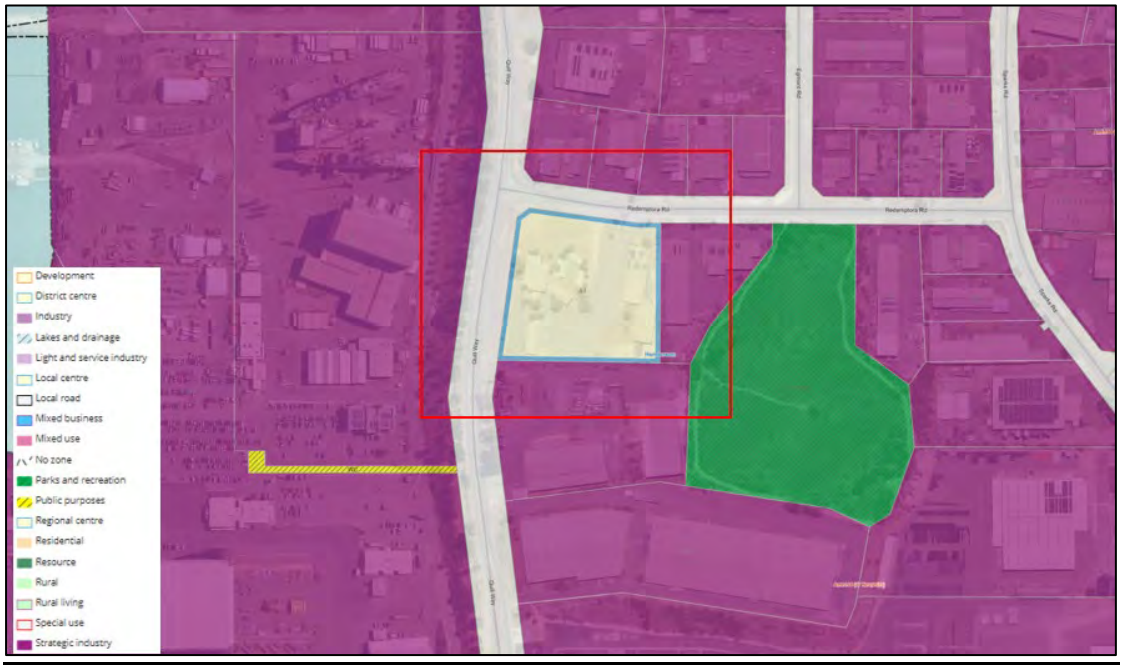


Figure Four – TPS3 Zoning



Figure Five – MRS Zoning

Australian Marine Complex Strategic Infrastructure and Land Use Plan

Whilst the site is a stand-alone commercial property, it falls within the Australian Marine Complex (AMC). The Australian Marine Complex (AMC) is a major industrial hub that plays a vital role for the Western Australia's ship building industry. It provides facilities and services for building, maintaining, and assembling equipment for the marine, defence, energy, and resource sectors. The entire AMC (which is bound by Cockburn Road to the south and east and Russel Road and the Woodman Point Regional Reserve to the north) is zoned Strategic Industry pursuant to the City's Town Planning Scheme 3 (excluding the subject site).

The AMC's development is coordinated by the Industrial Lands Authority (better known as DevelopmentWA). A major feature of the AMC is the nearby, government-owned Common User Facility (CUF). The CUF offers shared infrastructure and services to a range of users, including spaces for storage, fabrication halls, workshops, offices, wharves for loading and unloading, and berths for vessels. It's designed to support multiple industries and allows companies to access its facilities for individual projects. With its open access policy and large capacity, several businesses can carry out their operations there simultaneously.

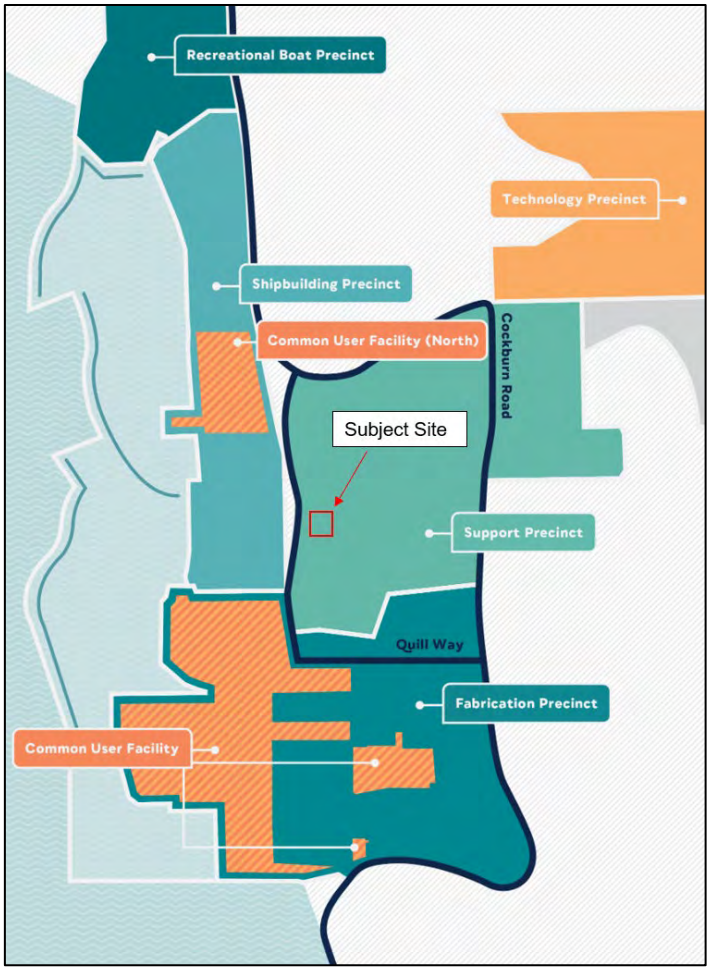


Figure Six – AMC Precincts

The site falls within the Support Precinct. As outlined in the AMC Strategic Infrastructure and Land Use Plan (SILUP), the Support Precinct's focus is to provide serviced land for small to medium-sized suppliers of goods and services to the shipbuilding, defence, energy and resource industries.

Whilst the SILUP is not a statutory planning instrument identified within the overarching planning framework, it should be given due regard as the overall guiding document for land use planning within the area.

Land Use

There are a number of land uses being proposed as part of this development. The City agrees with the applicant's description of the land uses sought with the exception of the convention centre. The applicant is of the view that convention centre is a use not listed. However, TPS3 does contain a land use 'reception centre'. This is defined as:

premises used for functions on formal or ceremonial occasions but not for unhosted use for general entertainment purposes.

This land use likely is adequate for the purposes of the convention centre that the application is proposing. For that reason, the City has not treated this as a use not listed.

The other land use definitions are outlined below:

Land Use	TPS3 Definition
Shop	means premises used to sell goods by retail, hire goods, or provide services of a personal nature (including a hairdresser or beauty therapist) but does not include a showroom, fast food outlet, bank, farm supply centre, garden centre, hardware store, liquor store and nursery.
Tavern	means premises licensed as a tavern under the Liquor Control Act 1988 and used to sell liquor for consumption on the premises.
Hotel	means premises providing accommodation the subject of a hotel licence under the Liquor Control Act 1988 and may include a betting agency on those premises.

Restaurant	means premises where the predominant use is the sale and consumption of food and drinks on the premises and where seating is provided for patrons, and includes a restaurant licensed under the Liquor Licensing Act 1988.
Lunch Bar	means premises or part of premises used for the sale of takeaway food (in a form ready to be consumed without further preparation) within industrial or commercial areas.
Medical Centre	means premises, other than a hospital, used by one or more health consultant(s) for the investigation or treatment of human injuries or ailments and for general outpatient care (including preventative care, diagnosis, medical and surgical treatment, and counselling).
Office	means premises used for administration, clerical, technical, professional or other like business activities.
Health Studio	means land and buildings designed and equipped for physical exercise, recreation and sporting activities including outdoor recreation.

Traffic

Quill Way, Cockburn Road, Sparks Road and Redemptora Road perform an essential function in providing access to the AMC and connecting the precinct to the broader regional road network, including Primary and Other Regional Roads under the Metropolitan Region Scheme.

The proposed development represents a substantial intensification of land use on the site and is forecast to generate a high volume of vehicular traffic, particularly during weekday peak periods. In this context, a robust and representative assessment of traffic generation, distribution and network impacts is critical to determining whether the proposal can be accommodated without adversely affecting the safety, efficiency and function of surrounding roads and intersections.

Concerns relating to traffic impacts were raised by the City and the Department of Planning, Lands and Heritage (DPLH). These concerns focus on the adequacy of the traffic data used in the TIA, the validity of modelling assumptions, the operational

performance of key intersections, and the lack of certainty around mitigation measures required to support the development. The City identified that the scale of traffic generation has the potential to materially impact the regional road network, particularly given the constrained access points into the AMC and the strategic significance of the surrounding roads.

A fundamental concern identified during the assessment relates to the existing traffic data adopted in the TIA. The City notes that traffic volumes were sourced from locations that are distant from the subject site and are not demonstrably representative of traffic conditions on Quill Way or Redemptora Road. In addition, the basis for assumed traffic distribution patterns and growth rates has not been clearly justified.

The absence of site-specific traffic surveys is a significant limitation, particularly given the scale of the proposal and the estimated peak-hour trip generation in the order of approximately 900 vehicle movements. The WAPC Transport Impact Assessment Guidelines require that where reliable data is not available, traffic counts should be undertaken to ensure that modelling reflects actual conditions. This has not occurred in this instance, reducing confidence in the accuracy of the assessment outcomes.

SIDRA intersection analysis has been undertaken for a number of surrounding intersections as part of the TIA; however, due to inaccuracies in the modelling inputs (including background traffic flows, intersection layouts), confidence in the assessment outcomes is reduced, and it is possible that some intersections may be operating beyond capacity in the assessment years. Of particular concern is the Cockburn Road / Sparks Road intersection, which the TIA demonstrates will operate unsatisfactorily in the opening year scenario. The modelling indicates a substantial increase in delay and queue lengths as a result of the development, exacerbating an already constrained intersection. In the opening year scenario with the proposed development, queue lengths are predicted to increase from 473 m to 840 m, extending to the vicinity of the Sparks Road / Redemptora Road intersection, indicating that the impact of the development is not negligible.

DPLH and the City’s traffic engineers note that while an intersection upgrade is required as the TIA, the modelling underpinning the upgrade scenario is insufficiently detailed and does not provide certainty that the proposed works would adequately address the scale of queuing identified. The assessment also indicates that upgrades to this intersection are required in the medium term irrespective of the development, raising concerns that the proposal would accelerate the need for infrastructure intervention. To date, there has been no commitment by the applicant to delivering road upgrades, so the City can only assess the road network as it currently is. Notwithstanding this, the applicant maintains that the intersection deficiencies are driven primarily by background traffic growth and asserts that there is no nexus to support a development contribution toward upgrades. While issues of cost apportionment fall outside the scope of traffic performance assessment, the key planning issue remains that the development would introduce additional traffic into a

network that is already operating at or beyond capacity, without a clear or deliverable mitigation pathway.

In addition, the Sparks Road / Redemptora Road intersection has not been assessed in the TIA, despite its proximity to the site and its potential to be affected by extended queue spillback identified in the modelling. The exclusion of this intersection represents a further gap in the assessment and limits the ability to understand cumulative network impacts.

Ongoing concerns have also been raised regarding site access geometry, swept paths and sightlines, particularly in relation to heavy vehicles and service movements. While amended swept path and sight distance assessments have been provided, the City's traffic engineer advises that several previously identified deficiencies remain unresolved, including encroachments into non-trafficable areas and the reliance on on-street truck bays that may obstruct sightlines and create safety risks.

The proposed reliance on future Delivery Management Plans and subsequent design refinement does not resolve these matters at the development application stage. Given the industrial context and the importance of maintaining safe and efficient vehicle movements along Quill Way and Redemptora Road, these issues are considered material to the assessment.

When considered collectively, the concerns raised by DPLH and the City indicate that the submitted TIA does not provide a sufficiently robust basis to conclude that the surrounding road network can safely and efficiently accommodate the traffic generated by the proposed development.
The reliance on non-site-specific traffic data, unresolved modelling inconsistencies, incomplete intersection assessments and uncertainty around the timing and nature of required upgrades significantly reduce confidence in the assessment outcomes. While the applicant has provided responses to these issues, the fundamental limitations of the analysis remain.

In the context of the AMC, where road network efficiency is critical to the operation of a State-significant industrial precinct, caution is warranted. Introducing a development of this scale without clear evidence that traffic impacts can be mitigated risks adverse effects on network performance, road safety and the ongoing function of the precinct.

Accordingly, traffic impacts remain a significant and unresolved consideration in the assessment of this proposal.

The applicant has provided a response to the City's concerns (see attachment 27) which included an amended TIA. The City's view, along with the various state government agencies, is that this issue remains outstanding.

Parking

The original Transport Impact Assessment (TIA) provided identifies a statutory requirement of 1,483 bays for the proposed mix of uses and a provision of 737 bays, resulting in a shortfall of 746 bays (–50%). The applicant seeks to justify this deficit primarily on:

a) assumed reciprocity between uses across the day and
b) “internal capture” (trip chaining) between on-site uses.

The City has reviewed the submission and does not support the proposed shortfall. The justification advanced is not adequately evidenced and is inconsistent with the site’s access context and the applicable Scheme standards.

The TIA relies on a conceptual “shared demand” diagram (Figure 22 of the TIA) to assert that peak demands for the hotel (evenings/overnight), office (daytime), tavern/restaurant (evenings), gym (peaks around shoulder periods), and convention centre (event-based) do not coincide, and that internal capture will materially reduce overall demand.

The “reciprocity” case is presented qualitatively via a single graphic (Figure 22) without any transparent methodology, empirical surveys, or event/seasonality scenarios for this specific land-use mix (noting the unique placement of this development in comparison to other multi-use sites).

The TIA does not quantify internal capture using recognised shared-parking methods (e.g., time-of-day factors by use, day-of-week profiles, or event concurrency for the 600-person convention centre). Instead, it asserts that “the majority” of customers for the retail/gym/tavern/restaurants will be office staff or hotel guests, without survey data from comparable precincts or sensitivity testing.

Small parking variations may be supported with high level justifications/assumptions. However, such a significant variation should be supported with more detailed surveys, justification and modelling. The TIA itself records low-frequency public transport, noting “it is not anticipated that many staff or visitors will travel to the Site via public transport.” This undermines any implied transfer of demand from private car to bus.

The TIA also confirms deficient pedestrian and cycling networks within the AMC, with Quill Way’s Primary Route status on the Long-Term Cycle Network presently “non-existing (inadequate).” A future shared path is unfunded and without a delivery timeframe. These conditions limit practical mode shift to cycling or walking in the short–medium term

While an on-site surplus of 30 bicycle bays is noted (152 provided vs 122 required), this is not a reasonable substitute for a significant car parking deficit in a location where active and public transport are demonstrably constrained.

The development included a 600 person convention facility, licensed premises (tavern), multiple restaurants, gym and large office floors. The TIA does not test realistic coinciding peaks (e.g., late afternoon office parking overlap with pre event arrivals; Friday PM tavern/restaurant demand coinciding with a convention; weekend events drawing external visitors). Without event based and weekend scenarios, the risk of acute under supply and spillover isThe not quantified.

The report does not provide an assessment of the potential spillover or identify lawful off-site supply to accommodate shortfalls during events/peaks. In an industrial context with limited verges and heavy-vehicle movements, overflow parking to nearby streets (Quill Way/Redemptora Road) would raise operational and safety risks and conflict with freight access, noting the network's industrial classification and truck activity.

The Scheme rates applied by the TIA produce the stated requirement of 1,483 bays. The applicant's proposal effectively sought a 50% dispensation without a site-specific, evidence-based shared-parking analysis or binding management regime. Accepting such a reduction in this context would set an unreasonable precedent and risks displacing parking demand to the public realm.

Lastly, the long-term kerbside parking of large vehicles (other than light commercial vehicles) on-street is generally discouraged. Where on-street truck parking results in sight distance obstructions, the outcome can create unsafe traffic situations. As such, the removal of the on-street truck parking is recommended. From the provided sight distance assessment, the driver's eye position and the full extent of the sight distance envelopes are not clearly shown. Notwithstanding this, even if the assessment is assumed to be correct, the proposed on-street truck bay on Redemptora Road would still obstruct the required sightlines and is therefore not supported. This is particularly important noting that vehicle parking within the bay cannot be controlled to a specific position and drivers may occupy any part of the bay, resulting in potential obstruction of visibility. In addition, the long-term kerbside parking of large vehicles on-street is generally discouraged, particularly due to the associated safety risks related to commercial vehicle movements

These parking concerns were relayed to the applicant. Amended plans were provided (as well as an amended TIA – see attachment 7). Further justification was provided, including a more detailed explanation of the reciprocal parking analysis (see 3.5.4 of the amended TIA). Further, the plans were modified slightly to decrease the amount of parking bays required as well as increase the number of parking bays; the most notable being the removal of the convention centre. The new parking assessment shows a statutory shortfall of 424 bays.

The applicant further justifies the shortfall by providing an *adjusted shortfall (*see Table 6 of the revised TIA). The City does not support this approach in justifying such a significant shortfall.

The applicant's parking assessment is underpinned by a series of assumptions regarding future occupiers, operational behaviours, and travel patterns, including reduced private vehicle use due to hybrid working arrangements, internal trip capture, and reciprocal parking across multiple land uses. The City notes that these assumptions cannot be secured or enforced through the development approval process. There is no certainty that future tenants will operate in the manner assumed, nor is there any mechanism to ensure that staff attendance rates, working-from-home arrangements, or parking management practices will be maintained over time. In this context, it would be unreasonable to accept a permanent reduction in parking provision based on operational assumptions that may change throughout the life of the development.

In relation to the use of the WAPC *Non-Residential Car Parking Rates in Perth and Peel*, the City acknowledges that this document may be considered as a guide when exercising discretion. However, the guidance has not been adopted into the City's local planning framework, either through the Local Planning Scheme or a Local Planning Policy. As such, it does not displace or override the statutory parking requirements that currently apply to the subject land.

Importantly, where the WAPC guidance has not been adopted, Clause 4.2 of the guidance makes it clear that the assessment of development applications must still demonstrate that adequate car parking has been provided, having regard to:

(a) the likely use of the car parking spaces;
(b) the availability of off-site car parking facilities; and
(c) the likely use of alternative means of transport.

The City is not satisfied that these matters have been adequately demonstrated. The applicant has not provided robust, site-specific evidence to show that the likely use of the parking spaces would result in materially lower demand than that generated under the Scheme rates. The site is located within an industrial area where land uses are inherently car-dependent, and the surrounding road environment and urban form do not support a high reliance on walking or cycling for the majority of users. Public transport services in the area are limited and infrequent, and there is no demonstrated availability of off-site parking facilities that could reasonably absorb overflow demand without adverse impacts on surrounding streets and industrial operations.

In this context, the reliance on reduced parking demand assumptions is particularly problematic. Industrial areas typically experience high private vehicle usage due to shift work, limited alternative transport options, and the dispersed nature of employment catchments. A shortfall of the magnitude proposed creates a real risk of

parking overspill, informal parking along access roads, and conflict with heavy vehicle movements, which would compromise safety, operational efficiency, and amenity within the precinct.

The City does not support the adoption of the applicant's proposed adjusted shortfall rates. While the WAPC guidance may inform discretionary decision-making, it has not been integrated into the City's planning framework, and its application in this instance has not been supported by the level of evidence or justification required under Clause 4.2 of the guidance. Accordingly, car parking remains a significant concern, and the proposed development does not demonstrate that adequate parking would be provided in a manner consistent with the objectives of orderly and proper planning for an industrial area.

Bushfire

The site is within a bushfire prone area as per the Department of Fire and Emergency Services' mapping.



Figure Seven – Map of Bushfire Prone Areas

The applicant has provided a bushfire management plan (BMP) prepared by a suitably qualified practitioner. The bushfire attack level (BAL) contour map indicates that the majority of the development will be sited within a BAL-12.5 area. A small portion of the hotel is located within a BAL-19 area. These are both acceptable outcomes.

Given that this is a vulnerable land use, a Bushfire Evacuation Plan should be in place as the use involved visitors who may be unfamiliar with the surroundings. This can be conditioned as a requirement of the Development Approval rather than being required upfront.

Noise

The subject site is located within the Australian Marine Complex (AMC), a strategically significant industrial precinct of State and national importance that supports shipbuilding, defence, fabrication and associated heavy industrial activities operating on a 24-hour basis. The AMC is expressly planned and designed to accommodate high-intensity industrial operations, including plant, equipment, heavy vehicle movements and noise-generating activities that are lawful, essential and anticipated within the precinct.

The proposed development introduces a noise-sensitive land use, namely a hotel, within immediate proximity to existing and future industrial activities. Established planning principles, including those reflected in State Planning Policy 4.1 – Industrial Interface, make clear that where sensitive land uses are proposed within or adjacent to industrial areas, the onus rests with the sensitive use to demonstrate that it can operate without constraining existing or future industrial operations. Industrial land uses should not be required to modify or curtail their lawful activities to accommodate newly introduced sensitive land uses.

Objections were received from both government stakeholders and neighbouring industrial operators, including DevelopmentWA, raising concerns regarding land-use compatibility and the potential for future noise conflict. These objections consistently emphasise that the AMC operates continuously and is expected to intensify over time, particularly given its evolving role as a defence and maritime industrial hub.

Concerns were raised that the introduction of a hotel creates an ongoing risk of noise complaints, increasing regulatory pressure on surrounding industrial operators and potentially constraining lawful activities within the AMC. It was also noted that any assessment of noise impacts must take into account not only current conditions, but

also the full range of permissible and future industrial activities anticipated for the precinct.

An acoustic report prepared by Herring Storer Acoustics was submitted in support of the application. The report provides a preliminary assessment of both noise emissions from the proposed development and noise ingress from surrounding industrial activities into the proposed hotel.

The report concludes that internal noise levels within hotel rooms could be managed through standard façade treatments and glazing, based on measured and modelled external noise levels of approximately 60–63 dB(A). While this indicates that acceptable internal noise levels may be technically achievable under certain conditions, several limitations reduce the weight that can be afforded to the assessment for strategic planning purposes.

Firstly, the assessment is based on limited noise monitoring and modelling assumptions that may not reflect the ultimate operational intensity of the AMC. The report acknowledges that nearby shipbuilding operations have been operating at reduced levels in recent years, and therefore may not represent worst-case or future scenarios. As identified by DevelopmentWA, industrial land uses within the AMC are expected to evolve and intensify over time, including redevelopment of adjoining sites for more intensive maritime activities.

Secondly, the assessment focuses primarily on compliance with internal amenity criteria under AS/NZS 2107, rather than addressing the broader land-use compatibility risk associated with introducing a noise-sensitive use into a strategic industrial area. Demonstrating that internal noise levels can be attenuated through building construction does not remove the inherent sensitivity of the use, nor does it eliminate the potential for future complaints, operational conflicts, or pressure to impose restrictions on industrial activities.

Thirdly, the acoustic report expressly notes that further detailed analysis would be required during design development. As such, the report does not provide a fully resolved or definitive noise impact assessment capable of addressing long-term interface risks at the development approval stage.

Given the strategic importance of the AMC, the continuous nature of industrial operations, and the planning principle that sensitive uses must accept and mitigate the impacts of industrial activity, significant weight must be given to the concerns raised by government agencies and neighbouring landowners. The potential for future industrial intensification, and the cumulative risk of land-use conflict over time, remains unresolved.

Accordingly, while noise mitigation measures may address internal amenity within the proposed development, the introduction of a hotel within this strategic industrial area

raises ongoing concerns regarding land-use compatibility and the long-term protection of lawful industrial noise emissions within the Australian Marine Complex.

Kwinana Air Quality Buffer

The subject site falls within the Kwinana Air Quality Buffer.

The Kwinana air quality buffer was established in response to significant sulphur dioxide pollution from industrial emissions in the late 1970s, which affected nearby residential areas and led to the introduction of the Environmental Protection (Kwinana) (Atmospheric Wastes) Policy and Regulations in 1992. The buffer's primary purpose is to protect residents outside the Kwinana industrial area and the Hope Valley–Wattleup redevelopment area from pollutants such as sulphur dioxide, dust, odour, noise and light, while also providing long-term certainty for industrial operators by preventing the encroachment of sensitive land uses that could otherwise restrict existing or future industrial activities.

Although the Environmental Protection Act 1986 requires the EPA to review Environmental Protection Policies every seven years, the Kwinana EPP has largely remained unchanged since its formal review in 1999. Subsequent reviews and position papers prepared by the WAPC in 2002, 2008 and 2010 have considered expansions to the buffer, including interim and revised buffer areas, though many of these proposals were not finalised or publicly released. While the Kwinana air quality buffer is not identified as a statutory planning control within the local planning scheme, it is recognised in the City's Local Planning Strategy, where it functions as an important strategic land use consideration informing planning decisions and managing land use compatibility at the interface between industrial areas and sensitive uses.

There is a general preference against the introduction of sensitive land uses within air quality buffers. This is both to protect users from the negative health impacts of the externalities within the precinct (dust, odour, chemicals), as well as provide certainty to existing industrial operators. In support their application, the proponent has provided an air quality assessment. An extended one-month on-site air quality monitoring program was undertaken at 81 Quill Way, Henderson to assess potential impacts from surrounding industrial and transport sources on the proposed office, hotel and retail development. The assessment found that while most measured ambient air quality parameters were generally within relevant guidelines, some long-term averages and short-duration peak concentrations may exceed Class 3 building indoor air quality criteria if untreated external air is introduced. The report concludes that, with appropriate building design measures including high-efficiency particulate and activated carbon filtration, enhanced building airtightness and compliant mechanical ventilation systems, the proposed development can achieve acceptable indoor air quality outcomes consistent with the National Construction Code and relevant guidelines.

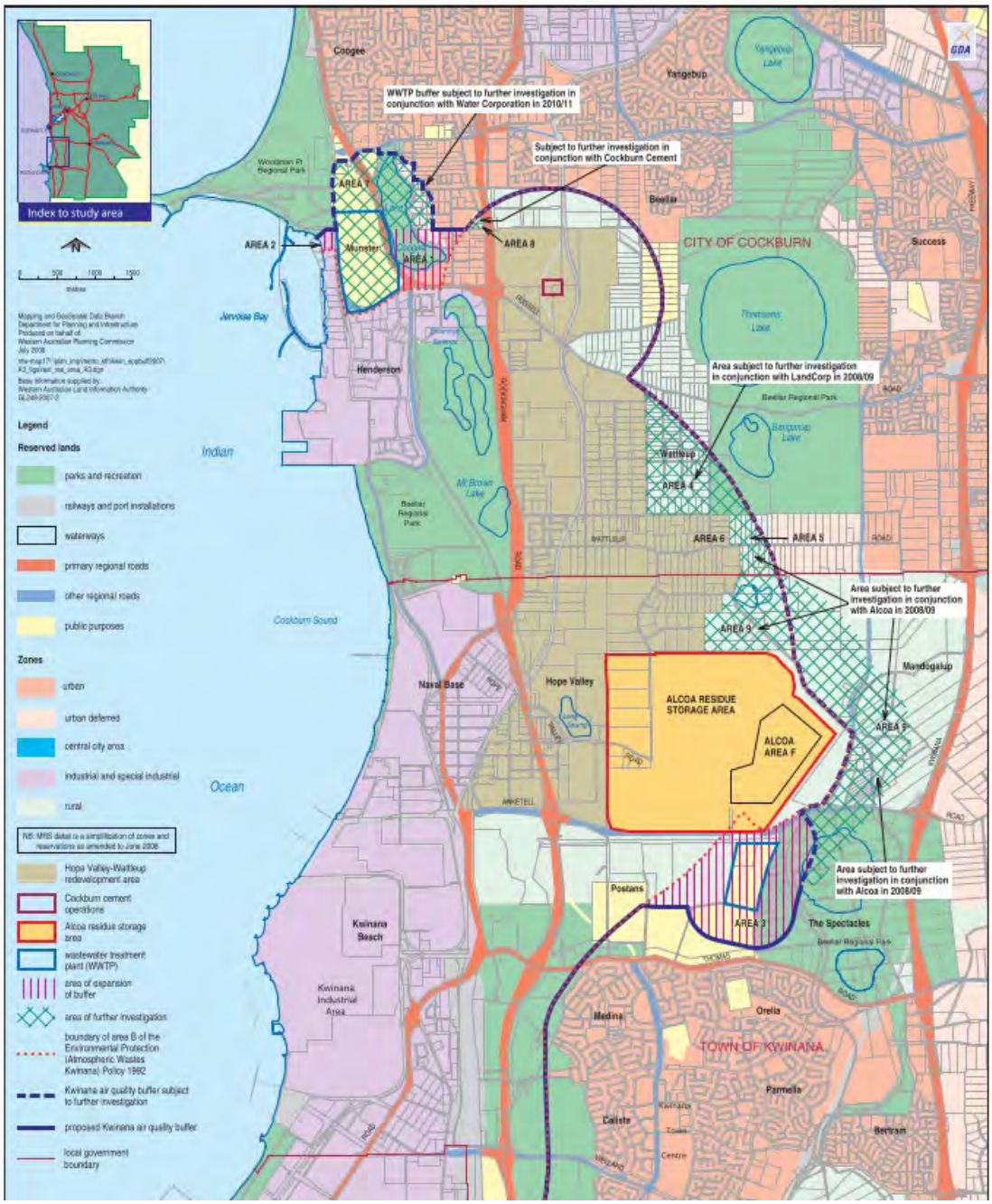


Figure Eight – Kwinana Air Quality Buffer

The report does provide some recommendations, including:

- Design and mitigation strategies: CETEC recommends incorporating higher-efficiency particulate and activated carbon filtration, improved mechanical ventilation design, and building airtightness performance exceeding NCC minimums to mitigate identified contaminants of concern.
- Verification and additional evidence: The report notes that, should it be conditioned, post-construction indoor air quality verification and building air-tightness testing can be undertaken to demonstrate compliance with NCC

> Class 3 requirements and ATTMA guidelines. Further strategies should be considered prior to approval in order to demonstrate compliance with recommended sulphur dioxide levels.

While the Air Quality Assessment identifies that acceptable indoor air quality outcomes may be achieved through the implementation of enhanced building design, construction methods and mechanical ventilation strategies, these measures are inherently reliant on ongoing performance, maintenance and operational controls. The need for high-efficiency filtration systems, increased building airtightness and reliance on mechanical mitigation reflects the presence of an existing and persistent industrial air quality environment, rather than an absence of risk.

As such, the assessment confirms that potential air quality constraints are not hypothetical but are an acknowledged characteristic of the broader Henderson and Kwinana industrial context. In this regard, reliance on design mitigation alone does not negate the underlying land use compatibility considerations.

From a strategic planning perspective, a precautionary approach is warranted where the introduction of sensitive land uses (particularly those involving extended or overnight occupation) may result in long-term exposure risks, increased expectations of amenity, or future pressure to constrain lawful industrial operations.

This approach is consistent with the intent of established buffer frameworks, which seek not only to manage environmental impacts but also to provide certainty for industrial operators by avoiding the encroachment of sensitive uses into industrial environments.

Accordingly, while the report demonstrates that construction methodologies may assist in managing indoor air quality outcomes, this does not, in itself, justify the support of sensitive land uses within or adjacent to a major industrial precinct. Planning decisions should prioritise land use compatibility and long-term strategic outcomes over site-specific mitigation measures, particularly where those measures function as compensatory responses to an acknowledged industrial air shed.

On this basis, and consistent with the precautionary principle, the introduction of sensitive land uses in this location should not be supported.

Separation Distances

The Environmental Protection Agency's Guidance for the Assessment of Environmental Factors prescribe recommended buffer (separation) distances for sensitive land uses. It is important to note that the document also explains at section 2.3 that other commercial land uses (such as officers) which require a higher level of amenity can also be considered sensitive land uses. Whether or not the office is considered a sensitive land use could be the subject of interpretation based on the

specific users of the space. However, the hotel aspect of the proposal is considered a sensitive land use for the purposes of the *Environmental Protection Act 1986.* The separation distances prescribed are taken boundary to boundary.

The below table outlines the recommended separation distances compared to the achieved separation distance of known licensed industries within the area.

Address	**Industrial Operation**	**Recommended Buffer**	**Achieved Buffer**	**Compliance**
42 Quill Way, Henderson (BAE Systems)	Boat Building and Maintenance	200m	80m	Non-Compliant
124 Quill Way, Henderson (CUF)	Open Air Spray-painting	500m	227m	Non-Compliant
31 Sparks Road, Henderson (Remondis)	Liquid Waste Depot	200m	280m	Compliant
16 Egmont Road, Henderson (RF Composites)	Fiberglass Manufacturing	200	233	Compliant
23 Egmont Road, Henderson (Norblast Industrial Solutions)	Abrasive Blasting	200	98	Non-Compliant

It is likely that there are other industrial uses that require separation distances within the locality that the City is not aware of (either due to them being Permitted uses or historical operations being in place). However, it is evident based on the above examples that the proposal presents multiple non-compliant separation distances pursuant to the *Environmental Protection Act 1986.*

Bulk and Scale

The City notes the concerns raised in one of the objections relating to bulk and scale. However, there are no statutory controls around building height, setbacks or size of development prescribed in either the scheme or any local planning policies. In the absence of such controls, the assessment of height, bulk and scale must be undertaken on a performance-based basis, having regard to site conditions,

operational requirements, interface outcomes and strategic intent rather than preconceived notions of an “acceptable” building height.

The planning framework does not prescribe a maximum building height or impose a low-rise expectation for development within the Henderson industrial precinct. Accordingly, there is no statutory basis to conclude that the proposal is non-compliant or unacceptable solely due to its vertical scale. While the surrounding development is predominantly low-rise, this reflects historical development patterns rather than a strategic or statutory prohibition on larger-scale built form. Industrial areas frequently accommodate buildings of substantial height and bulk to meet modern operational, technological and land-use efficiency requirements, including logistics, warehousing, advanced manufacturing and port-related activities.

The proposed built form is consistent with contemporary industrial and employment-related development trends, which increasingly favour vertical intensification to maximise land efficiency, reduce land take and consolidate operations within well-located industrial precincts.

Importantly, industrial zones are not assessed against residential or centre-based amenity benchmarks. The proposal does not generate unacceptable amenity impacts such as overshadowing, overlooking or visual privacy impacts, and it maintains appropriate setbacks, interface treatments and built form articulation consistent with its industrial setting.

It should also be noted that there are several developments within the locality that are of significant scale, with some examples shown below. Whist the height of the proposed development is significantly taller, bulkier developments are not out of character for the area.



Figure Nine – Development at CUF (Quill Way)



Figure Ten – Civmec Complex (Nautica Drive)



Figure Eleven – Defence Ships at CUF (Clarence Beach Road)

Landscaping

Town Planning Scheme 3 requires that 10% of the onsite area be landscaped. This can be reduced to 5% where the proponent agrees to landscape and maintain the verge in perpetuity.

The applicant has proposed a landscaping area of 2510m2 which equates to 13.6% of the lot size. In addition, the applicant is also proposing to landscape the verge. As

such, the amount of exceeds the statutory requirement which is supported. Further, the number of trees provided onsite complies with the requirements of TPS3.

A further detailed landscaping report can be provided as a condition of approval (if approved) to inform a more specific species selection, irrigation methods and maintenance regime for the verge.

Retail Impact

The site is not an identified commercial centre as prescribed by the City's Local Commercial and Activity Centre Strategy, specifically in the Hierarchy of Centres. As such, the proposal is considered out-of-centre development as defined by SPP 4.2 and triggered the requirement for a retail assessment. Pracsys were engaged by the applicant to prepare a Retail Advice which is provided as attachment 15.

The Retail Advice concludes that the proposed expansion of retail floorspace at 81 Quill Way, Henderson is justified by demonstrated demand from the existing and rapidly growing local workforce, rather than the surrounding residential population, which is constrained by significant access barriers. The analysis finds that worker expenditure is sufficient to support the additional floorspace at viable productivity levels, with negligible and well-distributed impacts on surrounding activity centres due to the dispersed residential locations of workers and the limited overlap in trade areas. Overall, the report determines that the proposal aligns with the intent of SPP 4.2 by strengthening access to convenience and day-to-day services within an under-serviced industrial precinct, delivering economic, employment and amenity benefits while supporting the ongoing function of the Henderson industrial area.

The City is satisfied with the analysis provided and does not have any concerns from a retail impact perspective.

Historical Development

The City acknowledges that the subject site presently accommodates an existing motel/inn, which constitutes a sensitive land use for the purposes of both noise and air quality considerations. It may be argued that the current proposal represents an extension or redevelopment of an existing use and that associated land-use compatibility issues should therefore be afforded less weight. However, this position is not supported in the context of the contemporary planning framework.
The existing inn was established prior to the introduction of the *Environmental Protection (Noise) Regulations 1997*, the delineation of the Kwinana Air Quality Buffer, and the publication of the Environmental Protection Authority's *Separation Distances between Industrial and Sensitive Land Uses* guidance. These policy and regulatory instruments now form part of the prevailing decision-making framework and are intended to prevent precisely the type of land-use conflict that may arise through the expansion or intensification of sensitive uses within industrial environments.

Decision-makers must assess development applications against the planning framework that applies at the time of determination. In this instance, the proposal represents a substantial intensification of the site through a significant increase in habitable accommodation and scale, which would materially exacerbate existing non-compliance associated with the operation of a sensitive land use within a strategic industrial precinct. The scale and capacity of accommodation currently on site is markedly lower than that now proposed, resulting in materially different exposure, risk and land-use conflict outcomes.

In these circumstances, a precautionary approach is warranted to avoid the increased risk of industrial land sterilisation and the potential for long-term health and amenity impacts. Supporting a significant intensification of a sensitive land use in this location would be inconsistent with accepted industrial interface planning principles and would undermine the long-term protection and function of the surrounding industrial area.

Conclusion:

The proposed Henderson Business Hub represents a substantial intensification of land use within a strategically important industrial precinct that supports State and nationally significant marine, defence, and heavy industrial activities. While the City acknowledges the applicant's efforts to respond to Design Review Panel feedback and recognises the potential economic and service benefits of a mixed commercial development in this location, the proposal raises fundamental and unresolved land-use compatibility concerns that outweigh these benefits.

Of principal concern is the introduction of a sensitive land use, namely a hotel, within the Australian Marine Complex and the Kwinana Air Quality Buffer. This is inconsistent with long-established State and local planning policy frameworks, including State Planning Policy 4.1 – Industrial Interface and the precautionary approach applied to air quality buffers, which seek to protect both public health outcomes and the ongoing operation and expansion of strategic industrial areas. The proposal does not meet recommended separation distances from existing industrial activities, and reliance on building design mitigation measures does not resolve the underlying incompatibility or long-term risk of land-use conflict and industrial land sterilisation.

In addition, the supporting technical documentation has been identified by both the City and State agencies as inadequate to demonstrate that key impacts can be satisfactorily managed. Significant concerns remain with the Traffic Impact Assessment, including the use of non-site-specific traffic data, incomplete intersection analysis, and a lack of certainty regarding mitigation measures. These deficiencies create an unacceptable risk to the safety, efficiency and operation of the surrounding road network, which is critical to the function of the Australian Marine Complex.

Car parking provision also remains a major concern. The proposed development relies on a substantial and permanent reduction to Scheme parking requirements, justified through assumed reciprocal parking and behavioural changes that cannot be enforced or guaranteed over the life of the development. In an industrial area characterised by high car dependency, limited public transport, and heavy vehicle movements, the magnitude of the parking shortfall presents a real risk of spillover, safety issues and disruption to industrial operations.

When considered collectively, the proposal fails to demonstrate orderly and proper planning for the site, does not adequately address the objections and technical concerns raised by State government agencies, and is inconsistent with the strategic intent of protecting and enabling the ongoing operation of a State-significant industrial precinct. For these reasons, refusal of the development application is recommended.

Alternative Recommendation

Should the Metro-Outer Development Assessment Panel resolve to approve the application, the City recommends the following conditions and advice notes.

the Metro Outer DAP resolves to:

1. **Approve** DAP Application reference DAP/25/03034 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's Town Planning Scheme No.3, subject to the following conditions:

CONDITIONS

1. Development shall be carried out in accordance with the terms of the approval herein and any approved plan.

2. **Prior to the issue of the relevant Building Permi**t application, stormwater management plans, calculations and compaction certificates shall be submitted to and approved by the City. All stormwater being contained and disposed of on-site to the satisfaction of the City.

3. All services and service related hardware, including clothes drying areas, antennae, satellite dishes and air conditioning units, being suitably located away from public view and/or screened to the satisfaction of the City.

4. 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.

5. **Prior to the issue of a building permit**, a revised Air Quality Assessment shall be submitted to the City and approved upon the advice of the Department of Health and the Department of Water and Environmental Regulation. All recommendations of the report shall be implemented prior to occupancy.

6. The development shall be connected to the sewer of the Water Corporation.

7. **Prior to the issue of a building permit** for the hotel component, 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").

8. **Prior to the issue of a building permit**, a further Acoustic Report shall be submitted to and approved by the City.

9. All noise attenuation measures, identified by the Herring Storer Acoustics Report "Henderson Development Hub 81 Quill Way Henderson Development Application Acoustic Report" (Ref 35696-1-25308; dated 2 December 2025) and the further acoustic report required under condition 9 above, are to be implemented prior to occupancy of the development and the requirements of the Acoustic Report are to be observed at all times.

10. Written confirmation from the builder that all recommendations made in the Acoustic Report required under conditions 8 and 9 have been incorporated into the proposed development, shall be submitted to the City with the **Building Permit Application**.

11. The builder shall provide written confirmation that the requirements of the Acoustic Report referred to in conditions 8 and 9 have been incorporated into the completed development with the Form BA7 Completion Form, **prior to occupation** of the development.

12. The Waste Management Plan (Reference PTGT/01516, dated 16th December 2025) shall be implemented to the satisfaction of the City for the life of the development.

13. **Prior to the issue of a building permit**, a revised landscaping plan shall be submitted and approved by the City. The landscaping plan shall include the following:

    a) the location, number, size and species type of existing and proposed trees and shrubs, including calculations for the landscaping area;
    b) any lawns to be established;
    c) any existing landscape areas to be retained;
    d) those areas to be reticulated or irrigated; and

e) verge treatments.

14. 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.

15. **Prior to the initial occupation** of the building hereby approved, the parking bays, driveways and points of ingress and egress shall be sealed, kerbed, drained, line marked and made available for use in accordance with the approved plans. Once the development is occupied, car parking, vehicle access ways, driveways and landscaped areas shall not be used for lay down or storage of goods or materials.

16. Crossovers are to be located and constructed to the City's specifications. Redundant crossovers shall be removed and the verge reinstated prior to or at the time of the installation of the approved new crossovers.. 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.

17. **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 thereafter be implemented during the construction phase of the development.

18. **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 art work approved by the City.

The art work shall then be installed prior to occupation of the building/development and maintained thereafter to the satisfaction of the City.

19. **Prior to the issue of a building permit**, a parking management plan shall be submitted to and approved by the City. The parking management plan shall thereafter be implemented in perpetuity for the duration of the development.

20. **Prior to the issue of a building permit**, arrangements shall be made with the City of Cockburn, MainRoadsWA and the Department of

Planning, Lands and Heritage pertaining to the upgrade of the Cockburn Road/Sparks Road intersection.

21. **Prior to the issue of a building Permit** application, a Staging Management Plan is to be submitted to an approved by the City.

22. **Prior to occupancy**, a Delivery Management Plan shall be submitted to and approved by the City. The Management Plan shall thereafter be implemented for the life of the development.

23. **Prior to the issue of the Occupancy Permit application for the hotel**, a Bushfire Emergency Evacuation Plan shall be submitted to and approved by the City. The approved plan shall be maintained in perpetuity to the satisfaction of the City.

24. The development shall be constructed in accordance with Australian Standard 3959 – Construction of Buildings in Bush Fire Prone Areas (or superseding standard) and the approved Bushfire Management Plan (reference 240816, dated 16 December 2025 prepared by Bushfire Prone Planning).

25. 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".

26. The signage shall not include fluorescent, reflective or retro reflective colours or materials. If illuminated, signage shall not to flash, pulsate or chase.

27. **Prior to occupancy**, the 152 bicycle bays as indicated on the approved plans and within the Traffic Impact Assessment shall be installed and made available in perpetuity.

28. The health studio shall be limited to a maximum number of 10 staff members

29. The medical centre shall be limited to a maximum number of 5 practitioners.

30. **Prior to the issue of a building permit**, revised plans shall be submitted that indicate the removal of the on-street truck bays.

31. 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.

ADVICE NOTES

a) This is a Planning 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) All stormwater drainage shall be designed in accordance with the document entitled "Australian Rainfall and Runoff" 1987 (where amended) produced by the Institute of Engineers, Australia, and the design is to be certified by a suitably qualified practicing Engineer or the like, to the satisfaction of the City, and ideally designed on the basis of a 1:100 year storm event. This is to be provided with the associated Building Permit Application.

c) Crossovers are to be located and constructed to the City's specifications. Redundant crossovers shall be removed and the verge reinstated prior to or at the time of the installation of the approved new crossover(s). Copies of crossover specifications are available from the City's Engineering Services or from the City's website www.cockburn.wa.gov.au

d) As part of transitioning Australia to the National Broadband Network (NBN), developers are encouraged to engage early with NBN, at least six months before the required service date, to understand requirements around future connections and the timing of infrastructure provision. This will ensure a connection is ready when residents move in. For more information please refer to https://www.nbnco.com.au/develop-or-plan-with-the-nbn/new-developments or contact NBN on newdevelopments@nbnco.com.au or 1800 687 626.

e) 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.

f) 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.

g) Please be advised that the development must comply with the requirements of the Building Codes of Australia.

h) All food businesses shall comply with the Food Act 2008 and Chapter 3 of the Australia New Zealand Food Standard Code (Australia Only).

i) 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.

j) 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. An Application to Construct, Extend or Alter a Public Building shall be submitted for approval, prior to fit out works commencing for this development.

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Henderson Business Hub – Lot 168 (No.81) Quill Way, Henderson

Development Application Report

December 2025 | 25226

element. | PART OF SLR

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Acknowledgment of Country

We acknowledge the Whadjuk people of the Noongar nation as Traditional Custodians of the land on which we live and work.

We acknowledge and respect their enduring culture, their contribution to the life of this city, and Elders, past and present.

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1. Introduction

This report has been prepared by Element Advisory (Part of SLR), in association with Pennock Architects and on behalf of Scope Property Group, in support of a development application (DA) for a proposed mixed-use commercial development, located at Lot 168 (No.81) Quill Way, Henderson (subject site).

The proposed development referred to as the Henderson Business Hub, represents a pivotal opportunity to provide meaningful amenities and facilities to support the rapidly expanding Australian Marine Complex (AMC). This site is unique in the fact it is the only site within the AMC that is zoned Local Centre, allowing for a diversity of land uses, such as hotel, retail and food and beverage uses to support the significant volume of workers commuting to the AMC. The redevelopment of the site will help further establish the AMC as Australia's leading defence and marine precinct.

This report has been prepared to provide an overview of the subject site and the proposed development as well as an assessment against the relevant planning requirements, and an examination of the planning and contextual merits of the proposal.

1.1 Project Team

Scope Property Group has engaged a highly qualified design team to progress this project, a summary of the project team is provided in Table 1 below.

Table 1. Project Team

Discipline	Consultant
Architecture	Pennock Architects
Landscape Architecture	Propagule Consulting Pty Ltd
Planning	Element Advisory (Part of SLR)
Traffic / Waste Management / Stormwater	PTG Consulting
Sustainability	Summation
Acoustics	Herring Storer Acoustics
Air Quality	CETEC
Bushfire	Bushfire Prone Planning
Retail	Pracsys

1.2 Development Approval Pathway

The DA has been lodged as a Development Assessment Panel (DAP) application for determination by the Metro Outer Development Assessment Panel (MOJDAP).

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1.3 Development Application Summary

Table 2. Application Details

Property Address	Lot 168 (No.81) Quill Way, Henderson
Combined Land Area	18,472m^2
Landowner	Scope Property Group Pty Ltd
Responsible Authority	City of Cockburn
Metropolitan Region Scheme	Industrial Zone
City of Cockburn Town Planning Scheme No.3	Local Centre Zone
Relevant Legislation	Planning and Development (Local Planning Schemes) Regulations 2015 Metropolitan Region Scheme State Planning Policy 4.1 – Industrial Interface State Planning Policy 4.2 – Activity Centres State Planning Policy 3.7 – Bushfire City of Cockburn Local Planning Strategy City of Cockburn Town Planning Scheme No.3 Local Planning Policy 1.14 – Waste Management Local Planning Policy 1.15 – Tourist Accommodation Local Planning Policy 3.1 – Commercial Development Local Planning Policy 3.8 – Industrial Subdivision and Development Local Planning Policy 5.13 – Percent for Art
Existing Land Uses	Office and Unmanned Fuel Station Shop/Retail Restaurant / Lunch Bar Tavern Workers Accommodation
Proposed Land Uses	Hotel Tavern Office Restaurant / Lunch Bar Shop Medical Centre Health Studio Convention Centre
Total Net Lettable Area (NLA)	29,041m^2
Total Hotel Rooms	161 Rooms
Estimated Cost of Development	$200,000,000

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2. Subject Site

2.1 Site Description

The subject site is currently described as Lot 168 (No.81) Quill Way, Henderson. The subject site is located within the municipality of the City of Cockburn (the City).

The site particulars of the Certificate of Title are detailed in the following table.

Table 3. Certificate of Title

Lot	Plan	Vol/Folio	Street Address	Lot Area	Landowner
168	076646	1923/556	81 Quill Way, Henderson	1.847ha	Scope Property Group Pty Ltd

Refer to Appendix 1 – Certificate of Title

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Figure 1. Location Plan

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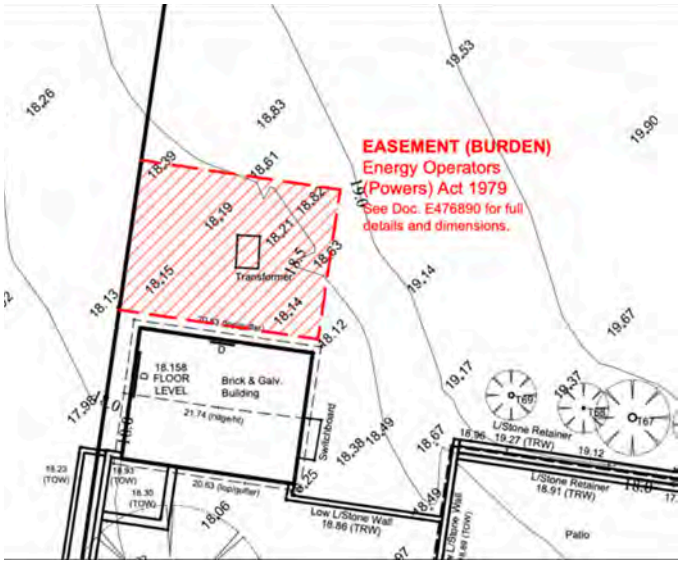
Figure 2. Aerial Plan

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2.2 Easements

The subject site contains two easements.





Easement (K906905) relates to a Western Power transformer located on Quill Way. The easement provides right of access to Western Power to service the transformer and access the property. The proposal seeks to retain the location of the transformer.

Easement (E476890) relates to a right of carriageway on the southern portion of the subject site. The easement was registered in 1999 between the previous landowners and the Industrial Lands Authority. The right of carriageway extends approximately 50 metres in length by 3 metres in width along the southern most portion of the subject site directly adjoining Quill Way. The purpose of the right of carriageway is not clearly defined; however it is assumed it was required in an attempt to consolidate vehicle access points on Quill Way (then Cockburn Road). The landowners in collaboration with the owners Lot 169 have signed a deed to remove this right of carriageway, currently being processed by Landgate. The right of carriageway, has no purpose hence its removal.



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2.3 Environmental Considerations

2.3.1 Bushfire

A desktop search of the Department of Fire and Emergency Services (DFES) State Map of Bushfire Prone Areas indicates that a portion of the subject site is located within a bushfire prone area. A Bushfire Management Plan has been prepared by Bushfire Prone Planning to support the proposed development.

2.3.2 Kwinana Air Quality Buffer

The subject site is identified within the Kwinana Air Quality Buffer. The purpose of the Kwinana Air Quality Buffer is to prevent sensitive land uses from encroaching onto industrial land. An Air Quality Assessment Report has been prepared in support of the proposed development.

2.3.3 Woodman Point Wastewater Treatment Plant

A portion of the subject site is included within the Woodman Point Wastewater Treatment Plant. The Woodman Point Wastewater Treatment buffer relates to odour impact.

2.4 Topography

The subject site has a sizeable fall in topography. The site falls approximately 8.5 metres in a south-western direction. The top corner of the site at Redemptora Road has an AHD level of 24.5 metres. The bottom corner of the site along Quill Way has an AHD level of 16 metres.

2.5 Site Context and Surrounding Development

The subject site is located within the AMC which is Western Australia's key shipbuilding and sustainment industrial precinct, supporting the manufacturing, fabrication, assembly and maintenance requirements of the marine defence, energy and resource industries.

Henderson is located approximately 23 kilometres south-west of the Perth Central Business District (CBD) and approximately 13 kilometres south of Fremantle. Henderson is situated adjacent to Rockingham/Stock Road which are both designated regional roads. Henderson is strategically positioned 4 kilometres from the suburb of Naval Base.

The surrounds of the site are categorised as typical industrial warehouses dominating the character of the locality. It is noted however; defence accommodation is provided immediately south of the subject site. Pedestrian connectivity is limited, and private car usage is the dominant form of access to the locality given limited public transport due to the somewhat isolated nature of Henderson. The subject site is the only site which provides some-level of amenity for the workers. The current facilities include workers accommodation, shop/retail, restaurants/lunch bar and an unmanned fuel station. The nearest centre is Beeliar Village which is over 3.5 kilometres away. The services and amenities currently provided fill and an important role for the working Henderson population.

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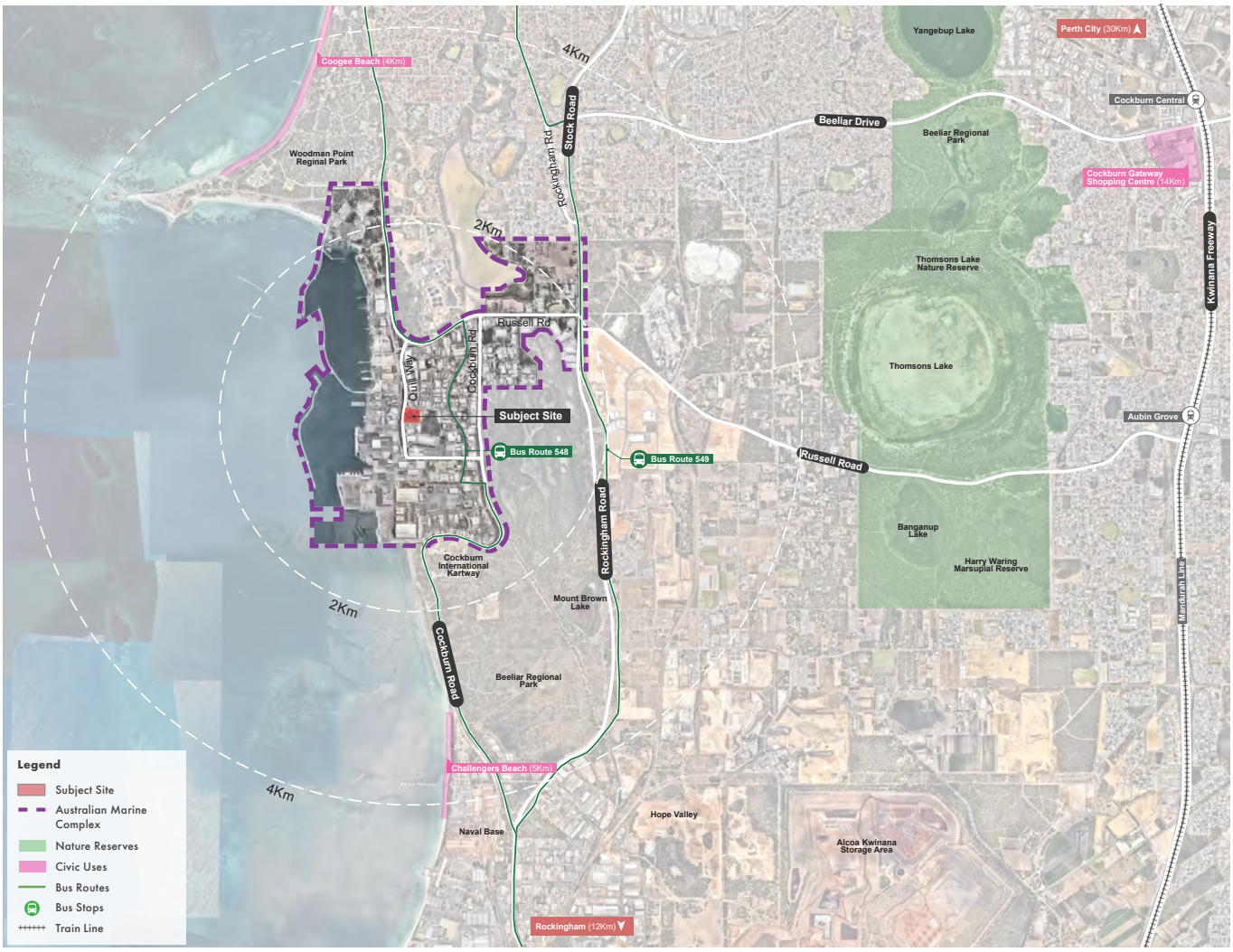


Figure 3. Regional Context

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Figure 4. Drone Shot

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3. Pre-Lodgement Engagement

Prior to submitting the DA, the project team have extensively engaged with the City and its Design Review Panel (DRP) to refine and progress the proposed redevelopment of the site. A summary of the engagement is provided below:

- 16 July 2025 – Initiation meeting with the City's Planning Team.
- 27 August 2025 – DRP01
- 29 October 2025 – Meeting with the City to review DRP01 comments and project update.
- 26 November 2025 – DRP02

Following the feedback received in DRP01, the proposal was amended to address relevant comments made by the DRP panel. A summary of the major modifications are provided below:

- Included a social hub into the proposal. This is in response to the need to provide a central 'heart' of the precinct to connect the site. This change also resulted in reducing open-air car parking.
- Improvements to pedestrian connectivity. Strengthened pedestrian routes along Quill Way, as well as through the site into the rear commercial buildings.
- Increased the provision of landscaping both in the verge and on-site.
- Provided greater setbacks between towers to improve visual permeability through the site.
- Refined the façade and architectural detailing of the buildings.
- Increased hotel windows.

A detailed response to the DRP02 minutes is provided below. It is considered the proposed development has responded to all matters raised by the panel and importantly the design adequately meets State Planning Policy 7.0 – Design of the Built Environment.

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Table 4. DRP02 Responses

Principle	Recommendations	Applicant Response
Context and Character	1. Remove truck parking from the verges. 2. Relocate the hotel entrance to the corner so it interacts with the streetscape interface as well as the car park to generate a higher level of streetscape interactivity. 3. Consider relocating the hotel loading dock to an internal interface on the site in order to increase streetscape interactivity as well as the general presentation of the streetscape interface on the corner of the site.	Given the nature of the locality, providing safe pull-in areas is considered essential. Whether the development provides the embayment bay or not, trucks will still utilise the verge to park. To prevent landscape and infrastructure damage and improve general safety, we disagree the truck embayment should be removed from the proposal. With respect to point 2 and 3, the hotel entrance and servicing areas were in response to the streetscape and balancing how the end user will utilise the development. Quill Way is the primary street, therefore, direct entrance and activation should be maintained to this edge. Further, the internal interface is providing an important pedestrian linkage within the precinct with retail frontages activating the ground floor. It is not appropriate to bring services vehicles into the site. Therefore, the only logical location is Redemptora Road. With this being considered the proposed solution to servicing is considered acceptable.
Landscape Quality	1. Coordinate landscape and architectural drawings especially in relation to the parklet style public spaces on the site. 2. Provide further information in relation to hard landscaping elements and materiality. 3. Consider introducing additional parklet style public spaces on the south side of the social hub.	Landscape and architectural drawings have now been updated to be coordinated. The landscape plan clearly depicts materiality. This will be formalised at building permit stage. This is not required. The on-site landscape provisions is more than double what is required.

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Principle	Recommendations	Applicant Response
Built Form and Scale	1. Increase the setback of the office building to the south boundary or relocate the office bulk closer to the centre of the site. 2. Introduce articulation in the form of recesses or further diversity of materiality on the office building facades to break down the visual bulk and scale of the building.	Both office buildings have a significant setback to the southern boundary of 6 metres. Given the abutting development is industrial buildings, the consideration of bulk is largely irrelevant. Building materiality and articulation has been considered in further detail. A diversity of materials are proposed, drawing inspiration from the industrial context.
Functionality	1. Include an Acoustic Report. 2. Provide a Waste Management Plan. 3. Include a Staging Plan.	An Acoustic Report and Waste Management Plan have been provided with the DA. The staging of the project is driven by leasing commitments. A Staging Plan would be meaningless until this occurs and market interest is assessed.
Sustainability	1. Include a detailed ESD report in the package presented to the Panel. 2. Consider the use of a recognised ESD tool. 3. Include PV solar systems.	ESD report included with DA submission. The City has no policies or framework regarding a preferred ESD tool. The commitments to sustainability infrastructure are substantial. PV solar systems included on all buildings with the exception of building 2.
Amenity	1. Relocate inactive elements on the social hub ground level such as the F&B store in the north-east corner and kitchen in the south-west corner so the social hub space further interacts with, activates and enlivens the surroundings areas in the centre of the site. 2. Increase the width of the footpath and add alfresco seating to the mixed-use building ground level where footpath grades allow in the centre of the site.	The vision for the social hub is to activate the civic heart. It is envisioned this activity will spill-out into the central walkway, which will provide ample activity for this space. Footpath widths are significant at 3 metres. This provides ample room for alfresco seating.
Legibility	1. Relocate the main Hotel entrance to the streetscape interface or the corner of the building in close proximity to the streetscape interface as noted on the context and character principle above.	Refer to response in Context and Character section.

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Principle	Recommendations	Applicant Response
Safety	1. Review blank walls on the site, the ground level of the social hub, the location of the hotel pedestrian entrance as well as loading dock and truck parking on the verge to increase passive surveillance of both streetscapes, internal pedestrian pathways and communal areas / carparks on the site.	Blank walls are limited along the pedestrian linkage. Where there are blanks walls, the opposite side is activated e.g. hotel park adjoining the civic heart and store abutting the F&B tenancy. Hotel pedestrian entrance and truck parking is addressed in Context and Character.
Community	None.	
Aesthetics	1. Introduce greater articulation to the office building facades. 2. Include a signage strategy in the package present to the panel. 3. Provide a detailed public art strategy in the package presented to the panel.	Building articulation has been addressed in Built Form and Scale. Signage is a condition of approval. Public art strategy has been included as part of the DA, noting that public art will also form a condition of approval.

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4. Proposed Development

4.1 Development Summary

The proposal seeks approval for a mixed-commercial development spread across five individual buildings.

The details of the proposal are summarised in the following table.

Table 6. Application Summary

Building Height (measured from lowest NGL to highest point of building)	Hotel (Building 1): 37 metres / 10 storeys Social Hub (Building 2): 24 metres / 5 storeys Office (Building 3): 56 metres / 13 storeys Office (Building 4): 59 metres / 15 storeys Medical/Office (Building 5): 22 metres / 5 storeys
On-Site Landscaping	2,510m^2 (13.6%)
Car Parking	Hotel (Building 1): 118 Social Hub (Building 2): 59 Office (Building 3): 217 Office (Building 4) & Medical/Office (Building 5): 343 Total Bays: 737 bays
Bicycle Parking	152 bays The supply of bicycle parking will be subject to tenant demand. Noting this is an industrial area, which does not lend itself to promote safe cycling. Notwithstanding, provision has been made for cycling.
Office Floorspace (NLA)	21,531m^2
Shop/Retail/Restaurant (NLA)	2,837m^2
Tavern Floorspace (NLA)	668m^2
Medical Centre (NLA)	1,155m^2
Health Studio (NLA)	836m^2
Convention Centre (NLA)	800m^2

Refer to Appendix 2 – Architectural Plans

Refer to Appendix 3 – Landscape Plans

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4.2 Design Approach

The subject site is strategically positioned within Henderson to provide a central activity and employment hub for the AMC. As the City is aware, a multi-billion dollar defence precinct is proposed at Henderson, expected to generate 10,000 skilled jobs and will attract significant daily employment. As the only site that is zoned Local Centre, the proposed development will contribute much needed amenities and facilities to support this significant investment.

As the only Local Centre zoned site, the type of land uses proposed and the architecture is vastly different to what is currently seen within the locality with the proposal presenting a much more urban outcome, whilst having to acknowledge and respond to the industrial location and importantly the end-user. The proposal has effectively balanced incorporating traditional urban development principles, whilst ensuring the realities of how the site will be used are addressed. A detailed summary of the key principles and elements of the proposed redevelopment are summarised below:

- The positioning of buildings provides an important balance for the subject site. The proposal will provide some level of street activation and building interface to Quill Way and Redemptora Road. It is recongised, that whilst pedestrian movement will be limited, positioning buildings close to Quill Way and Redemptora Road is an appropriate outcome, given the Local Centre zoning and intent to draw patrons into the site.
- Internalising, controlling and providing a quality pedestrian environment has been a key focus. As mentioned above, Quill Way and Redemptora Road are not cohesive to pedestrianised experiences. The reality of the user is to drive, park and walk through the site. Given this, creating strong pedestrian linkages both vertically and horizontally is an important focus of the project.
- Landscape quality is also extremely high for this project. A significant area both on-verge and on-site has been set-aside for tree canopy and softscape landscaping. This is to beautify the site both internally and externally and will set the site apart from existing development and streetscapes which are currently extremely bare.
- Noting the site is located on a corner, the positioning of the hotel to accentuate the Local Centre is a deliberate architectural response for the site.
- The arrangement of mass and separation between buildings has informed the layout and positioning of buildings. Separation of mass and visual permeability through the site, has informed setbacks to adjacent sites as well as internally. A 6-metre boundary setback to adjacent lots is proposed, providing visual separation to adjacent lots. The office towers, between buildings 3 and 4 are provided with a 13-metre separation.
- Car parking has been designed to be centrally located. Above ground parking is concealed within buildings 3 and 4. Providing a full circulation within the car park via two access points on Quill Way and Redemptora Road, ensures convenient and functional vehicle movement.
- Separating service vehicle access from customer/employee areas is fundamental to the design. A service road is provided behind buildings 3, 4 and 5 meaning that waste and deliveries can all occur without disrupting vehicle flow within the car park.
- The proposed redevelopment has been prepared to consider future subdivision should the landowner choose to do so into the future. Easements would be used to share access and use of the car parking bays for Lot 2, as well as shared use of the servicing road for buildings 3, 4 and 5.

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5. Specialist Inputs

5.1 Bushfire Management Plan

A Bushfire Management Plan (BMP) has been prepared by Bushfire Prone Planning. The BMP has been prepared in accordance with State Planning Policy 3.7 – Bushfire and the associated Guidelines. To inform the BMP, a Bushfire Attack Level (BAL) assessment was undertaken which determined a BAL-12.5 is applicable to the subject site. The BMP has assessed the proposal against the 4 Elements of SPP 3.7 (location, siting and design, vehicular access and water supply). The development is compliant with all four elements, as summarised below:

Element 1 – Location

- Not applicable to a DA with an existing lot.

Element 2 – Siting and Design

- All proposed habitable building (including hotel) are not impacted by a BAL of 29 or above.
- All buildings can achieve BAL-12.5, asset protection zone beyond standard requirements is not needed.
- No native vegetation clearing is required, landscaping is low-threat.

Element 3 – Vehicular Access

- Two-way public road access via Quill Way and Redemptora Road is available, linking to non-bushfire prone areas.
- No emergency access way or onsite shelter is required because compliant two-way access exists.

Element 4 – Water Supply

- The site is serviced by reticulated water supply with hydrants located on Redemptora Road.

Refer to Appendix 4 – Bushfire Management Plan

5.2 Air Quality Assessment

An Air Quality Assessment (AQA) has been prepared by CETEC. The purpose of the report is to measure pollutants that could affect indoor air quality, compare results against the National Construction Code (NCC) and outline mitigation measures to reduce risk and ensure compliance with acceptable levels. Some pollutants exceed NCC Class 3 building guidelines due to the longer-term exposure. The exceedances are summarised below:

- Nitrogen Dioxide – peaks above 1-hour guideline.
- Sulphur Dioxide – hourly peaks above daily guideline.
- PM2.5 – hourly peaks above daily guideline.
- Total VOC – significant short-term spikes.
- Hydrogen Sulphide – Peaks above short-term guideline.

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Notwithstanding these exceedances, there are clear mitigation measures which CETEC have outlined which will ensure compliance for internal environments. These include:

- Install high-efficiency particulate filters and activated carbon filters in HCAC systems.
- Ensure air tightness above NCC minimum.
- To minimise sulphur dioxide, ensure air tightness, peak periods to be diluted in the filtered air.

Refer to Appendix 5 – Air Quality Assessment

5.3 Traffic Impact Assessment

A Traffic Impact Assessment (TIA) has been prepared by PTG Consulting. The TIA has been prepared in accordance with the WAPC Transport Impact Assessment Guidelines for Developments: Vol. 4 – Individual Developments (2016). The TIA determined at full build out the development will generate 552 trips in the AM peak and 948 trips PM peak. All intersections operate within acceptable limits with the road network containing sufficient capacity for the development. The TIA has also tested service vehicle swept path movements, demonstrating sufficient manoeuvring areas.

Refer to Appendix 6 – Traffic Impact Assessment

5.4 Acoustic Report

An Acoustic Report has been prepared by Herring Storer Acoustics. The acoustic report assessed both noise generating activities within the site, as well as noise exposure from surrounding industrial land uses and the impact on the sensitive premise being the hotel.

On-site modelling was undertaken to measure noise from the current ship building facility across Quill Way. Noise was measured at approximately 11 metres above ground level. The noise level received at the site was determined to be 63 db(A). This measurement included all noise sources from industry and road traffic.

The acoustic report modelled a worst-case scenario which included the use of a generator and angle grinder simultaneously being used. It is noted this not enclosed noise. This is assuming fabrication is occurring on the deck of the ships, closest to the hotel.

The predicted façade noise levels assuming these tools equates to 63 db(A), which is largely consistent with the modelling on-site. Notwithstanding this, to be conservative the 63 db(A) noise level was assumed.

To achieve an acceptable internal noise level, 28 db(A) needs to be achieved. The noise reduction would be achieved using standard 10mm float glass for the hotel. Notwithstanding it is likely the hotel will opt for double glazing.

Refer to Appendix 7 – Acoustic Report

5.5 Stormwater Management Plan

A detailed summary of the Stormwater Management Plan has been prepared by PTG Consulting. Stormwater run-off will be directed to soak wells consistent with the City's drainage guidelines. The soak wells will be sized to manage up to the 24-hour 1% Annual Exceedance Probability (AEP) 100 year storm event. Given the presence of sandy soils the use of soak wells is considered appropriate.

Refer to Appendix 8 – Stormwater Management Plan

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5.6 Waste Management Plan

Waste Management Plan (WMP) has been prepared by PTG Consulting. The WMP demonstrates how waste will be collected and ensuring the proposed development has suitable provision for bin storage areas relevant to the proposed land uses. As this is a commercial development, waste will be collected by a private waste contractor. The service lane will provide waste collection for buildings 3 and 4. The hotel waste collection is located on Redemptora Road. Building 2 will be serviced internally from the car park from a dedicated bin store and loading area.

Refer to Appendix 9 – Waste Management Plan

5.7 Sustainable Design Assessment

A Sustainable Design Assessment has been prepared by Summation to demonstrate how the development will accommodate sustainability initiatives within the project. A detailed summary is provided below of the major inclusions:

- Provision of double gazing.
- Use of WELS rate fittings.
- Extensive use of PV cells across all buildings with the exception of building 2.
- Substantial over-supply of landscaping.
- Nomination of EV charging infrastructure.
- Low embodied emission materials for construction.
- Use of extensive metering and monitoring to manage energy and water consumption.

Refer to Appendix 10 – Sustainability Report

5.8 Retail Assessment

To support the proposed retail floorspace, Pracys have prepared retail advice to consider the impact, need and benefit of the retail floorspace.

A detailed summary is provided below:

- The proposed retail floorspace will have minimal impact on other activity centres. Henderson is separated from residential areas by industrial land and road network.
- The Local Centre primarily will service the local workforce, not nearby residents given its location.
- Due to the employment draw of Henderson, any redistributed expenditure will be spread across multiple suburbs, making the impact negligible.
- Henderson has approximately 6,500 workers (2021), up from 3,500 in 2011, and virtually no residential population.
- Workforce growth will continue with major projects (AUKUS, Westport, Defence Precinct) adding thousands of jobs.
- Worker retail expenditure grew from $19M (2016) to $27M (2021) and is projected to rise further.
- Overall, the proposed floorspace meets the current and future demands which is primarily driven by the current and future workforce. Importantly, due to offerings and the segregation from residential, there will be negligible negative impacts on surrounding centres, as the floorspace is not reliant on a residential catchment to service the floorspace.

Refer to Appendix 11 – Retail Assessment

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6. Discussion

The below discussion has been provided to aid the City in their assessment of the proposal with this section of the report outlining where the development requires the exercise of discretion.

This section of the report outlines the merits of the proposal through discussing the developments compliance with the applicable planning framework and overarching objectives / purpose.

6.1 Street Setbacks

The proposed hotel is seeking a variation to the primary street setback of 15 meters to Quill Way. The hotel effectively has a nil setback to the corner truncation. The setbacks applicable are being applied in the context of industrial buildings which have limited architectural street appeal and often lack engagement with the streetscape. The proposed hotel is obviously seeking a built form outcome that is very different to the industrial context. The positioning of the hotel will help accentuate the Local Centre and provide some architectural form to the corner of Quill Way and Redemptora Road. It is considered this approach to be an acceptable outcome and benefit the overall form and interest of the site.

6.2 Car Parking

The proposal is seeking a car parking variation of 746 car parking bays. While the calculated shortfall is high, there are a number of considerations required to give context to the variation.

- The hotel requires a 1 room to 1 bay allowance. Given the hotel is providing accommodation that will support the AMC, a higher portion of guests are going to be staying at the hotel for work purposes catering for over-seas and over-east personnel. Personnel are likely to travel in groups as opposed to individuals which means group-transport is more frequent, as opposed to a 1 car per person ratio. It is also noted, ride-share platforms will fill a very important role in minimising car parking. As workers will be able to live and work in the locality, there is limited need for a private car other-then to travel from the airport to the subject site. We expect that this travel void can be filled by ride-share. It is also noted, the Operational Management Plan for the hotel, through online booking will be able to regulate car parking usage based on demand, noting that there are 118 car parking bays being provided.
- The shop/restaurant/tavern land uses are combining for a total of 499 car parking bays, with the tavern requiring 250 bays alone. This is a significant number of car parking bays for small-scale retail and eateries, supporting local workforce. These bays are expected to be high turnover car parking bays, that will peak at lunch-time and end-of-day periods with the tavern peak likely to be after-hours, when the shop/lunch bars are closed. These uses will primarily be serviced by the 59 bays within the social hub and 95 car parking bays to service the ground floor tenancies. Further noting, at full build-out the hotel occupants and office (where parking has already been accounted for) will account for a high-portion of visits to the shop and eateries.
- The function centre also is resulting in a significant number of car parking bays (150). Large functions of 600 patrons are not going to occur on a regular basis and generally will not coincide with the peak operation hours of the tavern or shop/restaurant land uses.
- The office and medical land uses are required to provide 565 car parking bays. The proposed development is providing 465 car parking bays dedicated to these land uses. It is expected for office to be the most car parking intensive land use, hence the provision of dedicated on-site car parking bays for this use. It is expected for these bays to be exclusively dedicated for building 3, 4 and 5. It is noted,

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based on leasing agreements, the provision for car parking can be managed with businesses i.e. set bay allocation per business that is offered for staff. With office workers having the ability to also work from home, it is expected that provision of car parking to be ample to meet tenant demands.

- It is important to note, a key reason why the car parking numbers are so inflated is the rates are being applied in isolation, with each use being calculated independently all operating at peak capacity. The reality is that the uses which are significantly contributing to the shortfall (function centre, tavern, shops/F&B, health studio = 701 bays) will only have limited peak operating periods that will coincide with certain periods of the day and will not overlap. For example, the peak period of the tavern, which will likely be after-work, will not overlap with the operation of the function centre and other shop/ convenience F&B. It is also noted this peak period will be for a short period intime, which will have limited to no disruption.
- It is expected that patrons will be visiting multiple land uses as part of the one car movement. For example, office workers using shops/restaurants as well as external workers using the gym and eating lunch. This will have a signification reduction in car parking ratios when one vehicle trip is resulting in multiple land use visits.

Providing 737 car parking bays is a considerable number of car parking bays to support the proposed development. For the reasons outlined above, despite the shortfall, it is deemed there is sufficient car parking provided on-site.

6.3 Planning Merit

In addition to the assessment and justification provided in the preceding sections of this report, the principles of orderly and proper planning require that new development is a logical and efficient extension of existing development in the locality, and consistent with the planning vision for the area. Noting the matters listed under Clause 67(2) of the Deemed Provisions, the key points regarding the proposal are as follows:

- The proposed development is consistent with the aims and objectives of City's TPS3. The proposal is providing much needed land use diversity within a locality that will be inundated with investment over the coming years. The proposed development has demonstrated that the land uses are appropriate and importantly needed to support the next growth period of the AMC.
- The proposed development aligns with the Local Centre zoning providing convenience goods and services to support the AMC and Henderson employment base.
- The subject site is centrally positioned within the AMC and provides a specialised opportunity to accommodate development and land uses to create a central local business heart for Henderson.
- The proposal is filling an important market-gap in providing short-term accommodation via the hotel given the regional and out-of-state draw the AMC precinct attracts. There is a significant shortfall in this form of accommodation surrounding Henderson and the hotel will substantially support this need.
- The proposed development is a high-quality outcome for the site. Substantial contributions are being made to improve the streetscape and create amenity for workers and out-of-state visitors.
- The proposed development is appropriate to the locality and is not creating any adverse amenity impacts or impacts of bulk and scale that are unreasonable for this area.
- The proposed development meets and responds to all relevant State and local planning framework and is not seeking any significant departures.

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7. Conclusion

This report has been prepared by Element Advisory (part of SLR) on behalf of Scope Property Group Pty Ltd for a mixed-use commercial development located at Lot 168 (No. 81) Quill Way, Henderson. Based on the planning assessment in this report it is considered that the proposed development is consistent with the strategic and statutory planning framework provisions that relates to the proposal and subject site.

The proposed development is a site-responsive development outcome that is architecturally designed and is compatible with the surrounding use of the area.

Accordingly, it is respectfully requested that the Town support and recommend approval of the proposed development to the MODAP subject to appropriate and reasonable conditions.

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Planning Framework and Detailed Assessment

State Planning Framework

Metropolitan Region Scheme

The subject site is zoned 'Industrial' under the Metropolitan Region Scheme (MRS). The objective of the Industrial zone is identified as follows.

To provide for manufacturing industry, the storage and distribution of goods and associated uses.

The proposed development aligns with the intent of the Industrial zone as it delivers associated and ancillary functions that enhance the operation and efficiency of nearby industrial businesses. The proposed development enhances the overall functionality of the industrial area.

State Planning Policy 4.1 – Industrial Interface

State Planning Policy 4.1 – Industrial Interface (SPP4.1) seeks to prevent conflict and encroachment between industrial and sensitive land uses. The objectives of SPP4.1 are outlined as follows.

a) *Ensure the impacts of industrial land uses are considered at all stages of the planning process.*
b) *Adequately separate industrial land uses and any resulting off-site impacts and/or safety risks from incompatible land uses to:*
    I. *Protect industrial areas to improve long-term operational certainty.*
    II. *Avoid, mitigate or manage potential impacts on the health and amenity of people and the environment.*
    III. *Promote co-location of like uses to minimise the impact area.*
c) *Plan the land use transition between industrial land uses/ infrastructure facilities and sensitive land uses by providing compatible zones, reserves and land uses.*

SPP4.1 outlines considerations the relevant planning decision maker is required to take into account. These considerations have outlined below, with a detailed response provided.

a) *Health, amenity and environmental impacts arising from proposals.*
b) *Existing and proposed future land uses within the impact area and wider context, particularly the location of sensitive land uses.*
c) *Current monitoring and future modelling of any cumulative impacts from other industries in the industrial area including both point source and fugitive emissions.*
d) *Potential for intensification of industrial land uses in the industrial area that may result in increased cumulative off-site impacts and /or safety risks over time.*
e) *Cost and benefit of any associated mitigation and management measures and whether it is sustainable in perpetuity.*

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The key health considerations relate to the proposed hotel. The office is not of primary consideration given the air quality and industrial activities already occur, which workers work within on a daily basis. The primary consideration is the fact that the hotel land uses results in patrons sleeping within the locality. It is important to note however, there is existing accommodation in the locality, both on site currently as well as the naval accommodation immediately south of the subject site.

There are two primary considerations relating to the impact of human health; air quality and noise. This is generated by the Kwinana Air Quality Buffer and general industrial noise associated with the AMC. Both of these impacts have been assessed through on-site monitoring to ensure these surrounding impacts do not adversely impact the hotel patrons. Further the acoustic report has been prepared with the lens of ensuring the hotel can acoustically withstand industrial noises, to ensure a comfortable environment.

Both reports have outlined measures to ensure the hotel is designed and constructed to ensure an appropriate and safe environment for hotel patrons. A detailed summary is provided below:

Acoustic Consideration

The Acoustic Report assessed surrounding industrial noise, focusing on impacts to the proposed hotel as the sensitive receiver. Noise modelling and on-site measurements were undertaken, including noise from the nearby shipbuilding facility across Quill Way, measured at approximately 11 m above ground level. The overall noise level at the site was found to be 63 dB(A), inclusive of industrial and road traffic noise.

A conservative worst-case scenario was modelled assuming unenclosed simultaneous use of a generator and angle grinder on ship decks closest to the hotel. This scenario also resulted in a predicted façade noise level of 63 dB(A), consistent with on-site measurements.

To achieve acceptable internal hotel noise levels of 28 dB(A), the required attenuation can be achieved with standard 10 mm float glass, noting that double glazing is likely to be adopted, providing additional acoustic performance.

Given the proximity of the ships to the site and the unenclosed nature of the works, this report has assessed the worst-case acoustic outcome, demonstrating a suitable internal environment can be achieved. This will also ensure, that future industrial land uses, do not need to be constrained by the hotel, given it is able to comply with the internal noise level target.

Air Quality

On-site air quality monitoring has been undertaken to demonstrate that the proposed hotel can be appropriately designed to mitigate potential air quality impacts arising from the surrounding industrial setting, particularly given patrons' extended periods of exposure. The monitoring identified elevated levels of certain pollutants within the locality. In response, the air quality report sets out a range of recommendations, summarised in Section 5.2, to ensure acceptable internal air quality and to avoid adverse health impacts for occupants. These mitigation measures include enhanced building airtightness and the incorporation of high-performance air filtration systems, which will be addressed through detailed building design. Given that effective and tangible mitigation measures are available to achieve acceptable indoor air quality for extended stay accommodation, the hotel is considered appropriate for the site and will not result in any undue impact on human health arising from the industrial context.

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State Planning Policy 4.2 – Activity Centres

State Planning Policy 4.2 – Activity Centres (SPP 4.2) provides guidance for planning and development of activity centres and retail floorspace throughout Western Australia.

The subject site is zoned 'Local Centre'. However, within the City's recent 2024 Local Planning Strategy, the Local Centre is not identified as an Activity Centre. Further the City's Commercial Strategy provides little guidance on the Henderson Local Centre, given the age of the document being prepared in 2012.

As the Local Centre is not a designated Activity Centre, despite the zoning under TPS3, the retail floorspace proposed is considered out-of-centre floorspace.

It is noted, the subject site currently contains approximately 600m2 of Category A uses, the net increase in retail floorspace (PLUC5) is 2,237m^2.

SPP 4.2 restricts increases of Category A land uses to 500m2. However, additional Category A land uses can be considered and supported with section 7.9 (f) and (g), effectively requiring a Net Benefit Test to ensure there is no disruption to surrounding activity centres.

This proposal is unique and is not explicitly addressed under SPP 4.2. This site is serviced both now and into the future by a significant employment hub, that is extremely isolated from both residential and other Category A use types. From an impact perspective the nearest activity centre is Beeliar which is more than 3.5km away from this site, which would far exceed its primary catchment. Furthermore, those residents within this catchment as well as others, will not be driving to an industrial area for goods and services. Given the segregation of the site and the fact the additional Category A floorspace is being provided to accommodate the needs of the AMC, providing an extensive NB Test is not considered to be required, noting that SPP 4.2 is a due regard document and does not consider every circumstance and site.

SPP 4.2 also does not consider employment hubs in any level of detail. The reference to activity centres is primarily driven by residential catchment surrounding the centre and how this results in primary trade. For the subject site, the trade area is the employment draw of the AMC, which will service the retail floorspace, and importantly has no reliance residential catchments to fuel the proposed floorspace. Given this, the circumstances outlined within SPP 4.2 which relate to out-of-centre development are substantially different to more traditional local or neighbourhood centres situated in a residential context.

Notwithstanding the above, Pracys have prepared a high-level retail analysis to help support the position above and demonstrate there is and will continue to be significant demand for retail floorspace, as well as supporting the position this level of retail floorspace will have a negligible impact on surrounding activity centres given its proximity and isolation from surrounding activity centres.

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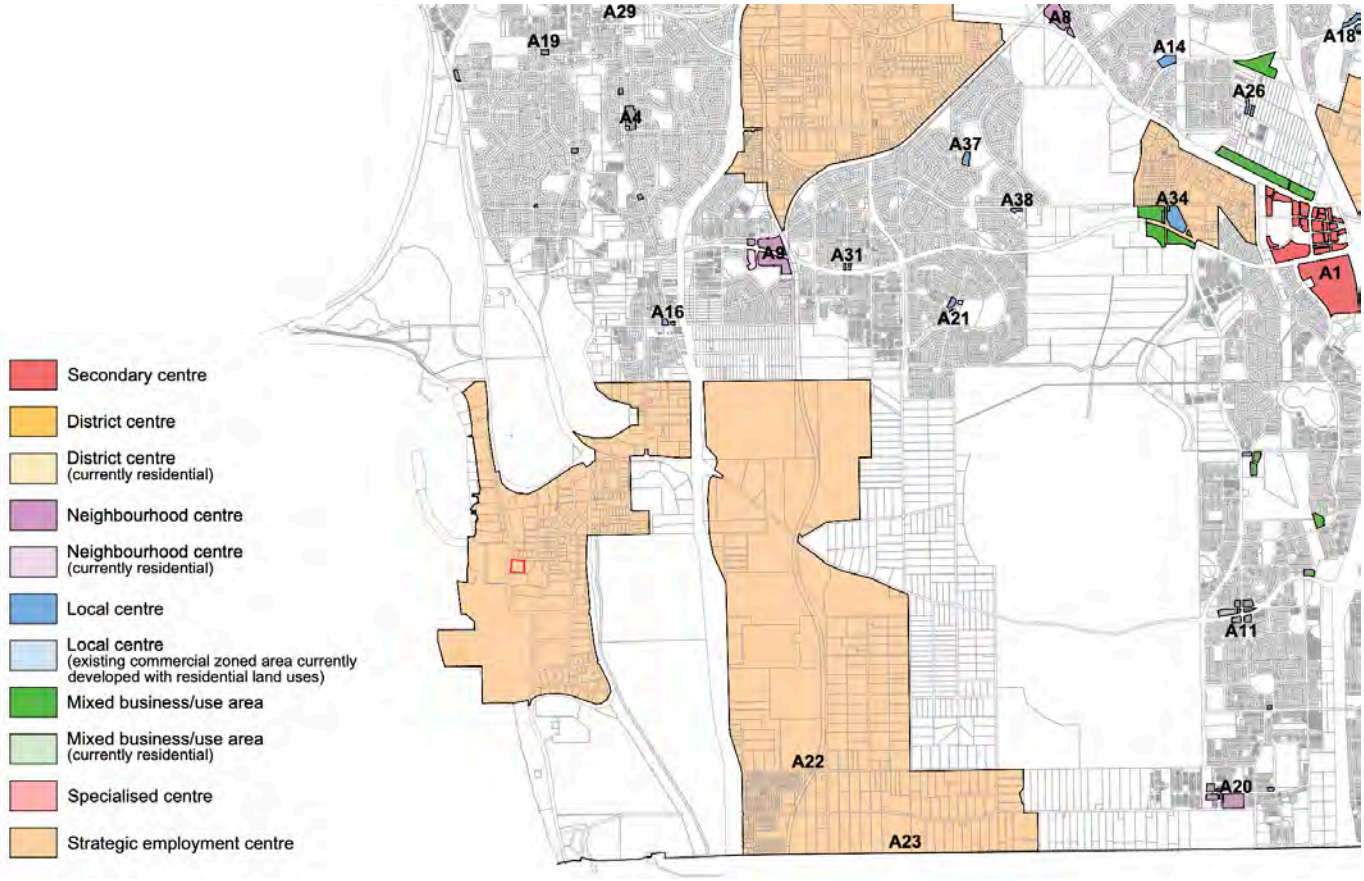


Figure 5. Strategy Extract

Local Planning Framework

City of Cockburn Local Planning Strategy

The City of Cockburn Local Planning Strategy (the Strategy) was endorsed by the Western Australian Planning Commission (WAPC) in October of 2024. The strategy was prepared to provide a strategic direction to inform the future statutory framework (i.e. the future Local Planning Scheme). The Strategy sets out the long-term strategic direction for land use and development within the City and has been prepared to reflect the community and Council vision for the future of the City.

The proposed development is located within AMC. The AMC in Henderson contains more than 150 businesses and services the marine, defence force and resource industries through manufacturing, fabrication, assembly, maintenance and technology development. The AMC has created more than 37,000 jobs since opening in 2003.

Given its importance, there is a need to protect the integrity of the AMC for strategic industry whilst providing flexibility for a limited range of alternative and complementary uses where they are appropriately located.

One of the objectives under Section 3.0 Economy and Employment states:

> *Protect the integrity of the Australian Marine Complex for strategic industry whilst providing flexibility for a limited range of alternative and complementary uses where they are appropriately located and demonstrate adaptability to accommodate uses in line with the objectives of the zone.*

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The proposed mixed-use development aligns with the intent of the area as the proposed uses are complementary to, and supportive of the broader strategic industrial function of the AMC. In accordance with the above objective, the proposed development introduces land uses that enhance the operational efficiency, amenity and functionality of the precinct without comprising its strategic purpose. The proposed uses provide services and facilities that directly support the workforce, visitors and businesses operating within the AMC.

City of Cockburn Town Planning Scheme No.3

Under the City of Cockburn TPS3 the subject site is zoned 'Local Centre'. The objective of the Local Centre zone is outlined as follows.

> *To provide for convenience retailing, local offices, health, welfare and community facilities which serve the local community, consistent with the local serving role of the centre.*

The proposed development complies with the intent of the Local Centre zone as it provides a range of conveniently accessible retail, office, hotel and community services. The inclusion of office spaces further aligns with the objective by delivering local employment opportunities and essential administrative, professional and support services that directly corelate to the surrounding industrial businesses. These uses enhance operational efficiency for nearby businesses and reinforce the centre's role as a local serving hub that complements and supports the broader industrial precinct.

Land Use Permissibility

A summary of the proposed land uses and their respective permissibility within the Local Centre zone is provided in Table 7 below.

Table 7. Land Use Permissibility under TPS3

Proposed Land Use	Permissibility	Justification
Office	D	The proposed office use is compatible with the Local Centre zone as it provides local employment opportunities and essential administrative and professional services for the surrounding industrial businesses.
Hotel/Tavern	A	The proposed Hotel/Tavern use is an appropriate complimentary use within the Local Centre zone as it provides, food, beverage, accommodation, and social spaces that serve both the local community and the surrounding industrial workforce. These uses deliver important amenities for workers, visitors, contractors and businesses operating in the area.
Shop	P	The proposed shop use creates convenient retail for the community which reinforces the Local Centre zones objective as a local, easily accessible service centre.
Health Studio	A	The proposed health studio use is an appropriate complementary use by providing recreational and wellbeing services that directly benefit the local workforce.

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Proposed Land Use	Permissibility	Justification
Medical Centre	D	The proposed Medical Centre use aligns strongly with the local-serving function of the Local Centre zone by providing essential health services close to employment areas. Given the large industrial work force in the surrounding precinct, medical and allied health services reduce travel distances and improve access to health care for the community.
Convention Centre	Use Not Listed	The convention centre provide a localised function space which will service the AMC and the associated businesses. Given the significant employment draw, this will compliment both uses within the subject site and the broader AMC precinct.

Multi-Uses for Retail Tenancies

At this stage of the project, it is unknown the end-use of the ground floor tenancies. As highlighted on the plans, the use may end up as shop or some form of food and beverage. As noted below, a shop car parking rate has been applied to all split-use ground floor tenancies. It is requested that the City approve the split use ground floor tenancies with multiple uses, to provide flexibility and negate having to change uses. We request the following for the ground floor:

- Shop
- Restaurant
- Lunch Bar

Parking Assessment

Table 3 under TPS3 identifies vehicle parking for commercial uses. It is noted, where split ground floor tenancies are proposed e.g. retail/F&B a shop car parking rate has been used.

The following parking requirements are applicable to the proposed development.

Table 8. TPS3 Car Parking Requirements

Land Use	Car Parking Bays	Delivery Bays	Bicycle Racks
Lunch Bar	1:15m^2 NLAA	N/A	1:20m^2 NLA
Shop	1:12m^{2}NLA for 0-5,000m2 NLA	1:1000m^2 NLA	1:200m^2 NLA
Hotel/Tavern	1:2m2 NLA of drinking area plus 1:1 bedroom	1: Service/storage area	1:50m^2 GLA
Restaurant	1:4 seats OR 1:4 people accommodated	1: Service/ storage area	1:30 seats OR 1:100 people accommodated
Office	1:50m^2 gla	1:500m^2	1:200m^2 gla employees 1:750m^2 gla visitors
Medical Centre	5:1 practitioner OR 5:1 consulting room	Not applicable	1:400m^2 gla employees 1:200^{m2} gla visitors

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Land Use	Car Parking Bays	Delivery Bays	Bicycle Racks
Health Studio	1 per 20m² 1 bay per staff member	Not applicable	1 per 100m² of active floor space
Convention Centre	Not Defined A rate of 1 to 4 patrons has been assumed.	Not Defined	Not Defined

Table 10. Car Parking Assessment

Building Reference	Land Uses	Metric	Bays Required	Bays Provided
Building 1	Hotel	161 Rooms	161 bays	118
	Shop	557m² (NLA)	46 bays	
			Total: 207	
Building 2	Tavern	505m² (NLA)	252 bays	59
	Restaurant	100 seats	25	
	Health Studio	836m2 + 10 staff	52 bays	
	Convention Centre	600 persons	150 bays	
			Total: 479	
Building 3	Shop	939m² (NLA)	78 bays	217
	Office	12,439m² (GLA)	249 bays	
			Total: 327	
Building 4	Shop	536m² (NLA)	45 bays	248
	Office	12,439m² (GLA)	249 bays	
			Total: 294	
Building 5	Shop	635m² (NLA)	53 bays	95
	Office	1,125m² (GLA)	23 bays	
	Medical Centre	20 Practitioners	100 bays	
			Total: 176	
				737 Bays
Total Bays Required				**1,483 Bays**

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Table 12. Bicycle Parking Assessment

Building Reference	Land Uses	Metric	Bays Required	Bays Provided
Building 1	Hotel	161 Rooms	0	0
	Shop	557m² (NLA)	3 bays	
Building 2	Tavern	505m² (NLA)	10 bays	8
	Restaurant	100 seats	3 bays	
	Health Studio	836m² + 10 staff	8 bays	
	Convention Centre	600 persons	0	
Building 3	Shop	939m² (NLA)	5 bays	54
	Office	12,439m² (GLA)	62 bays	
Building 4	Shop	536m² (NLA)	3 bays	84
	Office	12,439m² (GLA)	62 bays	
Building 5	Shop	635m² (NLA)	3 bays	6
	Office	1,125m² (GLA)	7 bays	
	Medical Centre	1,155m² (NLA)	8 bays	
			= 174 bays	
Total Bays Required				**152**

The proposed development has been assessed against the relevant provisions outlined within TPS3 as follows.

Table 13. Assessment of Development against TPS3 provisions

Provision	Proposal	Compliant Y/N
Commercial and Industrial Use – Building Setback Clause 4.9.1 a) A building shall be setback from lot boundaries in accordance with the provisions of the Building Code of Australia. 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.	– Setback requirements defined as per Local Planning Policy 3.8.	**Y**

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Provision	Proposal	Compliant Y/N
Commercial and Industrial Use – Landscaping Clause 4.9.2 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. 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 4.9.2b). c) Where the street verge is included in the landscaped area shall be developed and maintained by the owner as an integral part of the on-site provision referred to in clause 4.2.9b). d) The landscaped area provided on the lot shall have a minimum width of not less than 1.5m and distributed in areas of not less than 4.0 square metres. e) There shall not be 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. 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. 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, unless the local government agrees otherwise in any special circumstance.	**Landscape Area** The proposed development is opting to provide 5% on-site, with the verge proposed to be landscaped. The proposed landscaping plan is providing 2,510m^2 of dedicated landscaping area (13.6%) on-site. **Verge Tree Provision** Quill Way Frontage (145m – inclusive of truncation): 15 trees proposed Redemptora Road Frontage (98.8m): 13 trees). **Shade Trees** 1 tree per 3 car parking bays is satisfied.	Y

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Provision	Proposal	Compliant Y/N
Amenity Clause 4.9.3 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. 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. 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. d) Advertising signs shall be – i. Attached to the walls or façade 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 titles 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. 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.	Overshadowing is not applicable given there is no surrounding residential properties. The scale of the proposed development is appropriate to the location. The development is not seeking to be coherent to existing industrial-style buildings given the proposal is providing office, hotel and recreational land uses. Given this site is the only Local Centre zone the appearance and form of the development will ultimately be presented differently. Notwithstanding this, the relationship the buildings have to surrounding sits and the streetscape have been considered to ensure bulk and scale is appropriate. Landscaping has been integrated along the lot frontages and within the site boundaries and exceeds TPS3 requirements. Proposed signage at this unknown as it will be somewhat dependent on the end land uses. A signage strategy can be prepared at a later date to illustrate location and signage type. We request this is imposed as a condition of approval. Street numbers can be clearly displayed in a prominent and legible manner on each frontage, where required. It is requested a condition be imposed relating to street number.	**Y**

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Provision	Proposal	Compliant Y/N
Convenience and Functionality Clause 4.9.4 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 site is located on a corner and adjoins two warehouses to the south and east. The proposal will not impact the use or function of the abutting properties and has been designed to be setback from those properties. Ample car parking is provided to accommodate the proposed land uses (see assessment and discussion). Allowances has been made to accommodate internal pedestrian connectivity, service vehicles and designated areas for landscaping and tree canopy.	Y



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Local Planning Policy 1.15 – Tourist Accommodation

Local Planning Policy 1.15 – Tourist Accommodation (LPP 1.15) is applicable to the hotel land use. LPP 1.15 requires a management plan to address a variety of matters relating to the management of guests, car parking, security and noise. It is intended the hotel will be operated by a third-party hotel operator. At this stage, a hotel operator has not been selected. Therefore, pre-emptively preparing a management plan is considered purposeless, as the operators will have their own management practices based on existing hotels. It is requested a management plan to be required prior to the issue of a building permit for the hotel.

Local Planning Policy 3.7 – Signs and Advertising

Local Planning Policy 3.7 – Signs and Advertising (LPP3.7) ensures 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 objectives of the policy are as follows.

a) To ensure that signage and advertising does not detract from the streetscape or amenity of the area.

b) To avoid the proliferation of signage in commercial areas.

c) To avoid an abundance of signs on individual sites and buildings.

d) To ensure that signs only relate to the services and products on the site.

e) To encourage the rationalisation of advertising signs on individual premises.

f) To encourage the incorporation of advertising signs into the design consideration of buildings.

A detailed signage strategy can be prepared at a later time, once there is clearer understanding of the tenants occupying the development. It is requested a condition be imposed requiring a signage strategy.

Local Planning Policy 3.8 – Industrial Subdivision and Development

Local Planning Policy 3.8 – Industrial Subdivision and Development (LPP3.8) outlines requirements to provide guidance for the development of land in the City's industrial and mixed business zones in an endeavour to achieve coordinated, quality development outcomes. The subject site is located within Precinct A under the Strategic Industry Precinct Map outlined within LPP 3.8. The objectives of Precinct A are identified as follows.

a) To protect the ongoing functioning and viability of key strategic infrastructure, such as the Common User Facility, that support the marine, resource and defence sectors;

b) To ensure safe and convenient access and movement within the precinct is maintained; and

c) To create a high quality, well designed, attractive and accessible precinct that attracts investment and provides amenity for employees and visitors.

The proposed development aligns with the intent of the Precinct A objectives. The proposed land uses have been selected for the sole purpose of providing services that will support the AMC precinct due to current or growing demand within the locality. The proposed redevelopment has a clear legibility strategy to provide safe and convenient access and will provide a high standard of amenities to fill an important role for workers and businesses.

The proposed development has been assessed against the relevant provisions outlined within LPP3.8 in Table 14.

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Table 14. LPP 3.8 Assessment

Provision	Proposal	Compliant Y/N
Built Form a) Building frontage and entry I. The main entrance to the building is on the front elevation or close to the front of the building and should be clearly visible, easily accessible and marked with signage. II. Entrances shall contain a covered portico, awning, canopy or verandah to further emphasise it and provide weather protection. III. Large expanses of unrelieved sections of wall or roof where seen from the primary street and if applicable, secondary street shall not be permitted. IV. Street numbering is to be facing the primary street and to be clearly visible from the public realm as follows: Each number and/or letter shall be a minimum 0.2m2 in size where attached on a fence along the primary street or minimum 0.4m2 in size where on the building façade or other location.	The main entrances to all proposed buildings are located prominently and clearly visible. Canopies have been used to articulate the facades and provide a positive pedestrian experience. There are no unrelieved walls/ roofs. All visible façades to the street are proposed to be treated to respond to the public realm.	**Y**
Roof a) An above roof awning, creating a visual top to the building façade is to be provided where flat; skillion or similar roofs are proposed.	N/A	**N/A**

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Provision	Proposal	Compliant Y/N
Materials, Colours and Finishes a) Broad facades are to be broken down into separate sections through different materials, colours and finishes to provide interest and enhance the streetscape. b) External boundary walls that are visible from the street shall be treated appropriately. This may be achieved through colour, score lines or similar. Where an adjoining site is vacant, the treatment shall be for at least half the length of the wall, measured from the portion of wall closest to the street. c) Any development proposal with a construction value exceeding $500,000 shall include a set of coloured perspectives with the application. d) External fixtures and equipment such as roof ventilation, exhaust towers and plumbing pipes should be effectively screened from the primary elevation using roof structures and architectural elements.	Coloured perspectives have been provided within the proposal. A cross-section of materials and colours will be used to articulate the buildings to the streetscape. All materials and finishes have been specified on the plans.	**Y**
Setbacks Primary street setback = 15m Secondary Street = 3m Side and Rear = as per Building Code of Australia	Quill Way is defined as the primary street. The hotel (building 1) is proposed with a nil setback. The social hub (building 2) is proposed with a 19-metre setback. The office (building 3) is proposed within a 19.3 metre setback. Buildings proposed to Redemptora Road are setback more than 3 metres.	**N**

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Provision	Proposal	Compliant Y/N
Vehicle Access and Parking a) Car parking i. Car parking provision shall be in accordance with the minimum requirements of Tables 3 and 4 of TPS3. ii. Any industrial use class as contained. In TPS3, containing more than one tenancy or unit shall provide a minimum of 5 car parking bays per unit (unless TPS3 requires more than 5 car parking bays per unit and then TPS3 requirements shall prevail). b) All parking calculations shall be rounded up to the nearest number on a per unit/ tenancy basis. c) Cash payment in lieu of providing car parking spaces contained in clause 4.9.6 TPS3 shall not be applied for discretionary uses. d) Joint use of car parking facilities in clause 4.9.7 shall not be applied for discretionary uses. e) Tandem car parking bays shall generally not be supported unless they are in excess of the minimum parking bay requirements of TPS3 and this policy. f) Car parking inside an existing building will not be included in calculations for car parking provision. However, purpose built undercover car parking will be considered. g) Car parking areas shall be designed and constructed in accordance with the most recent version of Australian Standards.	Refer to above car parking calculations and car parking discussion section in DA report.	**N**
Bicycle Parking a) In addition to the requirements of TPS3, bicycle parking facilities shall provide weather protection via an awning or similar and shall consist of rails, stands, locker or any other type of equipment designed for this purpose in accordance with the Australian Standard.	Refer to bicycle parking assessment. Bicycle parking is varied between on-street and within buildings.	**Y**

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This information is provided by the City of Cockburn

Provision	Proposal	Compliant Y/N
Service, Loading and Delivery Areas Delivery and/or loading bays may be considered inside a building adjacent to suitable opening however this area shall be marked, signed, easily accessible and available in perpetuity for deliveries to the building or tenancy.	Delivery and loading bays are provided for each respective building. The service lane provides a dedicated servicing area for buildings 3, 4 and 5. The hotel is delivery is from Redemptora Road. The social is serviced internally.	**Y**
End of Trip Facilities a) All developments that are required to provide five or more bicycle parking bays in accordance with the minimum provisions of TPS3 are required to provide End of Trip Facilities, which are to be designed in accordance with the following criteria: i. A minimum of one female shower and one male shower, located in separate unisex shower and change rooms; ii. Additional shower facilities to be provided at a rate of one female shower and one male shower for every additional 10 bicycle parking bays, to a maximum of five female and five male showers per development. iii. The showers must dispense both hot and cold water; iv. The EOT facilities shall include non-slip surfaces, hooks and or benches for peoples belongings, adequate lighting and ventilation; v. The end of trip facilities should be located as close as possible to the bicycle parking facilities; vi. Secure change rooms capable of being locked; and vii. A locker for every bicycle parking bay provided.	Budling 3, 4 and 5 will contain at least 1 male and 1 female shower. Given the industrial setting and limited cycling infrastructure, this is considered ample.	**N**

Document Set ID: 12558039
Version: 1, Version Date: 18/12/2025
Print Date: 14 April 2026, 1:57 PM

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Provision	Proposal	Compliant Y/N
Fencing a) The minimum standard of fencing shall be black PVC coated chain/link mesh with black support posts and a height of 1.8m. Additional security may be provided through the provision of a maximum "3-barb" wire on top of chain/link mesh fence equivalent. All gates, posts, and fittings shall be black galvanised steel. b) Fencing which exceeds the minimum standard shall complement the building and landscaping design.	No fencing proposed.	Y
Stormwater Management a) Development shall be designed to contain all stormwater on site. b) Specific drainage requirements shall be in accordance with the Building Code of Australia. c) Stormwater drainage plans shall be lodged up front at the development application stage.	*Refer to Appendix 8 – Stormwater Management Plan.*	Y
Landscaping a) General i. A detailed landscape plan shall be submitted with a development application. ii. The area of landscaping to be provided shall be in accordance with the requirements of TPS 3. iii. Trees shall be a minimum of 2m in height (approx. 45 litre pot size at time of planting). iv. Landscaping to be irrigated and maintained by landowner/occupier. v. Landscaping proposals which seek a reduction in accordance with TPS 3 shall be required to include the verge landscaping in the landscape plan.	Landscaping is compliant with TPS3. Tree literate ranges between 30 and 45 litres. All landscaping is proposed to be irrigated.	Y

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Version: 1, Version Date: 18/12/2025
Print Date: 14 April 2026, 1:57 PM

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Provision	Proposal	Compliant Y/N
Verge Improvements a) Verges are to be improved in accordance with the City of Cockburn 'Verge Improvement Guidelines' b) Verge trees shall: i. Be a minimum of 2m in height (approx. 45 litre pot size at time of planting); ii. Be planted on the correct utility alignment; iii. Be positioned to allow space for bin presentation; iv. Consider tree height at maturity if under power lines; and v. Provide a shade canopy. c) The verge trees shall be irrigated by the landowner/occupier until established. As the verge trees become an asset of the City's verge, the City will be responsible for any pruning of the verge tree. The maintenance of all other forms of landscaping to the verge shall be the responsibility of the landowner / occupier d) The maintenance of shrub planting, turf or any improvement other than the trees shall be the responsibility of the landowner/occupier. e) The verge shall not be used for car parking purposes unless approved by the City of Cockburn.	The landscaping plan includes verge landscaping improvements. The verge design does include three embayment bays. This is to prevent trucks from destroying kerbs and verge landscaping and providing a dedicated pull-in area. Verge planting will be irrigated. Bins not required on verge.	**Y**

Document Set ID: 12558039
Version: 1, Version Date: 18/12/2025
Print Date: 14 April 2026, 1:57 PM

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Provision	Proposal	Compliant Y/N
Waste Management a) Every proposal shall include internal or external bin storage provisions for each tenancy or an appropriate shared bin storage area for unit developments may be permitted sized according to the waste generation rates of the on-site activities. b) Internal bin storage shall be adequately sized to contain all waste bins and consist of a concrete wash-down pad of at least 2sqm graded to a 100mm diameter industrial floor waste with a hose cock, and connected to sewer. c) External bin storage enclosures shall be adequately sized to contain all waste generated in one week and be a minimum of 1.8m high, fitted with a gate and graded to a 100mm diameter industrial floor waste with a hose cock, and connected to sewer. d) External bin storage enclosures shall be located behind the building alignment and be screened from view of the street and roofed when greater than 20sqm. e) A secondary treatment system will be required where reticulated sewerage cannot be reasonably be connected and any wash down bays required will be constructed and maintained to the satisfaction of the City.	*Refer to Appendix 9 – Waste Management Plan*	**Y**
Staged Development a) Future stages of any development shall be considered and included on the site plan along with any necessary expansion to vehicle parking.	All stages of development are included within the application.	**Y**

Document Set ID: 12558039
Version: 1, Version Date: 18/12/2025
Print Date: 14 April 2026, 1:57 PM

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Provision	Proposal	Compliant Y/N
Future Road Networks a) Proposals on land subject to a future road network shall ensure that provision of the future road network and vehicle access forms part of the proposal. b) Proposals on land which is required for a future road network shall ensure that road reserves are ceded as part of a development application or subdivision application, whichever comes first. c) Proposals incorporating road networks or as otherwise determined by the City, shall demonstrate integration with adjoining development.	Not applicable.	**N/A**
Vehicle Crossovers a) Crossovers are to be located, designed and constructed in accordance with the "City of Cockburn Vehicle Crossover Specification and Forms".	Three crossovers are proposed to Quill Way and two crossovers to Redemptora Road. All crossovers are separated by more than 30 metres consistent with City's policy.	**Y**

Local Planning Policy 5.13 – Percent for Art

Local Planning Policy 5.13 – Percent for Art (LPP 5.13) requires proposals to set aside a minimum of one percent of the total project cost (up to a maximum value of $250,000.00) for the development of art-works on the subject land. Some preliminary opportunities have been identified within the development for this public art contribution, please refer to Appendix 12. We accept a suitably worded condition requiring public art to be provided.

Refer to Appendix 12 – Public Art Concept

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Version: 1, Version Date: 18/12/2025
Print Date: 14 April 2026, 1:57 PM

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Appendix 1 – Certificate of Title

Document Set ID: 12558039
Version: 1, Version Date: 18/12/2025
Print Date: 14 April 2026, 1:57 PM

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Appendix 2 – Architectural Plans

Document Set ID: 12558039
Version: 1, Version Date: 18/12/2025
Print Date: 14 April 2026, 1:57 PM

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Appendix 3 – Landscape Plans

Document Set ID: 12558039
Version: 1, Version Date: 18/12/2025
Print Date: 14 April 2026, 1:57 PM

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Appendix 4 – Bushfire Management Plan

Document Set ID: 12558039
Version: 1, Version Date: 18/12/2025
Print Date: 14 April 2026, 1:57 PM

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Appendix 5 – Air Quality Assessment

Document Set ID: 12558039
Version: 1, Version Date: 18/12/2025
Print Date: 14 April 2026, 1:57 PM

This information is provided by the City of Cockburn

Appendix 6 – Traffic Impact Assessment

Document Set ID: 12558039
Version: 1, Version Date: 18/12/2025
Print Date: 14 April 2026, 1:57 PM

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Appendix 7 – Acoustic Report

Document Set ID: 12558039
Version: 1, Version Date: 18/12/2025
Print Date: 14 April 2026, 1:57 PM

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Appendix 8 – Stormwater Management Plan

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Print Date: 14 April 2026, 1:57 PM

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Appendix 9 – Waste Management Plan

Document Set ID: 12558039
Version: 1, Version Date: 18/12/2025
Print Date: 14 April 2026, 1:57 PM

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Appendix 10 – Sustainability Report

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Version: 1, Version Date: 18/12/2025
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Appendix 11 – Retail Assessment

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Version: 1, Version Date: 18/12/2025
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Appendix 12 – Public Art Concept

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Version: 1, Version Date: 18/12/2025
Print Date: 14 April 2026, 1:57 PM

This information is provided by the City of Cockburn

Henderson Business Hub – Lot 168
(No.81) Quill Way, Henderson
Development Application Report
December 2025 | 25226

element. | PART OF SLR
Level 1, 500 Hay Street. Subiaco WA 6008
T. (08) 9289 8300 – **E.** hello@elementadvisory.com.au
elementadvisory.com.au

Document Set ID: 12558039
Version: 1, Version Date: 18/12/2025
Print Date: 14 April 2026, 1:57 PM

This information is provided by the City of Cockburn

HENDERSON BUSINESS HUB

81 Quill Way, Henderson, WA

ARCHITECTURAL DRAWINGS

DWG.NO	TITLE	REV	REV DESCRIPTION
000 COVER			
A0.00	DRAWING LIST	1	DA
D76646	FEATURE & CONTOUR SURVEY (BY OTHERS)	1	SURVEY
100 SITE			
A1.01	EXISTING SITE PLAN	1	DA
200 PLANS			
A2.01	SITE PLAN A	1	DA
A2.02	SITE PLAN B	1	DA
A2.03	SITE PLAN C	1	DA
A2.04	SITE PLAN D	1	DA
A2.05	SITE PLAN E	1	DA
A2.06	SITE PLAN F	1	DA
A2.07	ROOF PLAN	1	DA
400 ELEVATIONS			
A4.01	ELEVATIONS 1	1	DA
A4.02	ELEVATIONS 2	1	DA
A4.03	ELEVATIONS 3	1	DA
A4.04	ELEVATIONS 4	1	DA
500 SECTIONS			
A5.01	SECTION A	1	DA
A5.02	SECTION B	1	DA
A5.03	SECTION C	1	DA
A5.04	SECTION D	1	DA
A5.05	SECTION E	1	DA
A5.06	SECTION F	1	DA
A5.07	SECTION G	1	DA
A5.08	SECTION H	1	DA
A5.09	SECTION J	1	DA
A5.10	SECTION K	1	DA
A5.11	SECTION L	1	DA

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REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
DRAWING LIST

SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A0.00	240615	1

Print Date: 16 April 2026, 9:00 AM

Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

Urban Development Institute of Australia
MEMBER 2023/2024
WESTERN AUSTRALIA DIVISION
50 years

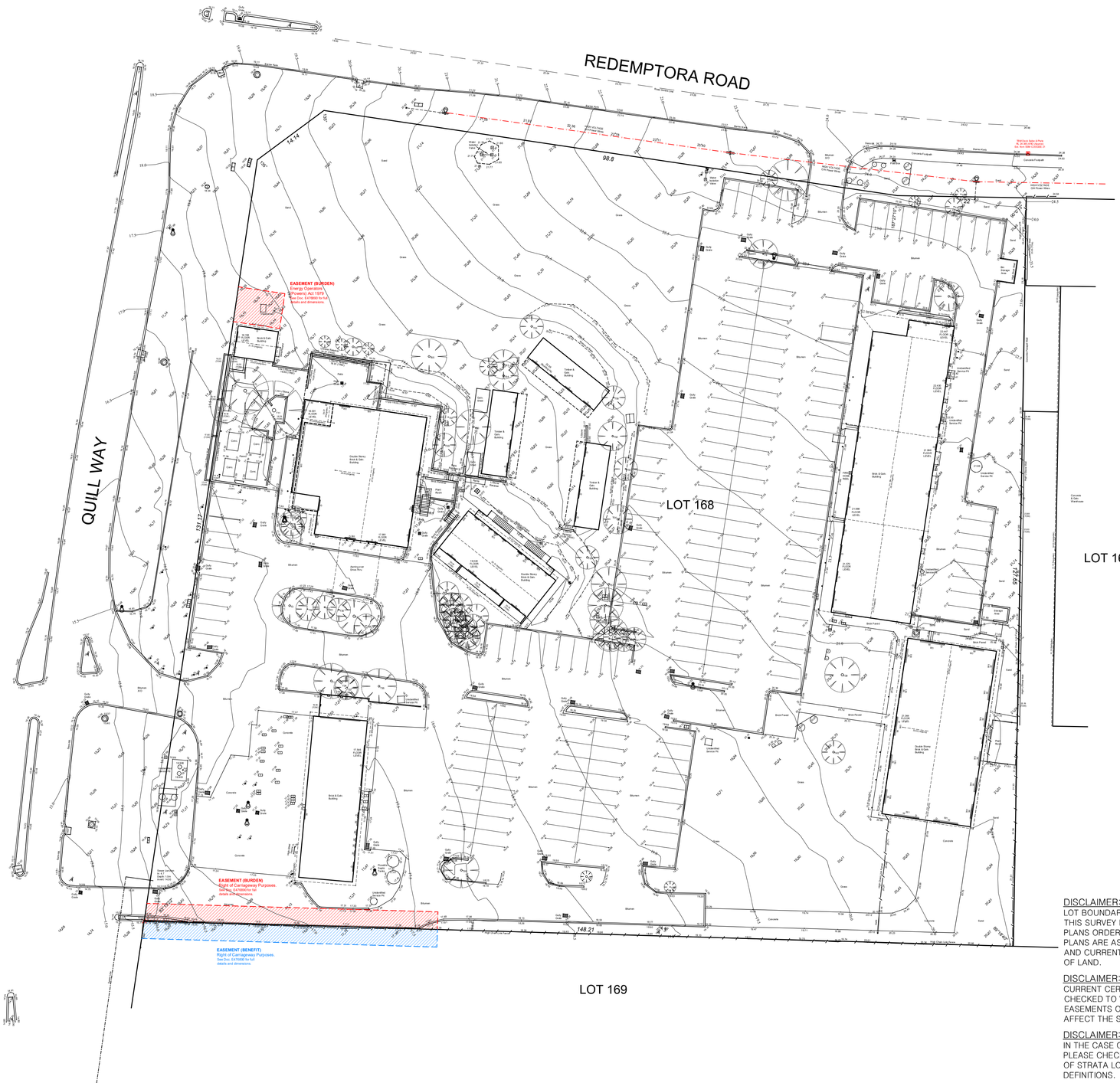
SYMBOL LEGEND:

SEWER AC | COMMS PIT | LIGHT POLE | WATER METER | POWER POLE | ELECTRICAL PIT
WATER VALVE | HYDRANT | UNIDENTIFIED PIT/VALVE | RETIC VALVE | SIGN POLES
GULLY GRATE | DRAINAGE PIT | TEMP. BENCHMARK

SURVEY CO-ORDINATES: PCG94
SURVEY DATUM: AHD (APPROX.)

N

Tree ID	Trunk	Canopy	Tree Height
T1	0.30	6.0	14.0
T2	0.40	6.0	16.0
T3	0.30	6.0	14.0
T4	0.30	4.0	5.0
T5	0.30	4.0	5.0
T6	0.30	4.0	5.0
T7	0.30	7.0	4.0
T8	0.10	3.0	2.0
T9	0.20	5.0	4.0
T10	0.50	8.0	15.0
T11	0.60	10.0	17.0
T12	0.10	4.0	6.0
T13	0.10	4.0	6.0
T14	0.10	4.0	6.0
T15	0.10	4.0	6.0
T16	0.10	4.0	6.0
T17	0.10	4.0	6.0
T18	0.10	4.0	6.0
T19	0.10	4.0	6.0
T20	0.10	4.0	6.0
T21	0.10	4.0	6.0
T22	0.10	4.0	6.0
T23	0.10	4.0	6.0
T24	0.10	4.0	6.0
T25	0.10	4.0	6.0
T26	0.10	4.0	6.0
T27	0.10	4.0	6.0
T28	0.10	4.0	6.0
T29	0.10	4.0	6.0
T30	0.20	4.0	6.0
T31	0.20	4.0	6.0
T32	0.10	4.0	6.0
T33	0.10	4.0	6.0
T34	0.10	4.0	6.0
T35	0.30	6.0	6.0
T36	0.30	6.0	6.0
T37	0.30	2.0	2.0
T38	0.10	2.0	4.0
T39	0.40	6.0	16.0
T40	0.30	4.0	10.0
T41	0.20	4.0	6.0
T42	0.20	4.0	6.0
T43	0.20	4.0	6.0
T44	0.20	4.0	6.0
T45	0.60	6.0	6.0
T46	0.30	5.0	5.0
T47	0.10	3.0	2.0
T48	0.10	2.0	1.5
T49	0.10	2.0	2.0
T50	0.20	4.0	3.0
T51	0.30	4.0	5.0
T52	0.25	5.0	5.0
T53	0.20	4.0	4.0
T54	0.30	5.0	5.0
T55	0.15	5.0	6.0
T56	0.30	6.0	6.0
T57	0.30	6.0	6.0
T58	0.30	4.0	3.0
T59	0.20	4.0	5.0
T60	0.30	6.0	4.0
T61	0.10	3.0	3.0
T62	0.30	3.0	3.0
T63	0.30	5.0	5.0
T64	0.30	5.0	4.0
T65	0.30	6.0	4.0
T66	0.10	2.0	2.0
T67	0.30	3.0	3.0
T68	0.10	2.0	2.0
T69	0.20	2.0	2.0



DISCLAIMER:
LOT BOUNDARY DIMENSIONS SHOWN ON THIS SURVEY HAVE BEEN OBTAINED FROM PLANS ORDERED FROM LANDGATE. THESE PLANS ARE ASSUMED TO BE THE CORRECT AND CURRENT DEFINITION OF THE PARCEL OF LAND.

DISCLAIMER:
CURRENT CERTIFICATE OF TITLE SHOULD BE CHECKED TO VERIFY ALL LOT DETAILS AND ANY EASEMENTS OR OTHER INTERESTS WHICH MAY AFFECT THE SUBJECT LOT.

DISCLAIMER:
IN THE CASE OF STRATA LOT BOUNDARIES, PLEASE CHECK STRATA PLAN FOR DESCRIPTION OF STRATA LOT BOUNDARIES AND STRATUM DEFINITIONS.

DISCLAIMER:
DUE TO RESTRICTIONS IN OBTAINING LEVELS AND FEATURES OF ADJOINING PROPERTIES, ALL INFORMATION PROVIDED BEYOND THE BOUNDARIES OF THE SUBJECT LOT ARE DEEMED TO BE APPROXIMATE ONLY.

DISCLAIMER:
VISION SURVEYS CONSULTING ACCEPTS NO RESPONSIBILITY FOR ANY PHYSICAL CHANGES TO THE SUBJECT PARCEL OF LAND ON THIS SURVEY INCLUDING BUT NOT LIMITED TO ANY ADJOINING LOT LEVELS AND FEATURES THAT HAVE OCCURRED AFTER THE DATE SHOWN ON THIS SURVEY.

DISCLAIMER:
THIS SURVEY ONLY SHOWS SITE FEATURES WHICH ARE VISIBLE AND ACCESSIBLE AT THE TIME OF SURVEY. THE POSITION OF ANY UNDERGROUND SERVICES SHOULD BE VERIFIED PRIOR TO FINALISATION OF ANY DESIGN WORK.

VISION SURVEYS CONSULTING VERIFY THAT AN ALIGNMENT SURVEY HAS BEEN CONDUCTED ON 31/11/2023 TO ESTABLISH THE BOUNDARY POSITIONS OF LOT 168 ON D76646. THE POSITION OF ALL STRUCTURAL FEATURES REPRESENTED ON THIS PLAN ARE TO BE ASSUMED ACCURATE IN RELATION TO THE BOUNDARY. VISION SURVEYS CONSULTING IS NOT LIABLE FOR ANY CHANGES MADE TO THE PARCEL OR PORTION OF THE PARCEL OF LAND SHOWN ON THIS SURVEY INCLUDING BUT NOT LIMITED TO ANY ADJOINING PARCEL THAT HAVE OCCURRED AFTER THE DATE ON THIS SURVEY.

UTILITY SERVICES: Connection Located ✓ Connection Not Located ✗ Service to be confirmed ●
WATER ✓ SEWER ✓ GAS ✗ TELSTRA/NBN ✓ POWER - U/G ✓ -O/H ✓

FEATURE & CONTOUR SURVEY

Visionsurveys
CONSULTING
59 Scarborough Beach Rd,
SCARBOROUGH WA 6019
Tel:(08) 6144 0000 Fax:(08) 6144 0099
info@visionsc.com.au
www.visionsc.com.au

REV	DATE	AMENDMENT	APPROVED
...	...	...	...

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ALL DISCLAIMERS SHOWN ON THIS PLAN ARE TO BE READ IN CONJUNCTION WITH VISION SURVEYS CONSULTING TERMS AND CONDITIONS.

0 5 20 40
SCALE 1:400 (A1)

CLIENT: SCOPE PROPERTY GROUP
ADDRESS: 81 QUILL WAY, HENDERSON
LOCAL GOVERNMENT: CITY OF COCKBURN

1.8472ha	N/A	D76646	1923/556
LOT AREA:	R CODE:	PLAN:	TITLE:

VS009669
JOB NUMBER
DRAFTED BY: RA
CHECKED BY: DS
DRAFTING DATE: 15.12.2023
SURVEY DATE: 09.12.2023
DWG REF: Quill 81 - FEATURE v1.0

1 OF 1 SHEETS (SHEET) | 1 (VERSION)

Print Date: 16 April 2026, 9:00 AM
This information is provided by the City of Cockburn
Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

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TOTAL CAR BAYS: 192



0 2 5 10m

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LEGEND

- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING A
- HARD LANDSCAPING B
- HARD LANDSCAPING C
- HARD LANDSCAPING D
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
EXISTING SITE PLAN

SCALE	DATE
1:250@A1 / 1:500@A3	12.12.25

DRAWING No.	PROJECT No.	REVISION
A1.01	240615	1

Print Date: 16 April 2026, 9:00 AM

Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

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0 2 5 10m

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- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING A
- HARD LANDSCAPING B
- HARD LANDSCAPING C
- HARD LANDSCAPING D
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SITE PLAN - LEVEL A

SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A2.01	240615	1

Print Date: 16 April 2026, 9:00 AM

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Version: 1, Version Date: 18/12/2025

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0 2 5 10m

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LEGEND

- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING A
- HARD LANDSCAPING B
- HARD LANDSCAPING C
- HARD LANDSCAPING D
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SITE PLAN - LEVEL B

SCALE	DATE
1:250@A1 / 1:500@A3	12.12.25

DRAWING No.	PROJECT No.	REVISION
A2.02	240615	1

Print Date: 16 April 2026, 9:00 AM

Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

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7. THE LOCATION OF DOORS ON THE FACADES ADJOINING A TENANCY ARE SUBJECT TO CHANGE DEPENDING ON THE FINAL TENANCY DIVISIONS

LEGEND

- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING A
- HARD LANDSCAPING B
- HARD LANDSCAPING C
- HARD LANDSCAPING D
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SITE PLAN - LEVEL C

SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A2.03	240615	1

Print Date: 16 April 2026, 9:00 AM

Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

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LEGEND

- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING A
- HARD LANDSCAPING B
- HARD LANDSCAPING C
- HARD LANDSCAPING D
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SITE PLAN - LEVEL D

SCALE	DATE
1:250@A1 / 1:500@A3	12.12.25

DRAWING No.	PROJECT No.	REVISION
A2.04	240615	1

Print Date: 16 April 2026, 9:00 AM

Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

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LEGEND

- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING A
- HARD LANDSCAPING B
- HARD LANDSCAPING C
- HARD LANDSCAPING D
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SITE PLAN - LEVEL E

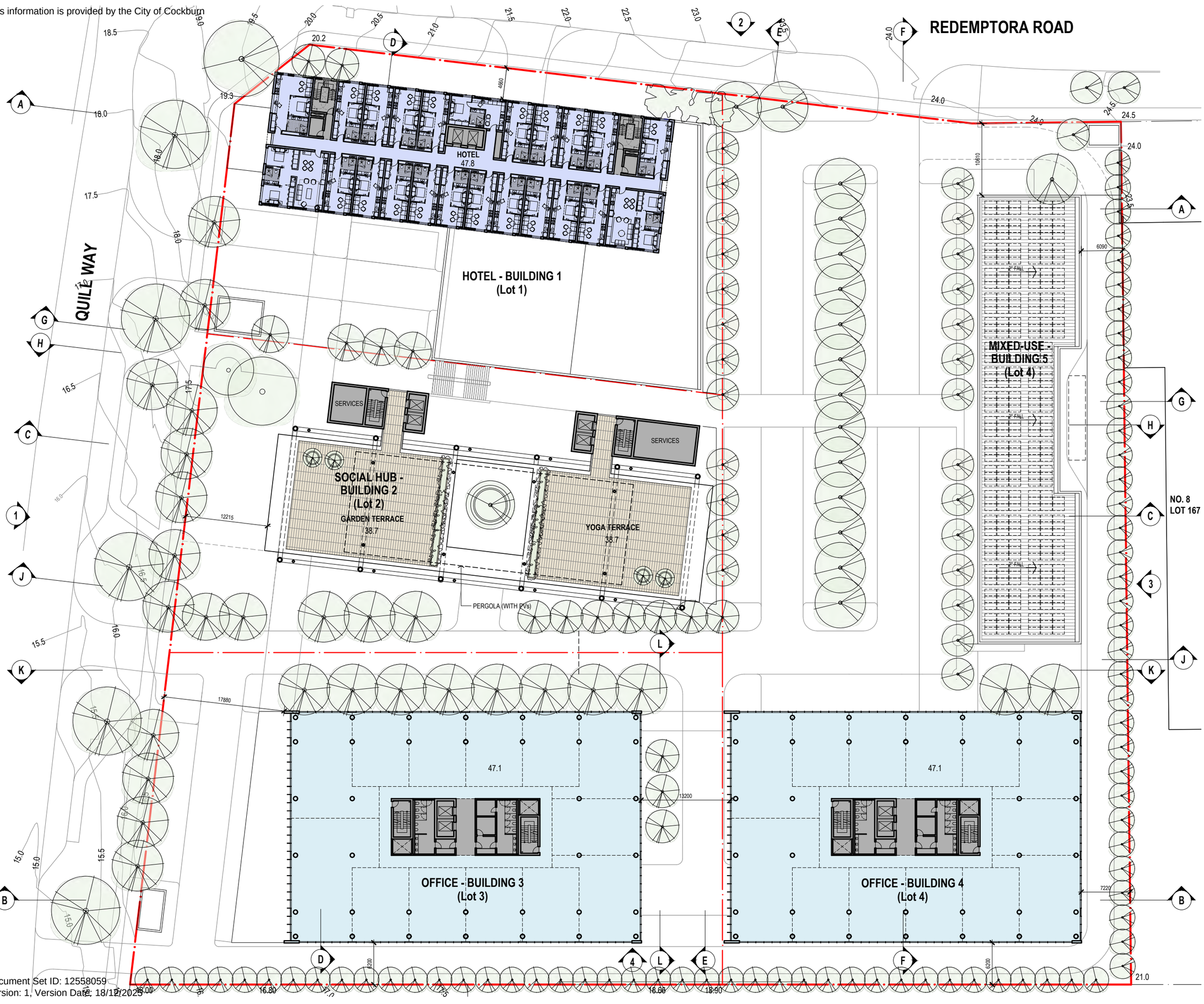
SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A2.05	240615	1

Print Date: 16 April 2026, 9:00 AM

Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

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LEGEND

- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING A
- HARD LANDSCAPING B
- HARD LANDSCAPING C
- HARD LANDSCAPING D
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SITE PLAN - LEVEL F

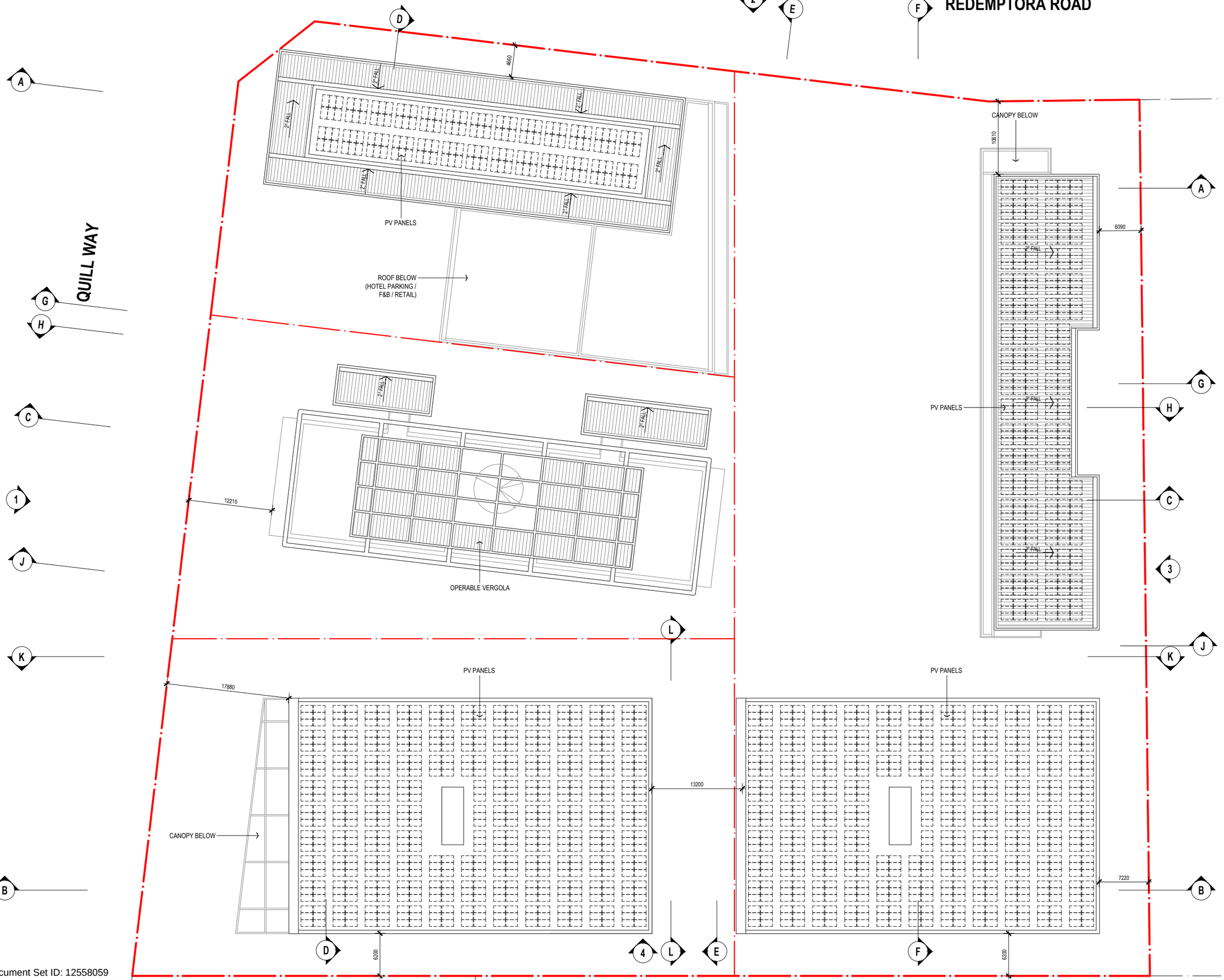
SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A2.06	240615	1

Print Date: 16 April 2026, 9:00 AM

Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

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0 1 2.5 5m

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- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING A
- HARD LANDSCAPING B
- HARD LANDSCAPING C
- HARD LANDSCAPING D
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
ROOF PLAN

SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A2.07	240615	1

Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

Print Date: 16 April 2026, 9:00 AM

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MATERIALS/ FINISHES

01 DOUBLE GLAZING UNIT. ALUMINIUM FRAMING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

02 SHOPFRONT GLAZING. ALUMINIUM FRAMING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

03 OPENABLE GLAZING (SLIDING, CASEMENT, AWNING). ALUMINIUM FRAMING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

04 FEATURE SHROUD/ FRAMING. SOLID ALUMINIUM CASSETTE. POWDERCOAT FINISH. COLOUR(S) TBC.

05 DECORATIVE PRECAST CONCRETE PANELS. COLOUR(S) TBC.
VERTICAL EXTRUDED ALUMINIUM LOUVRE. POWDERCOAT FINISH. COLOUR(S) TBC

06 DECORATIVE PRECAST CONCRETE PANELS. COLOUR(S) TBC.

07 VERTICAL EXTRUDED ALUMINIUM LOUVRE. POWERCOAT FINISH. COLOUR(S) TBC

08 ALUMINIUM BATTEN SCREEN. POWDERCOAT FINISH. COLOUR(S) TBC.
08_SOLID ALUMINIUM CASSETTE CLADDING. POWDERCOAT FINISH. COLOUR(S) TBC.

09 STEEL FRAMING. PAINT FINISH. COLOUR(S) TBC.

10 STEEL CANOPY WITH FSC SOFFIT. PAINT FINISH. COLOUR(S) TBC.

11 PERGOLA. STEEL FRAMING WITH ALUMINIUM CHS SHADING SYSTEM. GLAZED CANOPY WITH INTEGRATED PHOTOVOLTAIC CELLS. POWDERCOAT/ PAINT FINISH TO STEEL AND ALUMINIUM. COLOUR(S) TBC SOLID

12 FIBRE CEMENT CLADDING/ PROFILED ALUMINIUM CLADDING / DECORATIVE PRECAST CONCRETE PANELS. PAINT FINISH. COLOUR(S) TBC.

13 ACRYLIC RENDER WITH PAINT FINISH. COLOUR(S) TBC.

14 BALUSTRADE SYSTEM. ALUMINIUM FRAMINING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

15 ALUMINIUM WEATHERPROOF LOUVRES. POWDERCOAT FINISH. COLOUR(S) TBC.

16 VENTILATED ROLLER DOOR. POWDERCOAT FINISH. COLOUR(S) TBC.

20 GREEN WALL. STAINLESS-STEEL TENSILE TRELLIS SYSTEM

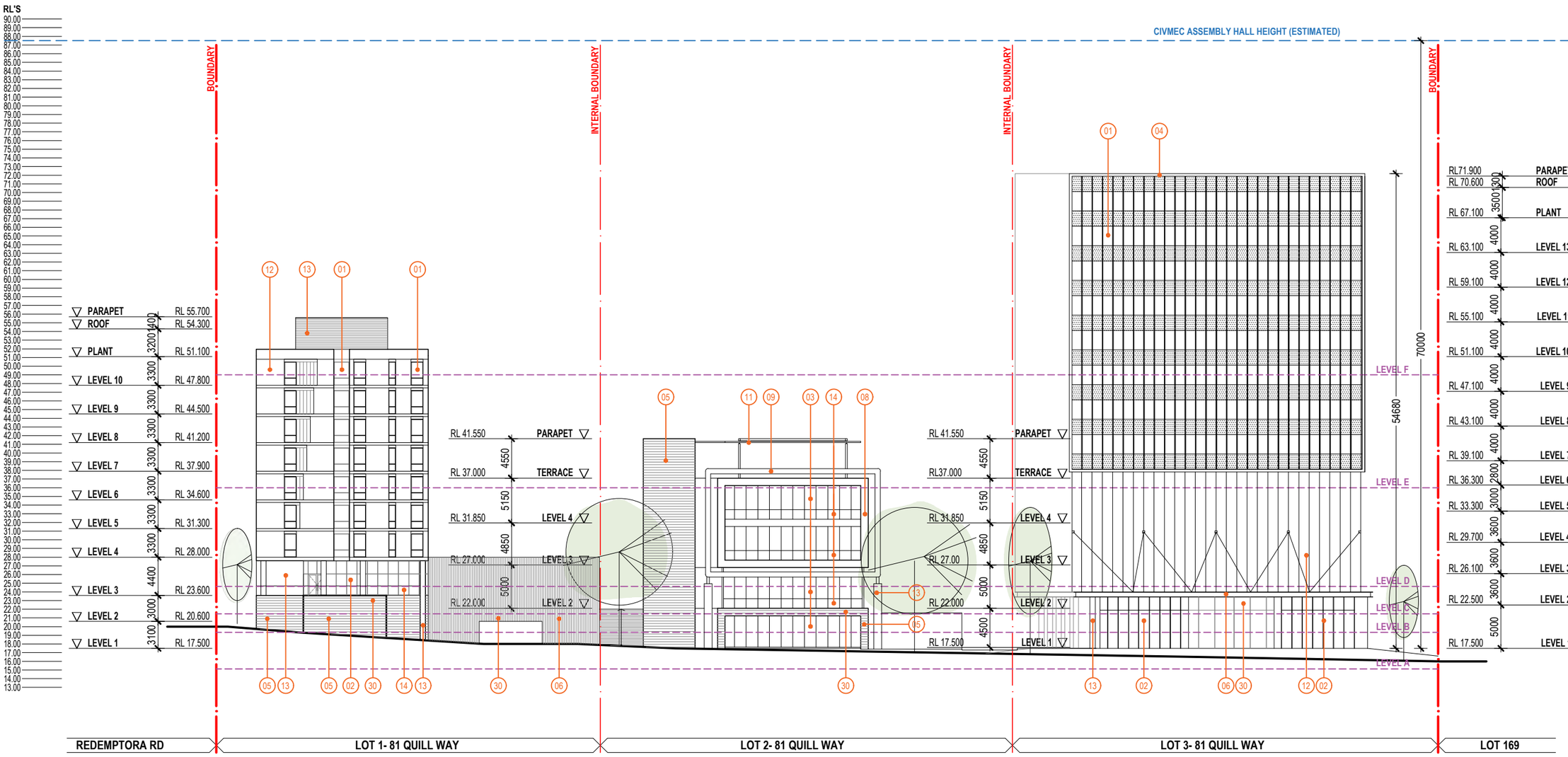
21 PLANTERS IN FORMED CONCRETE. RETICULATION INTEGRATED AND CONCEALED.

22 POOL

23 WATERFALL FEATURE

30 SIGNAGE

31 SHOPFRONT SIGNAGE. INTEGRATED INTO GLAZING SYSTEM.



0 2 5 10m

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LEGEND

- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING A
- HARD LANDSCAPING B
- HARD LANDSCAPING C
- HARD LANDSCAPING D
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
ELEVATION 1

SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A4.01	240615	1

Print Date: 16 April 2026, 9:00 AM

Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

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MATERIALS/ FINISHES

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02 SHOPFRONT GLAZING. ALUMINIUM FRAMING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

03 OPENABLE GLAZING (SLIDING, CASEMENT, AWNING). ALUMINIUM FRAMING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

04 FEATURE SHROUD/ FRAMING. SOLID ALUMINIUM CASSETTE. POWDERCOAT FINISH. COLOUR(S) TBC.

05 DECORATIVE PRECAST CONCRETE PANELS. COLOUR(S) TBC.
VERTICAL EXTRUDED ALUMINIUM LOUVRE. POWDERCOAT FINISH. COLOUR(S) TBC

06 DECORATIVE PRECAST CONCRETE PANELS. COLOUR(S) TBC.

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09 STEEL FRAMING. PAINT FINISH. COLOUR(S) TBC.

10 STEEL CANOPY WITH FSC SOFFIT. PAINT FINISH. COLOUR(S) TBC.

11 PERGOLA. STEEL FRAMING WITH ALUMINIUM CHS SHADING SYSTEM. GLAZED CANOPY WITH INTEGRATED PHOTOVOLTAIC CELLS. POWDERCOAT/ PAINT FINISH TO STEEL AND ALUMINIUM. COLOUR(S) TBC SOLID

12 FIBRE CEMENT CLADDING/ PROFILED ALUMINIUM CLADDING / DECORATIVE PRECAST CONCRETE PANELS. PAINT FINISH. COLOUR(S) TBC.

13 ACRYLIC RENDER WITH PAINT FINISH. COLOUR(S) TBC.

14 BALUSTRADE SYSTEM. ALUMINIUM FRAMINING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

15 ALUMINIUM WEATHERPROOF LOUVRES. POWDERCOAT FINISH. COLOUR(S) TBC.

16 VENTILATED ROLLER DOOR. POWDERCOAT FINISH. COLOUR(S) TBC.

20 GREEN WALL. STAINLESS-STEEL TENSILE TRELLIS SYSTEM

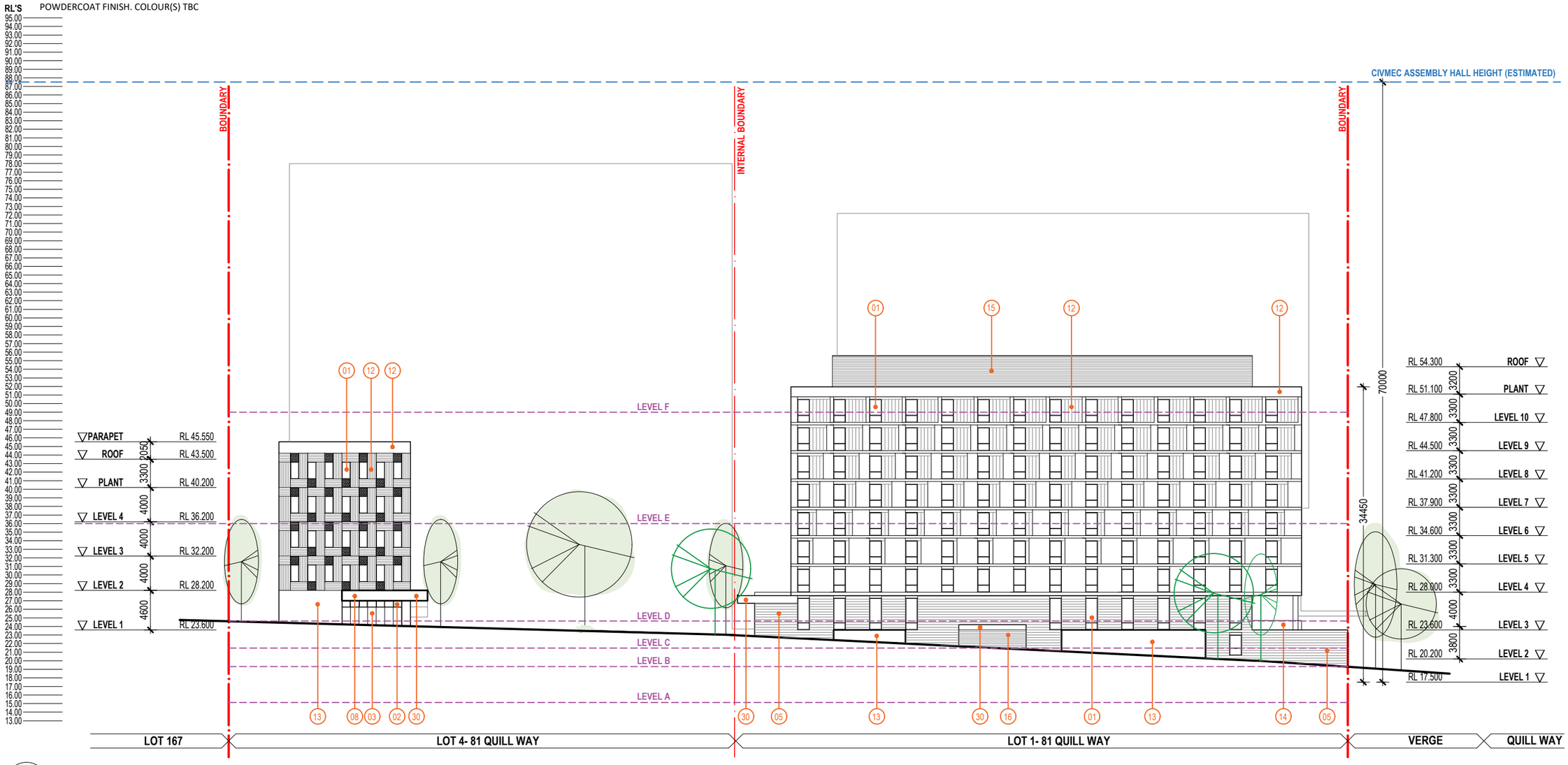
21 PLANTERS IN FORMED CONCRETE. RETICULATION INTEGRATED AND CONCEALED.

22 POOL

23 WATERFALL FEATURE

30 SIGNAGE

31 SHOPFRONT SIGNAGE. INTEGRATED INTO GLAZING SYSTEM.



1 ELEVATION 2
1:250@A1 / 1:500@A3

0 2 5 10m

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LEGEND

- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING A
- HARD LANDSCAPING B
- HARD LANDSCAPING C
- HARD LANDSCAPING D
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
ELEVATION 2

SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A4.02	240615	1

Print Date: 16 April 2026, 9:00 AM

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Version: 1, Version Date: 18/12/2025

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MATERIALS/ FINISHES

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13 ACRYLIC RENDER WITH PAINT FINISH. COLOUR(S) TBC.

14 BALUSTRADE SYSTEM. ALUMINIUM FRAMINING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

15 ALUMINIUM WEATHERPROOF LOUVRES. POWDERCOAT FINISH. COLOUR(S) TBC.

16 VENTILATED ROLLER DOOR. POWDERCOAT FINISH. COLOUR(S) TBC.

20 GREEN WALL. STAINLESS-STEEL TENSILE TRELLIS SYSTEM

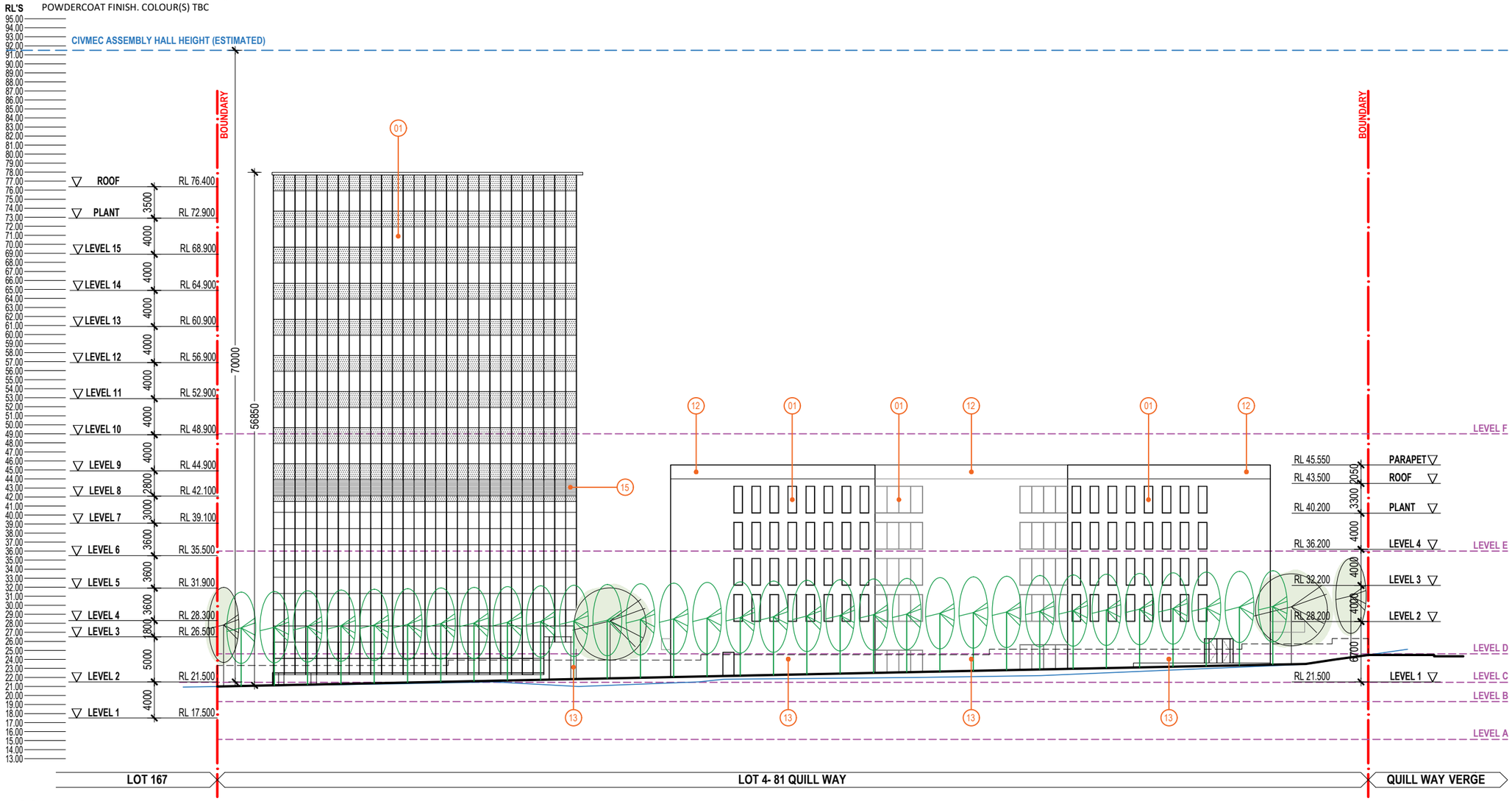
21 PLANTERS IN FORMED CONCRETE. RETICULATION INTEGRATED AND CONCEALED.

22 POOL

23 WATERFALL FEATURE

30 SIGNAGE

31 SHOPFRONT SIGNAGE. INTEGRATED INTO GLAZING SYSTEM.



1 ELEVATION 3
1:250@A1 / 1:500@A3

0 2 5 10m

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LEGEND

- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING A
- HARD LANDSCAPING B
- HARD LANDSCAPING C
- HARD LANDSCAPING D
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
ELEVATION 3

SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A4.03	240615	1

Print Date: 16 April 2026, 9:00 AM

Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

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MATERIALS/ FINISHES

01 DOUBLE GLAZING UNIT. ALUMINIUM FRAMING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

02 SHOPFRONT GLAZING. ALUMINIUM FRAMING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

03 OPENABLE GLAZING (SLIDING, CASEMENT, AWNING). ALUMINIUM FRAMING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

04 FEATURE SHROUD/ FRAMING. SOLID ALUMINIUM CASSETTE. POWDERCOAT FINISH. COLOUR(S) TBC.

05 DECORATIVE PRECAST CONCRETE PANELS. COLOUR(S) TBC.
VERTICAL EXTRUDED ALUMINIUM LOUVRE. POWDERCOAT FINISH. COLOUR(S) TBC

06 DECORATIVE PRECAST CONCRETE PANELS. COLOUR(S) TBC.

07 VERTICAL EXTRUDED ALUMINIUM LOUVRE. POWERCOAT FINISH. COLOUR(S) TBC

08 ALUMINIUM BATTEN SCREEN. POWDERCOAT FINISH. COLOUR(S) TBC.
08_SOLID ALUMINIUM CASSETTE CLADDING. POWDERCOAT FINISH. COLOUR(S) TBC.

09 STEEL FRAMING. PAINT FINISH. COLOUR(S) TBC.

10 STEEL CANOPY WITH FSC SOFFIT. PAINT FINISH. COLOUR(S) TBC.

11 PERGOLA. STEEL FRAMING WITH ALUMINIUM CHS SHADING SYSTEM. GLAZED CANOPY WITH INTEGRATED PHOTOVOLTAIC CELLS. POWDERCOAT/ PAINT FINISH TO STEEL AND ALUMINIUM. COLOUR(S) TBC SOLID

12 FIBRE CEMENT CLADDING/ PROFILED ALUMINIUM CLADDING / DECORATIVE PRECAST CONCRETE PANELS. PAINT FINISH. COLOUR(S) TBC.

13 ACRYLIC RENDER WITH PAINT FINISH. COLOUR(S) TBC.

14 BALUSTRADE SYSTEM. ALUMINIUM FRAMINING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

15 ALUMINIUM WEATHERPROOF LOUVRES. POWDERCOAT FINISH. COLOUR(S) TBC.

16 VENTILATED ROLLER DOOR. POWDERCOAT FINISH. COLOUR(S) TBC.

20 GREEN WALL. STAINLESS-STEEL TENSILE TRELLIS SYSTEM

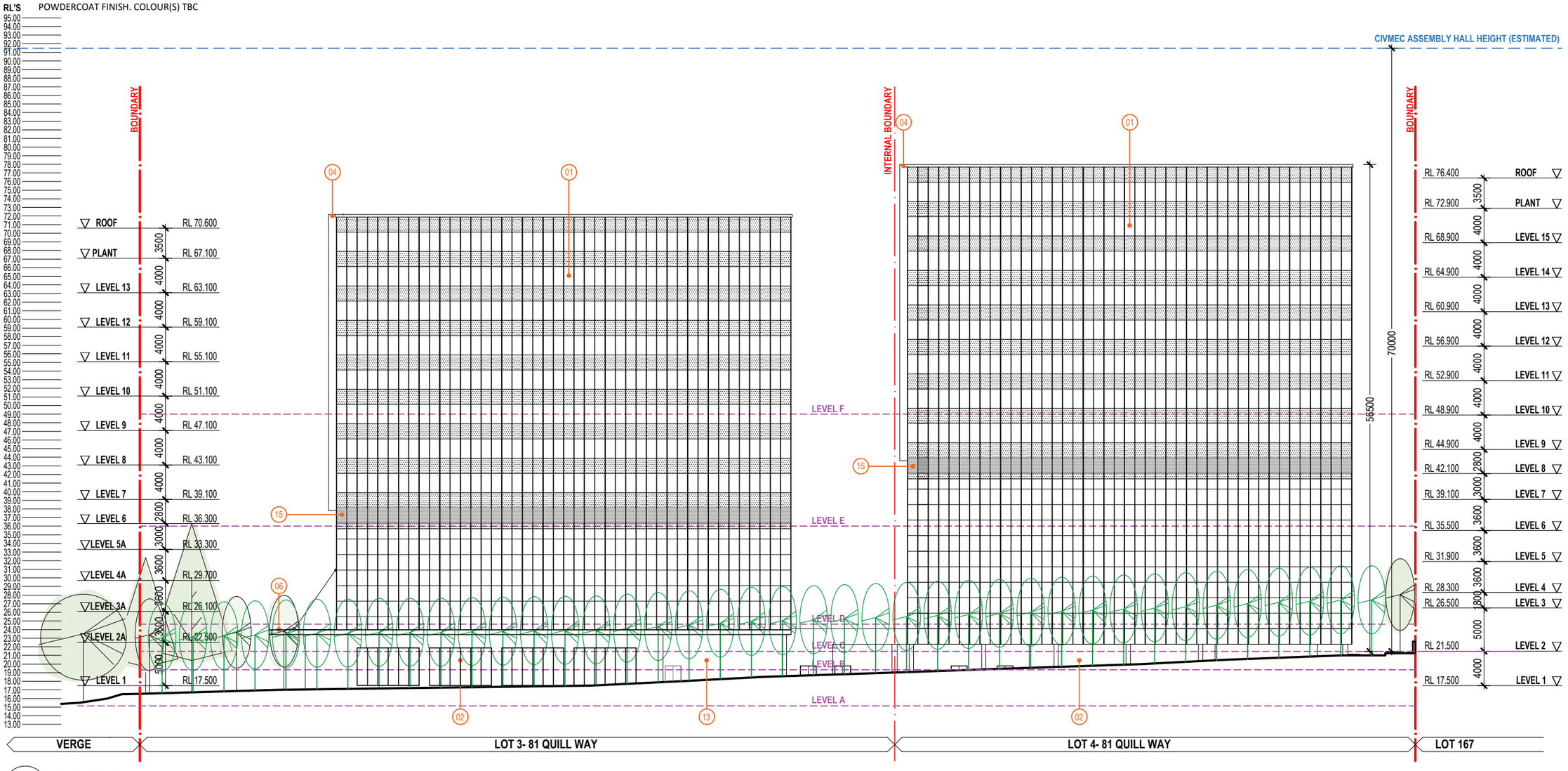
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1 ELEVATION 4
1:250@A1 / 1:500@A3

0 2 5 10m

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- SOFT LANDSCAPING
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- HARD LANDSCAPING B
- HARD LANDSCAPING C
- HARD LANDSCAPING D
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- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

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- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
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- SERVICES, CORE & BOH
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REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
ELEVATION 4

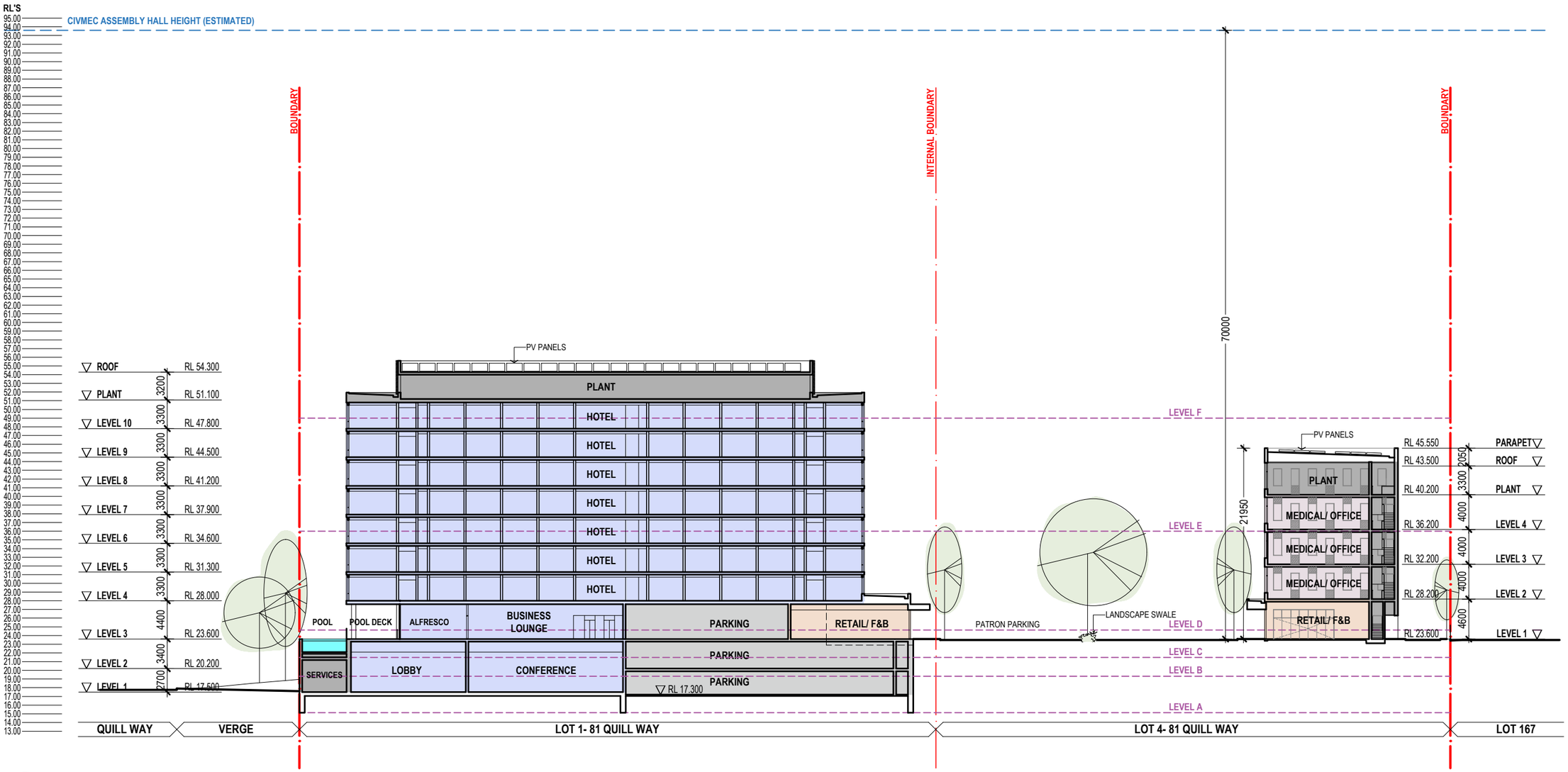
SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A4.04	240615	1

Print Date: 16 April 2026, 9:00 AM

Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

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1 SECTION A
1:250@A1 / 1:500@A3

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1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION A

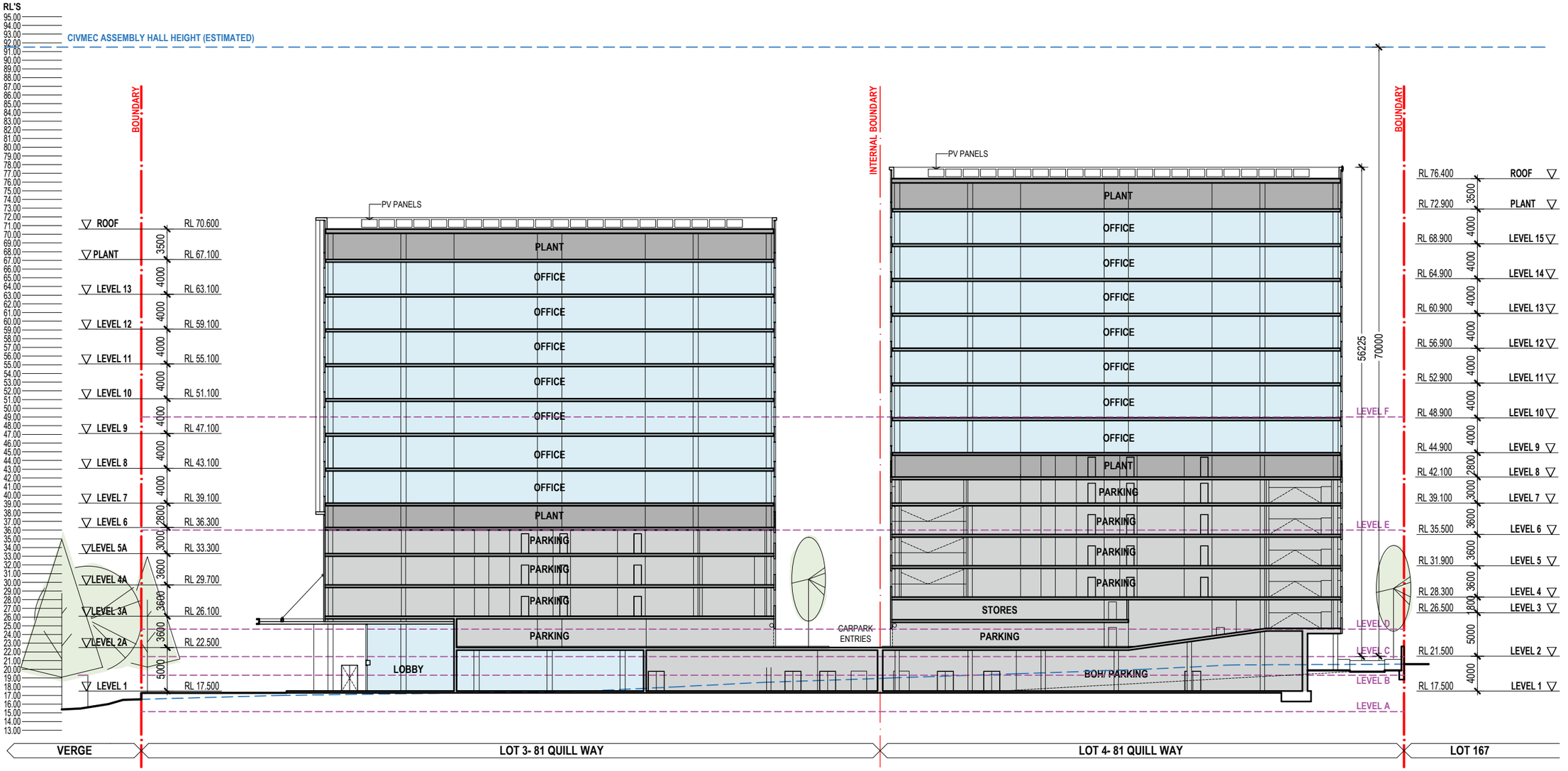
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DRAWING No.	PROJECT No.	REVISION
A5.01	240615	1

Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

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1 SECTION B
1:250@A1 / 1:500@A3

0 2 5 10m

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REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION B

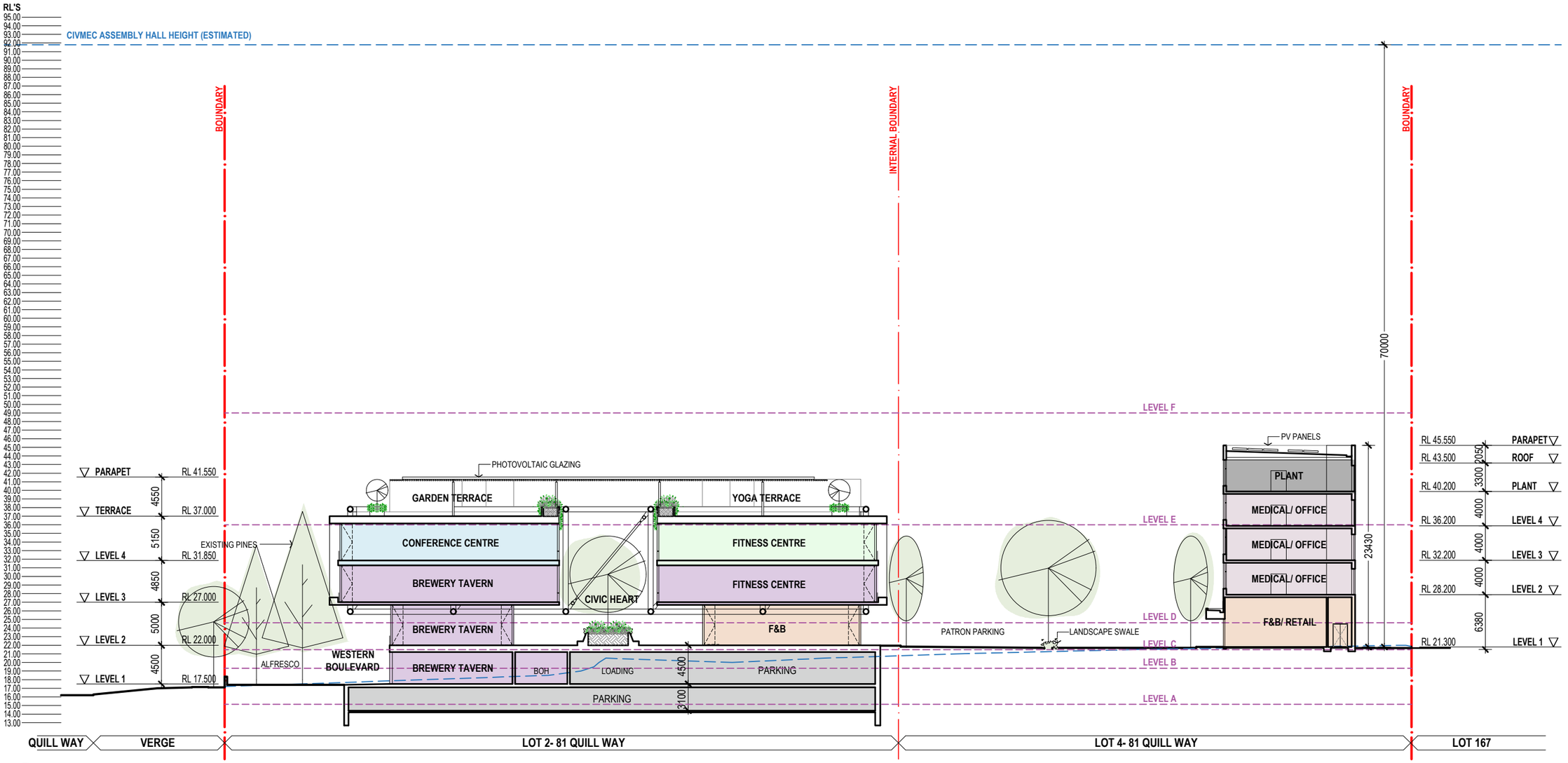
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DRAWING No.	PROJECT No.	REVISION
A5.02	240615	1

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1 SECTION C
1:250@A1 / 1:500@A3

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BUILDING USE :

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REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION C

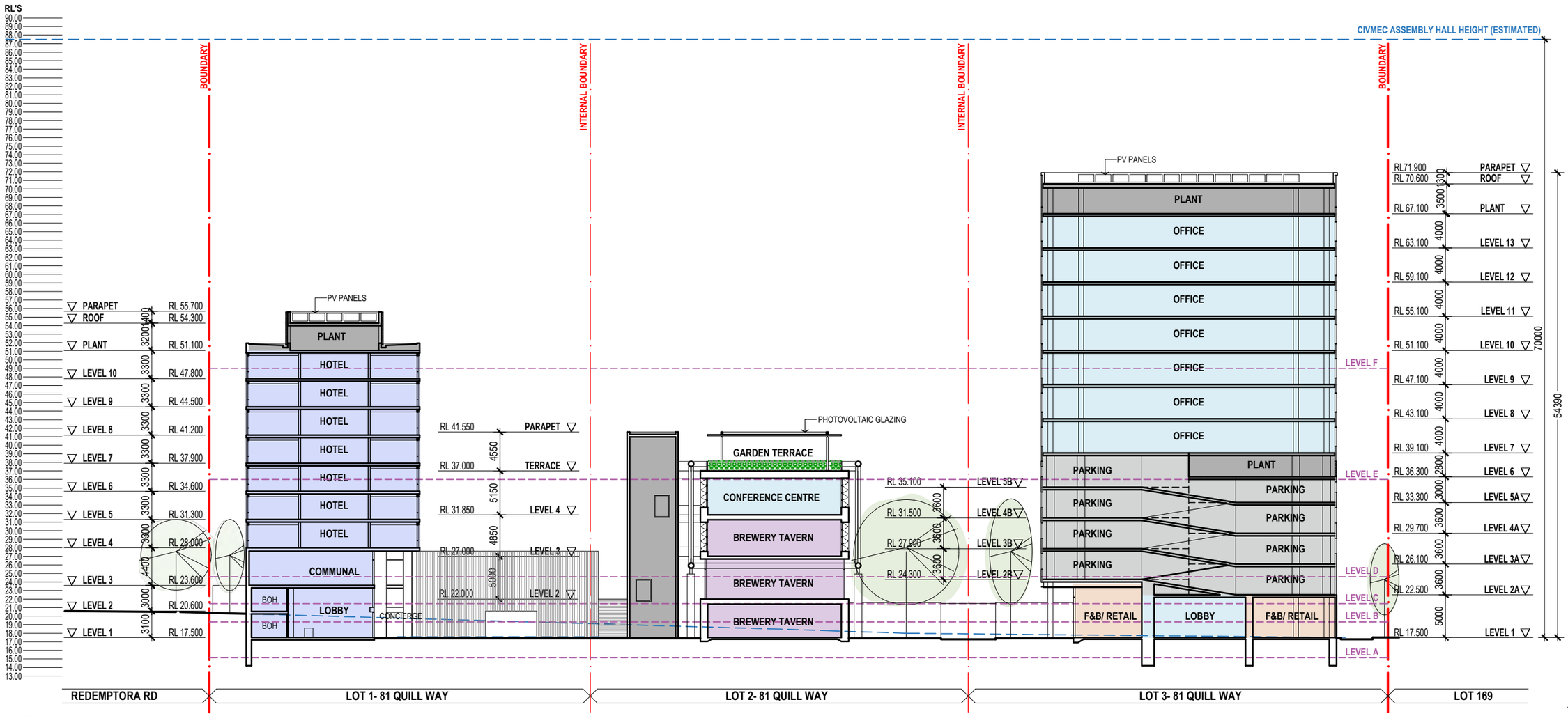
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DRAWING No.	PROJECT No.	REVISION
A5.03	240615	1

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1 SECTION D
1:250@A1 / 1:500@A3

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1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION D

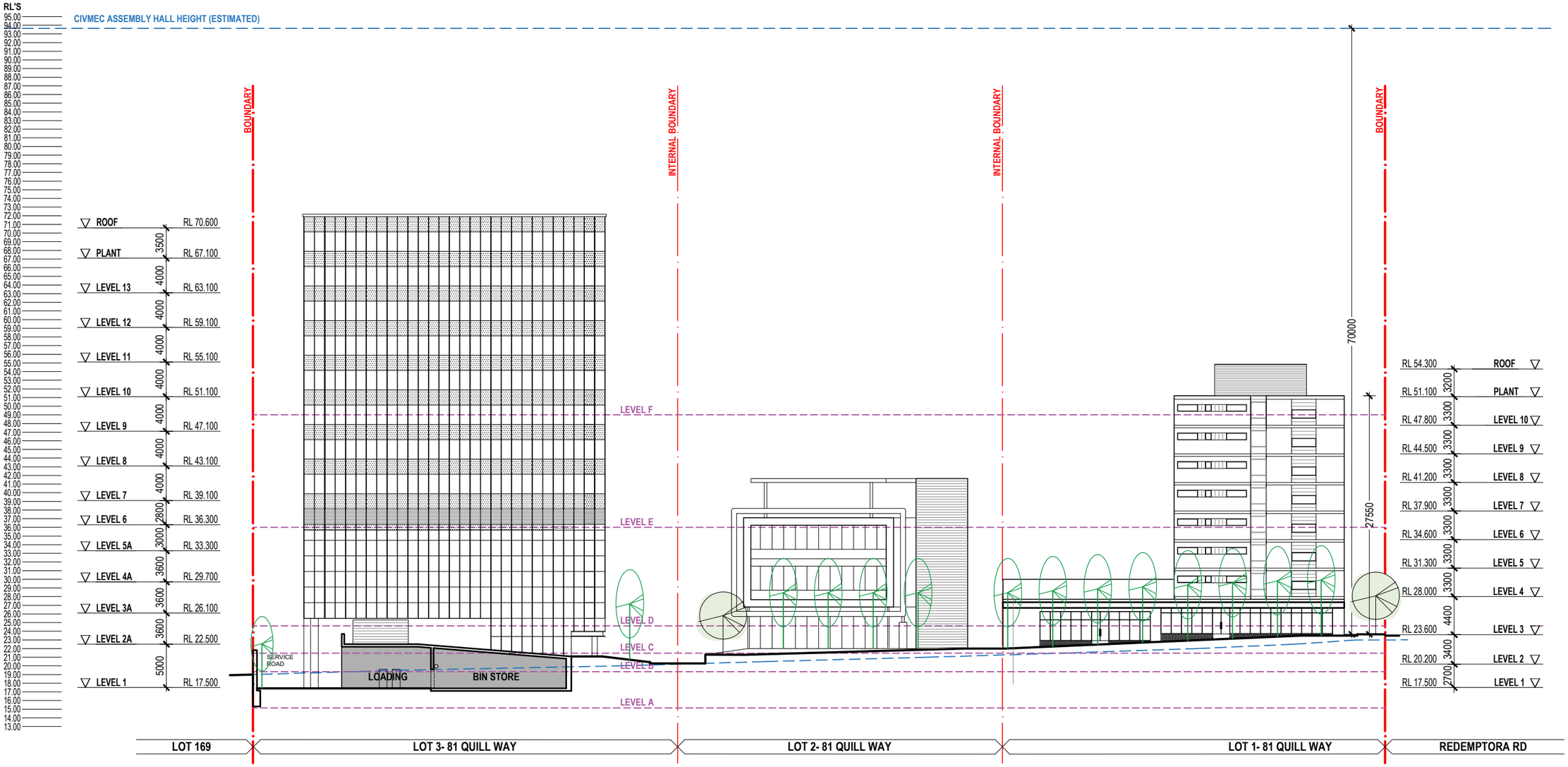
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DRAWING No.	PROJECT No.	REVISION
A5.04	240615	1

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1 SECTION E
1:250@A1 / 1:500@A3

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REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION E

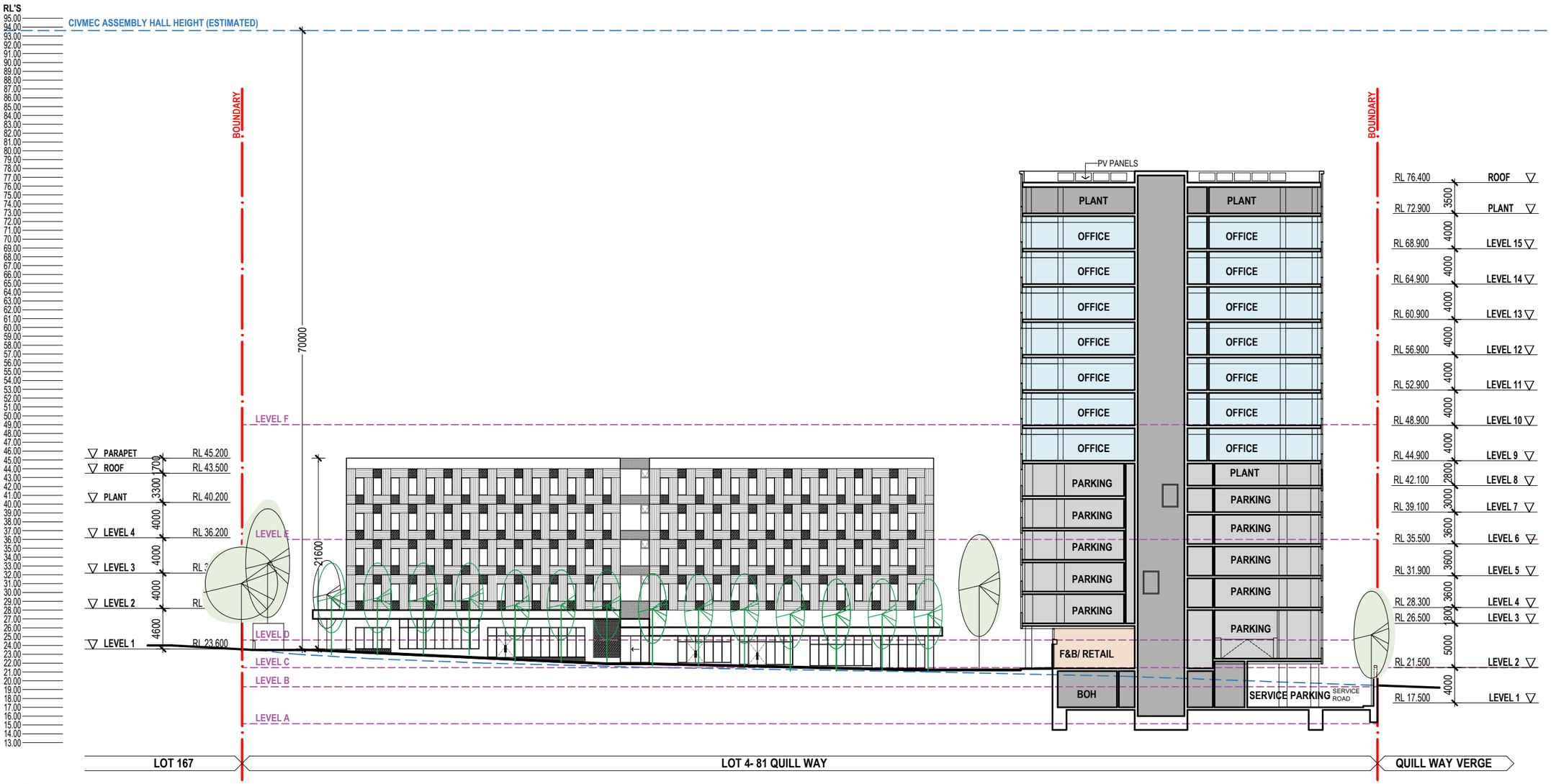
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DRAWING No.	PROJECT No.	REVISION
A5.05	240615	1

Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

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1 SECTION F
1:250@A1 / 1:500@A3

0 2 5 10m

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SECTION F

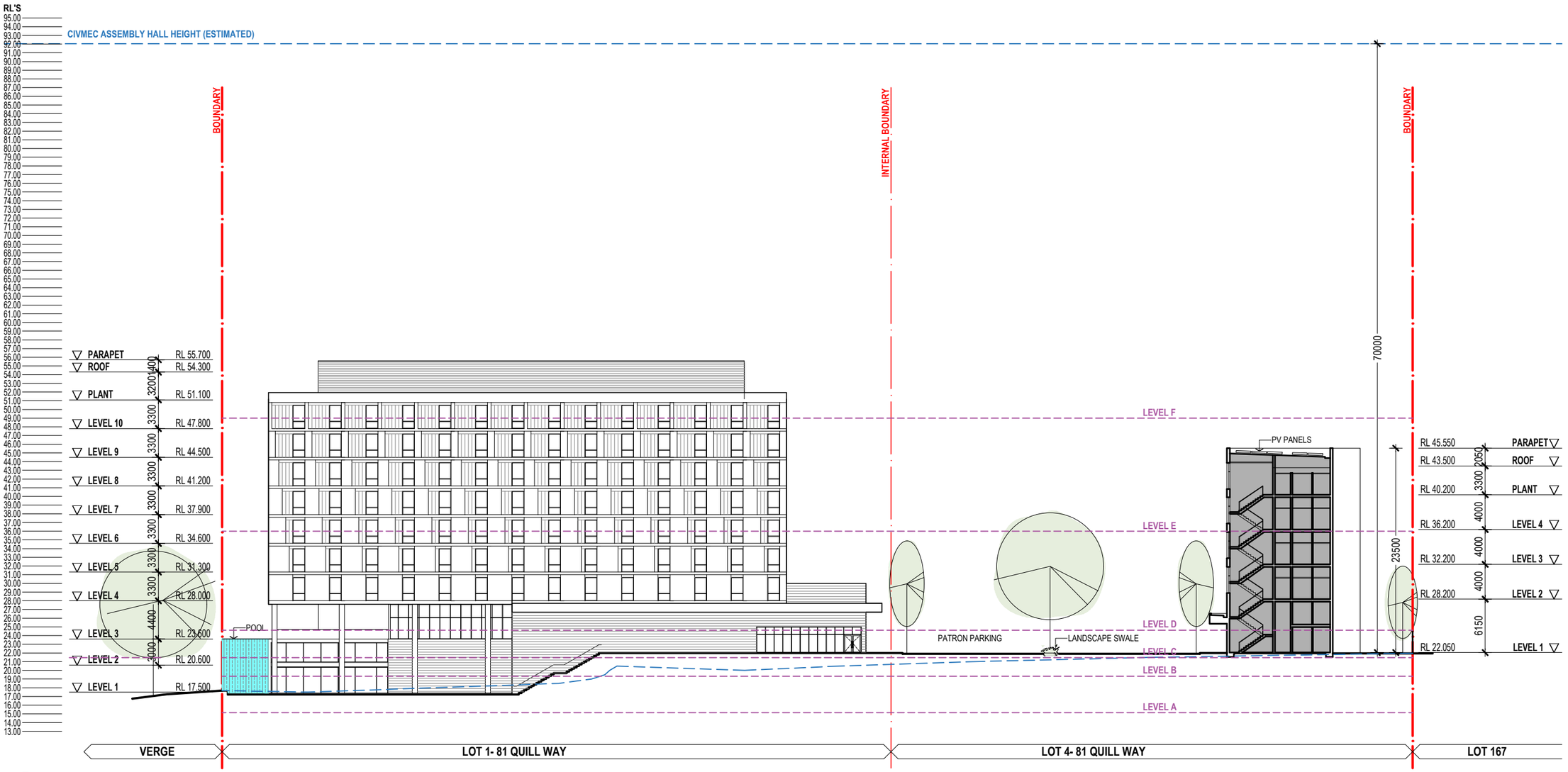
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DRAWING No.	PROJECT No.	REVISION
A5.06	240615	1

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1 SECTION G
1:250@A1 / 1:500@A3

0 2 5 10m

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7. THE LOCATION OF DOORS ON THE FACADES ADJOINING A TENANCY ARE SUBJECT TO CHANGE DEPENDING ON THE FINAL TENANCY DIVISIONS

LEGEND

- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING A
- HARD LANDSCAPING B
- HARD LANDSCAPING C
- HARD LANDSCAPING D
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION G

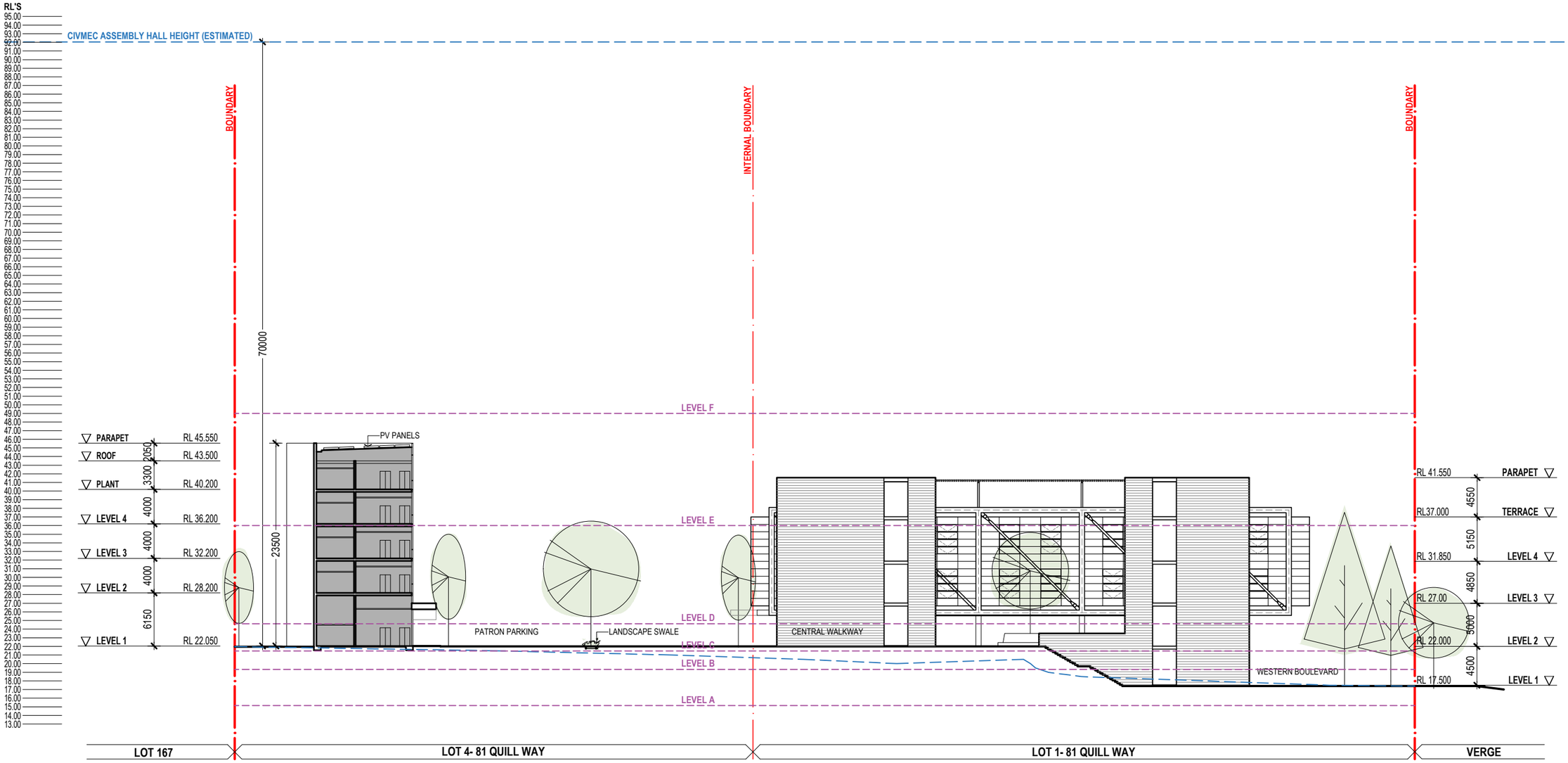
SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A5.07	240615	1

Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

Print Date: 16 April 2026, 9:00 AM

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1 SECTION H
1:250@A1 / 1:500@A3

0 2 5 10m

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- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION H

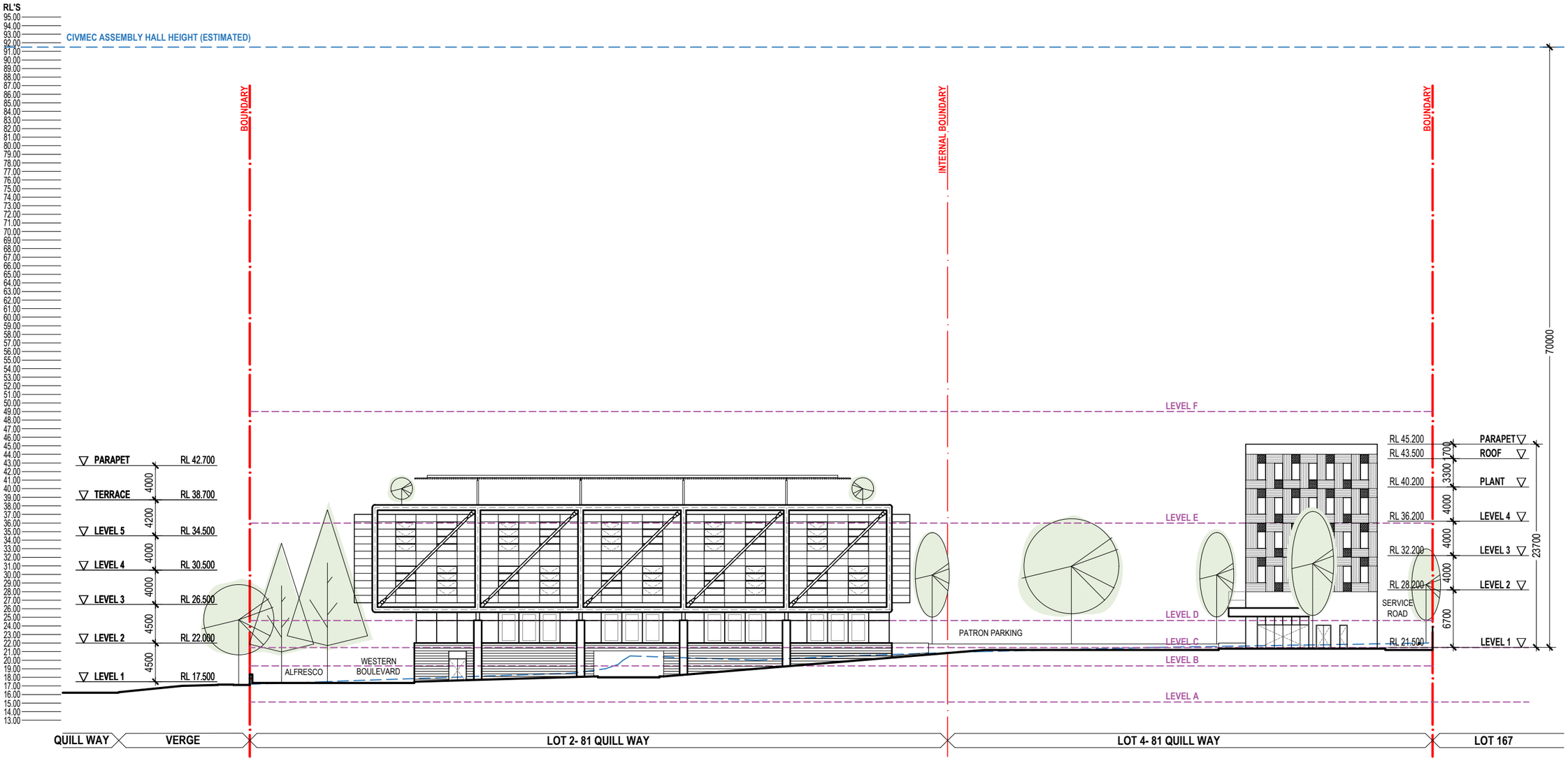
SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A5.08	240615	1

Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

Print Date: 16 April 2026, 9:00 AM

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1 SECTION J
1:250@A1 / 1:500@A3

0 2 5 10m

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REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION J

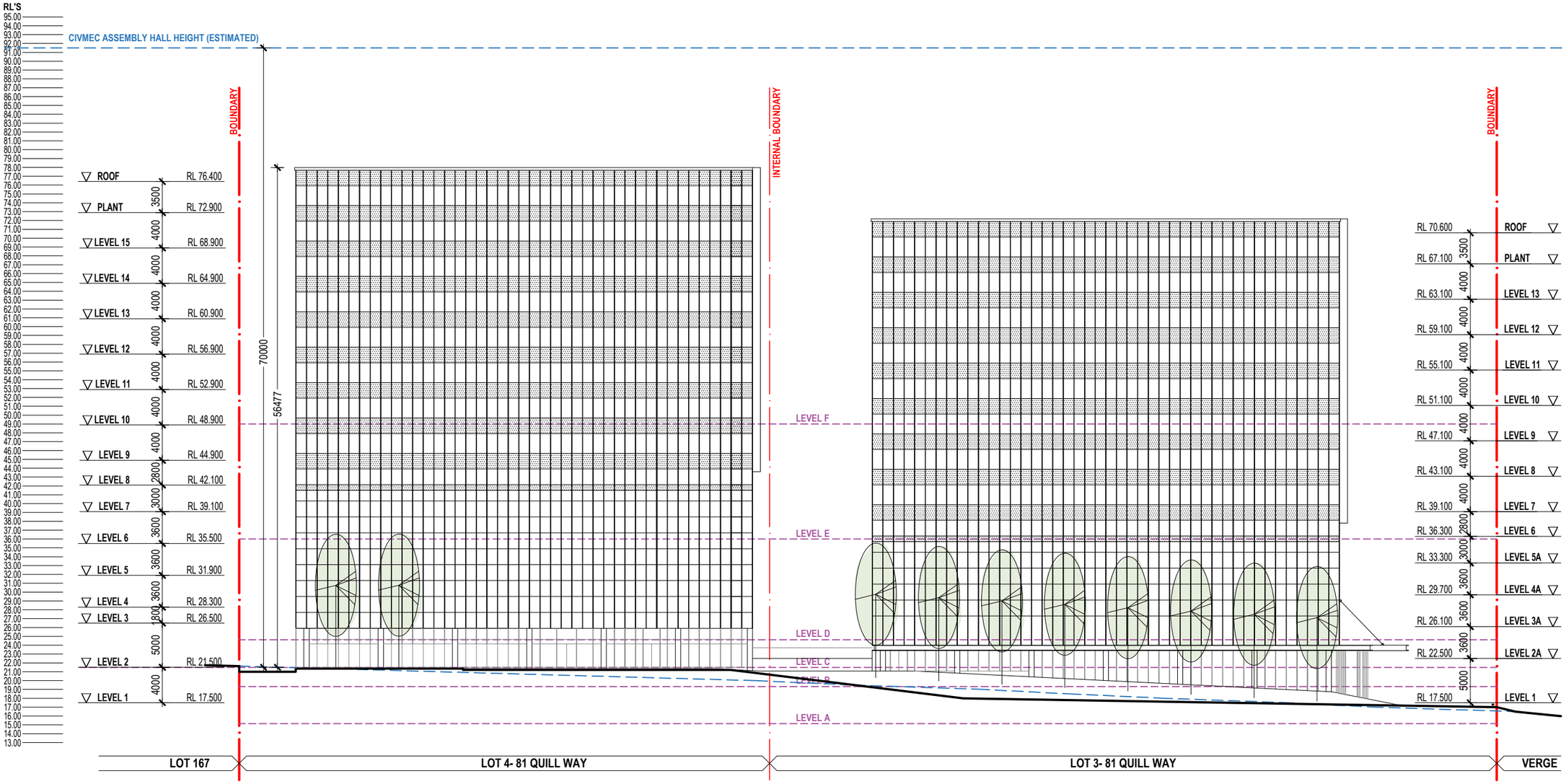
SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A5.09	240615	1

Print Date: 16 April 2026, 9:00 AM

Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

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1 SECTION K
1:250@A1 / 1:500@A3

0 2 5 10m

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REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION K

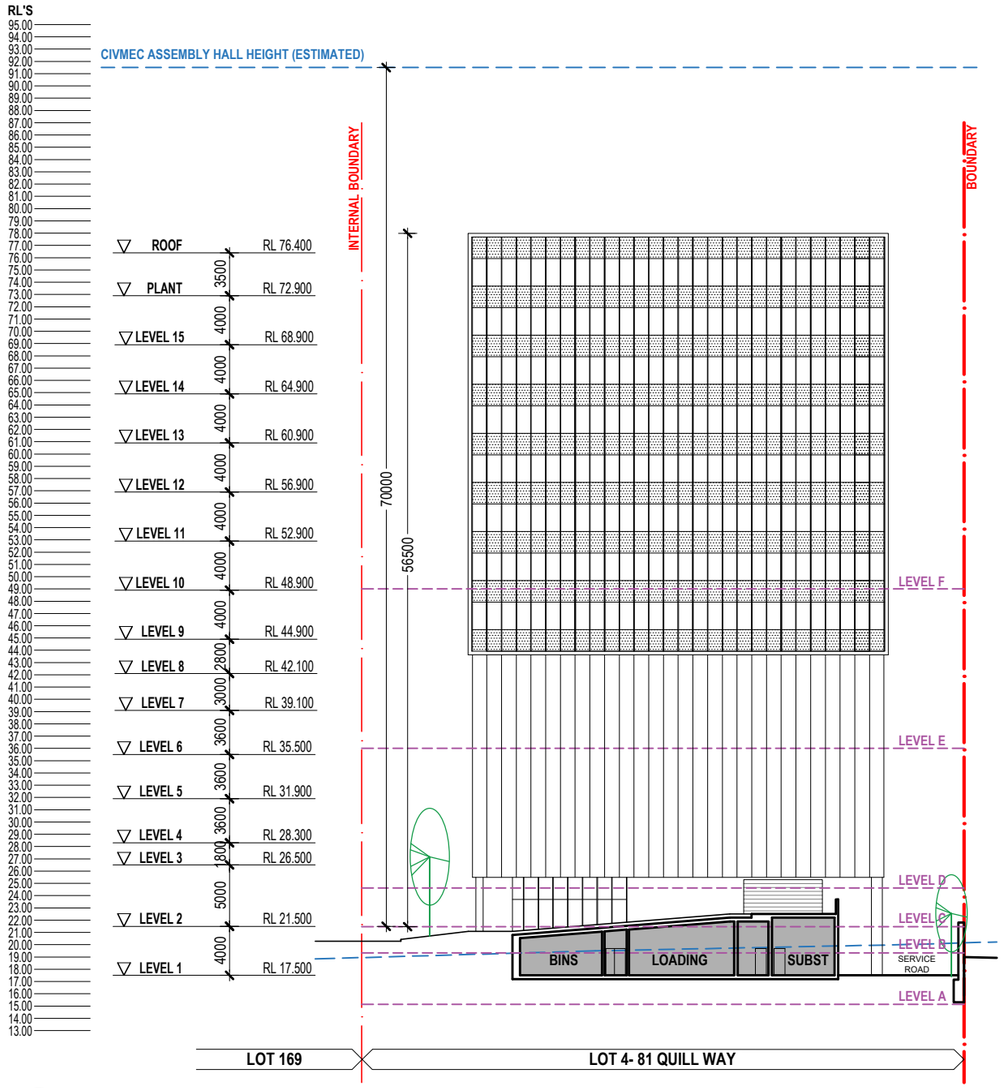
SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A5.10	240615	1

Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

Print Date: 16 April 2026, 9:00 AM

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1 SECTION L
1:250@A1 / 1:500@A3

0 2 5 10m

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- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION L

SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A5.11	240615	1

Document Set ID: 12558059
Version: 1, Version Date: 18/12/2025

Print Date: 16 April 2026, 9:00 AM

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HENDERSON BUSINESS HUB

81 Quill Way, Henderson, WA

ARCHITECTURAL DRAWINGS

DWG.NO	TITLE	REV	REV DESCRIPTION
000 COVER			
A0.00	DRAWING LIST	2	DA AMENDMENT
D76646	FEATURE & CONTOUR SURVEY (BY OTHERS)	1	SURVEY
100 SITE			
A1.01	EXISTING SITE PLAN	1	DA
200 PLANS			
A2.00	SITE PLAN G	1	DA AMENDMENT
A2.01	SITE PLAN A	2	DA AMENDMENT
A2.02	SITE PLAN B	5	KERB AMENDMENT
A2.03	SITE PLAN C	5	KERB AMENDMENT
A2.04	SITE PLAN D	5	KERB AMENDMENT
A2.05	SITE PLAN E	4	QUILL WAY VERGE AMENDMENT
A2.06	SITE PLAN F	2	QUILL WAY VERGE AMENDMENT
A2.07	ROOF PLAN	1	DA
400 ELEVATIONS			
A4.01	ELEVATIONS 1	1	DA
A4.02	ELEVATIONS 2	2	KERB AMENDMENT
A4.03	ELEVATIONS 3	1	DA
A4.04	ELEVATIONS 4	1	DA
500 SECTIONS			
A5.01	SECTION A	1	DA AMENDMENT
A5.02	SECTION B	1	DA
A5.03	SECTION C	3	DA AMENDMENT
A5.04	SECTION D	3	DA AMENDMENT
A5.05	SECTION E	1	DA
A5.06	SECTION F	1	DA
A5.07	SECTION G	1	DA
A5.08	SECTION H	1	DA
A5.09	SECTION J	1	DA
A5.10	SECTION K	1	DA
A5.11	SECTION L	1	DA

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REV	DATE	DESCRIPTION	BY
2	28.01.26	DA AMENDMENT	PA
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
DRAWING LIST

SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A0.00	240615	2

Print Date: 14 April 2026, 2:23 PM

Document Set ID: 12682464
Version: 1, Version Date: 14/04/2026

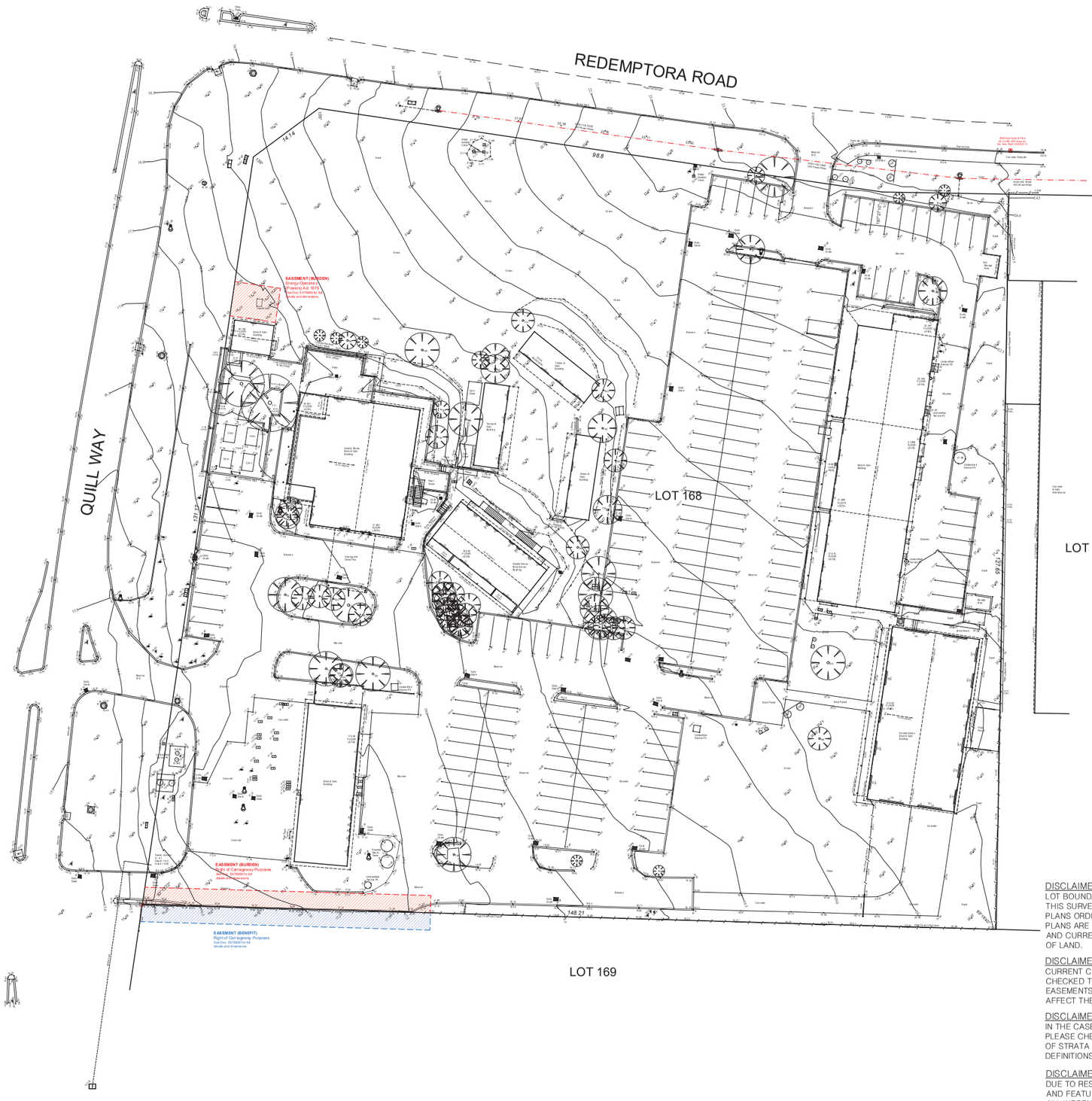
SYMBOL LEGEND:

SEWER AC | COMMS PIT | LIGHT POLE | WATER METER | POWER POLE | ELECTRICAL PIT
WATER VALVE | HYDRANT | UNIDENTIFIED PIT/VALVE | RETIC VALVE | SIGN POLES
GULLY GRATE | DRAINAGE PIT | TEMP. BENCHMARK

SURVEY CO-ORDINATES: PCG94
SURVEY DATUM: AHD (APPROX.)

N

Tree ID	Trunk	Canopy	Tree Height
T1	0.30	6.0	14.0
T2	0.40	6.0	16.0
T3	0.30	6.0	14.0
T4	0.30	4.0	5.0
T5	0.30	4.0	5.0
T6	0.30	4.0	5.0
T7	0.30	7.0	4.0
T8	0.10	3.0	2.0
T9	0.20	5.0	4.0
T10	0.50	8.0	15.0
T11	0.60	10.0	17.0
T12	0.10	4.0	6.0
T13	0.10	4.0	6.0
T14	0.10	4.0	6.0
T15	0.10	4.0	6.0
T16	0.10	4.0	6.0
T17	0.10	4.0	6.0
T18	0.10	4.0	6.0
T19	0.10	4.0	6.0
T20	0.10	4.0	6.0
T21	0.10	4.0	6.0
T22	0.10	4.0	6.0
T23	0.10	4.0	6.0
T24	0.10	4.0	6.0
T25	0.10	4.0	6.0
T26	0.10	4.0	6.0
T27	0.10	4.0	6.0
T28	0.10	4.0	6.0
T29	0.10	4.0	6.0
T30	0.20	4.0	6.0
T31	0.20	4.0	6.0
T32	0.10	4.0	6.0
T33	0.10	4.0	6.0
T34	0.10	4.0	6.0
T35	0.30	6.0	6.0
T36	0.30	6.0	6.0
T37	0.30	2.0	2.0
T38	0.10	2.0	4.0
T39	0.40	6.0	16.0
T40	0.30	4.0	10.0
T41	0.20	4.0	6.0
T42	0.20	4.0	6.0
T43	0.20	4.0	6.0
T44	0.20	4.0	6.0
T45	0.60	6.0	6.0
T46	0.30	5.0	5.0
T47	0.10	3.0	2.0
T48	0.10	2.0	1.5
T49	0.10	2.0	2.0
T50	0.20	4.0	3.0
T51	0.30	4.0	5.0
T52	0.25	5.0	5.0
T53	0.20	4.0	4.0
T54	0.30	5.0	5.0
T55	0.15	5.0	6.0
T56	0.30	6.0	6.0
T57	0.30	6.0	6.0
T58	0.30	4.0	3.0
T59	0.20	4.0	5.0
T60	0.30	6.0	4.0
T61	0.10	3.0	3.0
T62	0.30	3.0	3.0
T63	0.30	5.0	5.0
T64	0.30	5.0	4.0
T65	0.30	6.0	4.0
T66	0.10	2.0	2.0
T67	0.30	3.0	3.0
T68	0.10	2.0	2.0
T69	0.20	2.0	2.0



DISCLAIMER:
LOT BOUNDARY DIMENSIONS SHOWN ON THIS SURVEY HAVE BEEN OBTAINED FROM PLANS ORDERED FROM LANDGATE. THESE PLANS ARE ASSUMED TO BE THE CORRECT AND CURRENT DEFINITION OF THE PARCEL OF LAND.

DISCLAIMER:
CURRENT CERTIFICATE OF TITLE SHOULD BE CHECKED TO VERIFY ALL LOT DETAILS AND ANY EASEMENTS OR OTHER INTERESTS WHICH MAY AFFECT THE SUBJECT LOT.

DISCLAIMER:
IN THE CASE OF STRATA LOT BOUNDARIES, PLEASE CHECK STRATA PLAN FOR DESCRIPTION OF STRATA LOT BOUNDARIES AND STRATUM DEFINITIONS.

DISCLAIMER:
DUE TO RESTRICTIONS IN OBTAINING LEVELS AND FEATURES OF ADJOINING PROPERTIES, ALL INFORMATION PROVIDED BEYOND THE BOUNDARIES OF THE SUBJECT LOT ARE DEEMED TO BE APPROXIMATE ONLY.

DISCLAIMER:
VISION SURVEYS CONSULTING ACCEPTS NO RESPONSIBILITY FOR ANY PHYSICAL CHANGES TO THE SUBJECT PARCEL OF LAND ON THIS SURVEY INCLUDING BUT NOT LIMITED TO ANY ADJOINING LOT LEVELS AND FEATURES THAT HAVE OCCURRED AFTER THE DATE SHOWN ON THIS SURVEY.

DISCLAIMER:
THIS SURVEY ONLY SHOWS SITE FEATURES WHICH ARE VISIBLE AND ACCESSIBLE AT THE TIME OF SURVEY. THE POSITION OF ANY UNDERGROUND SERVICES SHOULD BE VERIFIED PRIOR TO FINALISATION OF ANY DESIGN WORK.

VISION SURVEYS CONSULTING VERIFY THAT AN ALIGNMENT SURVEY HAS BEEN CONDUCTED ON 31/11/2023 TO ESTABLISH THE BOUNDARY POSITIONS OF LOT 168 ON D76646. THE POSITION OF ALL STRUCTURAL FEATURES REPRESENTED ON THIS PLAN ARE TO BE ASSUMED ACCURATE IN RELATION TO THE BOUNDARY. VISION SURVEYS CONSULTING IS NOT LIABLE FOR ANY CHANGES MADE TO THE PARCEL OR PORTION OF THE PARCEL OF LAND SHOWN ON THIS SURVEY INCLUDING BUT NOT LIMITED TO ANY ADJOINING PARCEL THAT HAVE OCCURRED AFTER THE DATE ON THIS SURVEY.

UTILITY SERVICES: Connection Located ✓ Connection Not Located ✗ Service to be confirmed ●
WATER ✓ SEWER ✓ GAS ✗ TELSTRA/NBN ✓ POWER - U/G ✓ -O/H ✓

FEATURE & CONTOUR SURVEY

Visionsurveys CONSULTING
59 Scarborough Beach Rd,
SCARBOROUGH WA 6019
Tel:(08) 6144 0000 Fax:(08) 6144 0099
info@visionsc.com.au
www.visionsc.com.au

REV	DATE	AMENDMENT	APPROVED
...	...	...	...

NOTE: THIS PLAN IS THE PROPERTY OF BOTH VISION SURVEYS CONSULTING AND ITS CLIENT. THIS PLAN SHOULD NOT BE REPRODUCED WITHOUT THE PERMISSION OF BOTH PARTIES.

ALL DISCLAIMERS SHOWN ON THIS PLAN ARE TO BE READ IN CONJUNCTION WITH VISION SURVEYS CONSULTING TERMS AND CONDITIONS.

0 5 20 40
SCALE 1:400 (A1)

CLIENT: SCOPE PROPERTY GROUP
ADDRESS: 81 QUILL WAY, HENDERSON
LOCAL GOVERNMENT: CITY OF COCKBURN

1.8472ha	N/A	D76646	1923/556
LOT AREA:	R CODE:	PLAN:	TITLE:

VS009669
JOB NUMBER
DRAFTED BY: RA
CHECKED BY: DS
DRAFTING DATE: 15.12.2023
SURVEY DATE: 09.12.2023
DWG REF: Quill 81 - FEATURE v1.0

1 OF 1 SHEETS (SHEET) | 1 (VERSION)

Print Date: 14 April 2026, 2:23 PM
This information is provided by the City of Cockburn
Document Set ID: 12682464
Version: 1, Version Date: 14/04/2026

This information is provided by the City of Cockburn

TOTAL CAR BAYS: 192

REDEMPTORA ROAD

QUILL WAY

POWER POLE CABLE ANCHOR
POWER POLE WITH LIGHT
HIGH VOLTAGE O/H POWERLINES
POWER POLE
POST BOX
FOOTPATH
SIGN
POWER POLE WITH LIGHT
EXISTING CROSSOVER
WATER ISOLATION VALVE SURROUNDED BY ROCK PITCH
WATER ISOLATION VALVE
STREET LIGHT
TRANSFORMER
SWITCH ROOM
UNDERCOVER ALFRESCO
OUTDOOR AREA
TAVERN
BOTTLE SHOP
ENTRY
AC
STAIRS
TRANSPORTABLE ACCOMMODATION (3)
EXISTING HOTEL
DRIVE-THRU
EXISTING BITUMEN CARPARK (BAYS- 11)
EXISTING VERGE TREATMENT
PATRON PARKING 14 CAR BAYS
ROCK RETAINING
LOW LIMESTONE WALL
CONCRETE PARAPET WALL
WAREHOUSE
ENTRY
RETAIL
HIGH LIMESTONE WALL
NO. 8 LOT 167
PATRON PARKING 98 CAR BAYS
EXISTING BITUMEN CARPARK (BAYS- 8)
STORAGE AREA
OFFICE
PLANT AREA
ENTRY
EXISTING CROSSOVER
EDGE OF CONCRETE
UNIDENTIFIED SERVICE PIT
SIGN
SELF-SERVE PETROL STATION
PETROL BOWSERS (ESTIMATED).
WORKSHOP / SHED
PATRON PARKING 61 CAR BAYS
POSSIBLE SEPTIC TANKS
UNIDENTIFIED PIT
EDGE OF CONCRETE
SEWER LINE
HIGH CHAIN LINK FENCE
GATE
HIGH CHAIN LINK FENCE
HIGH CHAIN LINK FENCE

0 2 5 10m

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7. THE LOCATION OF DOORS ON THE FACADES ADJOINING A TENANCY ARE SUBJECT TO CHANGE DEPENDING ON THE FINAL TENANCY DIVISIONS

LEGEND

- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING A
- HARD LANDSCAPING B
- HARD LANDSCAPING C
- HARD LANDSCAPING D
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
EXISTING SITE PLAN

SCALE	DATE	
1:250@A1 / 1:500@A3	12.12.25	
DRAWING No.	**PROJECT No.**	**REVISION**
A1.01	240615	1

Print Date: 14 April 2026, 2:23 PM

Document Set ID: 12682464
Version: 1, Version Date: 14/04/2026

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REV	DATE	DESCRIPTION	BY
1	28.01.26	DA AMENDMENT	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SITE PLAN - LEVEL G

SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A2.00	240615	1

Print Date: 14 April 2026, 2:23 PM

Document Set ID: 12682464
Version: 1, Version Date: 14/04/2026

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REV	DATE	DESCRIPTION	BY
2	28.01.26	DA AMENDMENT	PA
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SITE PLAN - LEVEL A

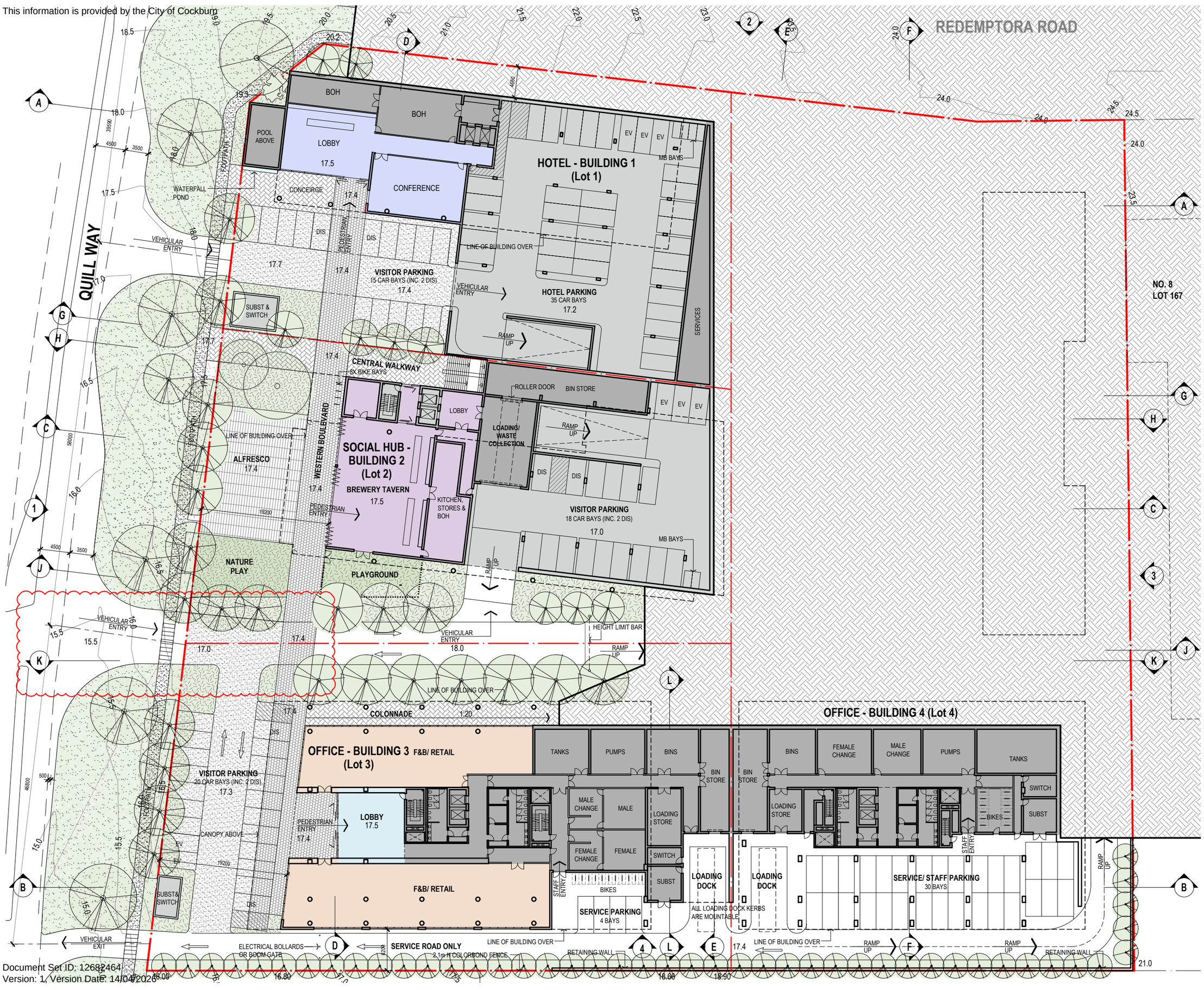
SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A2.01	240615	2

Print Date: 14 April 2026, 2:23 PM

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Version: 1, Version Date: 14/04/2026

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REV	DATE	DESCRIPTION	BY
5	19.03.26	KERB AMENDMENT	PA
4	04.02.26	KERB AMENDMENT	PA
3	02.02.26	QUILL WAY VERGE AMENDMENT	PA
2	28.01.26	DA AMENDMENT	PA
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SITE PLAN - LEVEL B

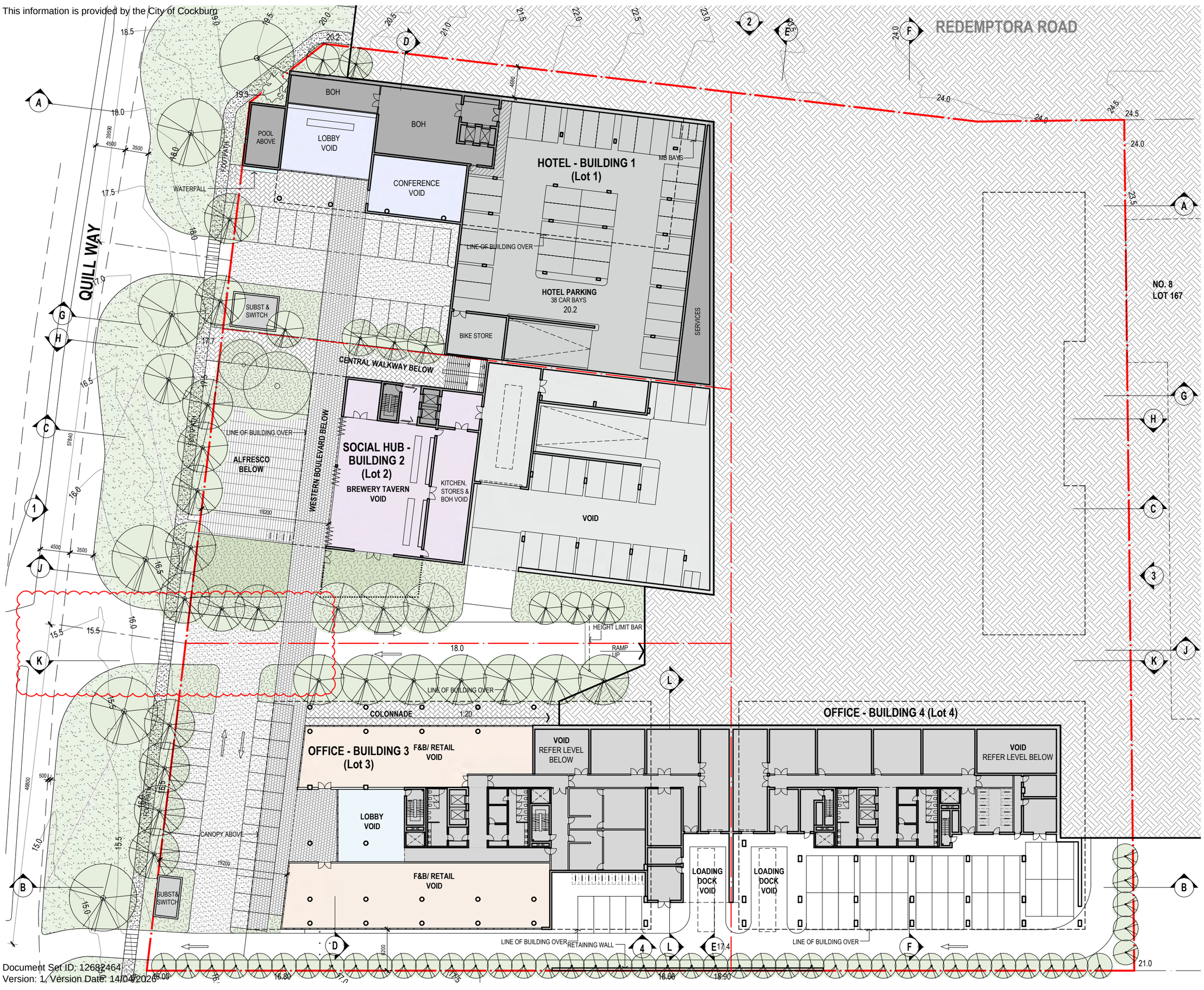
SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A2.02	240615	5

Print Date: 14 April 2026, 2:23 PM

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Version: 1, Version Date: 14/04/2026

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REV	DATE	DESCRIPTION	BY
5	19.03.26	KERB AMENDMENT	PA
4	04.02.26	KERB AMENDMENT	PA
3	02.02.26	QUILL WAY VERGE AMENDMENT	PA
2	28.01.26	DA AMENDMENT	PA
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SITE PLAN - LEVEL C

SCALE	DATE
1:250@A1 / 1:500@A3	12.12.25

DRAWING No.	PROJECT No.	REVISION
A2.03	240615	5

Print Date: 14 April 2026, 2:23 PM

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REV	DATE	DESCRIPTION	BY
5	19.03.26	KERB AMENDMENT	PA
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2	28.01.26	DA AMENDMENT	PA
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SITE PLAN - LEVEL D

SCALE	DATE
1:250@A1 / 1:500@A3	12.12.25

DRAWING No.	PROJECT No.	REVISION
A2.04	240615	5

Print Date: 14 April 2026, 2:23 PM

Document Set ID: 12682464
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REDEMPTORA ROAD

QUILL WAY

HOTEL - BUILDING 1 (Lot 1)

SOCIAL HUB - BUILDING 2 (Lot 2)
FITNESS CENTRE 31.85 (BREWERY TAVERN BELOW)
FITNESS CENTRE 31.85 (FITNESS CENTRE BELOW)
SERVICES
STORE

MIXED-USE - BUILDING 5 (Lot 4)
OFFICE 36.2 (LEVEL 2 MEDICAL)
OFFICE 36.2

WAREHOUSE

NO. 8 LOT 167

WESTERN POWER CLEARANCE (ESTIMATED)

OFFICE - BUILDING 3 (Lot 3) 35.1
PARKING 50 CAR BAYS 33.3
EV BAYS ON ONE LEVEL OF PARKING ONLY
RAMP UP
CANOPY BELOW

OFFICE - BUILDING 4 (Lot 4) 37.3
PARKING 50 CAR BAYS 35.5
EV BAYS ON ONE LEVEL OF PARKING ONLY
RAMP UP

0 2 5 10m

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REV	DATE	DESCRIPTION	BY
4	02.02.26	QUILL WAY VERGE AMENDMENT	PA
3	28.01.26	DA AMENDMENT	PA
2	21.01.26	SOCIAL HUB AMENDMENT	PA
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SITE PLAN - LEVEL E

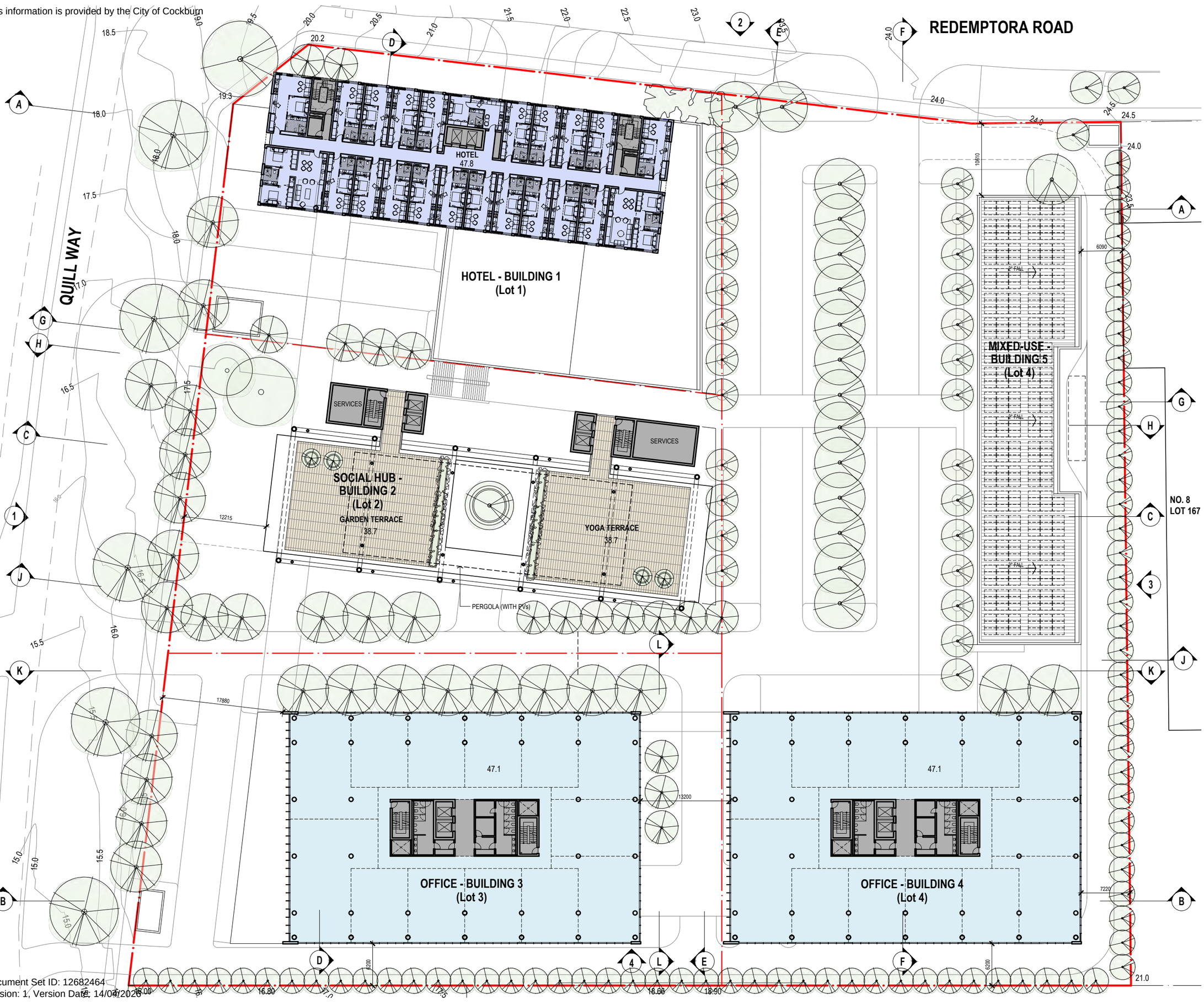
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DRAWING No.	PROJECT No.	REVISION
A2.05	240615	4

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REV	DATE	DESCRIPTION	BY
2	02.02.26	QUILL WAY VERGE AMENDMENT	PA
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SITE PLAN - LEVEL F

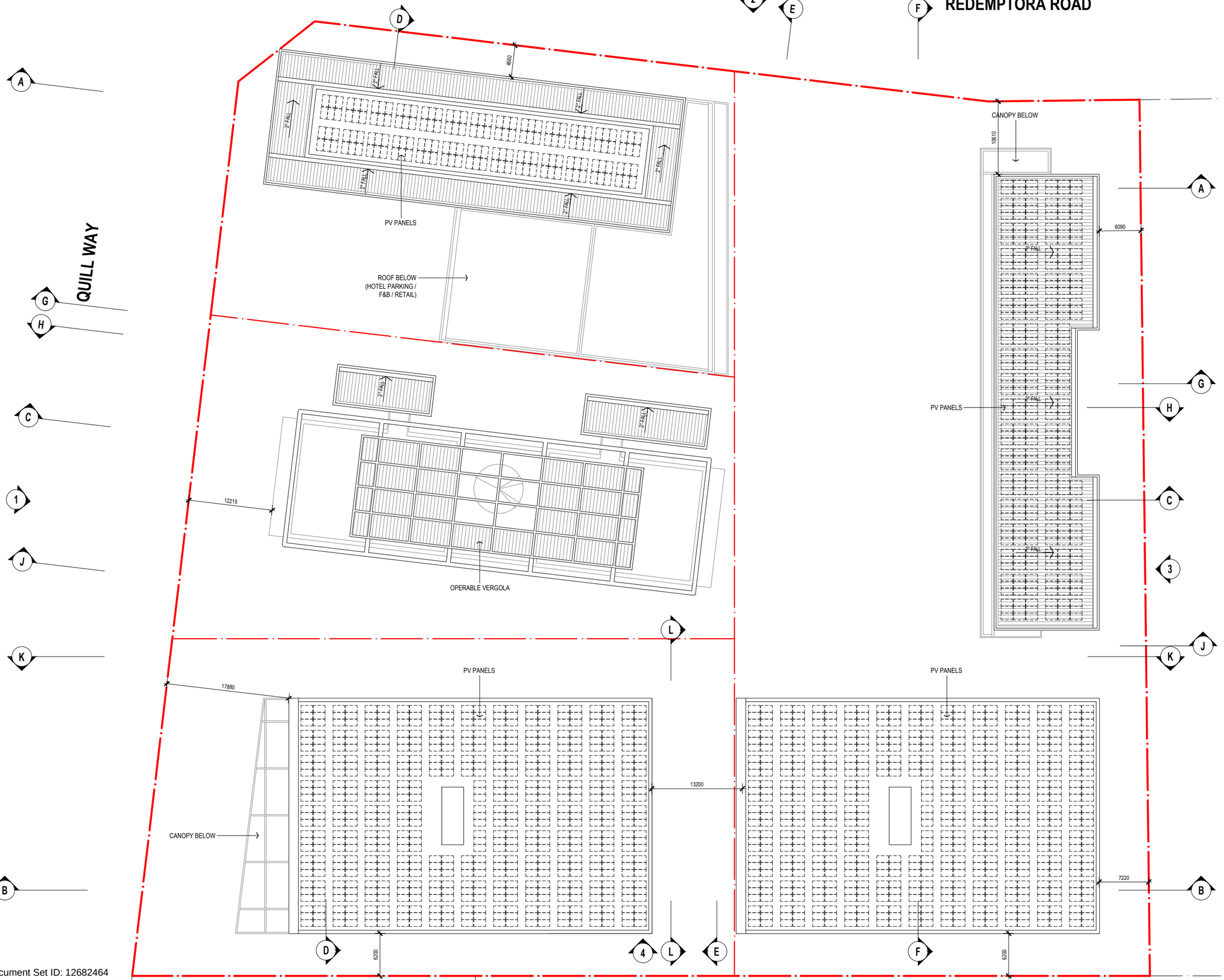
SCALE	DATE
1:250@A1 / 1:500@A3	12.12.25

DRAWING No.	PROJECT No.	REVISION
A2.06	240615	2

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DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
ROOF PLAN

SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

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A2.07	240615	1

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Version: 1, Version Date: 14/04/2026

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MATERIALS/ FINISHES

01 DOUBLE GLAZING UNIT. ALUMINIUM FRAMING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

02 SHOPFRONT GLAZING. ALUMINIUM FRAMING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

03 OPENABLE GLAZING (SLIDING, CASEMENT, AWNING). ALUMINIUM FRAMING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

04 FEATURE SHROUD/ FRAMING. SOLID ALUMINIUM CASSETTE. POWDERCOAT FINISH. COLOUR(S) TBC.

05 DECORATIVE PRECAST CONCRETE PANELS. COLOUR(S) TBC.
VERTICAL EXTRUDED ALUMINIUM LOUVRE. POWDERCOAT FINISH. COLOUR(S) TBC

06 DECORATIVE PRECAST CONCRETE PANELS. COLOUR(S) TBC.

07 VERTICAL EXTRUDED ALUMINIUM LOUVRE. POWERCOAT FINISH. COLOUR(S) TBC

08 ALUMINIUM BATTEN SCREEN. POWDERCOAT FINISH. COLOUR(S) TBC.
08_SOLID ALUMINIUM CASSETTE CLADDING. POWDERCOAT FINISH. COLOUR(S) TBC.

09 STEEL FRAMING. PAINT FINISH. COLOUR(S) TBC.

10 STEEL CANOPY WITH FSC SOFFIT. PAINT FINISH. COLOUR(S) TBC.

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12 FIBRE CEMENT CLADDING/ PROFILED ALUMINIUM CLADDING / DECORATIVE PRECAST CONCRETE PANELS. PAINT FINISH. COLOUR(S) TBC.

13 ACRYLIC RENDER WITH PAINT FINISH. COLOUR(S) TBC.

14 BALUSTRADE SYSTEM. ALUMINIUM FRAMINING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

15 ALUMINIUM WEATHERPROOF LOUVRES. POWDERCOAT FINISH. COLOUR(S) TBC.

16 VENTILATED ROLLER DOOR. POWDERCOAT FINISH. COLOUR(S) TBC.

20 GREEN WALL. STAINLESS-STEEL TENSILE TRELLIS SYSTEM

21 PLANTERS IN FORMED CONCRETE. RETICULATION INTEGRATED AND CONCEALED.

22 POOL

23 WATERFALL FEATURE

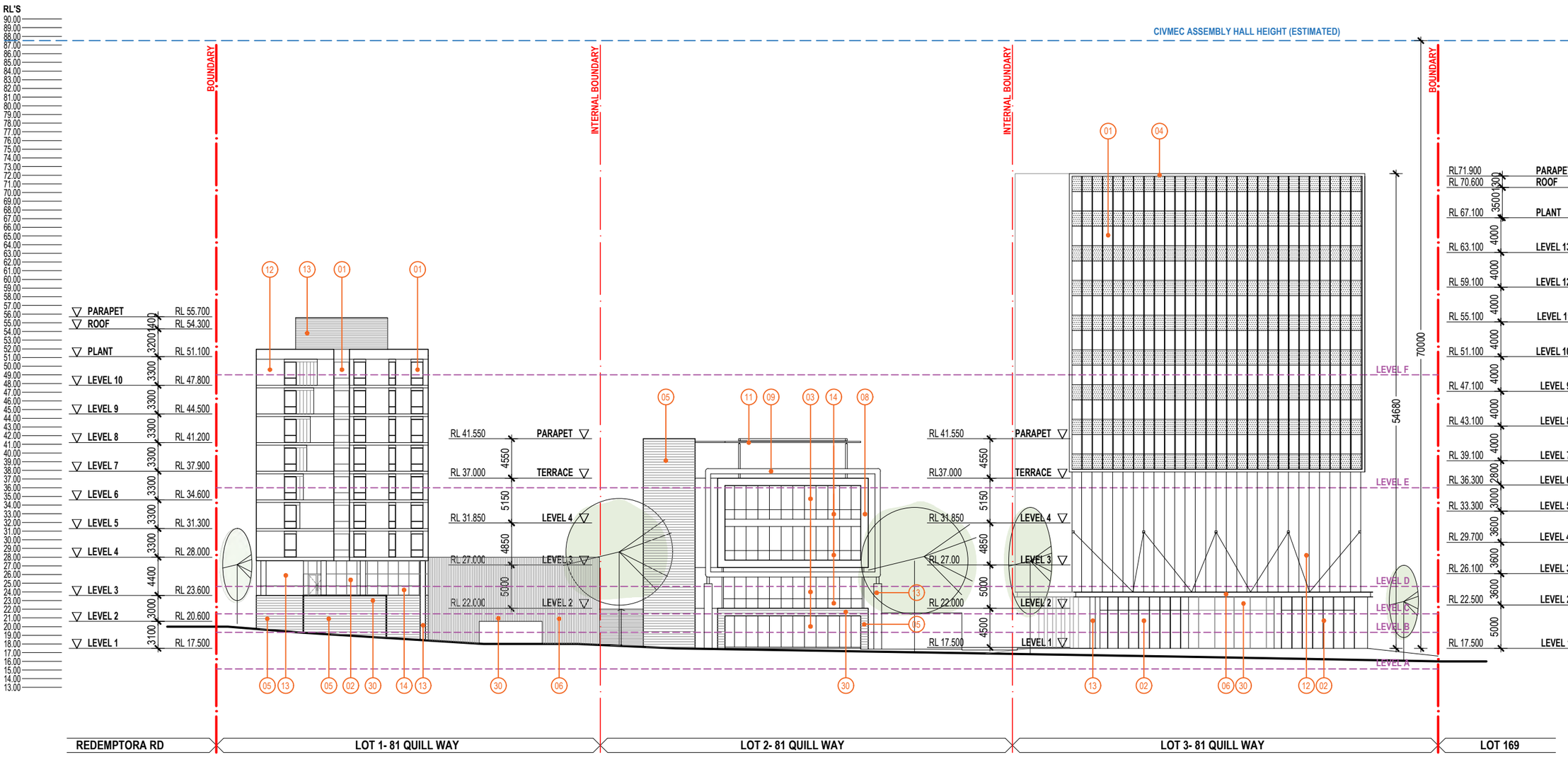
30 SIGNAGE

31 SHOPFRONT SIGNAGE. INTEGRATED INTO GLAZING SYSTEM.

0 2 5 10m

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LEGEND

- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING A
- HARD LANDSCAPING B
- HARD LANDSCAPING C
- HARD LANDSCAPING D
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
ELEVATION 1

SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A4.01	240615	1

Print Date: 14 April 2026, 2:23 PM

Document Set ID: 12682464
Version: 1, Version Date: 14/04/2026

This information is provided by the City of Cockburn

MATERIALS/ FINISHES

01 DOUBLE GLAZING UNIT. ALUMINIUM FRAMING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

02 SHOPFRONT GLAZING. ALUMINIUM FRAMING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

03 OPENABLE GLAZING (SLIDING, CASEMENT, AWNING). ALUMINIUM FRAMING WITH POWDERCOAT FINISH. COLOUR(S) TBC.

04 FEATURE SHROUD/ FRAMING. SOLID ALUMINIUM CASSETTE. POWDERCOAT FINISH. COLOUR(S) TBC.

05 DECORATIVE PRECAST CONCRETE PANELS. COLOUR(S) TBC.
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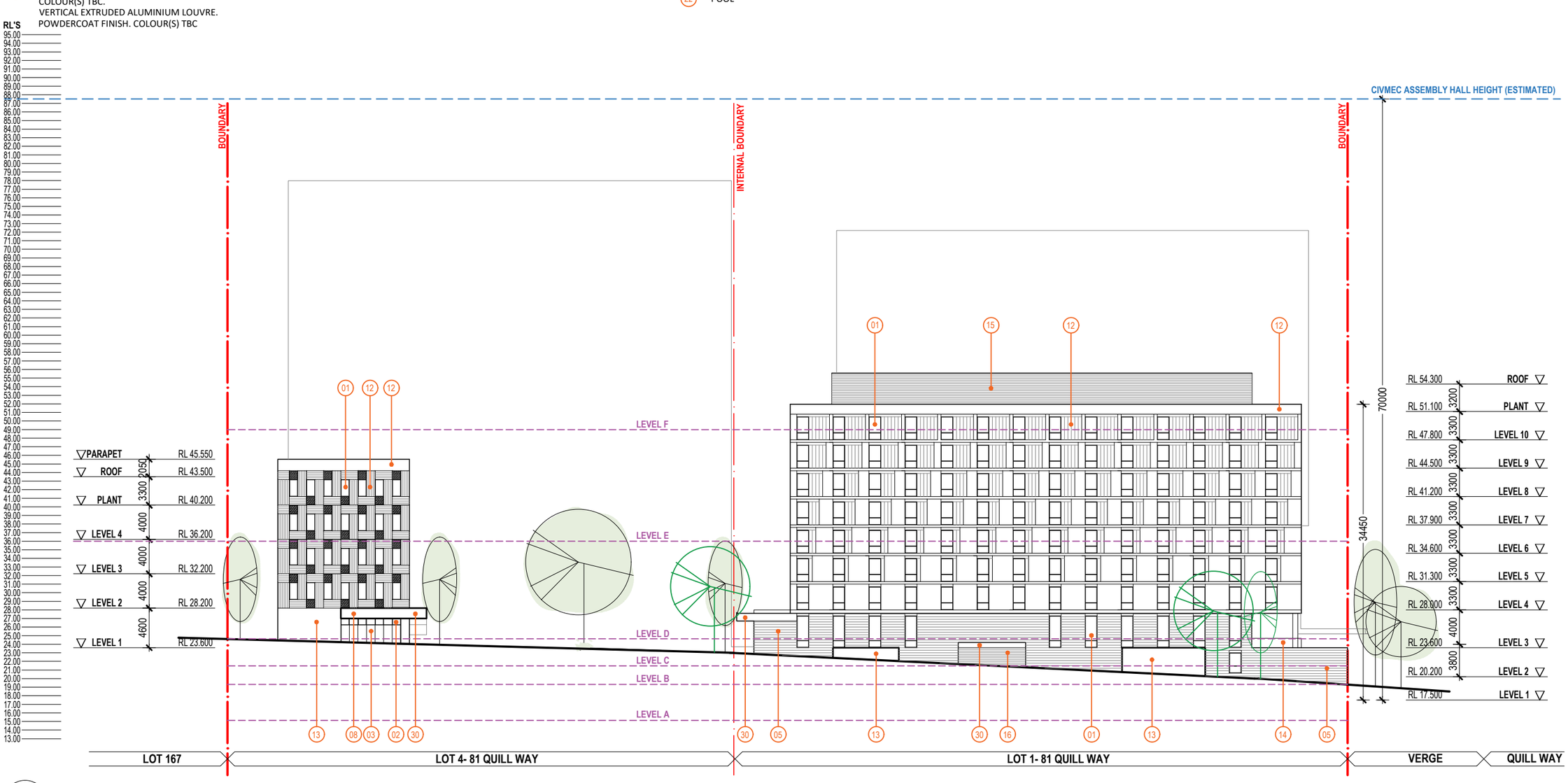
21 PLANTERS IN FORMED CONCRETE. RETICULATION INTEGRATED AND CONCEALED.

22 POOL

23 WATERFALL FEATURE

30 SIGNAGE

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1 ELEVATION 2
1:250@A1 / 1:500@A3

0 2 5 10m

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- HOTEL
- MEDICAL/ OFFICE
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REV	DATE	DESCRIPTION	BY
2	04.02.26	KERB AMENDMENT	PA
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
ELEVATION 2

SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A4.02	240615	2

Print Date: 14 April 2026, 2:23 PM

Document Set ID: 12682464
Version: 1, Version Date: 14/04/2026

This information is provided by the City of Cockburn

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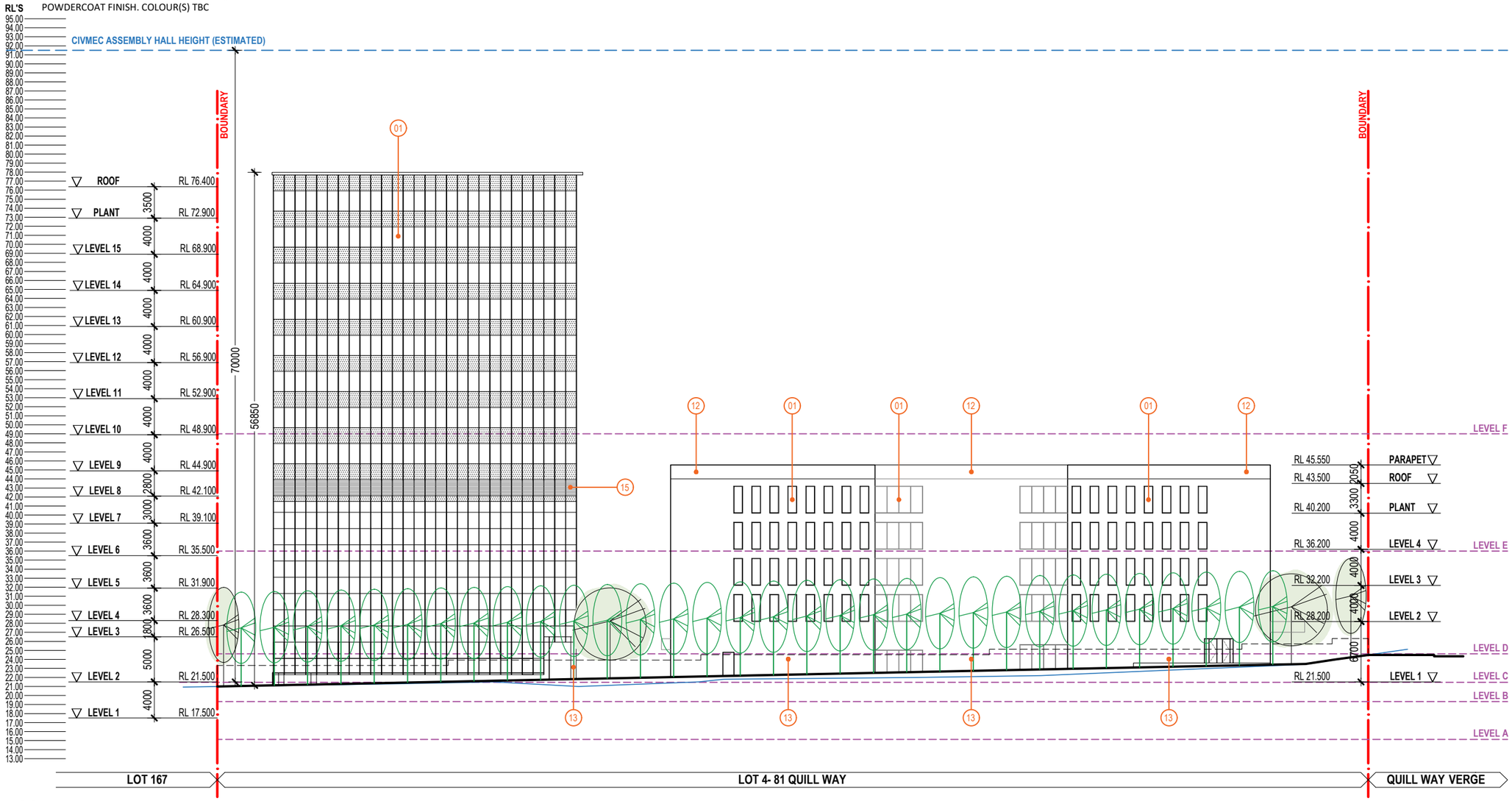
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22 POOL

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30 SIGNAGE

31 SHOPFRONT SIGNAGE. INTEGRATED INTO GLAZING SYSTEM.



1 ELEVATION 3
1:250@A1 / 1:500@A3

0 2 5 10m

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- HOTEL
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- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
ELEVATION 3

SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A4.03	240615	1

Print Date: 14 April 2026, 2:23 PM

Document Set ID: 12682464
Version: 1, Version Date: 14/04/2026

This information is provided by the City of Cockburn

MATERIALS/ FINISHES

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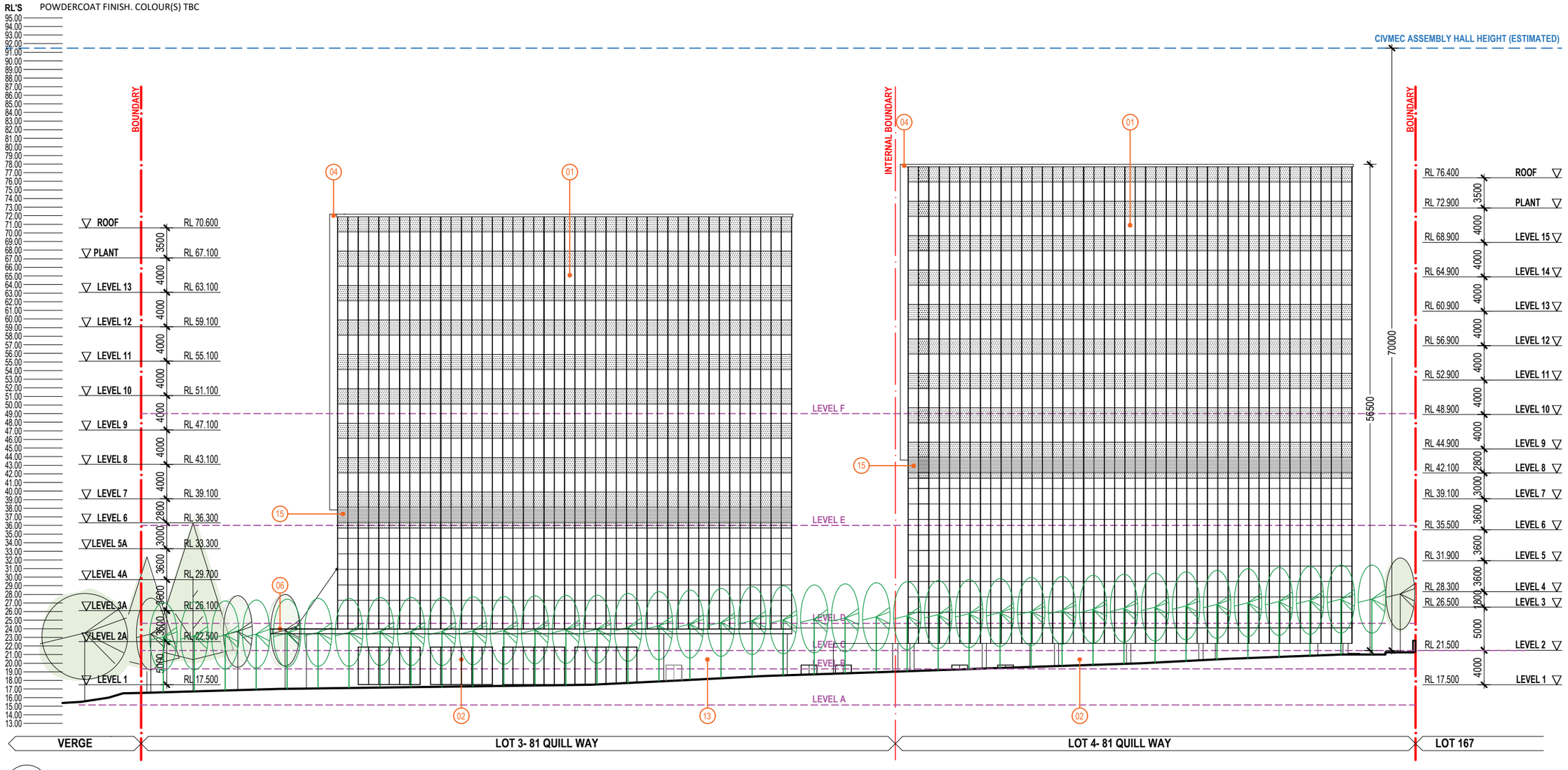
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22 POOL

23 WATERFALL FEATURE

30 SIGNAGE

31 SHOPFRONT SIGNAGE. INTEGRATED INTO GLAZING SYSTEM.



1 ELEVATION 4
1:250@A1 / 1:500@A3

0 2 5 10m

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- EXISTING TREES
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- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
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- MEDICAL/ OFFICE
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- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
ELEVATION 4

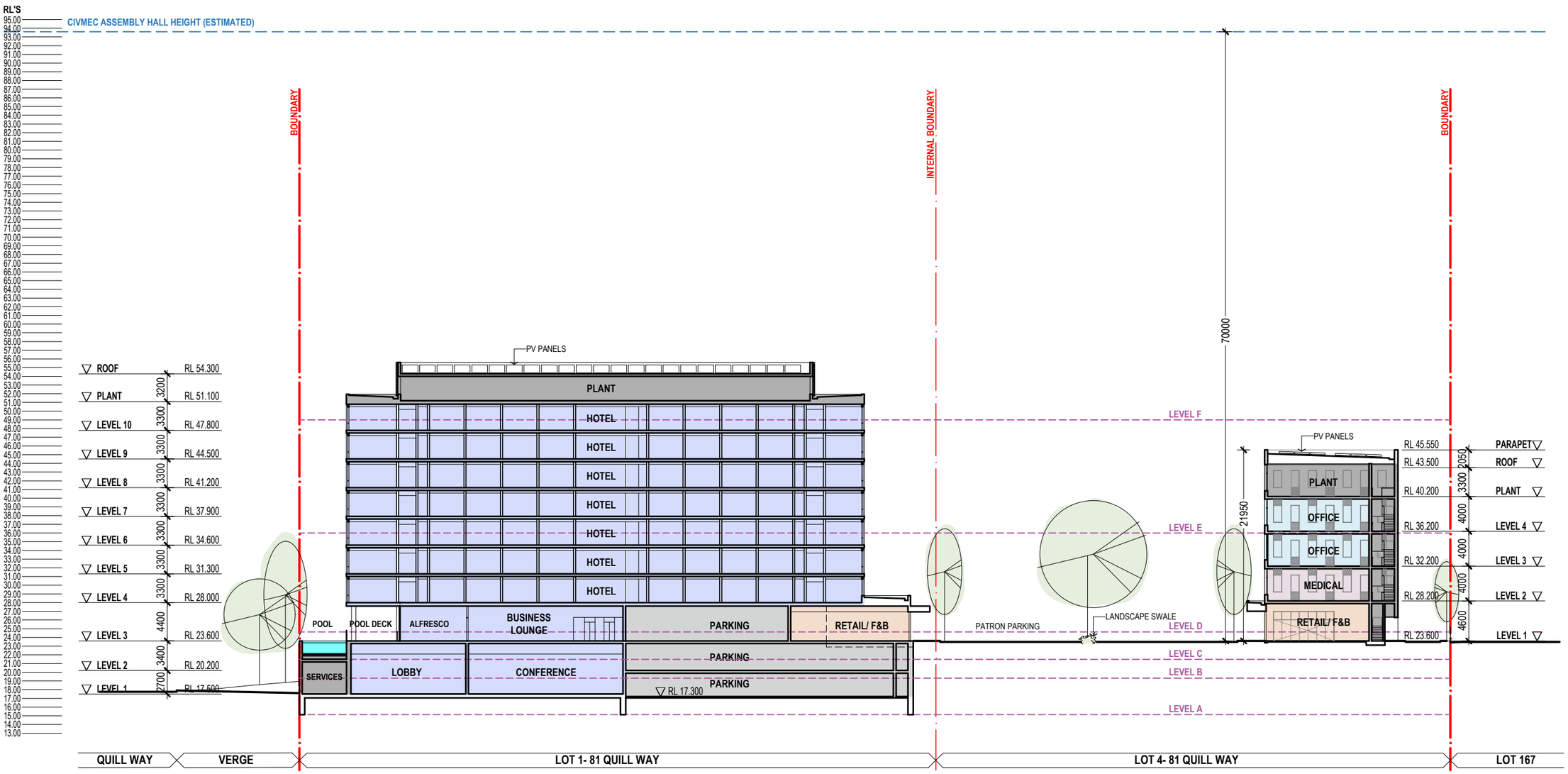
SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A4.04	240615	1

Print Date: 14 April 2026, 2:23 PM

Document Set ID: 12682464
Version: 1, Version Date: 14/04/2026

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1 SECTION A
1:250@A1 / 1:500@A3

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- PARKING

REV	DATE	DESCRIPTION	BY
2	28.01.26	DA AMENDMENT	PA
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION A

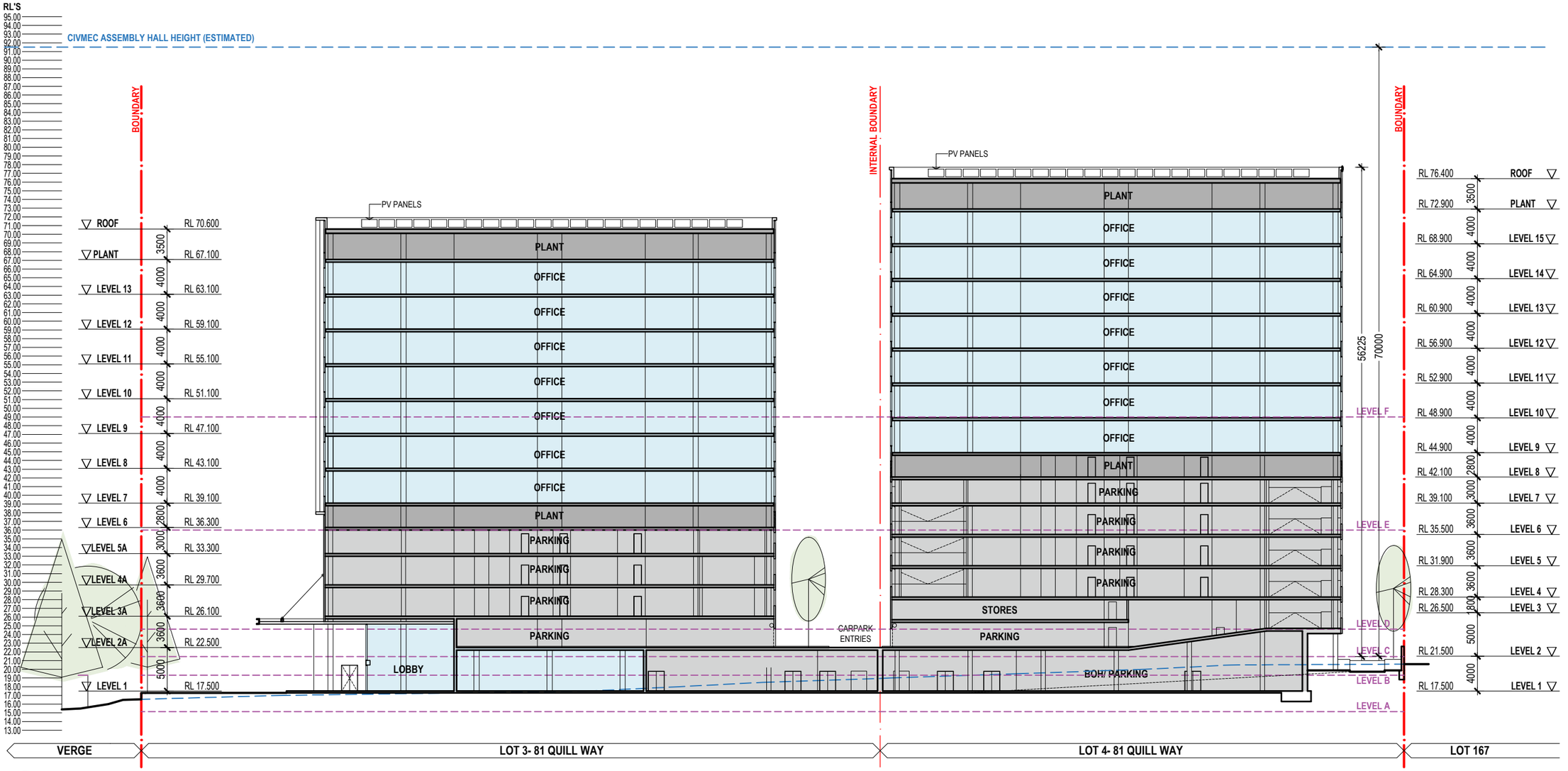
SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A5.01	240615	2

Print Date: 14 April 2026, 2:23 PM

Document Set ID: 12682464
Version: 1, Version Date: 14/04/2026

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1 SECTION B
1:250@A1 / 1:500@A3

0 2 5 10m

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1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION B

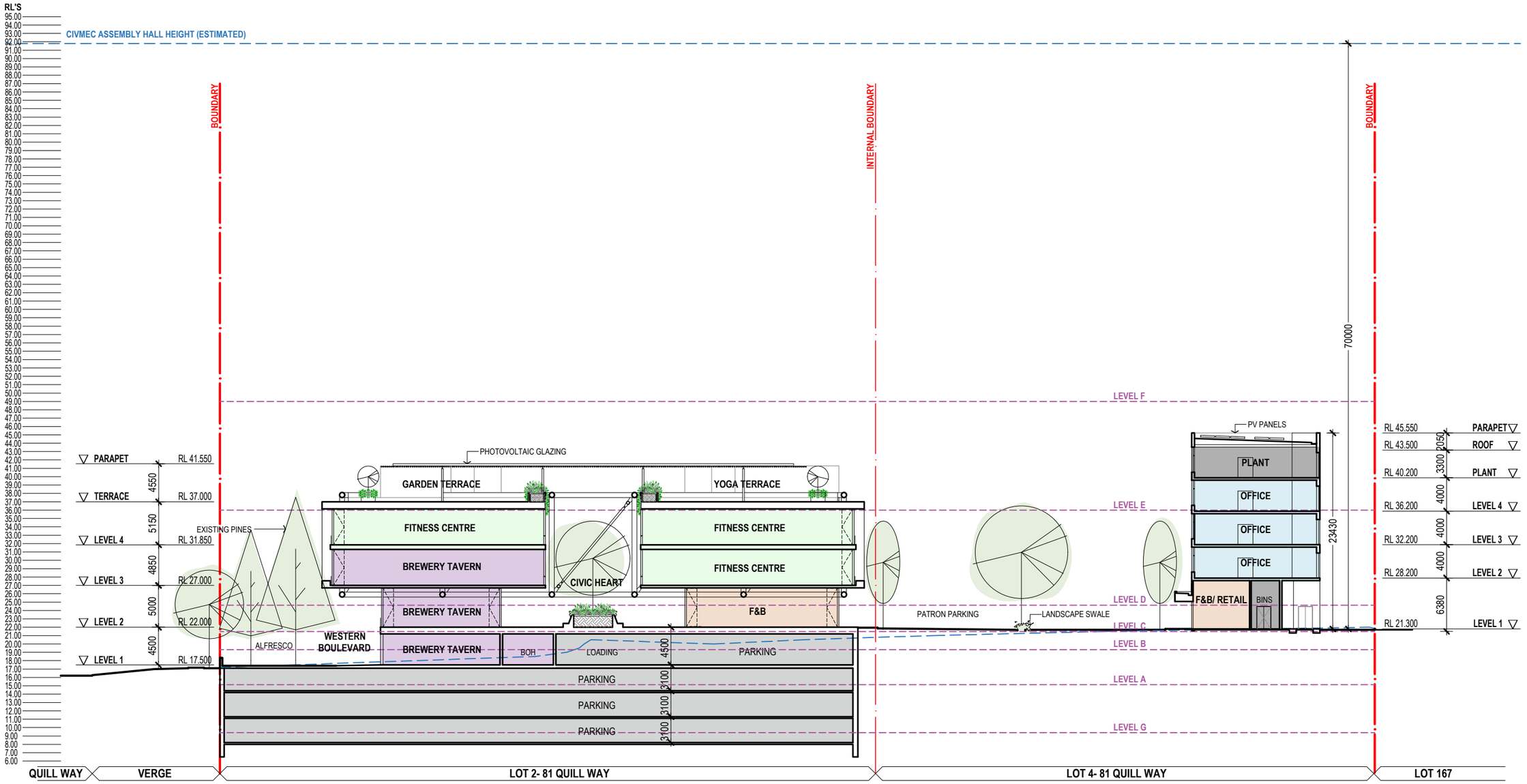
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DRAWING No.	PROJECT No.	REVISION
A5.02	240615	1

Print Date: 14 April 2026, 2:23 PM

Document Set ID: 12682464
Version: 1, Version Date: 14/04/2026

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1 SECTION C
1:250@A1 / 1:500@A3

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7. THE LOCATION OF DOORS ON THE FACADES ADJOINING A TENANCY ARE SUBJECT TO CHANGE DEPENDING ON THE FINAL TENANCY DIVISIONS

LEGEND

- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING A
- HARD LANDSCAPING B
- HARD LANDSCAPING C
- HARD LANDSCAPING D
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
3	28.01.26	DA AMENDMENT	PA
2	21.01.26	SOCIAL HUB AMENDMENT	PA
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION C

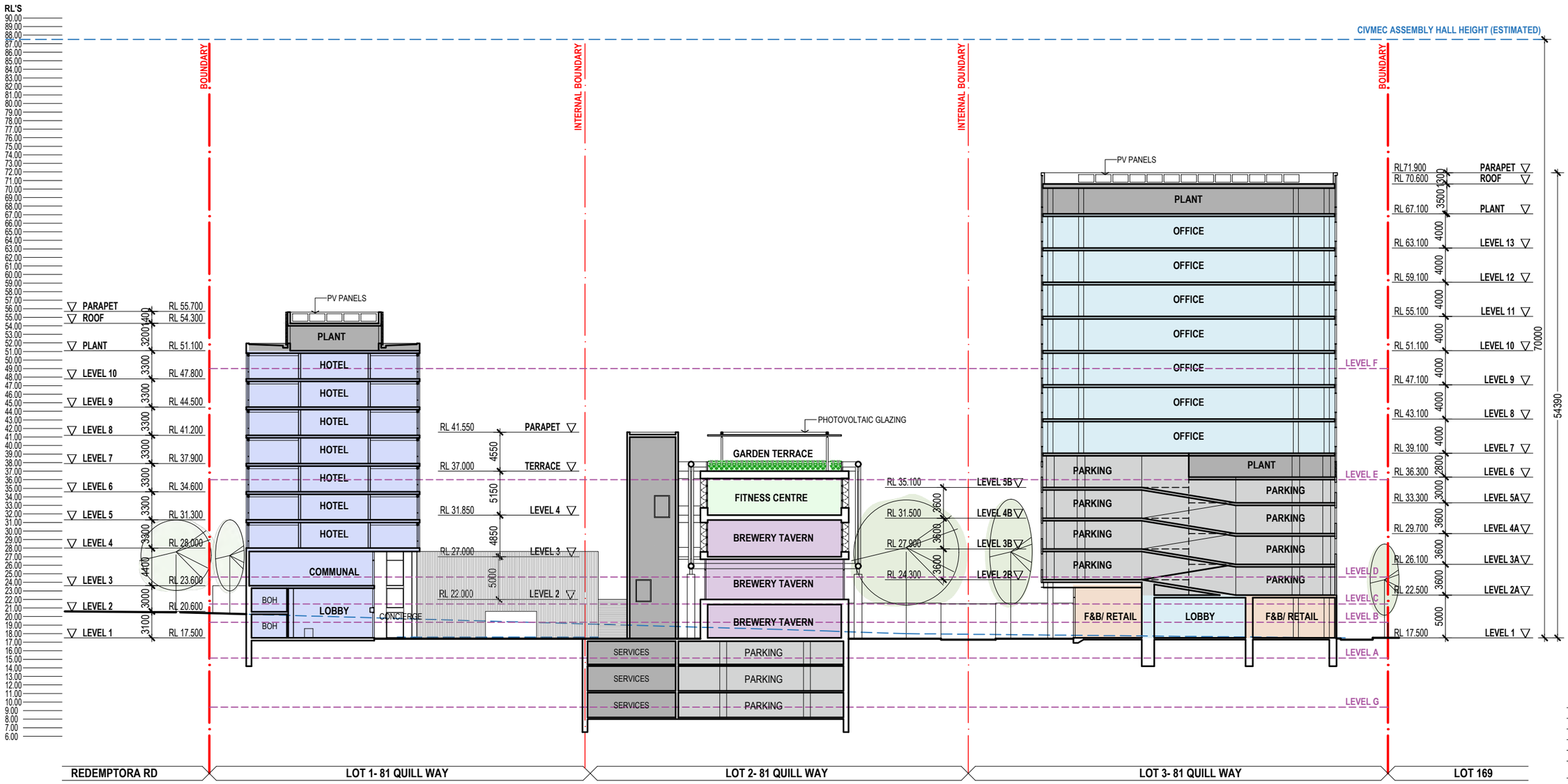
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DRAWING No.	PROJECT No.	REVISION
A5.03	240615	3

Print Date: 14 April 2026, 2:23 PM

Document Set ID: 12682464
Version: 1, Version Date: 14/04/2026

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1 SECTION D
1:250@A1 / 1:500@A3

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LEGEND

- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING A
- HARD LANDSCAPING B
- HARD LANDSCAPING C
- HARD LANDSCAPING D
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
3	28.01.26	DA AMENDMENT	PA
2	21.01.26	SOCIAL HUB AMENDMENT	PA
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION D

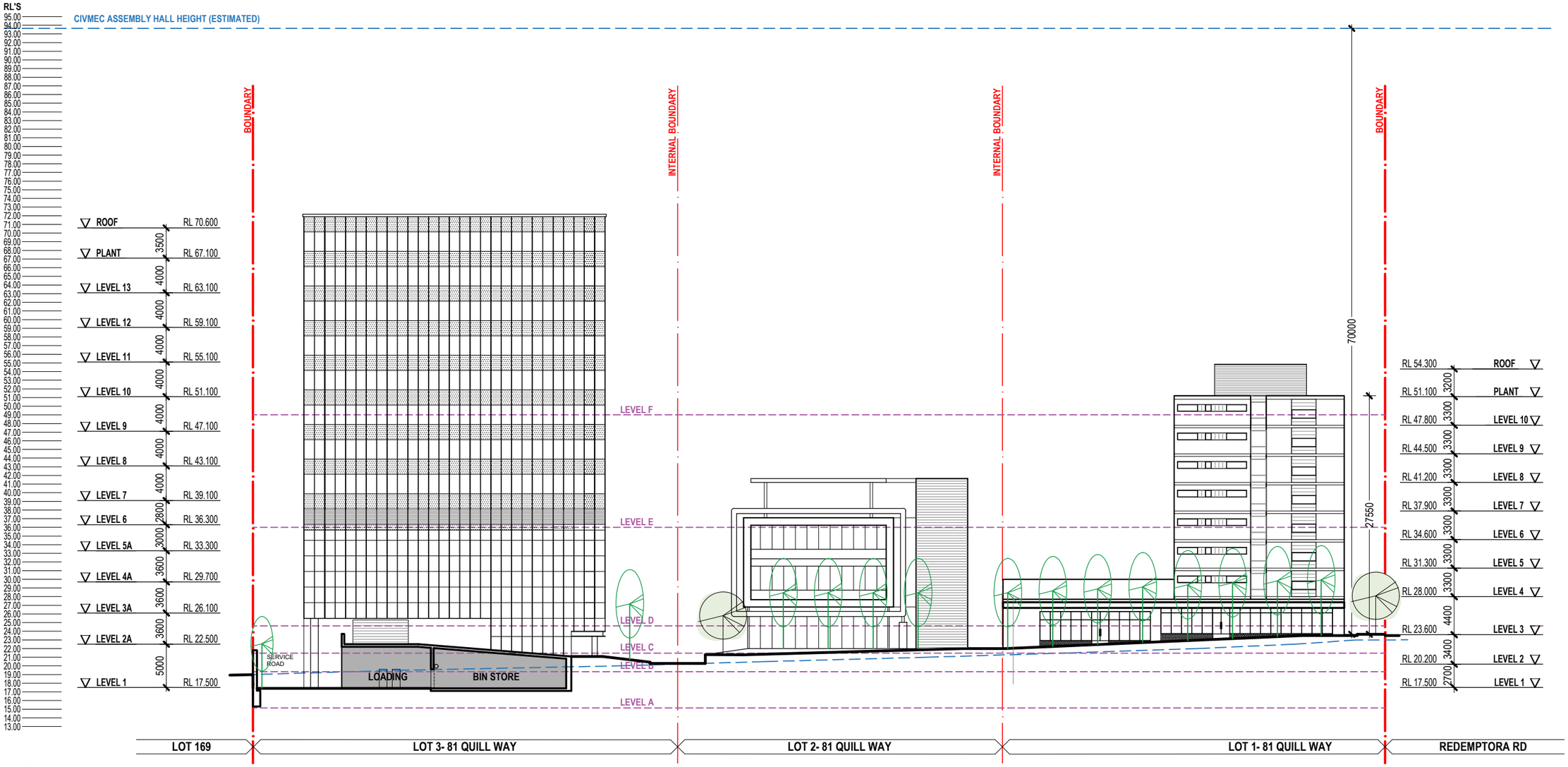
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DRAWING No.	PROJECT No.	REVISION
A5.04	240615	3

Print Date: 14 April 2026, 2:23 PM

Document Set ID: 12682464
Version: 1, Version Date: 14/04/2026

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1 SECTION E
1:250@A1 / 1:500@A3

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LEGEND

- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING A
- HARD LANDSCAPING B
- HARD LANDSCAPING C
- HARD LANDSCAPING D
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION E

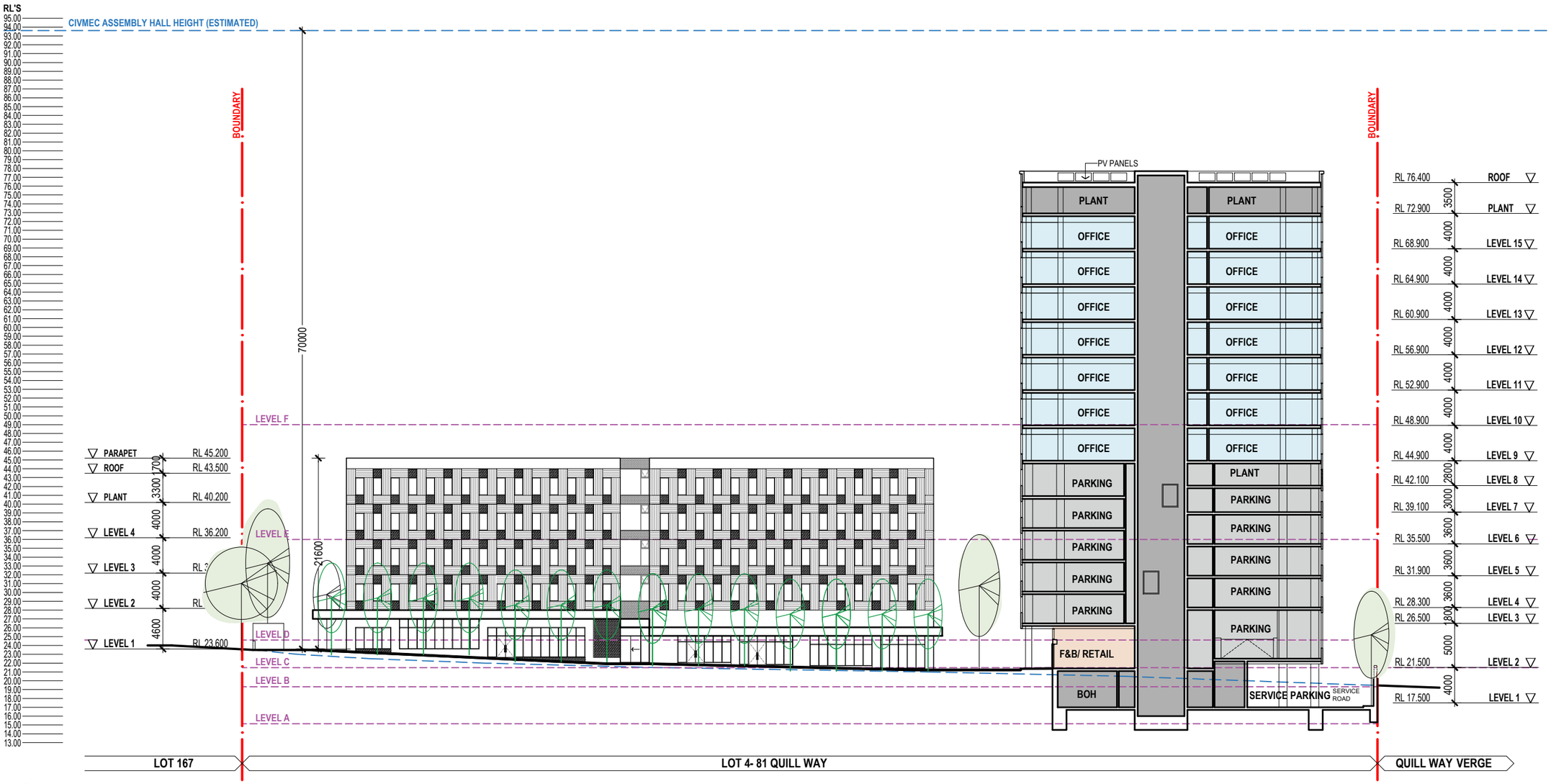
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DRAWING No.	PROJECT No.	REVISION
A5.05	240615	1

Print Date: 14 April 2026, 2:23 PM

Document Set ID: 12682464
Version: 1, Version Date: 14/04/2026

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1 SECTION F
1:250@A1 / 1:500@A3

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BUILDING USE :

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- HOTEL
- MEDICAL/ OFFICE
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- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION F

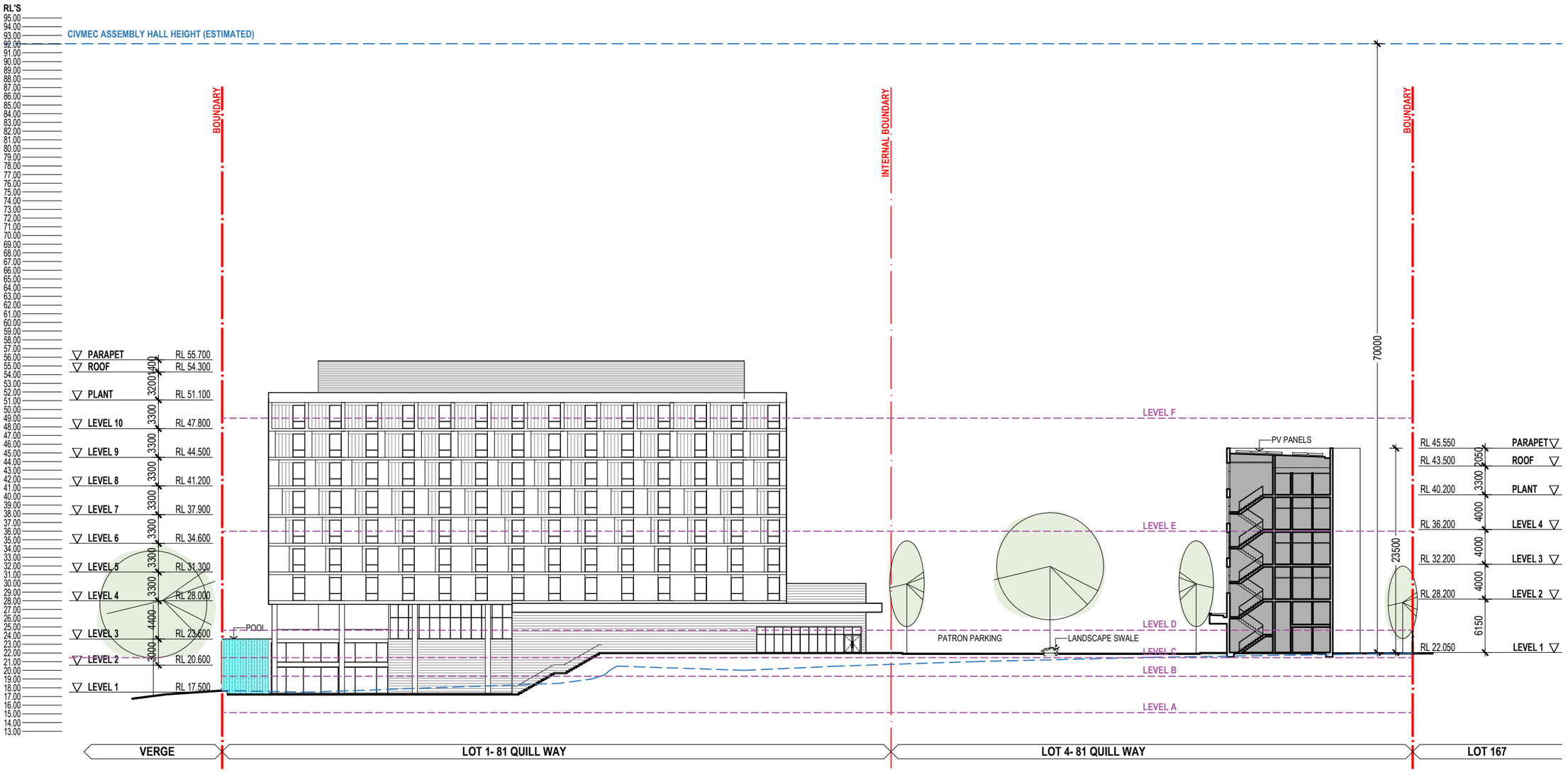
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DRAWING No.	PROJECT No.	REVISION
A5.06	240615	1

Print Date: 14 April 2026, 2:23 PM

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1 SECTION G
1:250@A1 / 1:500@A3

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BUILDING USE :

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- TAVERN
- HOTEL
- MEDICAL/ OFFICE
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- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION G

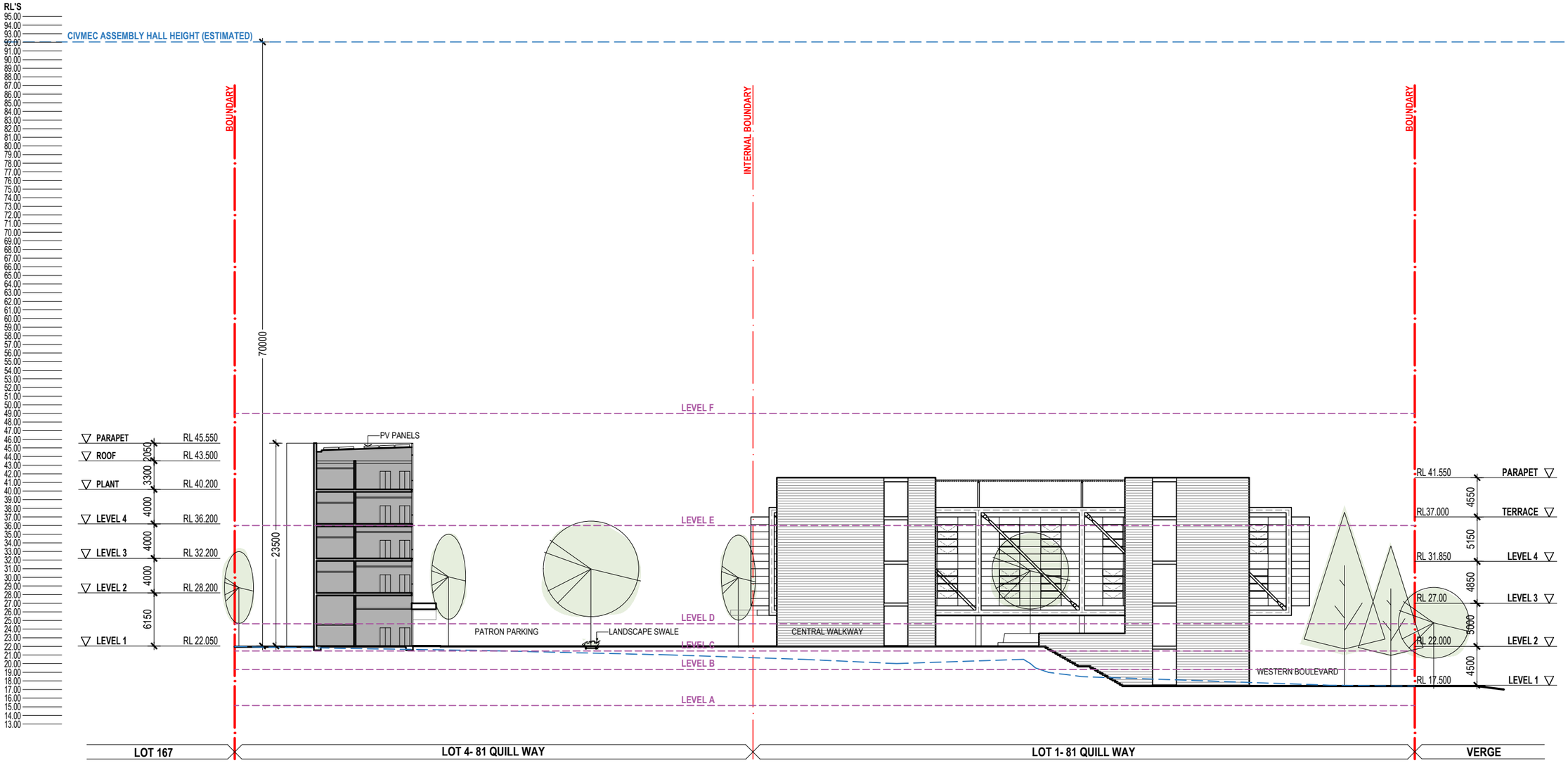
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DRAWING No.	PROJECT No.	REVISION
A5.07	240615	1

Print Date: 14 April 2026, 2:23 PM

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1 SECTION H
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- HARD LANDSCAPING D
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- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION H

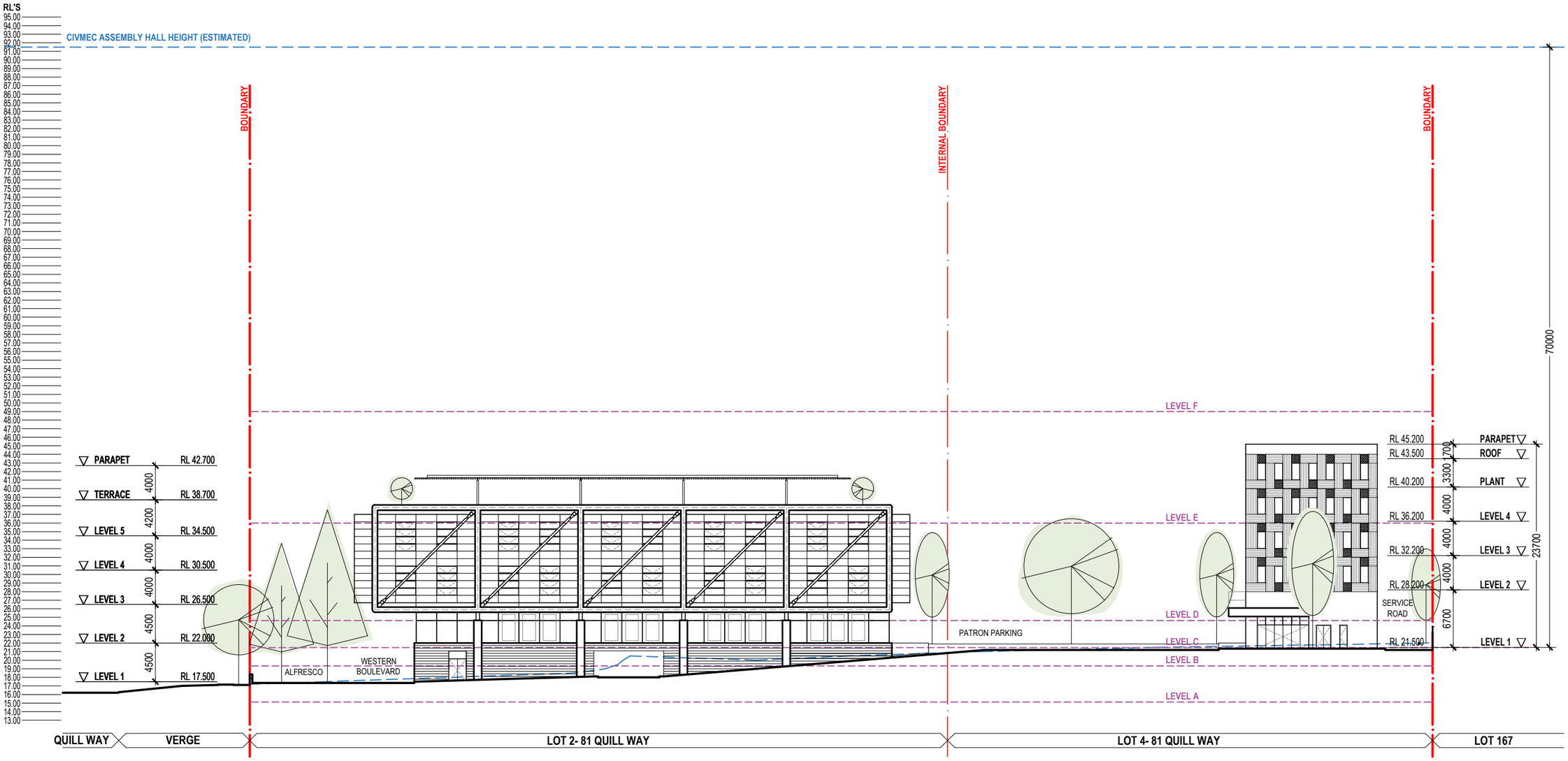
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DRAWING No.	PROJECT No.	REVISION
A5.08	240615	1

Print Date: 14 April 2026, 2:23 PM

Document Set ID: 12682464
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1 SECTION J
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BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
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- MEDICAL/ OFFICE
- RETAIL/ F&B
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- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION J

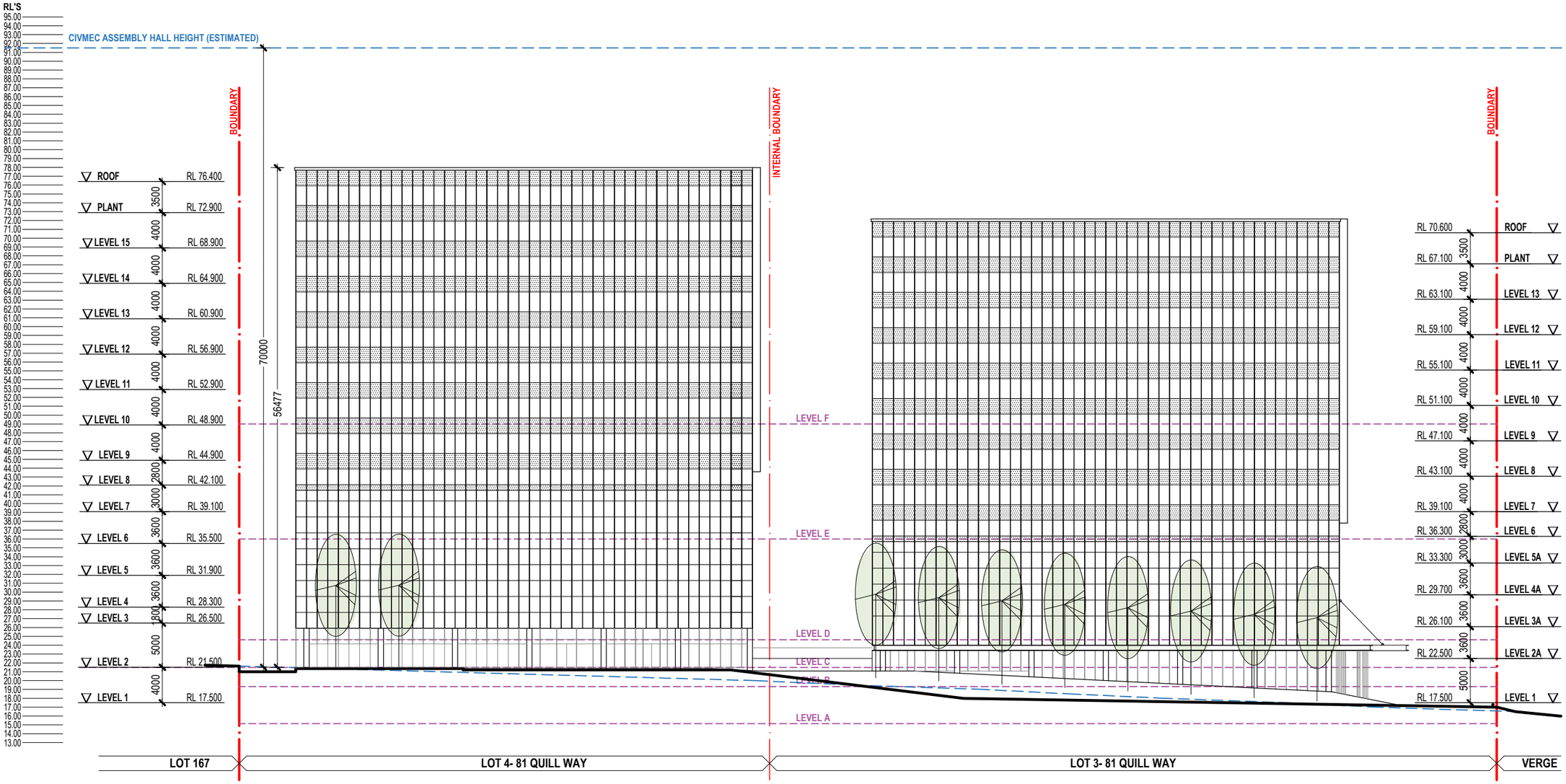
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DRAWING No.	PROJECT No.	REVISION
A5.09	240615	1

Print Date: 14 April 2026, 2:23 PM

Document Set ID: 12682464
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1 SECTION K
1:250@A1 / 1:500@A3

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- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
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- MEDICAL/ OFFICE
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- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION K

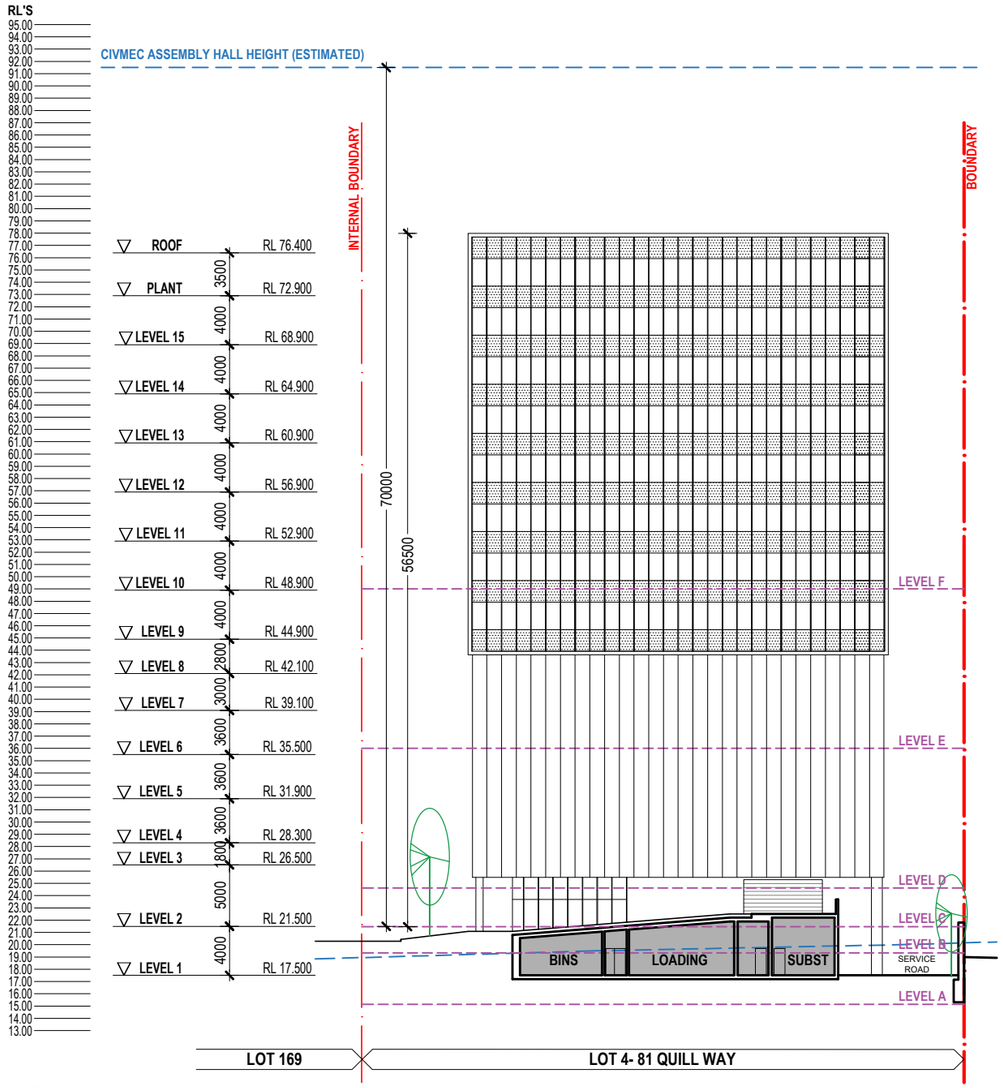
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DRAWING No.	PROJECT No.	REVISION
A5.10	240615	1

Print Date: 14 April 2026, 2:23 PM

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1 SECTION L
1:250@A1 / 1:500@A3

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- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

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- HOTEL
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- PARKING

REV	DATE	DESCRIPTION	BY
1	12.12.25	DEVELOPMENT APPLICATION	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SECTION L

SCALE 1:250@A1 / 1:500@A3 **DATE** 12.12.25

DRAWING No.	PROJECT No.	REVISION
A5.11	240615	1

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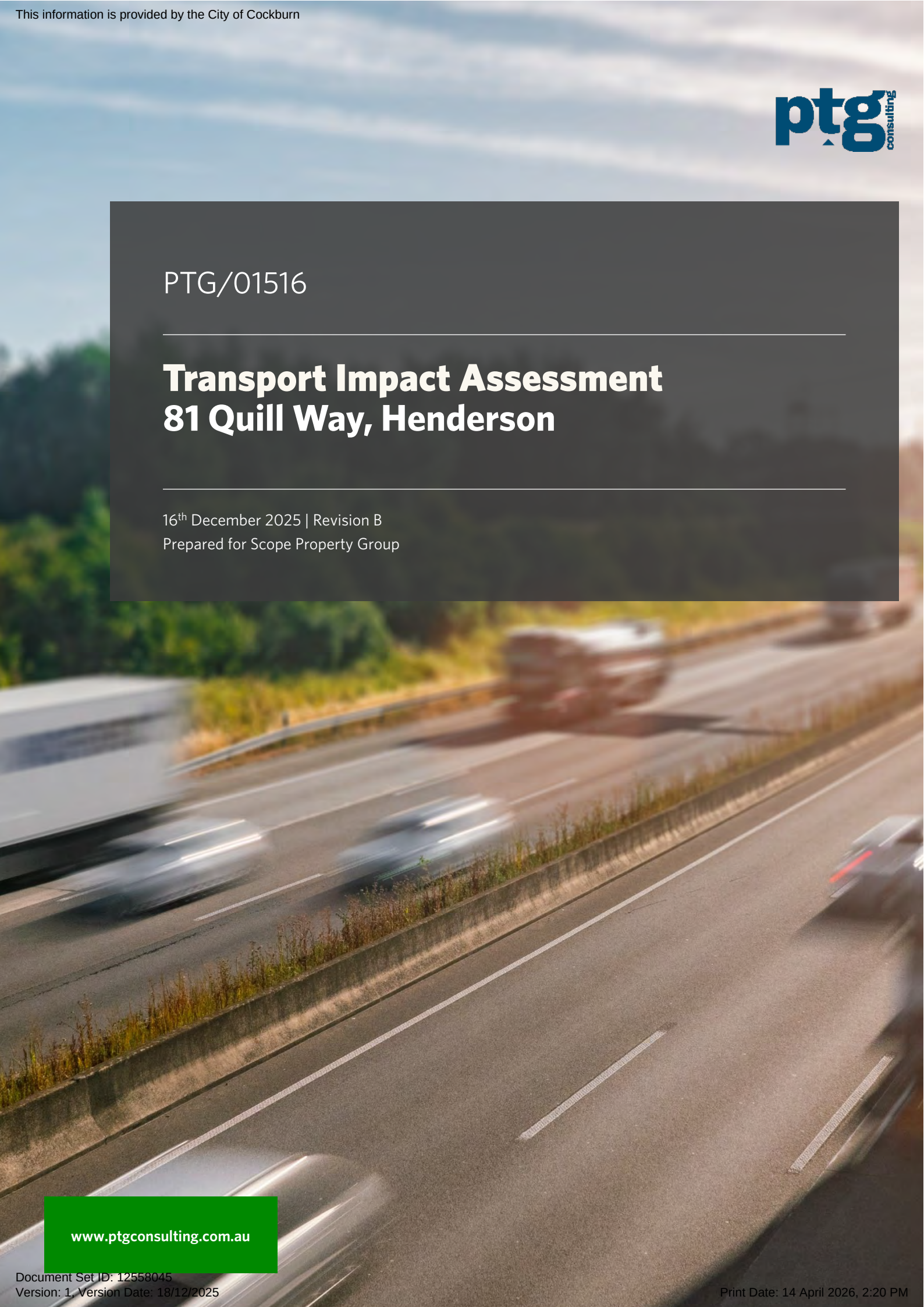
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PTG/01516

Transport Impact Assessment
81 Quill Way, Henderson

16th December 2025 | Revision B

Prepared for Scope Property Group

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REPORT DETAILS

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1 INTRODUCTION

1.1 Background

PTG Consulting Pty Ltd (PTG) has been commissioned by Scope Property Group to prepare a Transport Impact Assessment (TIA) for the proposed development of a Henderson Business Hub in 81 Quill Way, Henderson, within the City of Cockburn.

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 Assessment (TIA) 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.

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2 EXISTING SITUATION

2.1 Existing Site Use

The Site is shown in **Figure 1**. The Site contains existing structures, as shown in **Figure 2**, which will be demolished and/or modified as part of the proposed development.

Figure 1 - Existing Site Boundaries



Source: MetroMap (2025)

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Figure 2 – Existing Site Layout



Source: Pennock Architects

2.2 Existing Parking and Demand

The site currently consists of the following buildings, as shown in **Figure 2**:

- Tavern
- Hotel
- Transportable Accommodation
- Retail Building
- Office
- Workshop
- 192 Parking space

2.3 Existing Access Arrangements

The Site currently 3 access points as shown in **Figure 3** and described below:

- Access 1: Full movement access to/from Redemptora Road
- Access 2: Entry only from Quill Way to the Site
- Access 3: Exit only to Quill Way from the Site

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Figure 3 - Existing Access Arrangement

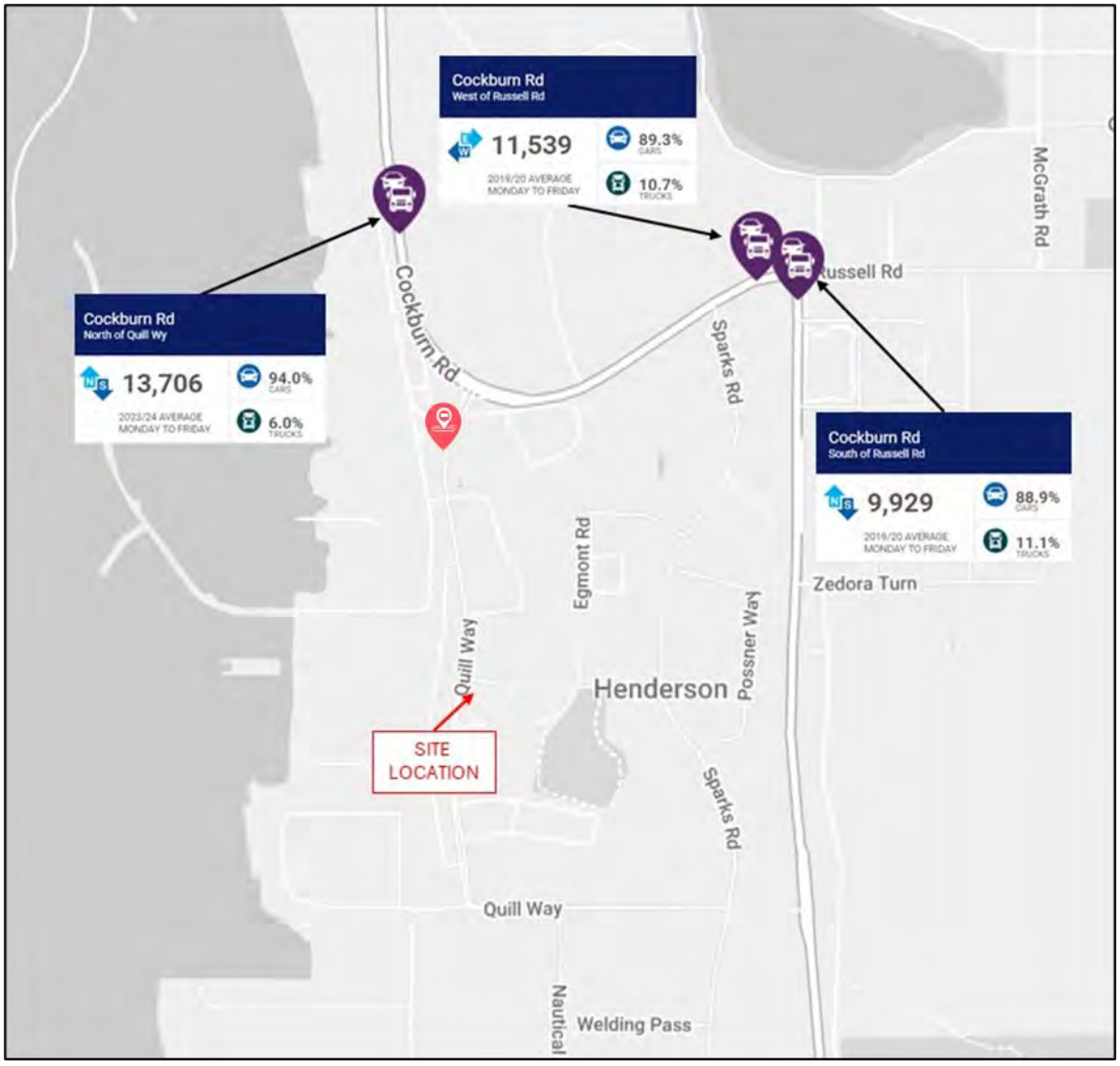


Source: MetroMap (2025)

2.4 Existing Site Traffic

Traffic data was available for Quill way (at the intersection with Clarence Beach Road) from a video survey undertaken in May 2024, while midblock traffic counts were also available at the Cockburn Road locations shown in **Figure 4**.

Figure 4 - Existing Traffic Volumes



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2.5 Existing Road Network and Traffic Management

Road Classifications are defined in the Main Roads Functional Hierarchy as follows:

- Primary Distributors (light blue): Form the regional and inter-regional grid of Main Roads WA traffic routes and carry large volumes of fast-moving traffic. Some are strategic freight routes, and all are National or State roads. They are managed by Main Roads.
- Regional Distributors (red): 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.
- District Distributor A (green): These carry traffic between industrial, commercial and residential areas and 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 (dark blue): Perform a similar function to District Distributor A but with reduced capacity due to flow restrictions from access to and roadside parking alongside adjoining property. These are often older roads with traffic demand in excess of that originally intended. District Distributor A and B roads run between land-use cells and not through them, forming a grid that would ideally be around 1.5 kilometres apart. They are managed by Local Government.
- Local Distributors (orange): Carry traffic within a cell and link District Distributors at the boundary to access roads. The route of the Local Distributor discourages 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. They are managed by Local government.
- Access Roads (grey): 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.

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Figure 5 shows the surrounding area road hierarchy and the characteristics of the surrounding road network are summarised in **Table 1**.

Figure 5- Existing Road Network



Source: MRWA Road Information Mapping

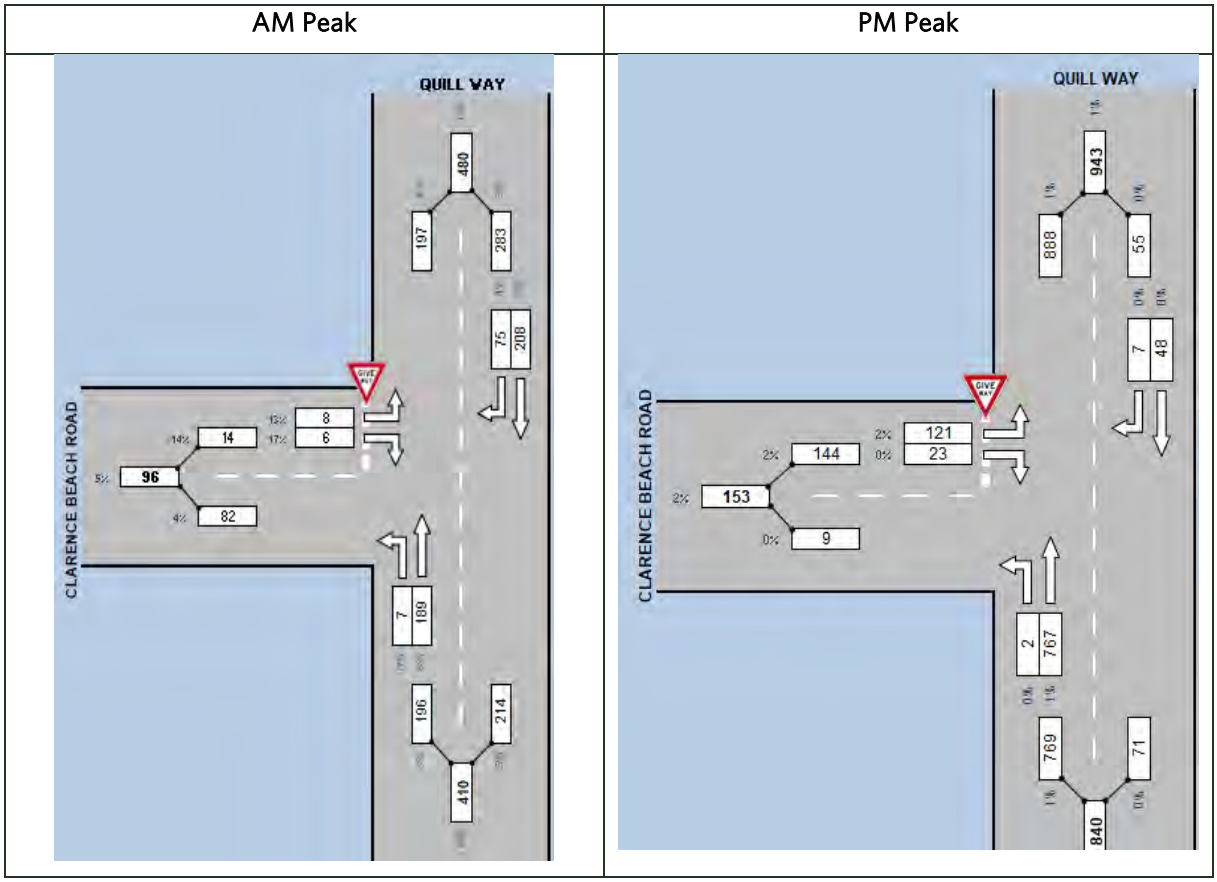
Table 1 - Existing Road Network

Road Name	Hierarchy	Jurisdiction	No. of Lanes	No. of Footpaths	Road Pavement Width (m)	Speed Limit (km/h)
Cockburn Road	Primary Distributor	MRWA	2	0	15-23	60
Quill Way	Distributor B	Local Government	2	0	10-15	60
Redemptora Road	Access Road	Local Government	2	1	9.8	50
Sparks Road	Access Road	Local Government	2	1	9.5-10	50

2.6 Traffic Flows on Surrounding Roads and Intersection

The nearest intersection with recorded traffic data is Quill Way/ Clarence Beach Road. The AM and PM peak hour traffic volumes for this intersection are shown in **Figure 6**.

Figure 6 - Existing AM and PM Peak Hour Traffic Volumes for Quill Way



There are no available data for the other intersections adjacent to the Site.

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2.7 Operation of Surrounding Intersections

The only intersection adjacent to the Site is the priority-controlled intersection of Quill Way / Redemptora Road, shown in **Figure 7**.

Figure 7 - Existing Intersection of Quill Way / Redemptora Road

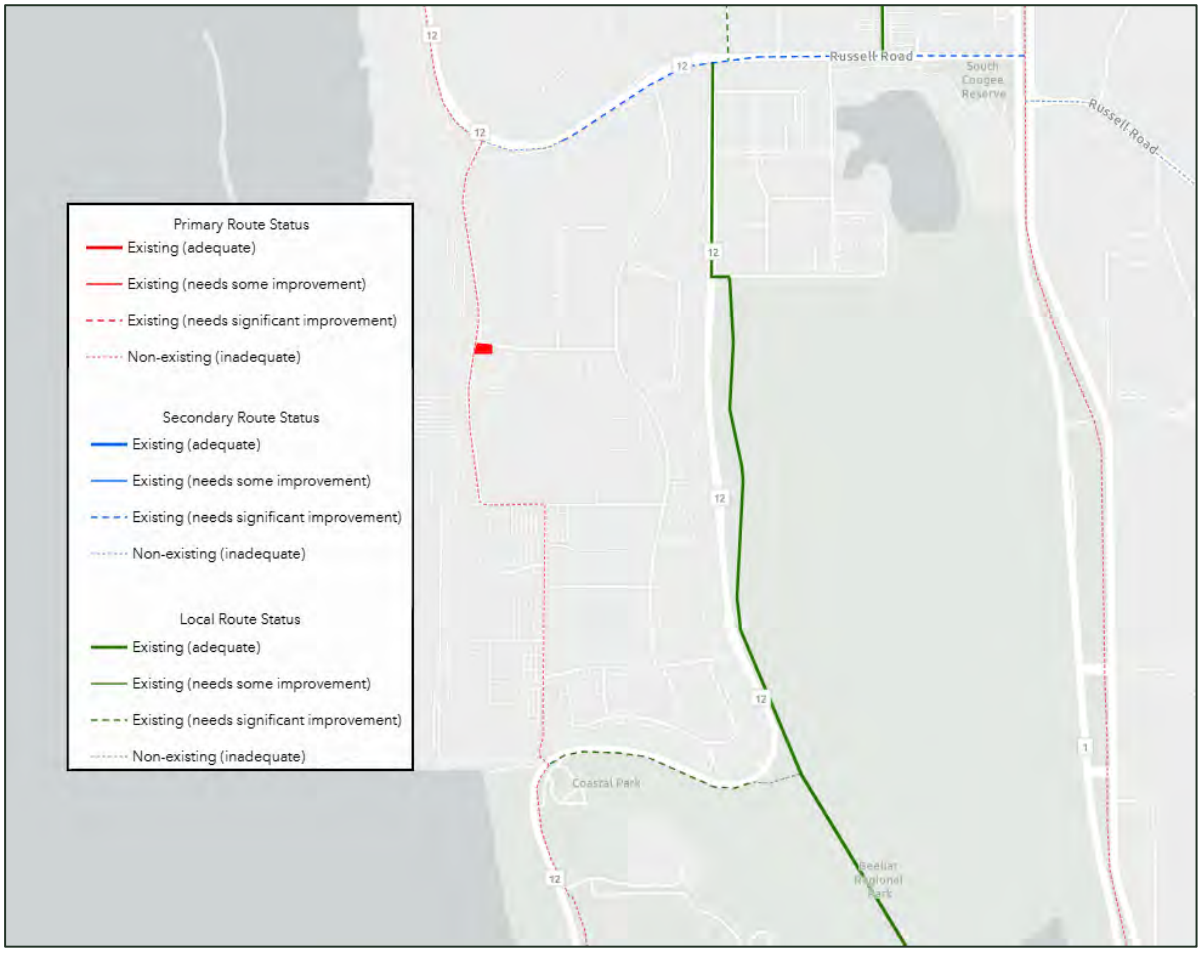


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2.8 Existing Pedestrian / Cycle Networks

Figure 8 shows the existing status of the cycle paths that form part of the Perth and Peel Long Term Cycling Network (LTCN) for the areas adjacent to the Site. While Cockburn Road includes sealed shoulders that can be used for on-road bike riding, the status of the Primary Route along Quill Way is classified as "Non-existing (inadequate)".

Figure 8 - Existing Pedestrian / Cycle Networks



Source: Department of Transport

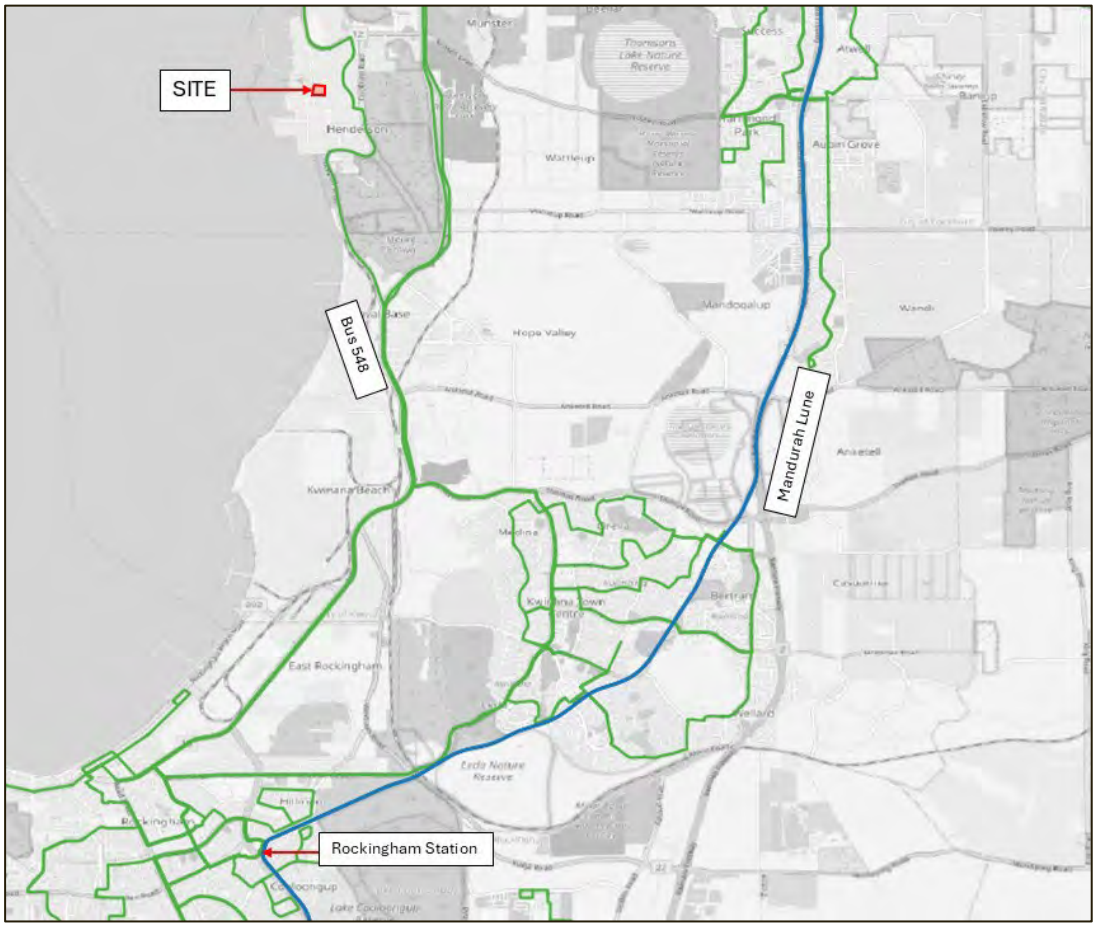
While there are currently no pedestrian paths along Quill Way, there is a 2.0m wide concrete footpath along a section on the southern side of Quill Way (east of Access 2).

2.9 Existing Public Transport Services

Bus 548 is the nearest bus service near the site as shown in Figure 9. Due to the low frequencies of the bus services, it is not anticipated that many staff or visitors will travel to the Site via public transport.

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Figure 9 Existing Public Transport Routes and Bus Stops



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2.10 Crash Data

A review of the existing crash data from Main Roads WA Traffic Map for the period between 1st January 2020 to 31st December 2024 was conducted for the following roads surrounding the site:

- Quill Way/ Redemptora Road Intersection
- Redemptora Road Midblock
- Quill Way Midblock (no crashes)

The crash locations are illustrated in **Figure 10**, while the crash details summarised in **Table 2** and **Table 3**.

Figure 10 Crash Locations



Source: Main Roads WA

Table 2 Quill Way/ Redemptora Road Intersection Crashes

Crash Nature	Fatal	Hospital	Medical	PDO Major	PDO Minor	Total Crashes
Right Angle	-	-	1	-	-	1

Table 3 Redemptora Road Midblock Crashes

Crash Nature	Fatal	Hospital	Medical	PDO Major	PDO Minor	Total Crashes
Not Known	-	-	-	1	-	1

A total of 2 crashes were recorded for these roads; one was a right-angle crash at the intersection of Quill Way / Redemptora Road which resulted in medical attention on-site. The other crash occurred midblock on Redemptora Road and resulted in major property damage and was caused by a reversing car colliding with a motorcycle. The low frequency of accidents suggest they are isolated rather than indicative of a systematic safety issues on the frontage roads.

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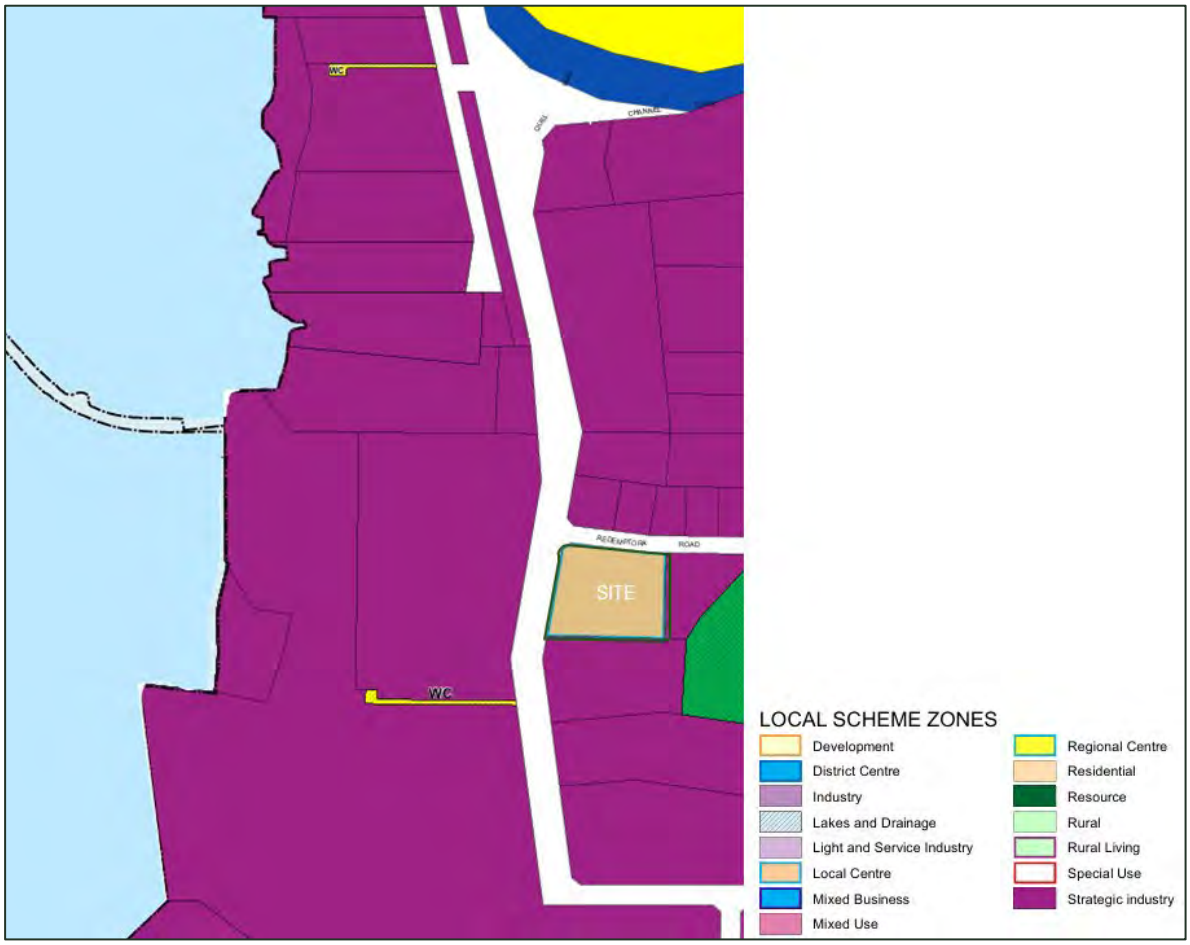
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3 PROPOSED DEVELOPMENT

3.1 Regional Context

In accordance with the City of Cockburn Town Planning Scheme No. 3, the Site is currently zoned as "*Local Centre*", as shown in **Figure 11**. The area is mostly surrounded by strategic industry land use.

Figure 11 Existing Land Use Zoning



Source: City of Cockburn Town Planning Scheme No.3

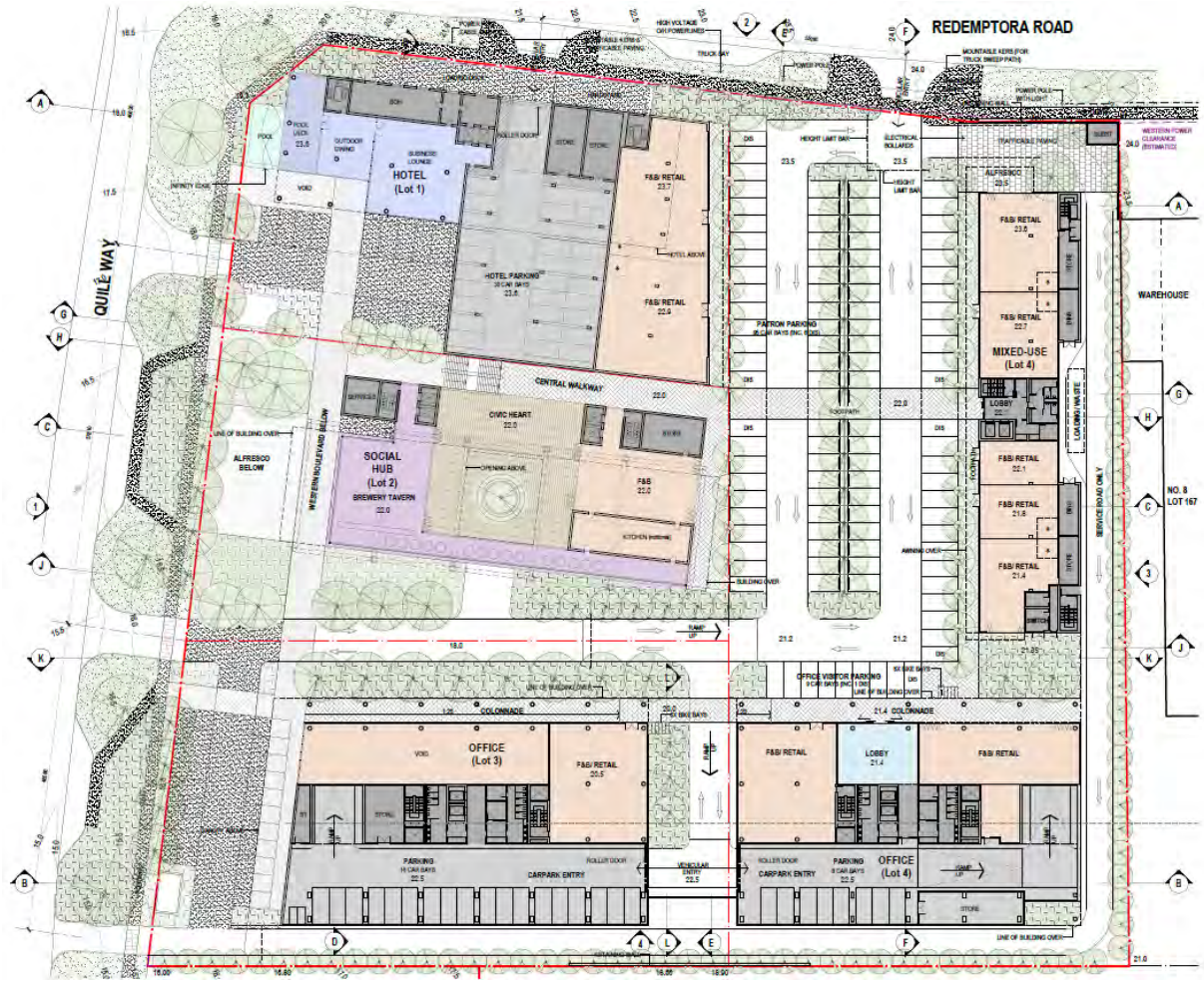
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3.2 Proposed Land Use

The proposed development (ground floor) layout is shown in **Figure 12**, while a summary of the proposed development yields provided in **Table 4**. As shown in **Table 4,** the proposed development will include a total of 737 parking bays across the entire Site. Further details regarding the parking supply are provided in **Section 3.4** of this report.

A high-resolution copy of the proposed development layout is included in **Appendix B**.

Figure 12 Proposed Development Layout



Source: Pennock Architects

This information is provided by the City of Cockburn

Table 4 Proposed Development Yields

Land Use		Yields	Car Parking Bays
Lot 1 (Hotel)	Hotel	161 rooms	118
	Retail / F&B	557m^2	
Lot 2 (Social Hub)	Tavern	505m^2	59
	Fitness	836m^2	
	Convention Centre	600 person capacity	
	Restaurant	100 seat capacity	
Lot 3 (Office)	Retail / F&B	939m^2	217
	Office	12,439m^2	
Lot 4 (Mixed Use)	Retail / F&B	635m^2	95
	Office/ Medical	1,155m^2	
	Office	1,125m^2	
Lot 4 (Office)	Office	10,333m^2	248
	Retail / F&B	536m^2	

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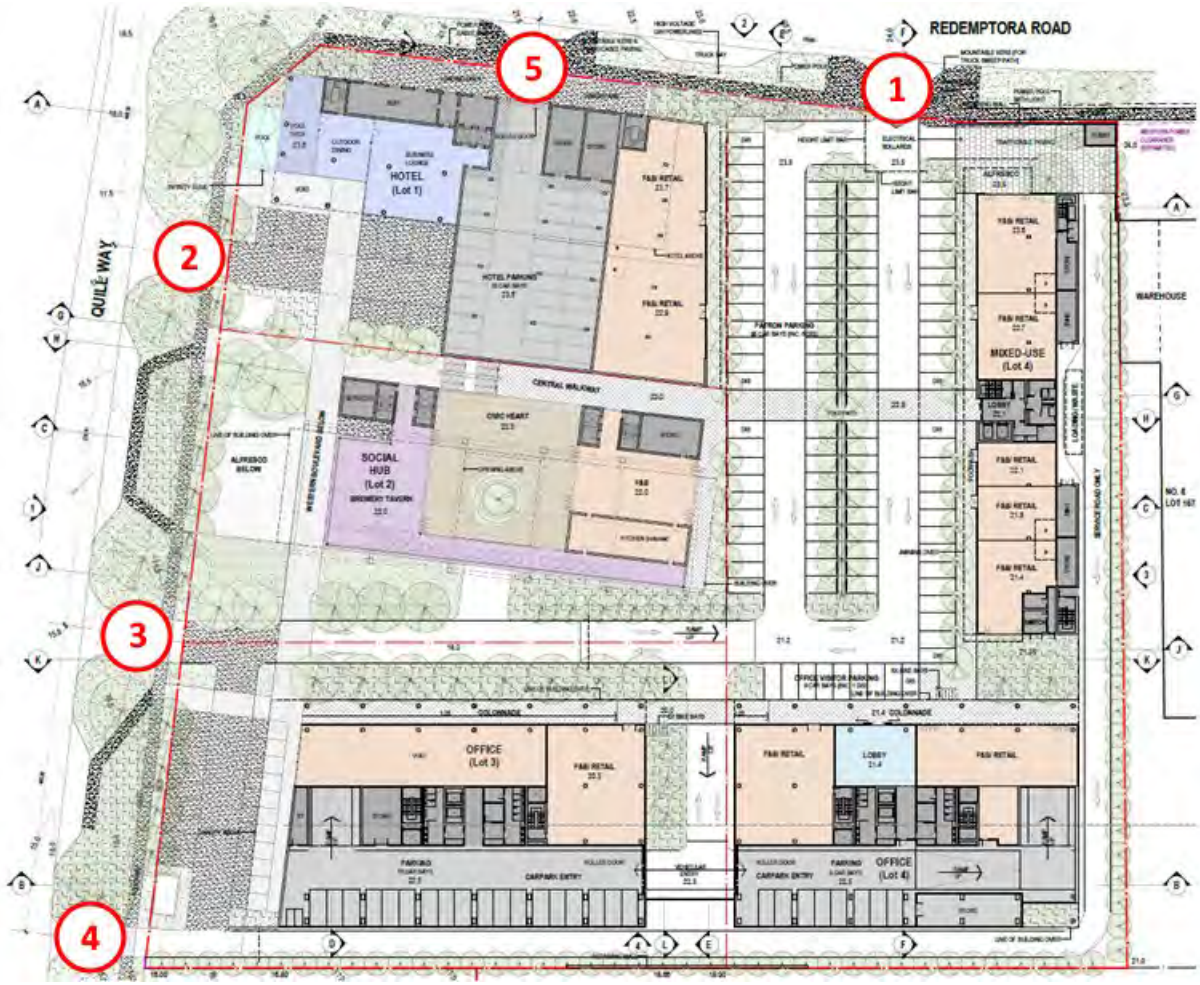
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3.3 Access Arrangements

Vehicular access is proposed at the 5 locations shown in **Figure** 13.

- **Access 1** – Entry and exit access for heavy and light vehicles only via Redemptora Road
- **Access 2** – Left-in and left-out access for light vehicles along Quill Way.
- **Access 3** – Left-in, left-out and right-in entry and exit access for heavy vehicles and light vehicles.
- **Access 4** – Left-out exit access for heavy vehicles.
- **Access 5** – Entry and exit access to Lot 1 car park via Redemptora Road

Figure 13 Proposed Vehicular Access Locations



3.3.1 Access Routes – Servicing and Delivery

The loading areas for Lots 1 and 2 can be accessed by up to 12.5m Heavy Rigid Vehicles (HRVs), while Lots 3 and 4 can be accessed up to 8.8m Medium Rigid Vehicles (MRVs). The swept paths for these service/delivery vehicles are shown in **Figure 14** to **Figure 17**.

Figure 14 - HRV Swept Path for Lot 1



Figure 15 HRV Swept Path for Lot 2

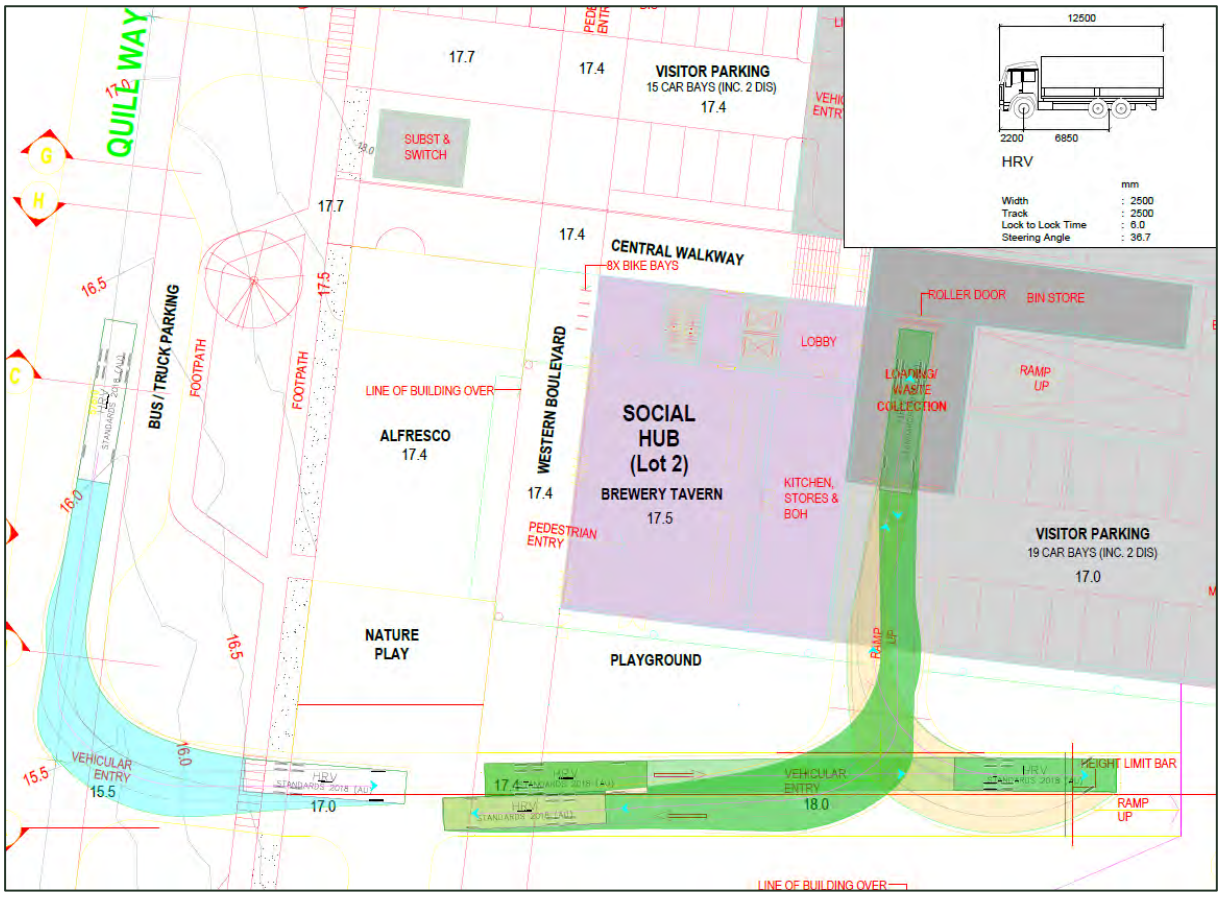


Figure 16 MRV Swept Path for Site Circulation

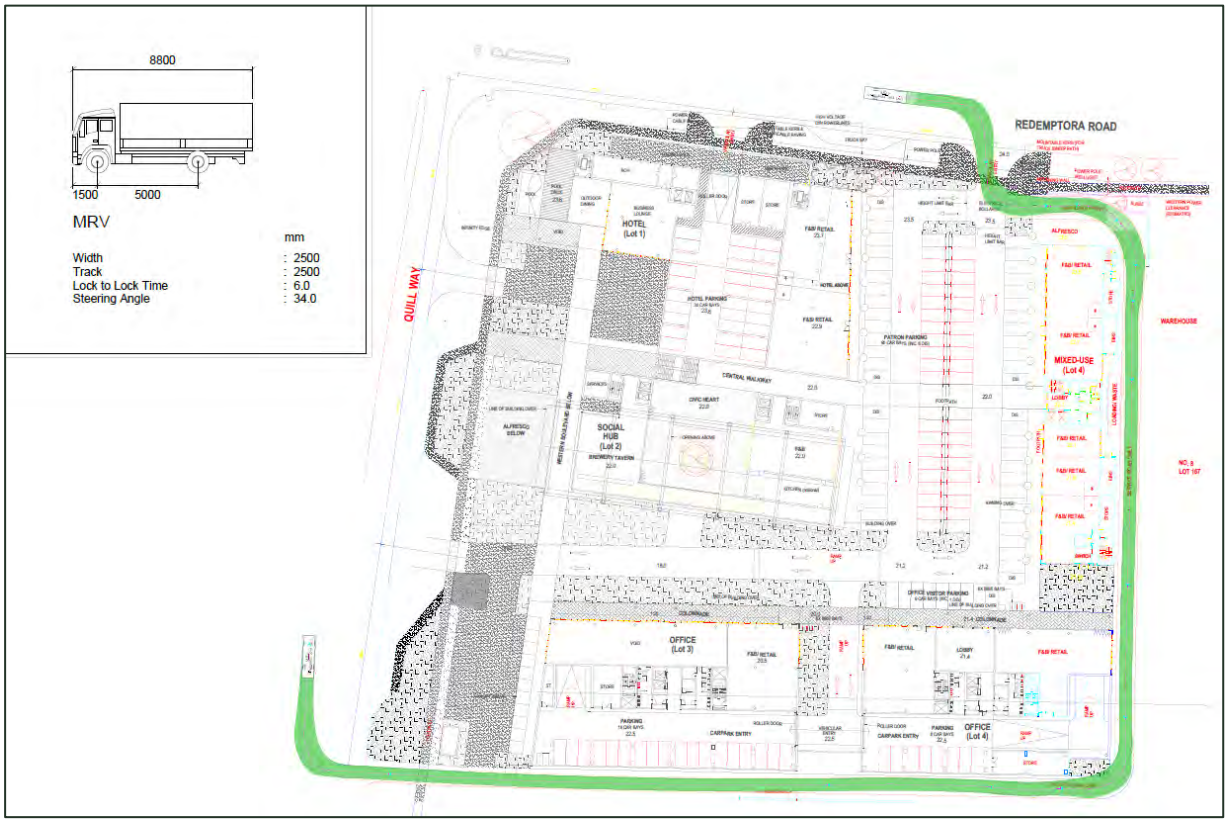
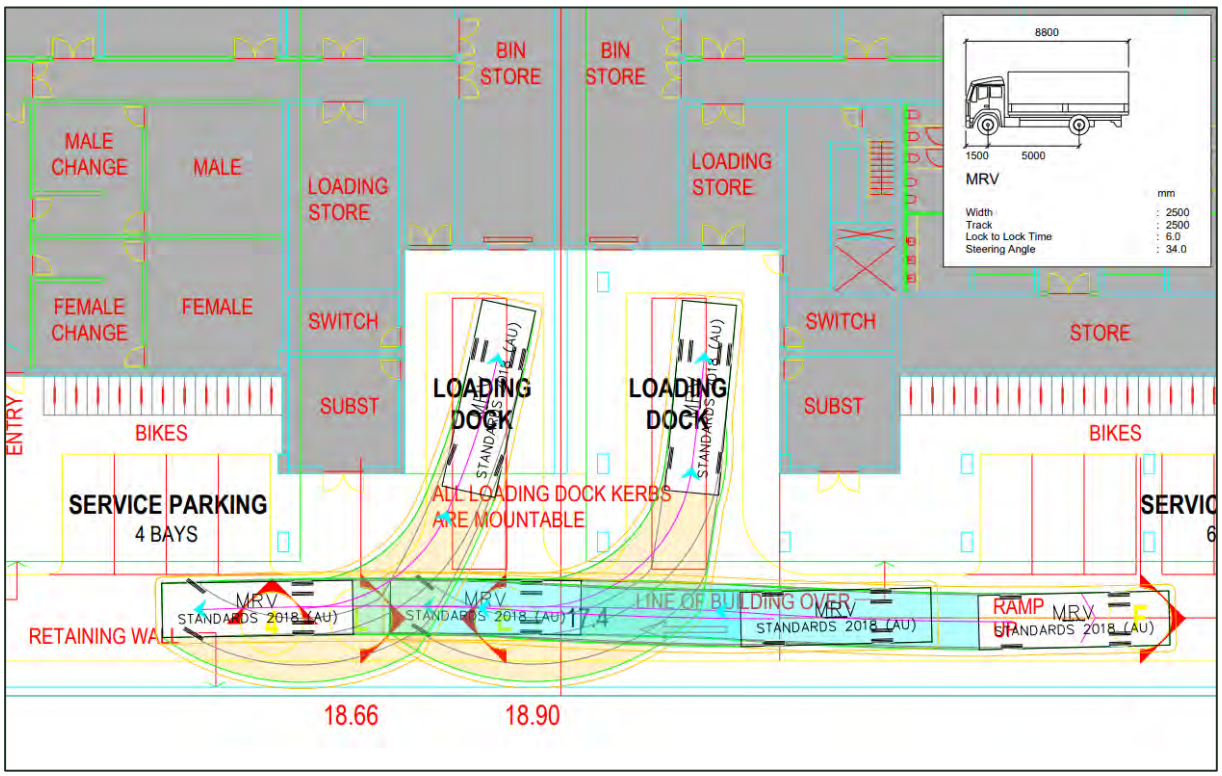


Figure 17 HRV Swept Path for Lot 4



3.3.2 Access Routes – Waste Collection

Swept path analysis with a 10m waste collection vehicle was undertaken for Lot 1, Lot2 & Lot 4 (Mixed Use) developments whereas for Lot 3 & 4 with an 8.8m Vehicle. **Figure 19** to **Figure 22** illustrate the waste truck swept paths around the designated waste loading areas for each of the Lots. The analysis demonstrates that the waste vehicle can access the site, collect the waste, and exit in forward gear without difficulties.

Figure 18 Waste Truck Swept Path – 10m (Lot 1- Hotel)

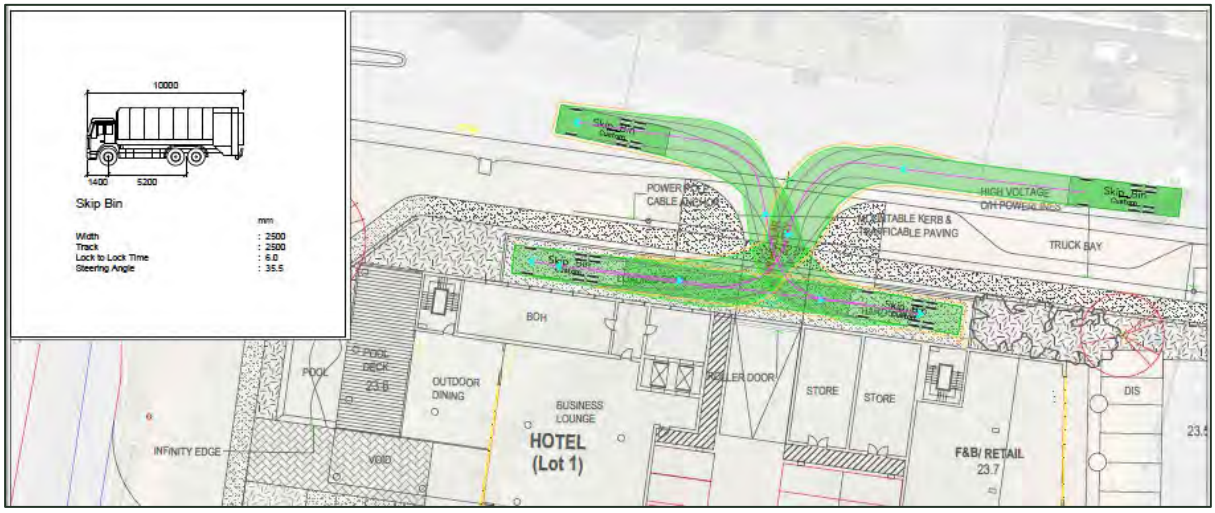


Figure 19 Waste Truck Swept Path – 10m (Lot 2- Social Hub)



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Figure 20 Waste Truck Swept Path – 10m (Lot 3 & 4- Office)

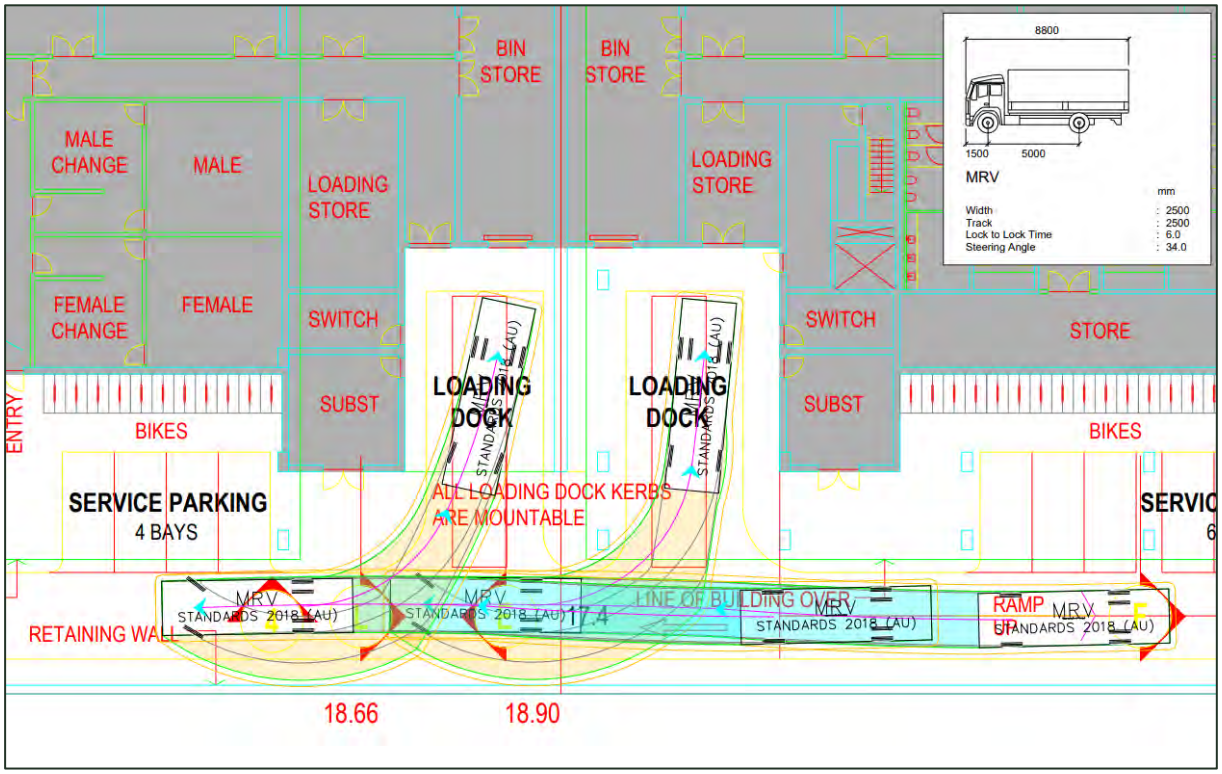
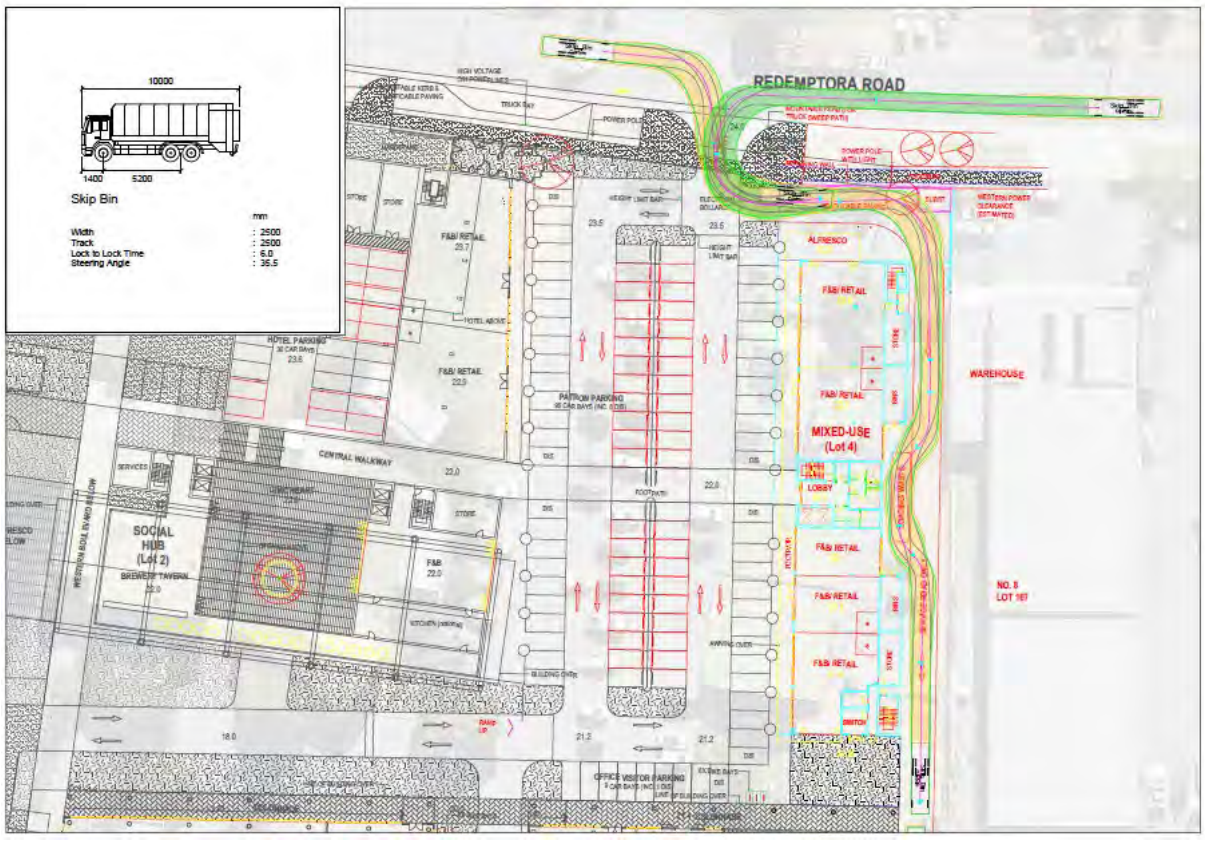


Figure 21 Waste Truck Swept Path – 10m (Lot 4- Mixed Use)



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3.4 Parking Provision

The statutory car parking requirements as documented in the City of Cockburn Local Planning Scheme No. 3 (Part IV, Table 2 and Table 3) has been used to estimate the parking requirements for the Master Plan (Revision A, dated 11/12/2024). A summary of the parking requirements and provisions of the proposed development is shown in **Table 5** below.

Table 5 Car Parking Requirements and Supply

Lots	Land Use	Yield	Car Parking Requirements		Number of Bays Provided
Lot 1 (Hotel)	Hotel	161 rooms	1 : 1 bedroom	161	118
	Retail/F&B	557 sqm NLA	1 : 12m² NLA	46	
Lot 2 (Social Hub)	Tavern	505 sqm NLA	1 : 2 m² NLA of Drinking Area	252	59
	Restaurant	100 seats	1 per 4 seats	25	
	Gym/Fitness	836 sqm NLA + 10 staff	1 : 20 m² NLA + 1 per staff member	52	
	Convention Centre	600 persons	1 per 4 persons	150	
Lot 3 (Office)	Office	12,439 sqm GFA	1 : 50m² GLA	249	217
	Retail/F&B	939 sqm NLA	1 : 12 m2 NLA	78	
Lot 4 (Mixed Use)	Medical	1,155 sqm NLA (20 practitioners)	5 : 1 Practitioner*	100	95
	Office	1,125 sqm NLA	1 : 50m² GLA	23	
	Retail/F&B	635 sqm NLA	1 : 12 m² NLA	53	
Lot 4 (Office)	Office	12,439 sqm GFA	1 : 50m² GLA	249	248
	Retail/F&B	536 sqm NLA	1 : 12m² NLA	45	
Total On-Site Car Bay Required				1,483	
Total On-Site Car Bays Provided				737	
Parking Surplus/Shortfall (+/-)				-746	

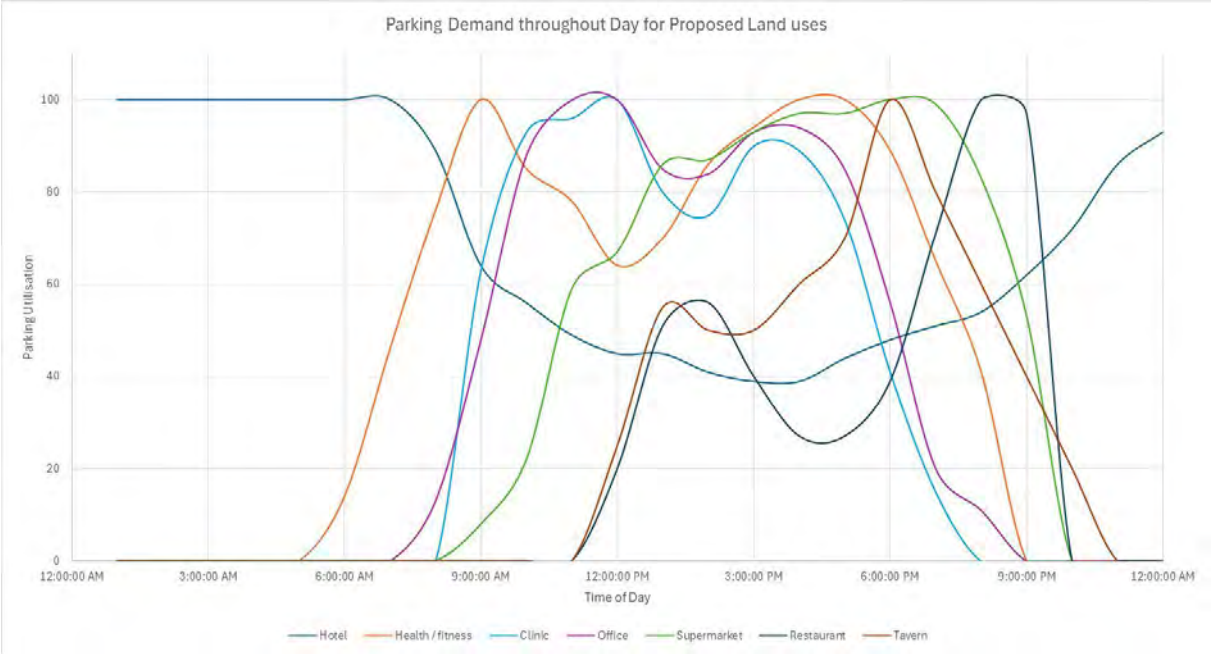
As outlined in **Table 5,** the proposed development requires a total parking supply of 1,483 car parking bays based on the statutory requirements. As the Site will provide a total of 737 parking bays (which includes 13 ACROD bays), this represents a shortfall of 746 bays compared to the statutory requirements. However, as shown in **Figure 22**, there is a substantial reciprocity between the parking demands associated with the proposed land uses throughout the day. For example, the parking demand for the hotel will be highest at night time ((when the hotel guests have returned with their cars and staying overnight) when the parking demands for the other land uses are lowest (as the businesses will be closed), while the parking demand for the office buildings will be highest in the morning and afternoon, and the parking demand for the tavern and restaurant will be highest in the evenings.

It is also noted that the car parking requirements are considered in isolation for each of the land uses and therefore do not consider shared users between the land uses. The close proximity of the office buildings, hotel, retail uses, gym, tavern and restaurants would encourage on-site trip chaining, reducing the need for multiple vehicle movements and repeat parking demand by the same users. This internal capture effect effectively lowers the overall parking demand compared to standalone developments. For example, the majority of visitors/customers at the retail land uses, gym, tavern and restaurants are expected to be staff from the office buildings or guests at the hotel.

When assessed holistically, the combined peak parking demand across all land uses, as well as the internal capture effect, is substantially lower than the sum of the individual statutory requirements assessed in isolation.

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Figure 22 Parking Demand throughout Day for Proposed Land uses



3.5 End of Trip Facilities

As outlined in the City of Cockburn Local Planning Scheme No. 3 (Part IV, Table 3), the required bike parking spaces for the Site are summarised in **Table 6**.

Table 6 - Bicycle Racks Requirements and Supply

Proposed Land Use		Yield	Bike Parking Requirements		Number of Bays Provided
Lot 1 (Hotel)	Hotel	161 rooms	Not applicable	-	-
	Retail/F&B	557 sqm NLA	1:200m²NLA	3	
Lot 2 (Social Hub)	Tavern	1,035 sqm NLA	1:50m² GLA	21	8 bike bays
	Gym/Fitness	836 sqm NLA	1:200m²NLA	4	
Lot 3 (Office)	Office	453 sqm NLA	1:200m² GLA employees 1:750 m² GLA visitors	3	54 bike bays
	R Retail/F&B	635 sqm NLA	1:200m²NLA	3	
Lot 4 (Mixed Use)	Medical	1,155 sqm NLA	1:400m² GLA employees 1:200 m² GLA visitors	8	-
	Office	1,125 sqm NLA	1:200m² GLA employees 1:750 m² GLA visitors	8	
	Retail/F&B	635 sqm NLA	1:200m²NLA	3	
Lot 4 (Office)	Office	10,333 sqm NLA	1: 1:200m² GLA employees 1:750 m² GLA visitors	66	90 bike bays
	Retail/F&B	536 sqm NLA	1:200m²NLA	3	
Total On-Site Bike Rack Required					122
Total On-Site Bike Racks Provided					152
Bike Parking Surplus					**30**

A total of 152 bicycle parking spaces is provided on site, resulting in a surplus of 30 spaces compared to the City's requirement of 122 bicycle parking spaces.

The bike parking facilities are to be shared within the whole development. The site also provides male and female changing rooms are also available at Lot 3 (Office) and Lot 4 (Office).

3.6 Road Network

The proposed development will utilise the existing road network for access to the Site. There are no public roads proposed within the Site, only driveways and internal circulating roadways.

3.7 Intersection Layouts and Controls

The intersections and controls for the proposed access locations are described in **Section 3.3**.

3.8 Pedestrian / Cycle Networks and Crossing Facilities

The proposed development will include construction of a 1.8m wide footpath along the section of Quill Way and Redemptora Road fronting the Site.

3.9 Public Transport Services

No changes to the public transport services are proposed as part of the development.

This information is provided by the City of Cockburn

4 INTEGRATION WITH SURROUNDING AREA

4.1 Surrounding Major Attractors / Generators

As shown in **Figure 23**, the Site is located within the Australian Marine Complex (AMC). The purpose of the proposed development is to provide land uses and services to support the general industrial and marine construction and maintenance activities undertaken within the AMC.

Figure 23 Surrounding Major Attractors / Generators



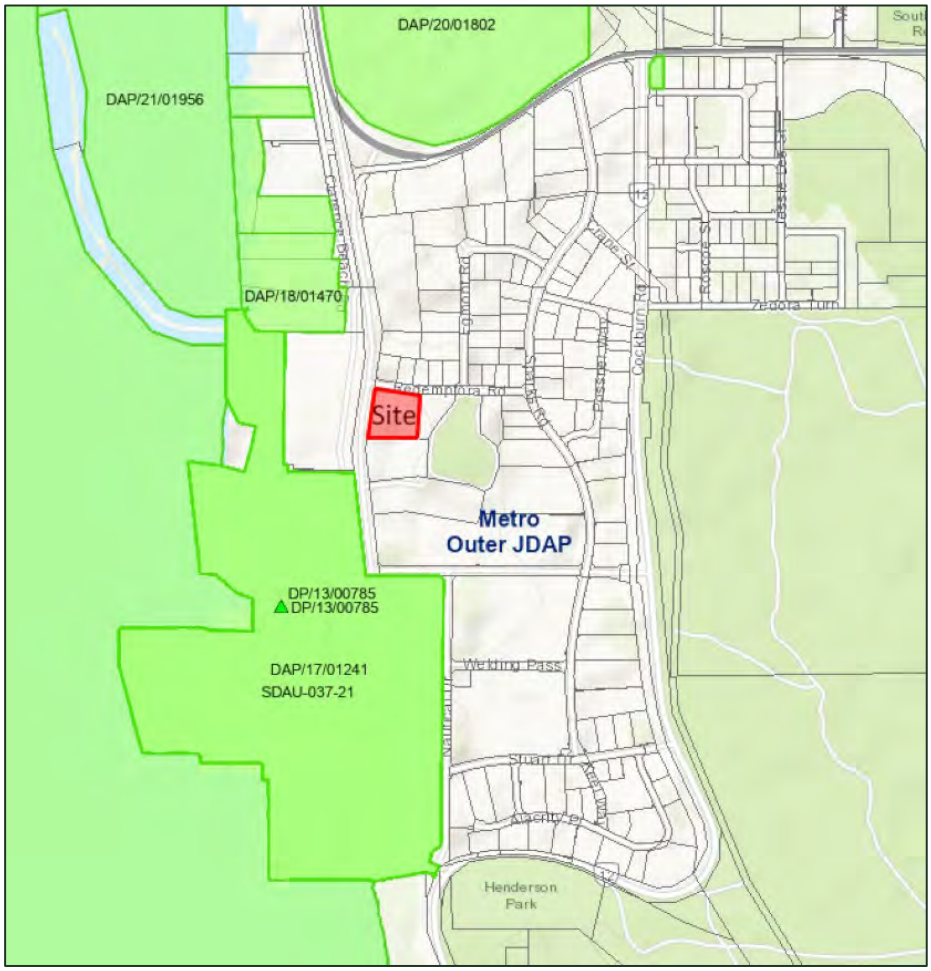
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4.2 Committed Development and Transport Proposals

A search of the PlanWA website and database did not show any active development applications (refer to **Figure 24**) or structure plans (refer to **Figure 25**) within or adjacent to the Site. The development applications shown in **Figure 24** were resolved in 2020/21 or earlier.

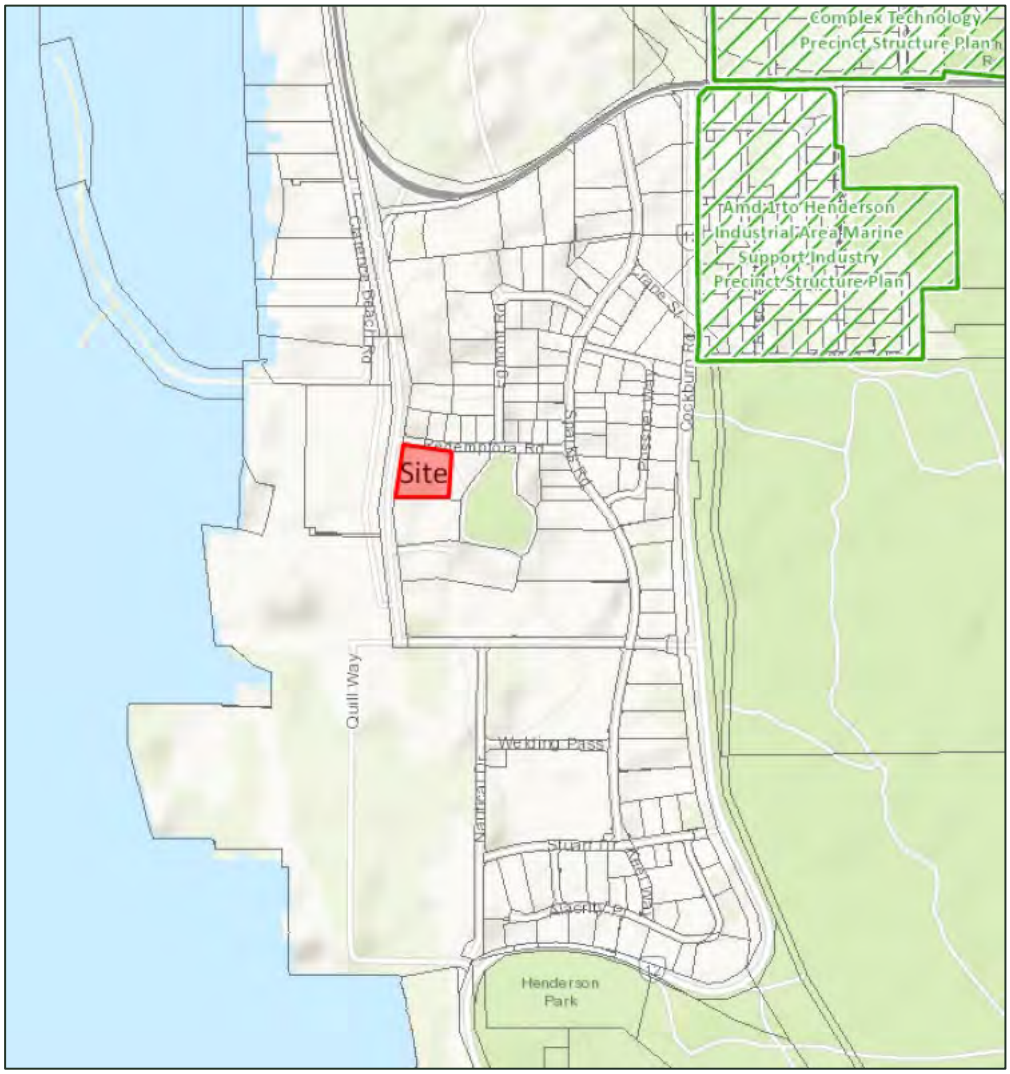
Figure 24 Development Applications adjacent to Site



Source: PlanWA

This information is provided by the City of Cockburn

Figure 25 Approved Structure Plans adjacent to Site



Source: PlanWA

4.3 Proposed Changes to External Road Network

PTG also contacted Department of Energy and Economic Diversification (DEED) (formerly the Department of Jobs, Tourism, Science and Innovation) who has previously commissioned a detailed transport study for the AMC precinct. While DEED confirmed that there are no immediate plans for changes to the existing road network along Quill Way they advised that a shared path is proposed to be constructed on one side of Quill Way to improve pedestrian and cyclist connectivity in the area. At this stage, the proposal remains unfunded and as a result an indicative timeframe for the construction of the shared path has not yet been determined.

4.4 Proposed Changes to Land Uses within 1200 metres

PTG is not aware of any proposed land use changes within 1200 metres of the Site.

4.5 Deficiencies in Existing Transport Networks and Remedial Measures

While the existing road network is considered sufficient, the pedestrian and cycling networks within AMC are generally considered to be deficient. As described in **Section 3.8**, the proposed development will include construction of a 1.8m wide footpath along the section of Quill Way and Redemptora Road fronting the Site.

The proposed shared path along Quill Way, as described in **Section 4.2**, will improve both the pedestrian and cycling connectivity from AMC to the adjacent paths.

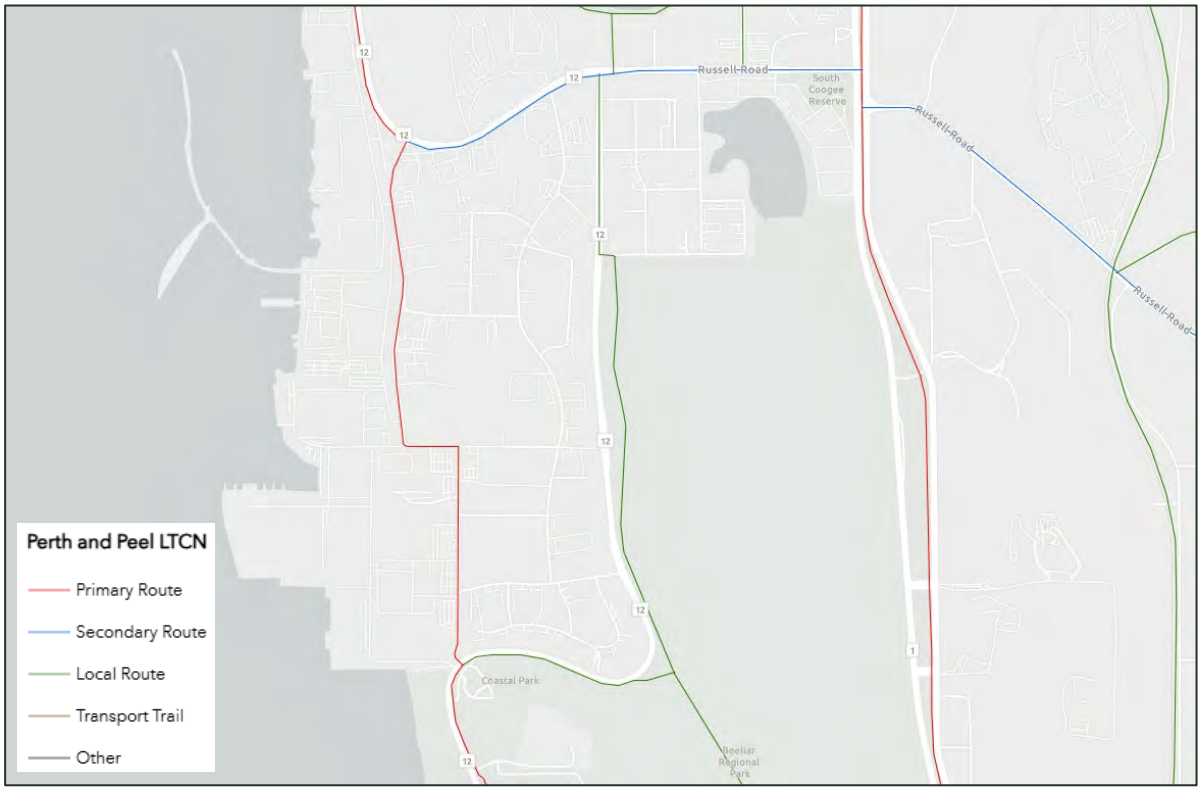
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4.6 Proposed Changes to Pedestrian / Cycle Network

The Long-Term Cycle Network (LTCN) designates Quill Way as one of the Primary Routes, Cockburn Road/ Russel Road as a Secondary Route, and Redemptora Road as a Local Route.

The LTCN for the immediate surrounds of the Site is shown in **Figure 26**.

Figure 26 Perth and Peel Long-Term Cycle Network



Source: Department of Transport

This information is provided by the City of Cockburn

5 ANALYSIS OF TRANSPORT NETWORK

5.1 Assessment Years and Time Periods

The following time periods have been identified as the peak times in terms of traffic generation for the proposed land uses:

- Weekday AM Peak
- Weekday PM Peak

Based on information provided by the Client, the Site is expected to be fully developed by 2028. As such, assessment has been undertaken for the following assessment years:

- 2028, representing the year of full development for the Site
- 2038, representing 10 years post-opening

5.2 Development Generated Traffic

The traffic generation rates for the proposed Neighbourhood Activity Centre (NAC) land uses were based on the following sources:

- Institute of Transportation Engineers (ITE) 11th Edition
- RMS NSW Trip Generation and Parking Demand Surveys

The trip generation rates and development yields are detailed in **Table 7**, while the trip in/out distribution are summarised in **Table 8**. The total expected traffic volumes generated are summarised in **Table 9** for each of the proposed land uses and in **Table 10 f**or each of the Lots within the Site.

Table 7 - Development Trip Generation Rates

Lot	Proposed Land Use	Source	Yield	Weekday AM Peak	Weekday PM Peak
Lot 1	Hotel	ITE310	161 rooms	0.53/room	0.6/room
	Retail/ F&B	WAPC	557m^2 NLA	2.50/100sqm GFA	5.00/100sqm GFA
Lot 2	Tavern	ITE 975	505m^2 NLA	-	16.72/100sqm GFA
	Fitness	ITE492	836m^2 NLA	1.4/100sqm GLFA	3.92/100sqm GLFA
	Convention Centre	Parking rate	600 persons	1 per parking bay (1 per 4 people)	1 per parking bay (1 per 4 people)
	Restaurant	ITE 931	100 seats	-	0.28 per seat
Lot 3	Retail/ F&B	WAPC	939m^2 NLA	2.50/100sqm GFA	5.00/100sqm GFA
	Office	ITE710	10,079m^2 NLA	1.64/100sqm GLFA	1.98/100sqm GLFA
Lot 4- Mixed Use	Retail, F&B	NSW	635m^2 NLA	2.50/100sqm GFA	5.00/100sqm GFA
	Medical	ITE630	1,155m^2 NLA	3.7/100sqm GLFA	4.54/100sqm GLFA
	Office	NSW	1,125m^2 NLA	1.64/100sqm GLFA	1.98/100sqm GLFA
Lot 4 - Office	Retail/ F&B	WAPC	536m^2 NLA	2.50/100sqm GFA	5.00/100sqm GFA
	Office	ITE710	10,333 m^2 NLA	1.64/100sqm GLFA	1.98/100sqm GLFA

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Table 8 - Directional Distribution

Land Use	Weekday AM Peak		Weekday PM Peak	
	IN	OUT	IN	OUT
Hotel	39%	61%	55%	45%
Retail F&B	80%	20%	50%	50%
Conference Centre	100%	0%	0%	100%
Restaurant	-	-	67%	33%
Tavern	-	-	68%	32%
Office	88%	12%	17%	83%
Medical	60%	40%	42%	58%
Fitness	46%	54%	52%	48%

Table 9 - Total Trip Generation per Land Use

Land Use	Weekday AM Peak		Weekday PM Peak	
	IN	OUT	IN	OUT
Hotel	45	41	57	41
Retail F&B	54	14	134	134
Conference Centre	150	0	0	150
Restaurant	-	-	18	9
Tavern	-	-	118	55
Office	310	42	57	277
Medical	21	14	20	24
Fitness	5	6	16	15
TOTAL	**585**	**117**	**359**	**677**
	702		**1,036**	

Table 10 - Total Trip Generation per Lot

Land Use	Weekday AM Peak		Weekday PM Peak	
	IN	OUT	IN	OUT
Lot 1	56	44	85	69
Lot 2	155	6	91	201
Lot 3	164	25	74	177
Lot 4 (mixed use)	50	19	55	70
Lot 4 (office)	160	23	54	160
TOTAL	**585**	**117**	**359**	**677**
	702		**1,036**	

This information is provided by the City of Cockburn

5.3 Distribution of Generated Traffic

The assumed distribution of the development-generated traffic is shown in **Figure 27** and **Figure 28**.

Figure 27 - Directional Distribution (Inbound)



Figure 28 - Directional Distribution (Outbound)



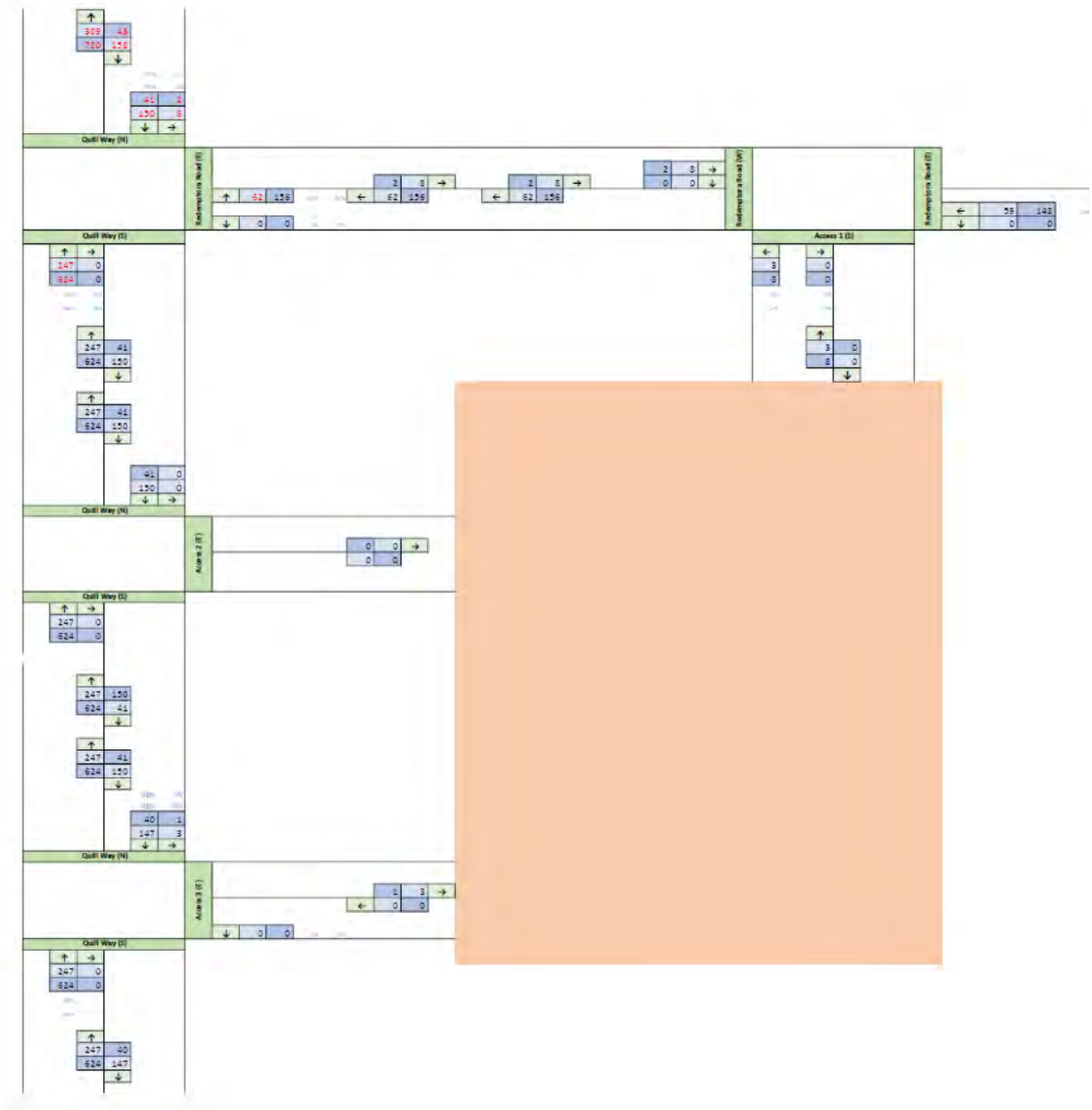
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5.4 Existing Background Traffic Flows

Background traffic volumes on Quill Way were sourced from the MRWA Traffic Video Survey conducted at the intersection of Quill Way and Clarence Beach Road on May 14, 2024. This intersection, located 700 meters from the site, was used in the analysis to provide a robust assessment, as it is the nearest available reference point.

The existing background traffic volumes for Quill way and Redemptora Road are shown in **Figure 29**.

Figure 29 Background Traffic Flows



5.5 Background and 'With Development' Traffic Flows

The combined Background and Development traffic flows are shown in **Figure 30** for the 2028 scenarios and in **Figure 31** for the 2038 scenarios.

A growth rate of 2.0% per annum was applied to the existing background traffic volumes to estimate the 2028 and 2038 background traffic volumes.

Figure 30 - 2028 Background and Development Traffic Flows

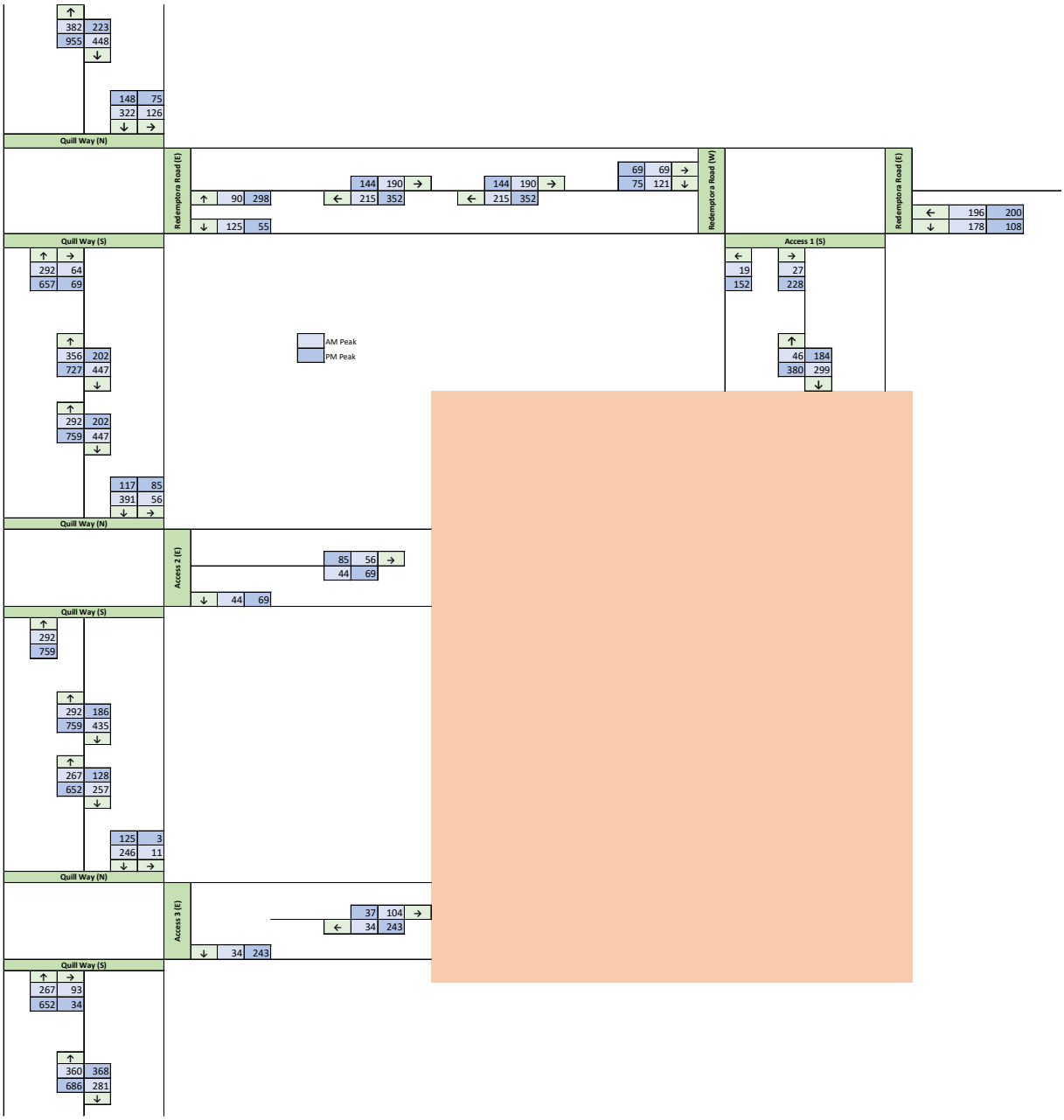
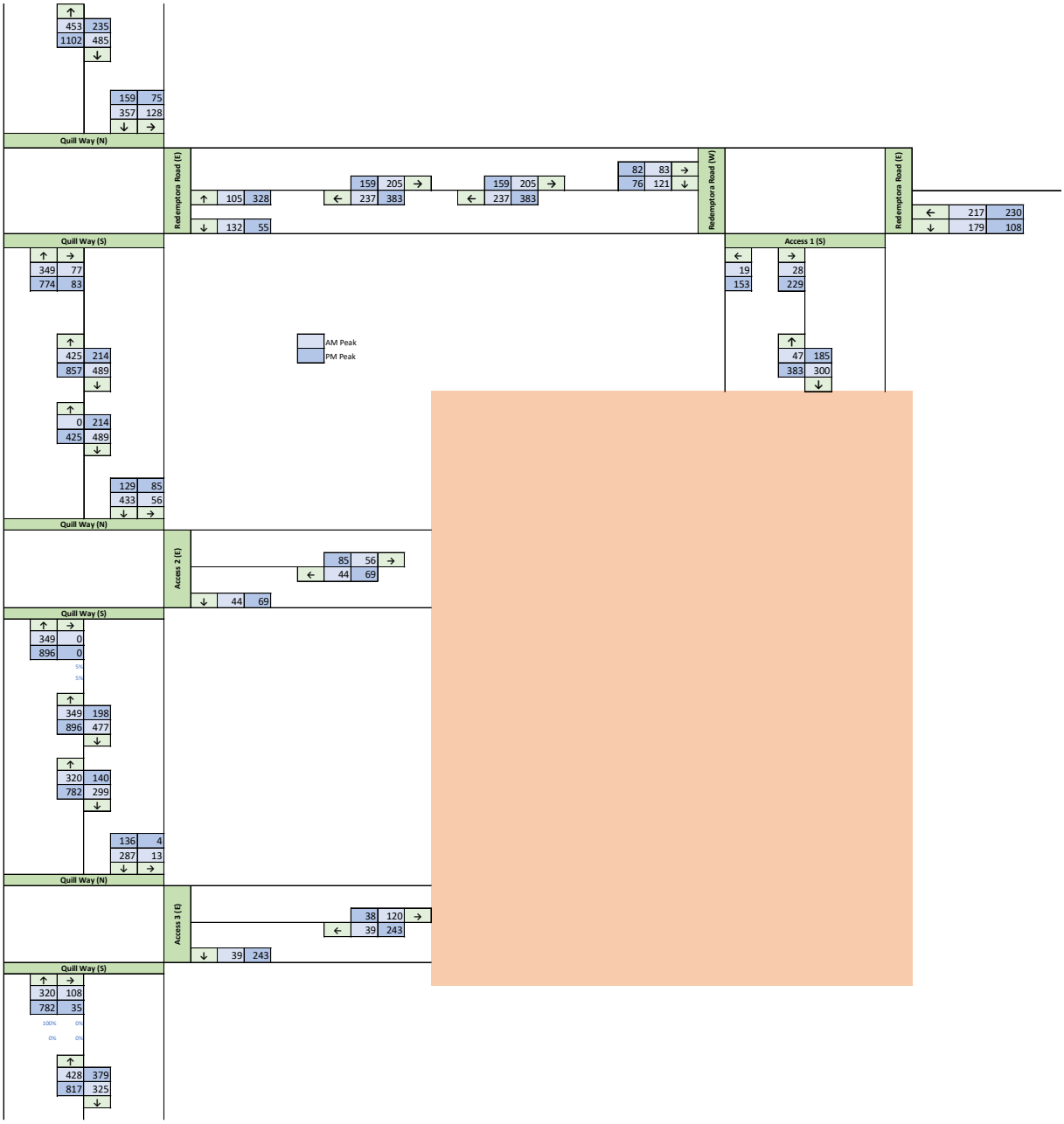


Figure 31 - 2038 Background and Development Traffic Flows



This information is provided by the City of Cockburn

5.6 Analysis of Development Accesses

SIDRA intersection analysis was undertaken for the following intersections:

- Quill Way/ Redemptora Road intersection
- Redemptora Road/ Access 1 intersection
- Quill Way/ Access 2 intersection
- Quill Way/ Access 3 intersection

The above intersections have been analysed using the SIDRA analysis program. This program calculates the performance of intersections based on input parameters, including geometry and traffic volumes. As an output, SIDRA provides values for the Degree of Saturation (DOS), queue lengths, delays, level of service, and 95th Percentile Queue. These parameters are defined as follows:

- DOS: is the ratio of the arrival traffic flow to the capacity of the approach during the same period. The theoretical intersection capacity is exceeded from an un-signalized intersection where DOS > 80;
- 95% Queue: is the statistical estimate of the queue length up to or below which 95% of all observed queues would be expected;
- Average Delay: is the average of all travel delays for vehicles through the intersection; and
- Level of Service (LOS): is the qualitative measure describing operational conditions within a traffic system and the perception by motorists and/or passengers. The different levels of service can generally be described as shown in **Table 11**. A LOS exceeding these values indicates that the road section is exceeding its practical capacity. Above these values, users of the intersections are likely to experience unsatisfactory queueing and delays during the peak hour periods.

Table 11 LOS Performance Criteria

LOS	Description	Signalised Intersection	Roundabout	Unsignalised Intersection
A	No or minimal delays (best condition). Queues are rarely more than one vehicle	≤10 sec	≤10 sec	≤10 sec
B	Short traffic delays. Occasionally more than one queued vehicle.	10-20 sec	10-20 sec	10-15 sec
C	Average traffic delays. Often more than one queued.	20-35 sec	20-35 sec	15-25 sec
D	Long traffic delays. Regularly more than one queued vehicle.	35-55 sec	30-50 sec	25-35 sec
E	Very long traffic delays. Traffic demand is near or equal to the practical capacity of the intersection. Almost always more than one queued vehicle.	55-80 sec	50-70 sec	35-50 sec
F	Forced flow conditions with extensive delays caused by geometric and/or operational constraints external to the intersection.	≥80 sec	≥70 sec	≥50 sec

Source: Highway Capacity Manual

Detailed SIDRA Movement Summaries are provided in **Appendix C** for each of the intersections and scenarios.

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5.6.1 Quill Way/ Redemptora Road Intersection

The SIDRA Layout for the intersection of Quill Way/ Redemptora Intersection is shown in **Figure 32**.

The SIDRA model results are summarised in **Table 12** to **Table 14** for Scenarios 1, 2, 3 respectively. The model results suggest that while the development traffic will increase the average delays at the intersection, the delays will remain below the WAPC-recommended thresholds.

Figure 32 - SIDRA Layout of Quill Way/ Redemptora Road Intersection - Scenarios 1,2 and 3

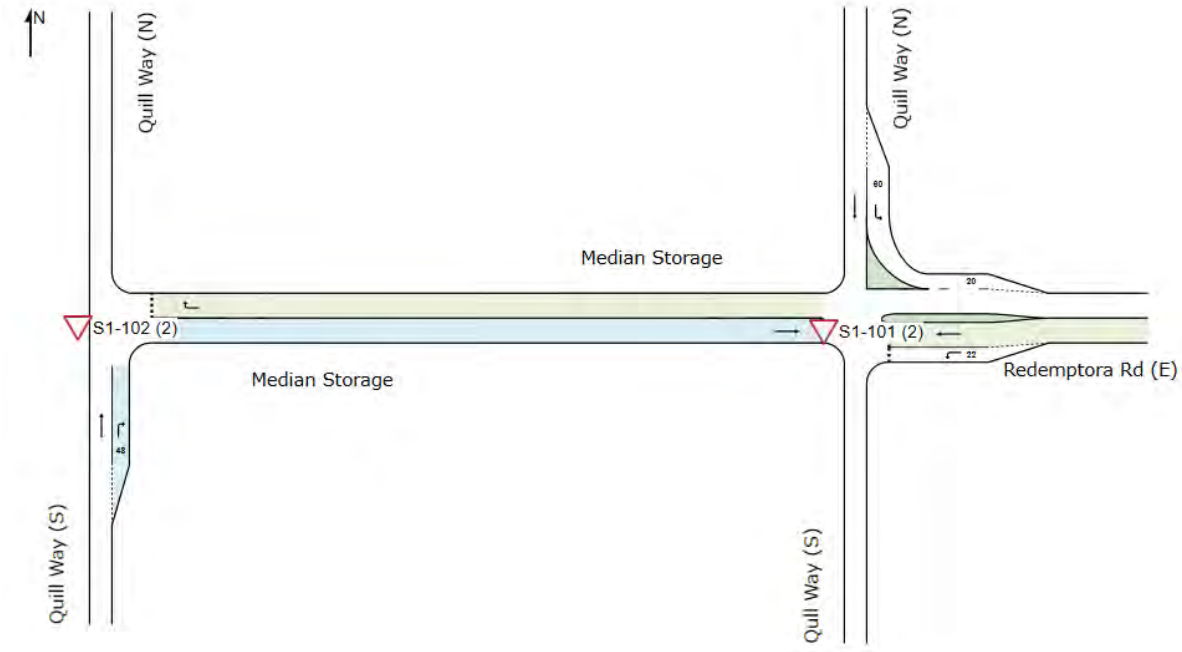


Table 12 - Summary of SIDRA Movement Summary for Quill Way/ Redemptora Road Intersection (Scenario 1)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Quill Way (S)	T	0.157	0	A	0	0.458	0.5	A	21.5
	R	0.057	6.8	A	3.5	0.078	8.6	A	3.8
Redemptora Road (E)	L	0.04	6.2	A	1.2	0.001	5.7	A	0
	R	0.075	4.8	A	3.1	0.211	9.6	A	8.8
Quill Way (N)	L	0.005	5.8	A	0	0.002	5.7	A	0
	T	0.094	-	-	3.5	0.029	-	-	21.5

Table 13 - Summary of SIDRA Movement Summary for Quill Way/ Redemptora Road Intersection (Scenario 2)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Quill Way (S)	T	0.16	0	A	0	0.34	0	A	0
	R	0.04	7	A	3	0.04	7	A	2
Redemptora Road (E)	L	0.13	7	A	4	0.04	5	A	1
	R	0.13	8	A	4	0.41	12	B	11
Quill Way (N)	L	0.0.7	0	A	0	0.04	0	A	0
	T	0.19	0	A	0	0.07	0	A	0
All Vehicles	-	0.19	-	-	4		-	-	11

Table 14 - Summary of SIDRA Movement Summary for Quill Way/ Redemptora Road Intersection (Scenario 3)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Quill Way (S)	T	0.19	0	A	0	0.40	0	A	0
	R	0.08	8	A	3	0.07	7	A	2
Redemptora Road (E)	L	0.19	7	A	4	0.04	5	A	2
	R	0.13	9	A	4	0.59	16	C	23
Quill Way (N)	L	0.07	6	A	0	0.04	0	A	0
	T	0.19	0	A	0	0.08	0	A	0
All Vehicles	-	0.19	-	-	4	0.59	-	-	23

5.6.2 Redemptora Road/ Access 1 Intersection

The SIDRA Layout for the intersection of Redemptora Road/Access 1 Intersection is shown in **Figure 33**. The SIDRA model results are summarised in **Table 15** to **Table 17** for Scenarios 1 - 3. The model results this intersection will perform satisfactorily for all scenarios.

Figure 33 - SIDRA Layout of Redemptora Road/Access 1 Intersection - Scenarios 1,2 and 3

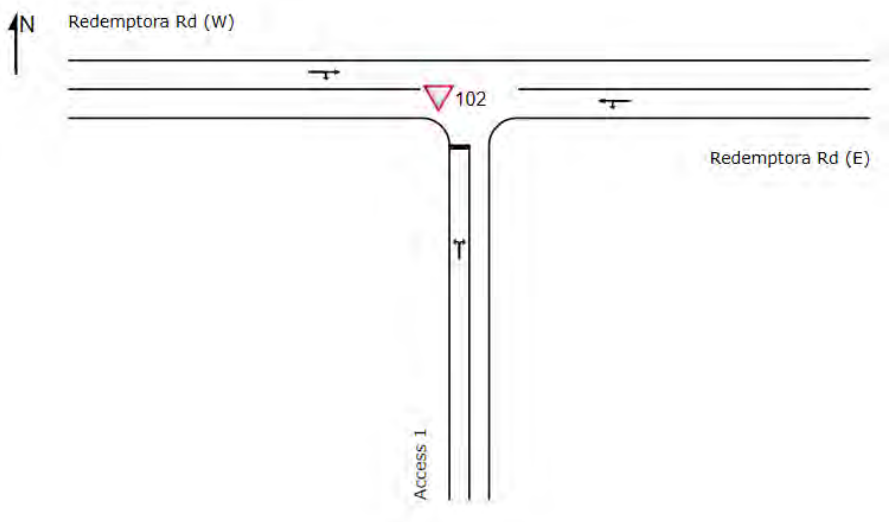


Table 15 - Summary of SIDRA Movement Summary for Redemptora Road / Access 1 Intersection (Scenario 1)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Access 1 (S)	L	0.01	5	A	0	0.01	5	A	0
	R	0.01	5	A	0	0.01	5	A	0
Redemptora Road (E)	L	0.07	5	A	0	0.07	5	A	0
	T	0.07	0	A	0	0.07	0	A	0
Redemptora Road (W)	L	0.04	0	A	0	0.04	0	A	0
	T	0.04	5	A	0	0.04	5	A	0
All Vehicles		0.07	-	-	0	0.07	-	-	0

Table 16 - Summary of SIDRA Movement Summary for Redemptora Road / Access 1 Intersection (Scenario 2)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Access 1 (S)	L	0.05	5	A	1	0.39	6	A	15
	R	0.05	7	A	1	0.39	7	A	15
Redemptora Road (E)	L	0.20	5	A	0	0.16	5	A	0
	T	0.20	0	A	0	0.16	0	A	0
Redemptora Road (W)	L	0.14	1	A	5	0.10	1	A	3
	T	0.14	6	A	5	0.10	6	A	3
All Vehicles		0.20	-	-	5	0.39	-	-	15

Table 17- Summary of SIDRA Movement Summary for Redemptora Road / Access 1 (Scenario 3)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Access 1 (S)	L	0.06	6	A	1	0.41	6	A	17
	R	0.06	7	A	1	0.41	8	A	17
Redemptora Road (E)	L	0.21	5	A	0	0.17	5	A	0
	T	0.21	0	A	0	0.17	0	A	0
Redemptora Road (W)	L	0.15	2	A	6	0.10	1	A	4
	T	0.15	6	A	6	0.10	6	A	4
All Vehicles	-	0.21	-	-	6	0.41	-	-	17

5.6.3 Quill Way/ Access 2 Intersection

The SIDRA Layout for the intersection of Quill Way/ Access 2 Intersection is shown in **Figure 34**.

The SIDRA model results are summarised in **Table 18** and **Table 19**, and suggest that the intersection will perform satisfactorily for both scenarios.

Figure 34 - SIDRA Layout of Quill Way/ Redemptora Road Intersection - Scenario 2 and 3

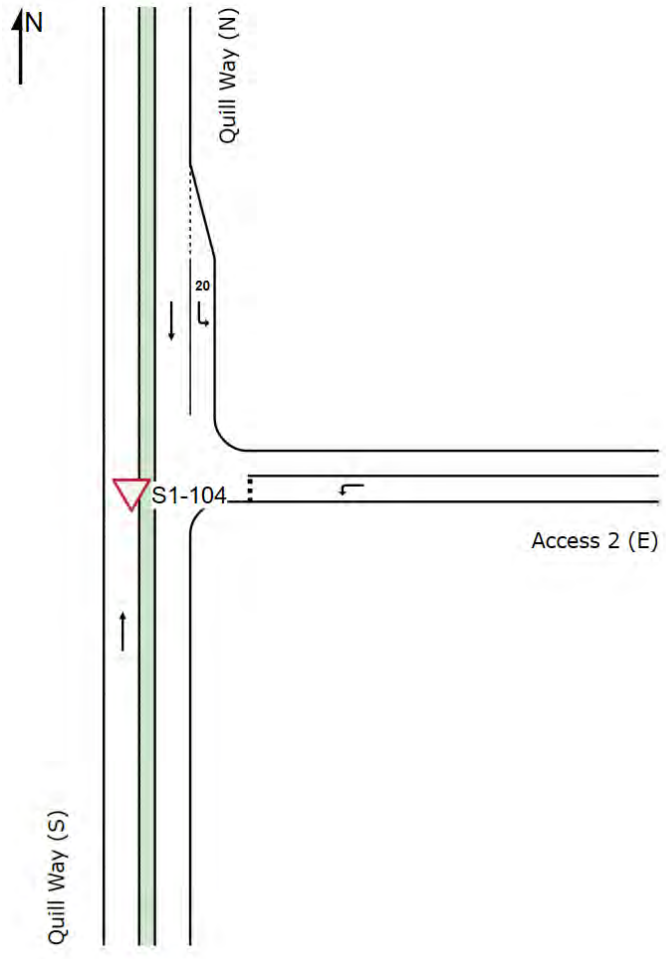


Table 18 - Summary of SIDRA Movement Summary for Quill Way/ Access 2 Intersection (Scenario 2)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Quill Way (S)	T	0.16	0	A	0	0.39	0	A	0
Quill Way (N)	L	0.03	4	A	0	0.05	0	A	0
	T	0.21	0	A	0	0.06	0	A	0
Access (E)	L	0.03	4	A	0	0.05	3	A	2
All Vehicles		0.21	-	-	1		-	-	

Table 19 - Summary of SIDRA Movement Summary for Quill Way/ Access 2 (Scenario 3)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Quill Way (S)	T	0.19	0	A	0	0.46	0	A	0
Quill Way (N)	L	0.03	4	A	0	0.05	4	A	0
	T	0.23	0	A	0	0.07	0	A	0
Access (E)	L	0.05	4	A	1	0.05	3	A	2
All Vehicles		0.23	-	-	1	0.46	-	-	

5.6.4 Quill Way/ Access 3 Intersection

The SIDRA Layout for the intersection of Quill Way/ Access 3 Intersection is shown in **Figure 35.** The SIDRA model results are summarised in **Table 20** to **Table 22** and suggest that the intersection will perform satisfactorily for all scenarios.

Figure 35 - SIDRA Layout of Quill Way/ Redemptora Road Intersection

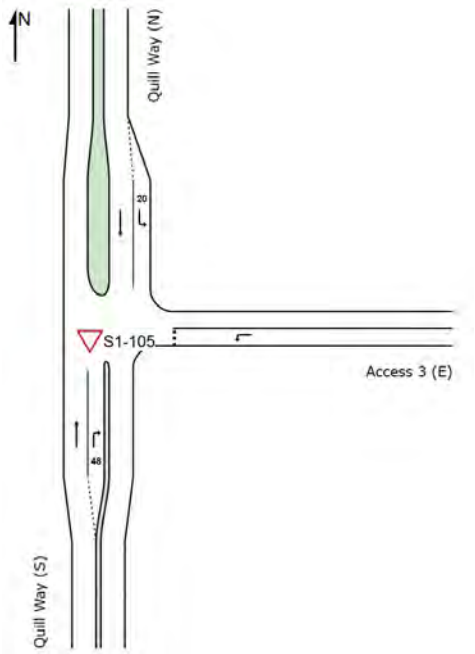


Table 20 - Summary of SIDRA Movement Summary for Quill Way/ Access 3 Intersection (Scenario 1)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Quill Way (S)	T	0.19	0	A	0	0.34	0	A	0
	R	0.01	4	A	0	0.01	4	A	0
Access 3 (E)	L	0.01	4	A	0	0.01	3	A	0
Quill Way (N)	L	0.14	4	A	5	0.01	4	A	0
	T	0.01	0	A	0	0.02	0	A	0
All Vehicles		0.19	-	-	5	0.34	-	-	0

Table 21 -Summary of SIDRA Movement Summary for Quill Way/ Access 3 Intersection (Scenario 2)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Quill Way (S)	T	0.15	0	A	0	0.34	0	A	0
	R	0.10	5	A	3	0.03	4	A	1
Access 3 (E)	L	0.04	5	A	1	0.22	3	A	7
Quill Way (N)	L	0.01	4	A	0	0.01	4	A	0
	T	0.13	0	A	0	0.06	0	A	0
All Vehicles		0.15	-	-	4	0.34	-	-	7

Table 22 -Summary of SIDRA Movement Summary for Quill Way/ Access 3 Intersection (Scenario 3)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Quill Way (S)	T	0.18	0	A	0	0.40	0	A	0
	R	0.12	6	A	4	0.03	4	A	1
Access 3 (E)	L	0.04	5	A	1	0.22	3	A	7
Quill Way (N)	L	0.01	4	A	0	0.01	4	A	0
	T	0.15	0	A	0	0.07	0	A	0
All Vehicles		0.18	-	-	4	0.40	-	-	7

This information is provided by the City of Cockburn

6 ROAD SAFETY AND ACCESSIBILITY IMPACT

6.1 Impact on Neighbouring Areas

The traffic analysis undertaken in **Section 5** show that the existing road network will have sufficient capacity to accommodate the development-generated traffic.

The proposed development will provide essential land uses and services to support the general industrial and marine construction and maintenance activities undertaken within the AMC.

6.2 Road Safety

As described in **Section 2.10**, only 2 crashes have been recorded in the vicinity of the Site over the past 5 year period. The low rate of crashes suggest that the crashes are isolated incidents rather than indicative of a systematic safety issues on the frontage roads.

6.3 Public Transport Access

No changes to public transport accessibility or services are proposed or warranted by the proposed development.

6.4 Analysis of Pedestrian / Cycle Network

While the existing road network is considered sufficient, the pedestrian and cycling networks within AMC are generally considered to be deficient. As described in **Section 3.8**, the proposed development will include construction of a 1.8m wide footpath along the section of Quill Way and Redemptora Road fronting the Site.

The proposed shared path along Quill Way, as described in **Section 4.2**, will improve both the pedestrian and cycling connectivity from AMC to the adjacent paths.

6.5 Safe Walk / Cycle to School (for residential and school site development only)

N/A.

6.6 Traffic Management Plan (where appropriate)

N/A.

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7 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 at Appendix A. The following conclusions can be drawn from this TIA:

- The proposed development will provide a mix of service, retail, hospitality and office land uses and services that will support the general industrial and marine construction and maintenance activities
- The proposed development will include 737 parking bays across the entire Site.
  - In accordance with the statutory requirement documented in the City of Cockburn Local Planning Scheme No. 3, the proposed land uses will result in a statutory requirement of 1,483 car parking bays which represents a shortfall of 746 car parking bays.
  - However, when considering the reciprocity between the parking demands associated with the proposed land uses throughout the day, as well as the internal trip capture effect, the parking shortfall is considered manageable.
- A total of 152 bicycle parking spaces is provided across the Site. This represents a surplus 30 bike parking spaces when compared to the statutory requirements.
- Upon full development of the Site, the proposed development is estimated to generate 702 vehicle trips in the AM peak hour and 1,036 in the PM peak hour.
- The results of SIDRA assessment suggest that the internal roads and intersections, as well as the surrounding external roads and intersections, will have sufficient capacity to accommodate the development-generated traffic volumes.

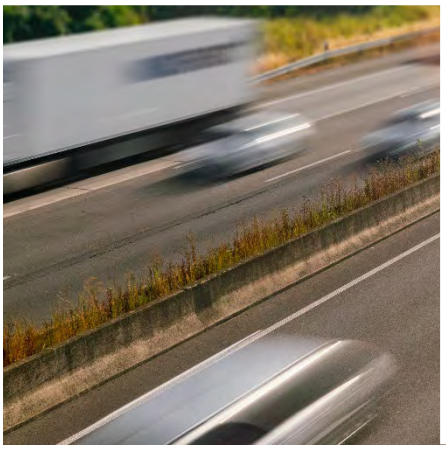
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Version: 1, Version Date: 18/12/2025
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Appendix A

WAPC CHECKLIST FOR INDIVIDUAL DEVELOPMENT - TRANSPORT IMPACT ASSESSMENT





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APPENDIX A – WAPC CHECKLIST

Item	Status	Comments/Proposal
Background	Section 1.1	
Existing situation	Section 2	
Existing land uses	Section 2.1	
Existing parking and demand	Section 2.2	
Existing access arrangements	Section 2.3	
Existing site traffic	Section 2.4	
Existing road network and traffic management	Section 2.5	
Traffic flows on surrounding roads and intersection	Section 2.6	
Operation of surrounding intersections	Section 2.7	
Existing pedestrian/cycle networks	Section 2.8	
Existing public transport services	Section 2.9	
Crash data	Section 2.10	
Proposed development	Section 3	
Regional context	Section 3.1	
Proposed land use	Section 3.2	
Access arrangements	Section 3.3	
Parking provision	Section 3.4	
End of trip facilities	Section 3.5	
Road network	Section 3.6	
Intersection layouts and controls	Section 3.7	
Pedestrian/cycle networks and crossing facilities	Section 3.8	
Public transport services	Section 3.9	
Integration with surrounding area	Section 4	
Surrounding major attractor**s**/generators	Section 4.1	
Committed development and transport proposals	Section 4.2	
Proposed changes to land uses within 1200 meters	Section 4.3	
Deficiencies in existing transport network and remedial measures	Section 4.4	
Proposed changes to pedestrian/cycle network	Section 4.5	
Analysis of transport network	Section 5	
Assessment years and time periods	Section 5.1	
Development generated traffic	Section 5.2	
Distribution of generated traffic	Section 5.3	
Existing background traffic flows	Section 5.4	
Background 'with development' traffic flows	Section 5.5	

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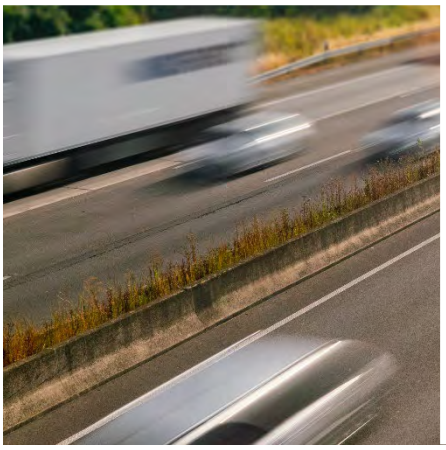
Analysis of development accesses	Section 5.6	
Impact on the surrounding roads and intersection	Section 5.7	
Road Safety and Accessibility Impact	Section 6	
Impact on neighbouring areas	Section 6.1	
Road safety	Section 6.2	
Public transport access	Section 6.3	
Analysis of pedestrian/cycle network	Section 6.4	
Safe walk/cycle to school (for residential and school site developments only)	Section 6.5	
Traffic management plan (where appropriate)	Section 6.6	

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Appendix B

Site Plans

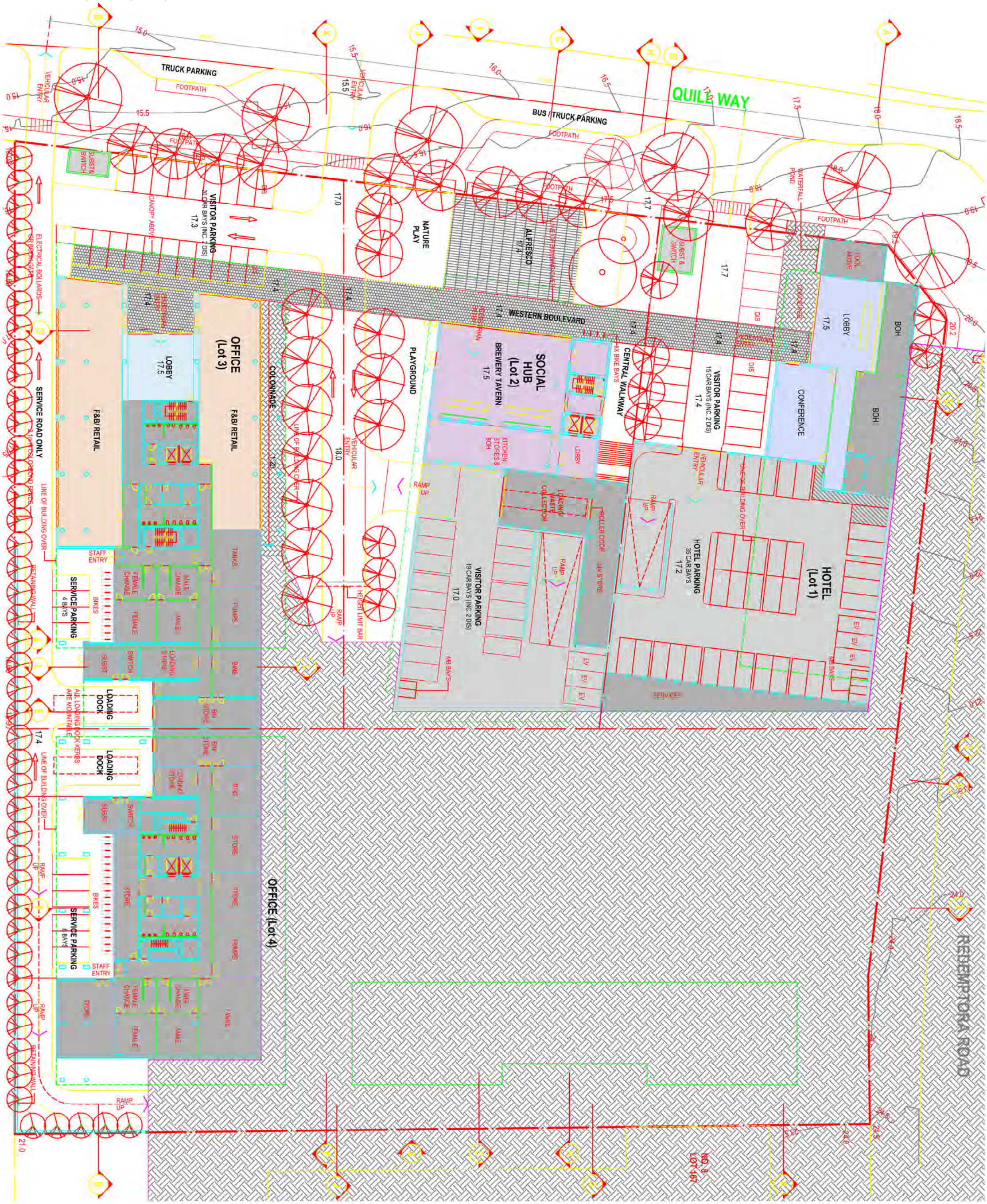




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PENNOCK ARCHITECTS

REV	DATE	DESCRIPTION	BY
2	12.11.25	DRP 2	PA
1	20.09.25	DRP 1	PA

DEVELOPMENT APPLICATION

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SITE PLAN - LEVEL 8

SCALE 1:250@A1 | 1:500@A3 DATE 17.11.25

DRAWING No. A2.02 PROJECT No. 240615 REVISION 2

Document Set ID: 12558045
Version: 1, Version Date: 18/12/2025

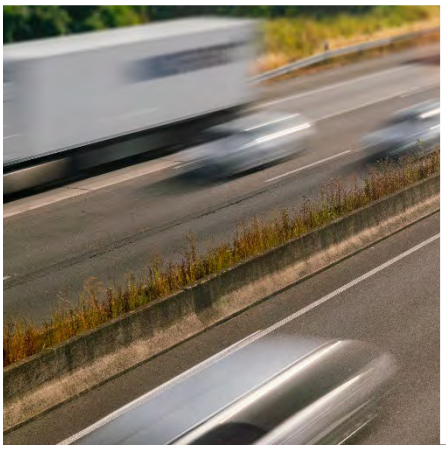
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Appendix C

SIDRA Movement Summary Tables





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MOVEMENT SUMMARY

Site: [S1-101-AM] S1-S1 L AM (S1-2026 Background)
Network: [N101-AM] S1-AM (S1-2026 BG)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Type A Two-Stage T-Intersection Crossing
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: Redemptora Rd (E)															
1	L2	All MCs	39	6.0	39	6.0	0.029	6.2	LOS A	0.1	0.9	0.28	0.55	0.28	30.6
2	T1	All MCs	79	7.2	79	7.2	0.070	4.4	LOS A	0.3	2.0	0.32	0.51	0.32	31.8
Approach			118	6.8	118	6.8	0.070	5.0	LOS A	0.3	2.0	0.31	0.53	0.31	31.4
North: Quill Way (N)															
3	L2	All MCs	9	5.1	9	5.1	0.005	5.8	LOS A	0.0	0.0	0.00	0.53	0.00	51.0
4	T1	All MCs	185	5.1	185	5.1	0.094	1.2	LOS A	0.0	0.0	0.00	0.20	0.00	57.7
Approach			195	5.1	195	5.1	0.094	1.5	NA	0.0	0.0	0.00	0.21	0.00	57.4
West: Median Storage															
5	T1	All MCs	67	5.1	67	5.1	0.055	1.9	LOS A	0.2	1.5	0.27	0.45	0.27	22.4
Approach			67	5.1	67	5.1	0.055	1.9	LOS A	0.2	1.5	0.27	0.45	0.27	22.4
All Vehicles			380	5.7	380	5.7	0.094	2.6	NA	0.3	2.0	0.14	0.35	0.14	51.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-102-AM] S1-S2 L AM (S1-2026 Background)
Network: [N101-AM] S1-AM (S1-2026 BG)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Type A Two-Stage T-Intersection Crossing
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: Quill Way (S)															
2	T1	All MCs	299	7.2	299	7.2	0.157	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	67	7.2	67	7.2	0.054	5.0	LOS A	0.2	1.9	0.40	0.59	0.40	25.5
Approach			366	7.2	366	7.2	0.157	0.9	NA	0.2	1.9	0.07	0.11	0.07	58.0
East: Median Storage															
1	R2	All MCs	79	7.2	79	7.2	0.075	2.9	LOS A	0.2	1.9	0.33	0.54	0.33	46.6
Approach			79	7.2	79	7.2	0.075	2.9	LOS A	0.2	1.9	0.33	0.54	0.33	46.6
All Vehicles			445	7.2	445	7.2	0.157	1.3	NA	0.2	1.9	0.12	0.19	0.12	55.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-103-AM] S1-Redemptora Road/ Access 1
Intersection AM (S1-2026 Background)
Network: [N101-AM] S1-AM (S1-2026 BG)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
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: Access 1 (S)															
1	L2	All MCs	4	7.2	4	7.2	0.007	5.0	LOS A	0.0	0.2	0.22	0.50	0.22	29.5
3	R2	All MCs	4	0.0	4	0.0	0.007	5.2	LOS A	0.0	0.2	0.22	0.50	0.22	42.7
Approach			8	3.6	8	3.6	0.007	5.1	LOS A	0.0	0.2	0.22	0.50	0.22	40.0
East: Redemptora Rd (E)															
4	L2	All MCs	3	0.0	3	0.0	0.058	4.6	LOS A	0.0	0.0	0.00	0.01	0.00	47.8
5	T1	All MCs	114	5.1	114	5.1	0.058	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.8
Approach			117	5.0	117	5.0	0.058	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.7
West: Redemptora Rd (W)															
11	T1	All MCs	73	5.1	73	5.1	0.039	0.0	LOS A	0.0	0.2	0.03	0.04	0.03	49.6
12	R2	All MCs	4	0.0	4	0.0	0.039	4.8	LOS A	0.0	0.2	0.03	0.04	0.03	43.0
Approach			77	4.9	77	4.9	0.039	0.3	NA	0.0	0.2	0.03	0.04	0.03	49.4
All Vehicles			202	4.9	202	4.9	0.058	0.4	NA	0.0	0.2	0.02	0.04	0.02	49.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-104-AM] S1-Quill Way/ Access 2 Intersection AM

(S1-2026 Background)

Network: [N101-AM] S1-AM (S1-2026 BG)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
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: Quill Way (S)															
2	T1	All MCs	299	7.2	299	7.2	0.157	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			299	7.2	299	7.2	0.157	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
East: Access 2 (E)															
4	L2	All MCs	1	0.0	1	0.0	0.001	3.2	LOS A	0.0	0.0	0.30	0.45	0.30	21.7
Approach			1	0.0	1	0.0	0.001	3.2	LOS A	0.0	0.0	0.30	0.45	0.30	21.7
North: Quill Way (N)															
7	L2	All MCs	1	5.1	1	5.1	0.001	4.1	LOS A	0.0	0.0	0.00	0.51	0.00	32.3
8	T1	All MCs	224	5.1	224	5.1	0.114	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			225	5.1	225	5.1	0.114	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.5
All Vehicles			525	6.3	525	6.3	0.157	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-105-AM] S1-Quill Way/ Access 3 Intersection AM

(S1-2026 Background)

Network: [N101-AM] S1-AM (S1-2026 BG)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
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: Quill Way (S)															
2	T1	All MCs	281	7.2	281	7.2	0.148	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	16	7.2	16	7.2	0.011	4.6	LOS A	0.0	0.4	0.32	0.53	0.32	28.4
Approach			297	7.2	297	7.2	0.148	0.2	NA	0.0	0.4	0.02	0.03	0.02	54.2
East: Access 3 (E)															
4	L2	All MCs	4	0.0	4	0.0	0.033	4.5	LOS A	0.1	0.9	0.50	0.62	0.50	24.4
6	R2	All MCs	18	4.1	18	4.1	0.033	7.8	LOS A	0.1	0.9	0.50	0.62	0.50	20.3
Approach			22	3.3	22	3.3	0.033	7.2	LOS A	0.1	0.9	0.50	0.62	0.50	21.4
North: Quill Way (N)															
7	L2	All MCs	12	5.1	12	5.1	0.007	4.1	LOS A	0.0	0.2	0.06	0.50	0.06	32.1
8	T1	All MCs	213	5.1	213	5.1	0.108	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			224	5.1	224	5.1	0.108	0.2	LOS A	0.0	0.2	0.00	0.03	0.00	57.1
All Vehicles			543	6.2	543	6.2	0.148	0.5	NA	0.1	0.9	0.03	0.05	0.03	52.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-101-PM] S1-S1 L PM (S1-2026 Background)
Network: [N101-PM] S1-PM (S1-2026 BG)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Type A Two-Stage T-Intersection Crossing
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: Redemptora Rd (E)															
1	L2	All MCs	1	0.0	1	0.0	0.001	5.7	LOS A	0.0	0.0	0.14	0.53	0.14	31.9
2	T1	All MCs	161	1.1	161	1.1	0.121	4.8	LOS A	0.5	3.5	0.23	0.52	0.23	33.8
Approach			162	1.1	162	1.1	0.121	4.8	LOS A	0.5	3.5	0.22	0.52	0.22	33.8
North: Quill Ways (N)															
3	L2	All MCs	3	0.0	3	0.0	0.002	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	51.0
4	T1	All MCs	61	0.0	61	0.0	0.029	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			64	0.0	64	0.0	0.029	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.5
West: Median Storage															
5	T1	All MCs	73	0.0	73	0.0	0.058	2.0	LOS A	0.2	1.5	0.29	0.46	0.29	22.2
Approach			73	0.0	73	0.0	0.058	2.0	LOS A	0.2	1.5	0.29	0.46	0.29	22.2
All Vehicles			299	0.6	299	0.6	0.121	3.1	NA	0.5	3.5	0.19	0.40	0.19	45.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-102-PM] S1-S2 L PM (S1-2026 Background)
Network: [N101-PM] S1-PM (S1-2026 BG)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Type A Two-Stage T-Intersection Crossing
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: Quill Ways (S)															
2	T1	All MCs	613	1.1	613	1.1	0.459	0.5	LOS A	2.9	21.5	0.26	0.12	0.26	58.7
3	R2	All MCs	73	1.1	73	1.1	0.080	6.6	LOS A	0.3	2.4	0.56	0.73	0.56	21.5
Approach			685	1.1	685	1.1	0.459	1.1	NA	2.9	21.5	0.29	0.18	0.29	57.4
East: Median Storage															
1	R2	All MCs	161	4.0	161	4.0	0.211	4.8	LOS A	0.7	5.3	0.51	0.73	0.51	45.9
Approach			161	4.0	161	4.0	0.211	4.8	LOS A	0.7	5.3	0.51	0.73	0.51	45.9
All Vehicles			846	1.7	846	1.7	0.459	1.8	NA	2.9	21.5	0.33	0.29	0.33	54.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-103-PM] S1-Redemptora Road/ Access 1 Int PM

(S1-2026 Background)

Network: [N101-PM] S1-PM (S1-2026 BG)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
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: Access 1 (S)															
1	L2	All MCs	7	1.1	7	1.1	0.009	5.0	LOS A	0.0	0.2	0.25	0.51	0.25	29.3
3	R2	All MCs	4	0.0	4	0.0	0.009	5.3	LOS A	0.0	0.2	0.25	0.51	0.25	42.6
Approach			12	0.7	12	0.7	0.009	5.1	LOS A	0.0	0.2	0.25	0.51	0.25	38.5
East: Redemptora Rd (E)															
4	L2	All MCs	1	0.0	1	0.0	0.073	4.6	LOS A	0.0	0.0	0.00	0.00	0.00	47.9
5	T1	All MCs	154	0.0	154	0.0	0.073	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			155	0.0	155	0.0	0.073	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
West: Redemptora Rd (W)															
11	T1	All MCs	73	0.0	73	0.0	0.037	0.0	LOS A	0.0	0.2	0.04	0.04	0.04	49.5
12	R2	All MCs	4	0.0	4	0.0	0.037	5.0	LOS A	0.0	0.2	0.04	0.04	0.04	43.0
Approach			77	0.0	77	0.0	0.037	0.3	NA	0.0	0.2	0.04	0.04	0.04	49.4
All Vehicles			243	0.0	243	0.0	0.073	0.4	NA	0.0	0.2	0.02	0.04	0.02	49.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-104-PM] S1-Quill Way/ Access 2 Intersection PM

(S1-2026 Background)

Network: [N101-PM] S1-PM (S1-2026 BG)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
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: Quill Way (S)															
2	T1	All MCs	720	1.1	720	1.1	0.353	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			720	1.1	720	1.1	0.353	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.8
East: Access 2 (E)															
4	L2	All MCs	1	0.0	1	0.0	0.001	2.7	LOS A	0.0	0.0	0.14	0.45	0.14	23.4
Approach			1	0.0	1	0.0	0.001	2.7	LOS A	0.0	0.0	0.14	0.45	0.14	23.4
North: Quill Way (N)															
7	L2	All MCs	1	0.0	1	0.0	0.001	4.1	LOS A	0.0	0.0	0.00	0.52	0.00	32.3
8	T1	All MCs	62	0.0	62	0.0	0.030	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			63	0.0	63	0.0	0.030	0.1	NA	0.0	0.0	0.00	0.01	0.00	58.6
All Vehicles			784	1.0	784	1.0	0.353	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-105-PM] S1-Quill Way/ Access 3 Intersection PM

(S1-2026 Background)

Network: [N101-PM] S1-PM (S1-2026 BG)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
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: Quill Way (S)															
2	T1	All MCs	686	1.1	686	1.1	0.336	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
3	R2	All MCs	3	1.1	3	1.1	0.002	4.0	LOS A	0.0	0.1	0.15	0.51	0.15	29.8
Approach			689	1.1	689	1.1	0.336	0.0	NA	0.0	0.1	0.00	0.00	0.00	59.3
East: Access 3 (E)															
4	L2	All MCs	4	4.1	4	4.1	0.095	2.7	LOS A	0.3	2.5	0.61	0.66	0.61	17.4
6	R2	All MCs	35	4.1	35	4.1	0.095	11.0	LOS B	0.3	2.5	0.61	0.66	0.61	10.9
Approach			39	4.1	39	4.1	0.095	10.1	LOS B	0.3	2.5	0.61	0.66	0.61	11.8
North: Quill Way (N)															
7	L2	All MCs	3	4.1	3	4.1	0.002	4.1	LOS A	0.0	0.1	0.02	0.52	0.02	32.5
8	T1	All MCs	59	4.1	59	4.1	0.030	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			62	4.1	62	4.1	0.030	0.2	LOS A	0.0	0.1	0.00	0.03	0.00	57.2
All Vehicles			791	1.5	791	1.5	0.336	0.5	NA	0.3	2.5	0.03	0.04	0.03	51.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-101-] S2-S1 L AM (S2-2028+DEV)
Network: [N102-AM] S2-AM (S2-2028+DEV)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Type A Two-Stage T-Intersection Crossing
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: Redemptora Rd (E)															
1	L2	All MCs	139	5.1	139	5.1	0.127	7.1	LOS A	0.5	4.0	0.44	0.66	0.44	29.2
2	T1	All MCs	111	7.2	111	7.2	0.131	5.9	LOS A	0.5	3.8	0.49	0.66	0.49	29.0
Approach			249	6.1	249	6.1	0.131	6.6	LOS A	0.5	4.0	0.46	0.66	0.46	29.1
North: Quill Way (N)															
3	L2	All MCs	135	5.1	135	5.1	0.072	5.8	LOS A	0.0	0.0	0.00	0.53	0.00	51.0
4	T1	All MCs	376	5.1	376	5.1	0.191	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			511	5.1	511	5.1	0.191	1.6	NA	0.0	0.0	0.00	0.14	0.00	57.2
West: Median Storage															
5	T1	All MCs	81	5.1	81	5.1	0.092	3.5	LOS A	0.3	2.5	0.47	0.62	0.47	14.9
Approach			81	5.1	81	5.1	0.092	3.5	LOS A	0.3	2.5	0.47	0.62	0.47	14.9
All Vehicles			841	5.4	841	5.4	0.191	3.3	NA	0.5	4.0	0.18	0.34	0.18	51.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-102-] S2-S2 L AM (S2-2028+DEV)
Network: [N102-AM] S2-AM (S2-2028+DEV)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Type A Two-Stage T-Intersection Crossing
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: Quill Way (S)															
2	T1	All MCs	307	7.2	307	7.2	0.162	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	67	7.2	67	7.2	0.039	3.8	LOS A	0.0	0.0	0.00	0.56	0.00	29.5
Approach			375	7.2	375	7.2	0.162	0.7	NA	0.0	0.0	0.00	0.10	0.00	58.5
East: Median Storage															
1	R2	All MCs	95	7.2	95	7.2	0.091	3.0	LOS A	0.3	2.3	0.34	0.55	0.34	46.5
Approach			95	7.2	95	7.2	0.091	3.0	LOS A	0.3	2.3	0.34	0.55	0.34	46.5
All Vehicles			469	7.2	469	7.2	0.162	1.2	NA	0.3	2.3	0.07	0.19	0.07	55.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-103-] S2-Redemptora Road/ Access 1 Intersection AM (S2-2028+DEV)

Network: [N102-AM] S2-AM (S2-2028+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
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: Access 1 (S)															
1	L2	All MCs	20	7.2	20	7.2	0.051	5.4	LOS A	0.2	1.3	0.38	0.59	0.38	28.0
3	R2	All MCs	28	0.0	28	0.0	0.051	6.8	LOS A	0.2	1.3	0.38	0.59	0.38	42.2
Approach			48	3.0	48	3.0	0.051	6.2	LOS A	0.2	1.3	0.38	0.59	0.38	39.9
East: Redemptora Rd (E)															
4	L2	All MCs	187	0.0	187	0.0	0.195	4.6	LOS A	0.0	0.0	0.00	0.26	0.00	45.7
5	T1	All MCs	206	5.1	206	5.1	0.195	0.1	LOS A	0.0	0.0	0.00	0.26	0.00	47.1
Approach			394	2.7	394	2.7	0.195	2.2	NA	0.0	0.0	0.00	0.26	0.00	46.3
West: Redemptora Rd (W)															
11	T1	All MCs	73	5.1	73	5.1	0.140	1.4	LOS A	0.7	5.3	0.46	0.53	0.46	45.1
12	R2	All MCs	127	0.0	127	0.0	0.140	6.1	LOS A	0.7	5.3	0.46	0.53	0.46	34.4
Approach			200	1.9	200	1.9	0.140	4.4	NA	0.7	5.3	0.46	0.53	0.46	40.4
All Vehicles			642	2.5	642	2.5	0.195	3.2	NA	0.7	5.3	0.17	0.37	0.17	44.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-104-] S2-Quill Way/ Access 2 Intersection AM
(S2-2028+DEV)

Network: [N102-AM] S2-AM (S2-2028+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
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: Quill Way (S)															
2	T1	All MCs	307	7.2	307	7.2	0.162	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			307	7.2	307	7.2	0.162	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
East: Access 2 (E)															
4	L2	All MCs	46	0.0	46	0.0	0.042	4.1	LOS A	0.2	1.2	0.43	0.58	0.43	19.4
Approach			46	0.0	46	0.0	0.042	4.1	LOS A	0.2	1.2	0.43	0.58	0.43	19.4
North: Quill Way (N)															
7	L2	All MCs	59	5.1	59	5.1	0.034	3.9	LOS A	0.0	0.0	0.00	0.55	0.00	29.2
8	T1	All MCs	412	5.1	412	5.1	0.209	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			471	5.1	471	5.1	0.209	0.5	NA	0.0	0.0	0.00	0.07	0.00	50.8
All Vehicles			824	5.6	824	5.6	0.209	0.5	NA	0.2	1.2	0.02	0.07	0.02	50.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-105-] S2-Quill Way/ Access 3 Intersection AM
(S2-2028+DEV)

Network: [N102-AM] S2-AM (S2-2028+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
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: Quill Way (S)															
2	T1	All MCs	281	7.2	281	7.2	0.148	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	98	7.2	98	7.2	0.096	5.2	LOS A	0.4	3.1	0.38	0.61	0.38	27.6
Approach			379	7.2	379	7.2	0.148	1.4	NA	0.4	3.1	0.10	0.16	0.10	40.9
East: Access 3 (E)															
4	L2	All MCs	36	0.0	36	0.0	0.035	4.9	LOS A	0.1	0.9	0.33	0.55	0.33	27.5
Approach			36	0.0	36	0.0	0.035	4.9	LOS A	0.1	0.9	0.33	0.55	0.33	27.5
North: Quill Way (N)															
7	L2	All MCs	12	5.1	12	5.1	0.007	3.9	LOS A	0.0	0.0	0.00	0.55	0.00	31.2
8	T1	All MCs	259	5.1	259	5.1	0.131	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			271	5.1	271	5.1	0.131	0.2	NA	0.0	0.0	0.00	0.02	0.00	57.6
All Vehicles			685	6.0	685	6.0	0.148	1.1	NA	0.4	3.1	0.07	0.12	0.07	45.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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This information is provided by the City of Cockburn

MOVEMENT SUMMARY

Site: [S1-101] S2-S1 L PM (S2-2028+DEV)
Network: [N102-PM] S2-PM (S2-2028+DEV)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Type A Two-Stage T-Intersection Crossing
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: Redemptora Rd (E)															
1	L2	All MCs	58	0.0	58	0.0	0.040	5.0	LOS A	0.2	1.2	0.25	0.51	0.25	30.0
2	T1	All MCs	314	1.1	314	1.1	0.407	4.9	LOS A	1.5	11.2	0.43	0.58	0.48	30.7
Approach			372	0.9	372	0.9	0.407	4.9	LOS A	1.5	11.2	0.40	0.57	0.45	30.6
North: Quill Way (N)															
3	L2	All MCs	79	0.0	79	0.0	0.040	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	51.0
4	T1	All MCs	156	0.0	156	0.0	0.075	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			235	0.0	235	0.0	0.075	1.9	NA	0.0	0.0	0.00	0.18	0.00	56.6
West: Median Storage															
5	T1	All MCs	73	0.0	73	0.0	0.074	3.0	LOS A	0.3	1.9	0.43	0.58	0.43	16.6
Approach			73	0.0	73	0.0	0.074	3.0	LOS A	0.3	1.9	0.43	0.58	0.43	16.6
All Vehicles			679	0.5	679	0.5	0.407	3.7	NA	1.5	11.2	0.27	0.44	0.29	45.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-102] S2-S2 L PM (S2-2028+DEV)
Network: [N102-PM] S2-PM (S2-2028+DEV)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Type A Two-Stage T-Intersection Crossing
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: Quill Way (S)															
2	T1	All MCs	692	1.1	692	1.1	0.339	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
3	R2	All MCs	73	1.1	73	1.1	0.039	3.8	LOS A	0.0	0.0	0.00	0.57	0.00	29.5
Approach			764	1.1	764	1.1	0.339	0.4	NA	0.0	0.0	0.00	0.05	0.00	59.1
East: Median Storage															
1	R2	All MCs	314	1.1	314	1.1	0.437	6.6	LOS A	2.0	14.6	0.63	0.90	0.89	45.3
Approach			314	1.1	314	1.1	0.437	6.6	LOS A	2.0	14.6	0.63	0.90	0.89	45.3
All Vehicles			1078	1.1	1078	1.1	0.437	2.2	NA	2.0	14.6	0.18	0.30	0.26	54.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-103] S2-Redemptora Road/ Access 1 Int PM
(S2-2028+DEV)

Network: [N102-PM] S2-PM (S2-2028+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
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: Access 1 (S)															
1	L2	All MCs	160	0.0	160	0.0	0.392	5.8	LOS A	2.1	15.2	0.46	0.66	0.52	27.0
3	R2	All MCs	240	0.0	240	0.0	0.392	7.3	LOS A	2.1	15.2	0.46	0.66	0.52	41.7
Approach			400	0.0	400	0.0	0.392	6.7	LOS A	2.1	15.2	0.46	0.66	0.52	39.4
East: Redemptora Rd (E)															
4	L2	All MCs	114	0.0	114	0.0	0.155	4.6	LOS A	0.0	0.0	0.00	0.19	0.00	46.3
5	T1	All MCs	211	0.0	211	0.0	0.155	0.0	LOS A	0.0	0.0	0.00	0.19	0.00	47.9
Approach			324	0.0	324	0.0	0.155	1.6	NA	0.0	0.0	0.00	0.19	0.00	47.2
West: Redemptora Rd (W)															
11	T1	All MCs	73	0.0	73	0.0	0.095	0.9	LOS A	0.5	3.4	0.38	0.43	0.38	45.9
12	R2	All MCs	79	0.0	79	0.0	0.095	5.7	LOS A	0.5	3.4	0.38	0.43	0.38	35.8
Approach			152	0.0	152	0.0	0.095	3.4	NA	0.5	3.4	0.38	0.43	0.38	42.7
All Vehicles			876	0.0	876	0.0	0.392	4.3	NA	2.1	15.2	0.28	0.45	0.30	43.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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This information is provided by the City of Cockburn

MOVEMENT SUMMARY

Site: [S1-104] S2-Quill Way/ Access 2 Intersection PM
(S2-2028+DEV)

Network: [N102-PM] S2-PM (S2-2028+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
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: Quill Way (S)															
2	T1	All MCs	799	1.1	799	1.1	0.391	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			799	1.1	799	1.1	0.391	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.8
East: Access 2 (E)															
4	L2	All MCs	73	0.0	73	0.0	0.049	2.9	LOS A	0.2	1.5	0.22	0.48	0.22	22.6
Approach			73	0.0	73	0.0	0.049	2.9	LOS A	0.2	1.5	0.22	0.48	0.22	22.6
North: Quill Way (N)															
7	L2	All MCs	89	0.0	89	0.0	0.049	3.9	LOS A	0.0	0.0	0.00	0.55	0.00	29.3
8	T1	All MCs	123	0.0	123	0.0	0.059	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			213	0.0	213	0.0	0.059	1.6	NA	0.0	0.0	0.00	0.23	0.00	39.1
All Vehicles			1084	0.8	1084	0.8	0.391	0.5	NA	0.2	1.5	0.01	0.08	0.01	50.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-105] S2-Quill Way/ Access 3 Intersection PM
(S2-2028+DEV)

Network: [N102-PM] S2-PM (S2-2028+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
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: Quill Way (S)															
2	T1	All MCs	686	1.1	686	1.1	0.336	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
3	R2	All MCs	36	1.1	36	1.1	0.028	4.3	LOS A	0.1	0.8	0.24	0.53	0.24	29.2
Approach			722	1.1	722	1.1	0.336	0.2	NA	0.1	0.8	0.01	0.03	0.01	54.7
East: Access 3 (E)															
4	L2	All MCs	256	0.0	256	0.0	0.217	3.2	LOS A	0.9	6.6	0.26	0.50	0.26	27.6
Approach			256	0.0	256	0.0	0.217	3.2	LOS A	0.9	6.6	0.26	0.50	0.26	27.6
North: Quill Way (N)															
7	L2	All MCs	3	0.0	3	0.0	0.002	3.9	LOS A	0.0	0.0	0.00	0.55	0.00	31.5
8	T1	All MCs	132	0.0	132	0.0	0.064	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			135	0.0	135	0.0	0.064	0.1	NA	0.0	0.0	0.00	0.01	0.00	58.7
All Vehicles			1113	0.7	1113	0.7	0.336	0.9	NA	0.9	6.6	0.07	0.13	0.07	43.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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This information is provided by the City of Cockburn

MOVEMENT SUMMARY

Site: [S1-101-A] S3-S1 L AM (S3-2038+DEV)
Network: [N103-AM] S3-AM (S3-2038+DEV)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Type A Two-Stage T-Intersection Crossing
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: Redemptora Rd (E)															
1	L2	All MCs	139	5.1	139	5.1	0.127	6.2	LOS A	0.5	4.0	0.44	0.63	0.44	28.4
2	T1	All MCs	111	7.2	111	7.2	0.131	5.9	LOS A	0.5	3.8	0.49	0.66	0.49	29.0
Approach			249	6.1	249	6.1	0.131	6.1	LOS A	0.5	4.0	0.46	0.65	0.46	28.6
North: Quill Way (N)															
3	L2	All MCs	135	5.1	135	5.1	0.072	5.8	LOS A	0.0	0.0	0.00	0.53	0.00	51.0
4	T1	All MCs	376	5.1	376	5.1	0.191	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			511	5.1	511	5.1	0.191	1.6	NA	0.0	0.0	0.00	0.14	0.00	57.2
West: Median Storage															
5	T1	All MCs	81	5.1	81	5.1	0.089	2.1	LOS A	0.3	2.4	0.46	0.38	0.46	12.5
Approach			81	5.1	81	5.1	0.089	2.1	LOS A	0.3	2.4	0.46	0.38	0.46	12.5
All Vehicles			841	5.4	841	5.4	0.191	3.0	NA	0.5	4.0	0.18	0.31	0.18	51.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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This information is provided by the City of Cockburn

MOVEMENT SUMMARY

Site: [S1-102-A] S3-S2 L AM (S3-2038+DEV)
Network: [N103-AM] S3-AM (S3-2038+DEV)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Type A Two-Stage T-Intersection Crossing
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: Quill Way (S)															
2	T1	All MCs	367	7.2	367	7.2	0.193	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	81	7.2	81	7.2	0.080	6.0	LOS A	0.3	2.7	0.51	0.67	0.51	22.8
Approach			448	7.2	448	7.2	0.193	1.1	NA	0.3	2.7	0.09	0.12	0.09	57.7
East: Median Storage															
1	R2	All MCs	111	7.2	111	7.2	0.114	3.3	LOS A	0.4	2.9	0.38	0.59	0.38	46.1
Approach			111	7.2	111	7.2	0.114	3.3	LOS A	0.4	2.9	0.38	0.59	0.38	46.1
All Vehicles			559	7.2	559	7.2	0.193	1.5	NA	0.4	2.9	0.15	0.21	0.15	54.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-103-A] S3-Redemptora Road/ Access 1 Intersection AM (S3-2038+DEV)

Network: [N103-AM] S3-AM (S3-2038+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
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: Access 1 (S)															
1	L2	All MCs	20	7.2	20	7.2	0.055	5.5	LOS A	0.2	1.4	0.40	0.61	0.40	27.6
3	R2	All MCs	29	0.0	29	0.0	0.055	7.0	LOS A	0.2	1.4	0.40	0.61	0.40	42.0
Approach			49	2.9	49	2.9	0.055	6.4	LOS A	0.2	1.4	0.40	0.61	0.40	39.8
East: Redemptora Rd (E)															
4	L2	All MCs	188	0.0	188	0.0	0.206	4.6	LOS A	0.0	0.0	0.00	0.24	0.00	45.8
5	T1	All MCs	228	5.1	228	5.1	0.206	0.1	LOS A	0.0	0.0	0.00	0.24	0.00	47.2
Approach			417	2.8	417	2.8	0.206	2.1	NA	0.0	0.0	0.00	0.24	0.00	46.5
West: Redemptora Rd (W)															
11	T1	All MCs	87	5.1	87	5.1	0.151	1.5	LOS A	0.8	5.8	0.47	0.53	0.47	45.3
12	R2	All MCs	127	0.0	127	0.0	0.151	6.3	LOS A	0.8	5.8	0.47	0.53	0.47	34.6
Approach			215	2.1	215	2.1	0.151	4.3	NA	0.8	5.8	0.47	0.53	0.47	41.1
All Vehicles			681	2.6	681	2.6	0.206	3.1	NA	0.8	5.8	0.18	0.36	0.18	44.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-104-A] S3-Quill Way/ Access 2 Intersection AM
(S3-2038+DEV)

Network: [N103-AM] S3-AM (S3-2038+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
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: Quill Way (S)															
2	T1	All MCs	367	7.2	367	7.2	0.193	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			367	7.2	367	7.2	0.193	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
East: Access 2 (E)															
4	L2	All MCs	46	0.0	46	0.0	0.045	4.3	LOS A	0.2	1.2	0.46	0.60	0.46	18.7
Approach			46	0.0	46	0.0	0.045	4.3	LOS A	0.2	1.2	0.46	0.60	0.46	18.7
North: Quill Way (N)															
7	L2	All MCs	59	5.1	59	5.1	0.034	3.9	LOS A	0.0	0.0	0.00	0.55	0.00	29.2
8	T1	All MCs	456	5.1	456	5.1	0.231	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			515	5.1	515	5.1	0.231	0.5	NA	0.0	0.0	0.00	0.06	0.00	51.4
All Vehicles			928	5.7	928	5.7	0.231	0.5	NA	0.2	1.2	0.02	0.06	0.02	51.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-105-A] S3-Quill Way/ Access 3 Intersection AM
(S3-2038+DEV)

Network: [N103-AM] S3-AM (S3-2038+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
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: Quill Way (S)															
2	T1	All MCs	337	7.2	337	7.2	0.177	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	114	7.2	114	7.2	0.118	5.6	LOS A	0.5	3.8	0.42	0.64	0.42	27.0
Approach			451	7.2	451	7.2	0.177	1.4	NA	0.5	3.8	0.11	0.16	0.11	40.6
East: Access 3 (E)															
4	L2	All MCs	41	0.0	41	0.0	0.042	5.2	LOS A	0.1	1.1	0.37	0.57	0.37	27.3
Approach			41	0.0	41	0.0	0.042	5.2	LOS A	0.1	1.1	0.37	0.57	0.37	27.3
North: Quill Way (N)															
7	L2	All MCs	14	5.1	14	5.1	0.008	3.9	LOS A	0.0	0.0	0.00	0.55	0.00	31.2
8	T1	All MCs	302	5.1	302	5.1	0.153	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			316	5.1	316	5.1	0.153	0.2	NA	0.0	0.0	0.00	0.02	0.00	57.5
All Vehicles			807	6.0	807	6.0	0.177	1.1	NA	0.5	3.8	0.08	0.13	0.08	45.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-101-P] S3-S1 L PM (S3-2038+DEV)
Network: [N103-PM] S3-PM (S3-2038+DEV)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Type A Two-Stage T-Intersection Crossing
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: redemptora Rd (E)															
1	L2	All MCs	58	0.0	58	0.0	0.041	5.1	LOS A	0.2	1.2	0.26	0.52	0.26	29.9
2	T1	All MCs	345	1.1	345	1.1	0.594	5.7	LOS A	2.3	17.2	0.57	0.68	0.72	29.5
Approach			403	0.9	403	0.9	0.594	5.6	LOS A	2.3	17.2	0.53	0.66	0.65	29.5
North: Quill Way (N)															
3	L2	All MCs	79	0.0	79	0.0	0.040	5.8	LOS A	0.0	0.0	0.00	0.53	0.00	51.0
4	T1	All MCs	167	0.0	167	0.0	0.081	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			246	0.0	246	0.0	0.081	1.9	NA	0.0	0.0	0.00	0.17	0.00	56.7
West: Median Storage															
5	T1	All MCs	87	0.0	87	0.0	0.072	2.1	LOS A	0.3	1.9	0.30	0.47	0.30	21.5
Approach			87	0.0	87	0.0	0.072	2.1	LOS A	0.3	1.9	0.30	0.47	0.30	21.5
All Vehicles			737	0.5	737	0.5	0.594	4.0	NA	2.3	17.2	0.32	0.47	0.39	45.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-102-P] S3-S2 L PM (S3-2038+DEV)
Network: [N103-PM] S3-PM (S3-2038+DEV)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Type A Two-Stage T-Intersection Crossing
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: Quill Way (S)															
2	T1	All MCs	815	1.1	815	1.1	0.399	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
3	R2	All MCs	87	1.1	87	1.1	0.047	3.8	LOS A	0.0	0.0	0.00	0.57	0.00	29.5
Approach			902	1.1	902	1.1	0.399	0.4	NA	0.0	0.0	0.00	0.05	0.00	59.0
East: Median Storage															
1	R2	All MCs	345	1.1	345	1.1	0.578	9.3	LOS A	-N8	-N8	0.76	1.04	1.26	42.5
Approach			345	1.1	345	1.1	0.578	9.3	LOS A	-N8	-N8	0.76	1.04	1.26	42.5
All Vehicles			1247	1.1	1247	1.1	0.578	2.8	NA	-N8	-N8	0.21	0.33	0.35	53.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

N8 The Percentile Back of Queue extends to upstream Site lanes.

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MOVEMENT SUMMARY

Site: [S1-103-P] S3-Redemptora Road/ Access 1 Int PM
(S3-2038+DEV)

Network: [N103-PM] S3-PM (S3-2038+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
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: Access 1 (S)															
1	L2	All MCs	161	0.0	161	0.0	0.411	6.1	LOS A	2.3	16.9	0.50	0.70	0.60	26.2
3	R2	All MCs	241	0.0	241	0.0	0.411	7.9	LOS A	2.3	16.9	0.50	0.70	0.60	41.4
Approach			402	0.0	402	0.0	0.411	7.2	LOS A	2.3	16.9	0.50	0.70	0.60	38.9
East: Redemptora Rd (E)															
4	L2	All MCs	114	0.0	114	0.0	0.170	4.6	LOS A	0.0	0.0	0.00	0.17	0.00	46.4
5	T1	All MCs	242	0.0	242	0.0	0.170	0.0	LOS A	0.0	0.0	0.00	0.17	0.00	48.0
Approach			356	0.0	356	0.0	0.170	1.5	NA	0.0	0.0	0.00	0.17	0.00	47.5
West: Redemptora Rd (W)															
11	T1	All MCs	86	0.0	86	0.0	0.104	1.0	LOS A	0.5	3.7	0.39	0.43	0.39	46.1
12	R2	All MCs	80	0.0	80	0.0	0.104	5.9	LOS A	0.5	3.7	0.39	0.43	0.39	36.0
Approach			166	0.0	166	0.0	0.104	3.3	NA	0.5	3.7	0.39	0.43	0.39	43.2
All Vehicles			924	0.0	924	0.0	0.411	4.3	NA	2.3	16.9	0.29	0.45	0.33	43.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-104-P] S3-Quill Way/ Access 2 Intersection PM
(S3-2038+DEV)

Network: [N103-PM] S3-PM (S3-2038+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
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: Quill Way (S)															
2	T1	All MCs	943	1.1	943	1.1	0.462	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach			943	1.1	943	1.1	0.462	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.7
East: Access 2 (E)															
4	L2	All MCs	73	0.0	73	0.0	0.050	2.9	LOS A	0.2	1.5	0.23	0.48	0.23	22.4
Approach			73	0.0	73	0.0	0.050	2.9	LOS A	0.2	1.5	0.23	0.48	0.23	22.4
North: Quill Way (N)															
7	L2	All MCs	89	0.0	89	0.0	0.049	3.9	LOS A	0.0	0.0	0.00	0.55	0.00	29.3
8	T1	All MCs	136	0.0	136	0.0	0.066	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			225	0.0	225	0.0	0.066	1.6	NA	0.0	0.0	0.00	0.22	0.00	39.9
All Vehicles			1241	0.8	1241	0.8	0.462	0.5	NA	0.2	1.5	0.01	0.07	0.01	51.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [S1-105-P] S3-Quill Way/ Access 3 Intersection PM
(S3-2038+DEV)

Network: [N103-PM] S3-PM (S3-2038+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

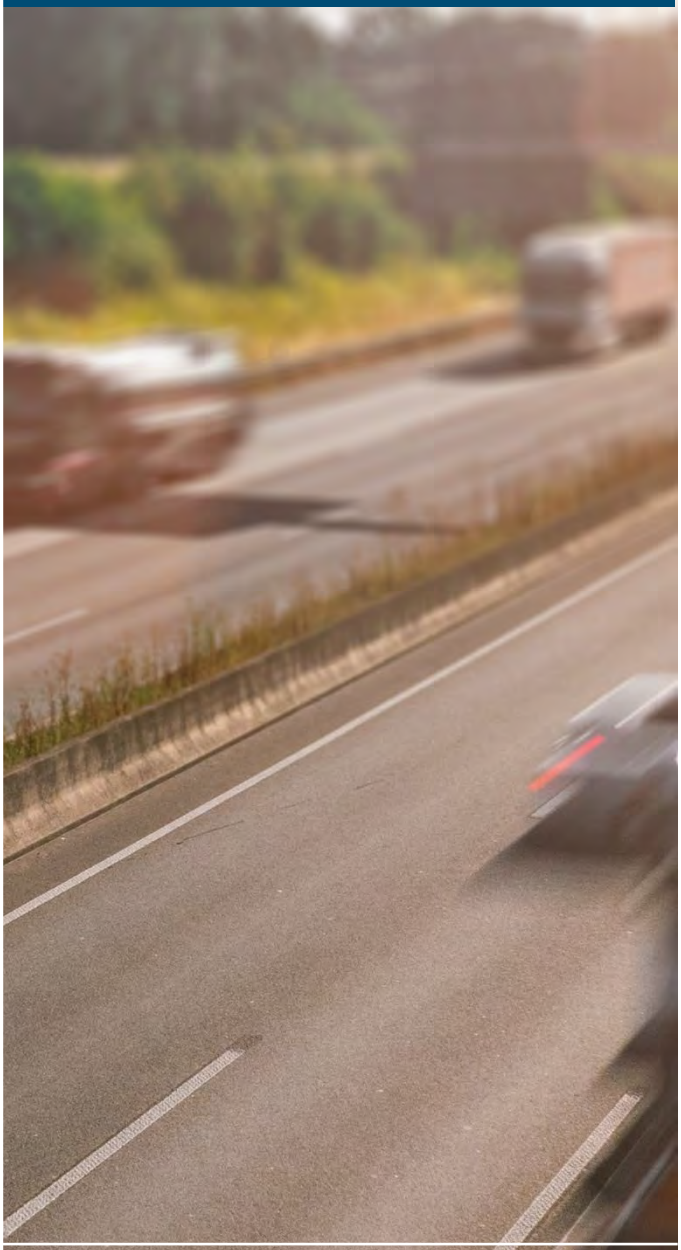
Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Quill Way (S)															
2	T1	All MCs	823	1.1	823	1.1	0.403	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
3	R2	All MCs	37	1.1	37	1.1	0.030	4.4	LOS A	0.1	0.9	0.25	0.54	0.25	29.1
Approach			860	1.1	860	1.1	0.403	0.2	NA	0.1	0.9	0.01	0.02	0.01	55.2
East: Access 3 (E)															
4	L2	All MCs	256	0.0	256	0.0	0.219	3.2	LOS A	0.9	6.7	0.27	0.51	0.27	27.5
Approach			256	0.0	256	0.0	0.219	3.2	LOS A	0.9	6.7	0.27	0.51	0.27	27.5
North: Quill Way (N)															
7	L2	All MCs	4	0.0	4	0.0	0.002	3.9	LOS A	0.0	0.0	0.00	0.55	0.00	31.5
8	T1	All MCs	143	0.0	143	0.0	0.069	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			147	0.0	147	0.0	0.069	0.1	NA	0.0	0.0	0.00	0.02	0.00	58.4
All Vehicles			1263	0.7	1263	0.7	0.403	0.8	NA	0.9	6.7	0.06	0.12	0.06	44.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
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Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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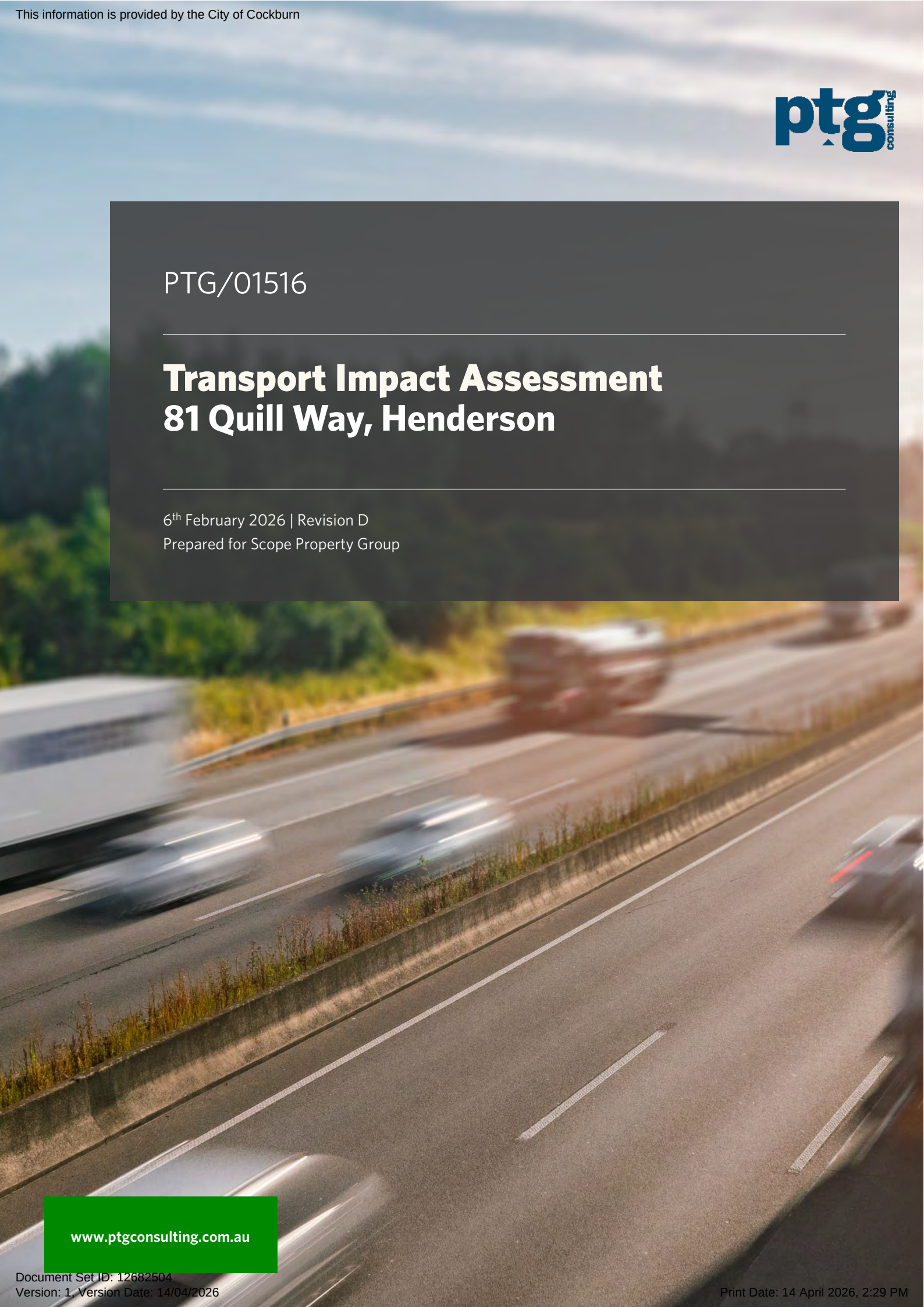


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PTG/01516

Transport Impact Assessment
81 Quill Way, Henderson

6th February 2026 | Revision D

Prepared for Scope Property Group

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REPORT DETAILS

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	Information
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Project Number	PTG/01516
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Client	Scope Property Group

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1 INTRODUCTION

1.1 Background

PTG Consulting Pty Ltd (PTG) has been commissioned by Scope Property Group to prepare a Transport Impact Assessment (TIA) for the proposed development of a Henderson Business Hub in 81 Quill Way, Henderson, within the City of Cockburn.

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 Assessment (TIA) 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.

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2 EXISTING SITUATION

2.1 Existing Site Use

The Site is shown in **Figure 1**. The Site contains existing structures, as shown in **Figure 2**, which will be demolished and/or modified as part of the proposed development.

Figure 1 Existing Site Boundaries



Source: MetroMap (2025)

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Figure 2 Existing Site Layout



Source: Pennock Architects

2.2 Existing Parking and Demand

The site currently consists of the following buildings, as shown in **Figure 2**:

- Tavern
- Hotel
- Transportable Accommodation
- Retail Building
- Office
- Workshop
- 192 Parking space

2.3 Existing Access Arrangements

The Site currently 3 access points as shown in **Figure 3** and described below:

- Access 1: Full movement access to/from Redemptora Road
- Access 2: Entry only from Quill Way to the Site
- Access 3: Exit only to Quill Way from the Site

Figure 3 Existing Access Arrangements



Source: MetroMap (2025)

2.4 Existing Site Traffic

Intersection traffic survey data was available for the following 3 intersections:

- Cockburn Road / Quill Way
- Cockburn Road / Sparks Road
- Quill Way / Clarence Beach Road

Midblock traffic counts were also available at the 3 locations shown in **Figure 4**, while the City of Cockburn provided midblock traffic count data for Sparks Road (190m north of Quill Way). SCATS detector counts were also available for the signalised intersection of Quill Way / Cockburn Road (south).

Figure 4 Existing Traffic Volumes



* Traffic data provided by City of Cockburn

2.5 Existing Road Network and Traffic Management

Road Classifications are defined in the Main Roads Functional Hierarchy as follows:

- Primary Distributors (light blue): Form the regional and inter-regional grid of Main Roads WA traffic routes and carry large volumes of fast-moving traffic. Some are strategic freight routes, and all are National or State roads. They are managed by Main Roads.
- Regional Distributors (red): 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.
- District Distributor A (green): These carry traffic between industrial, commercial and residential areas and 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 (dark blue): Perform a similar function to District Distributor A but with reduced capacity due to flow restrictions from access to and roadside parking alongside adjoining property. These are often older roads with traffic demand in excess of that originally intended. District Distributor A and B roads run between land-use cells and not through them, forming a grid that would ideally be around 1.5 kilometres apart. They are managed by Local Government.
- Local Distributors (orange): Carry traffic within a cell and link District Distributors at the boundary to access roads. The route of the Local Distributor discourages 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. They are managed by Local government.
- Access Roads (grey): 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 5 shows the surrounding area road hierarchy and the characteristics of the surrounding road network are summarised in **Table 1**.

Figure 5 Existing Road Network



Source: MRWA Road Information Mapping

Table 1 Existing Road Network

Road Name	Hierarchy	Jurisdiction	No. of Lanes	No. of Footpaths	Road Pavement Width (m)	Speed Limit (km/h)
Cockburn Road	Primary Distributor	MRWA	2	0	15-23	60
Quill Way	Distributor B	Local Government	2	0	10-15	60
Redemptora Road	Access Road	Local Government	2	1	9.8	50
Sparks Road	Access Road	Local Government	2	1	9.5-10	50

2.6 Traffic Flows on Surrounding Roads and Intersection

Existing traffic volumes on the surrounding road network are shown in **Figure 5**, while intersection, while the AM and PM peak hour traffic volumes for the intersections where traffic count data is available are shown in **Figure 6** to **Figure 8.** It is noted that the traffic volumes presented in these figures was collected in May 2024.

Figure 6 Existing AM and PM Peak Hour Traffic Volumes for Quill Way / Clarance Beach Road

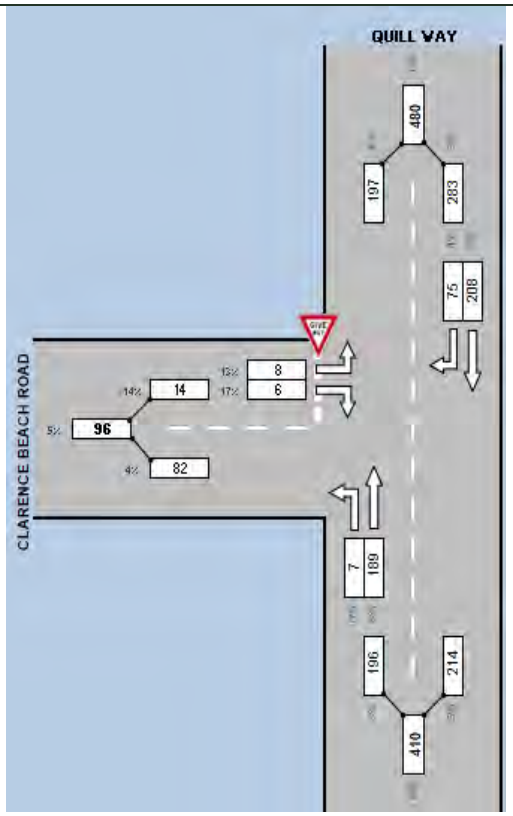
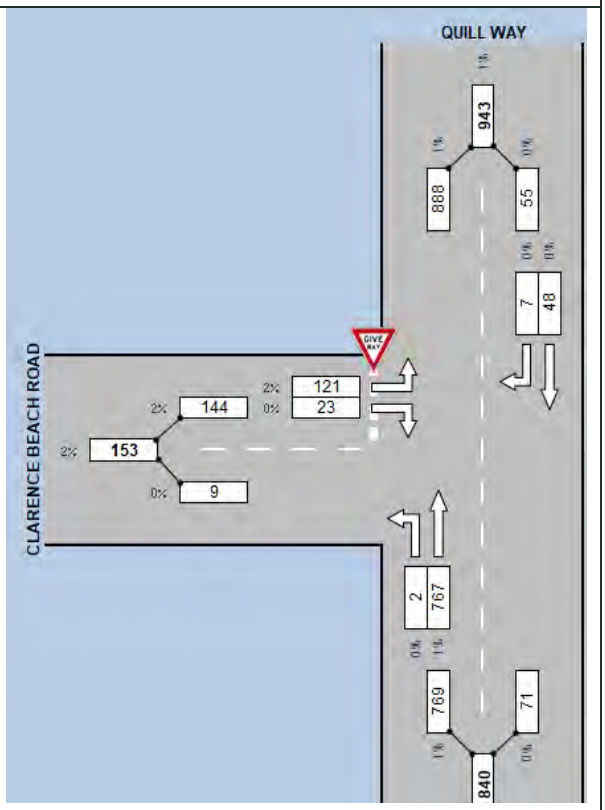
AM Peak	PM Peak
	

Figure 7 Existing AM and PM Peak Hour Traffic Volumes for Cockburn Road / Quill Way

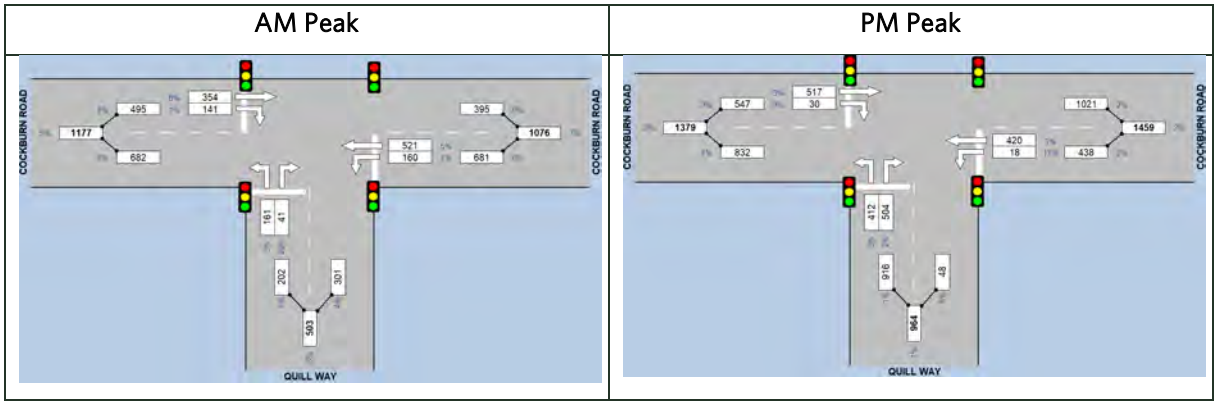
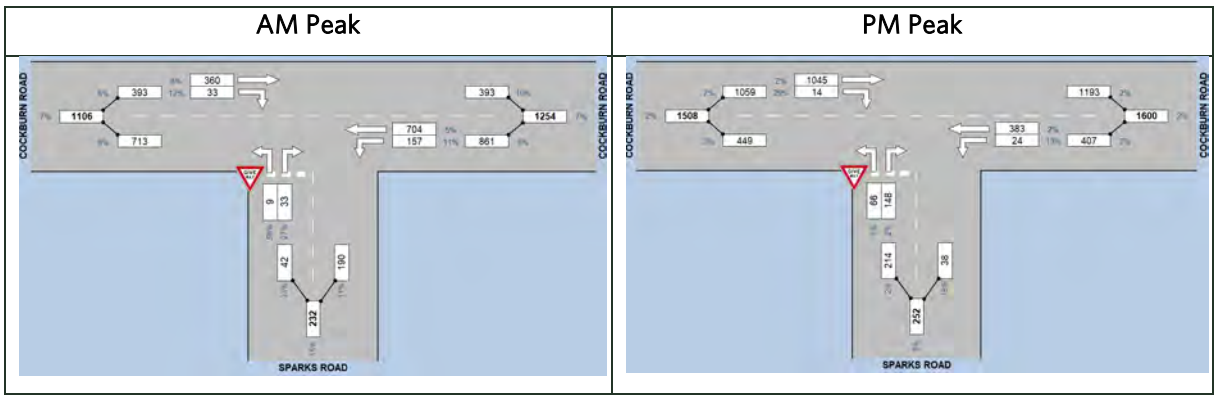


Figure 8 Existing AM and PM Peak Hour Traffic Volumes for Cockburn Road / Sparks Road



2.7 Operation of Surrounding Intersections

The only intersection adjacent to the Site is the priority-controlled intersection of Quill Way / Redemptora Road, shown in **Figure 9**.

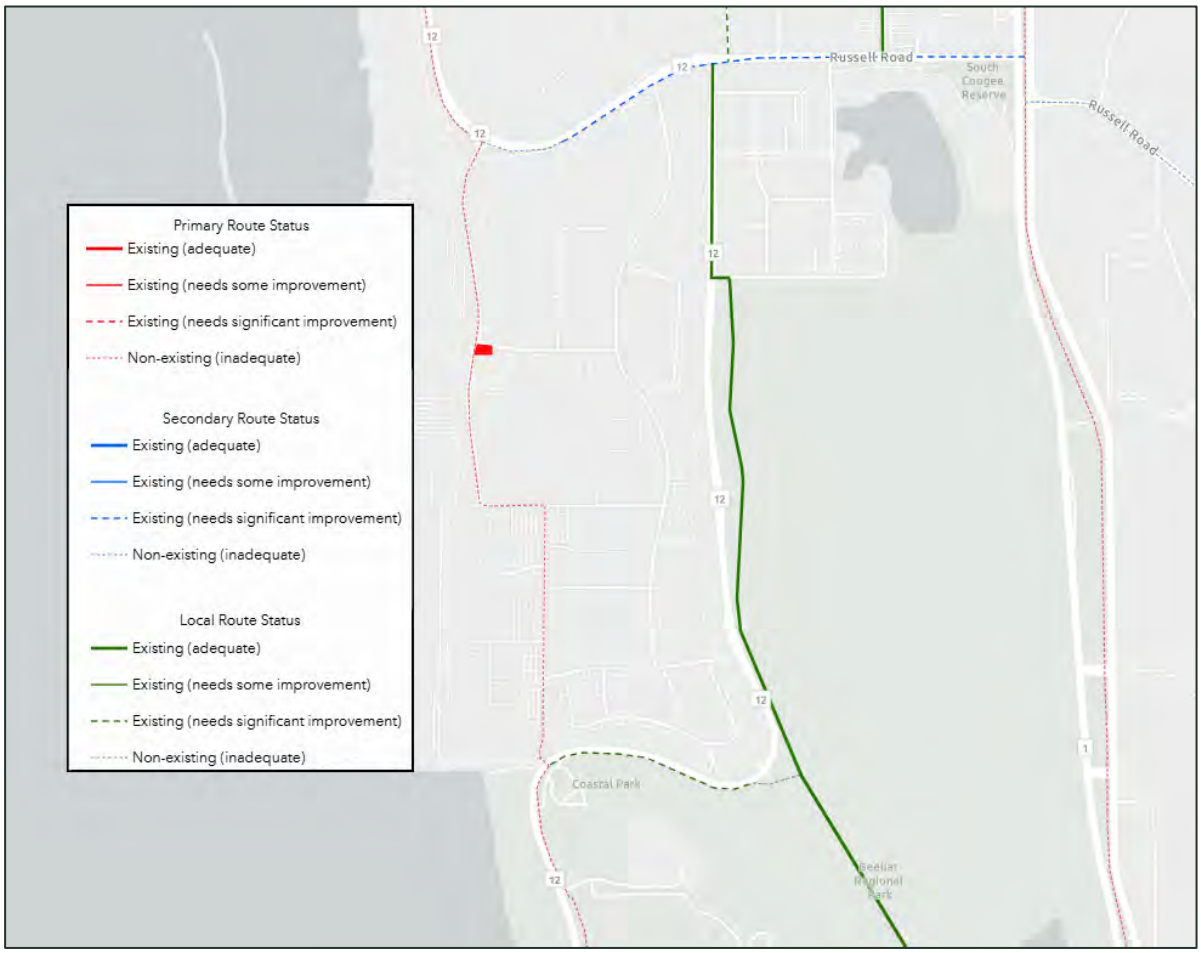
Figure 9 Existing Intersection of Quill Way / Redemptora Road



2.8 Existing Pedestrian / Cycle Networks

Figure 10 shows the existing status of the cycle paths that form part of the Perth and Peel Long Term Cycling Network (LTCN) for the areas adjacent to the Site. While Cockburn Road includes sealed shoulders that can be used for on-road bike riding, the status of the Primary Route along Quill Way is classified as "Non-existing (inadequate)".

Figure 10 Existing Pedestrian / Cycle Networks



Source: Department of Transport

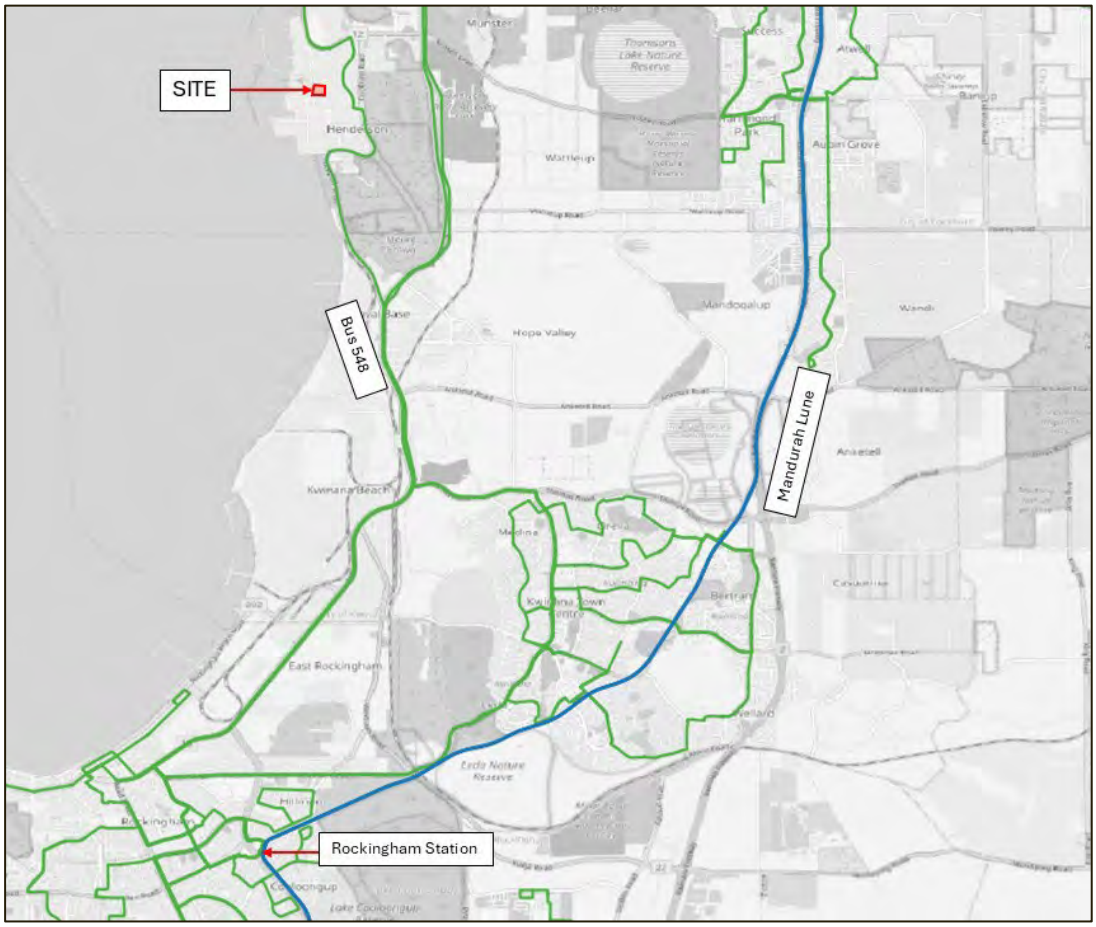
While there are currently no pedestrian paths along Quill Way, there is a 2.0m wide concrete footpath along a section on the southern side of Quill Way (east of Access 2).

2.9 Existing Public Transport Services

Bus 548 is the nearest bus service near the site as shown in **Figure 11.** Due to the low frequencies of the bus services, it is not anticipated that many staff or visitors will travel to the Site via public transport.

This information is provided by the City of Cockburn

Figure 11 Existing Public Transport Routes and Bus Stops



2.10 Crash Data

A review of the existing crash data from Main Roads WA Traffic Map for the period between 1st January 2020 to 31st December 2024 was conducted for the following roads surrounding the site:

- Quill Way/ Redemptora Road Intersection
- Redemptora Road Midblock
- Quill Way Midblock (no crashes)

The crash locations are illustrated in **Figure 12**, while the crash details summarised in **Table 2** and **Table 3**.

Figure 12 Crash Locations



Source: Main Roads WA

Table 2 Quill Way/ Redemptora Road Intersection Crashes

Crash Nature	Fatal	Hospital	Medical	PDO Major	PDO Minor	Total Crashes
Right Angle	-	-	1	-	-	1

Table 3 Redemptora Road Midblock Crashes

Crash Nature	Fatal	Hospital	Medical	PDO Major	PDO Minor	Total Crashes
Not Known	-	-	-	1	-	1

A total of 2 crashes were recorded for these roads; one was a right-angle crash at the intersection of Quill Way / Redemptora Road which resulted in medical attention on-site. The other crash occurred midblock on Redemptora Road and resulted in major property damage and was caused by a reversing car colliding with a motorcycle. The low frequency of accidents suggest they are isolated rather than indicative of a systematic safety issues on the frontage roads.

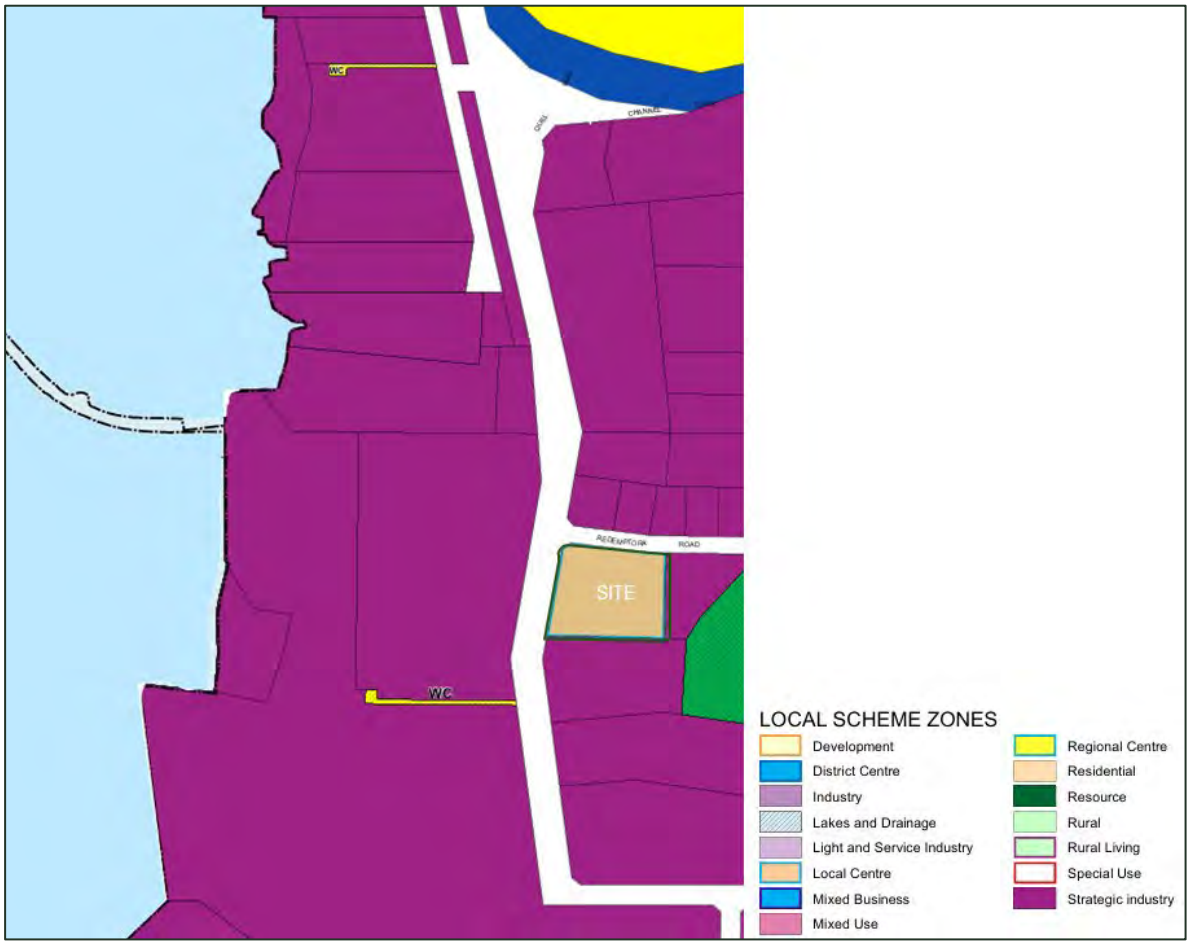
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3 PROPOSED DEVELOPMENT

3.1 Regional Context

In accordance with the City of Cockburn Town Planning Scheme No. 3, the Site is currently zoned as "*Local Centre*", as shown in **Figure 13**. The area is mostly surrounded by strategic industry land use.

Figure 13 Existing Land Use Zoning



Source: City of Cockburn Town Planning Scheme No.3

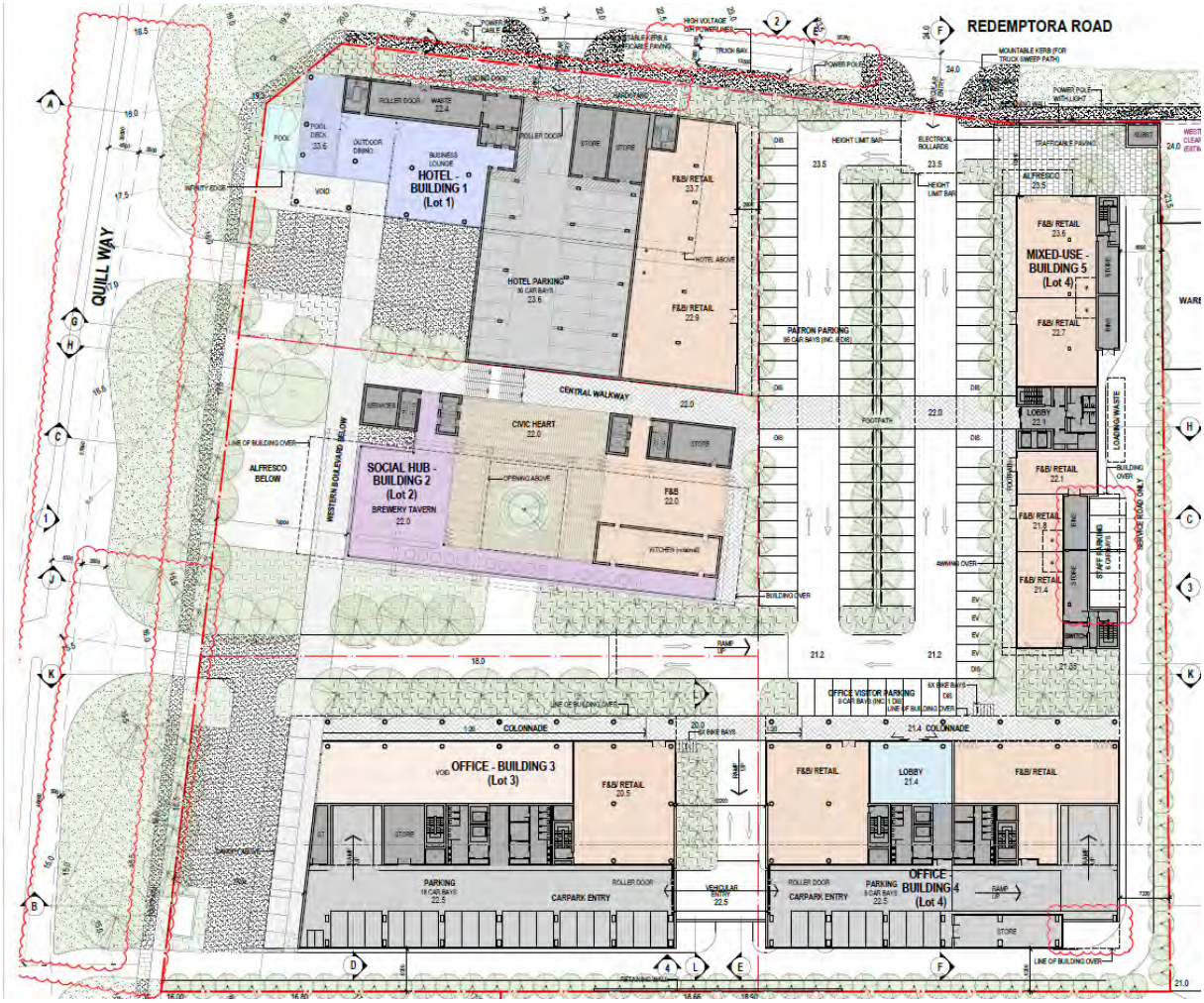
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3.2 Proposed Land Use

The proposed development (ground floor) layout is shown in **Figure 14**, while a summary of the proposed development yields provided in **Table 4,** the proposed development will include a total of 874 parking bays across the entire Site. Further details regarding the parking supply are provided in **Section 3.4** of this report.

A high-resolution copy of the proposed development layout is included in **Appendix B**.

Figure 14 Proposed Development Layout



Source: Pennock Architects

Table 4 Proposed Development Yields

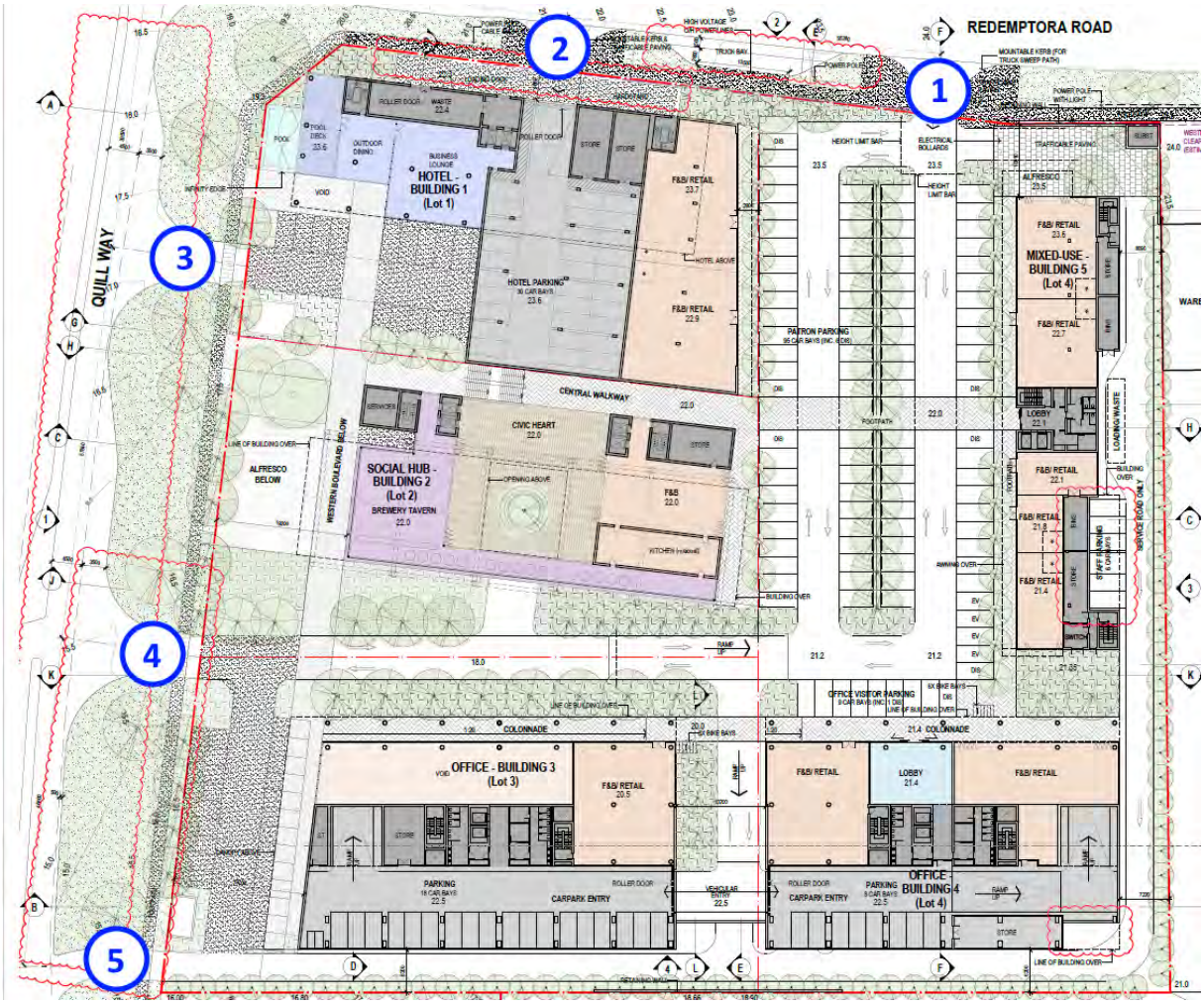
Land Use		Yields	Car Parking Bays
Building 1	Hotel	161 rooms	118
	Retail / F&B	557m^2	
Building 2	Tavern	505m^2	166
	Health Studio	1,278m^2	
	Restaurant	100 seat capacity	
Building 3	Retail / F&B	939m^2	217
	Office	12,439m^2	
Building 4	Office	12,439m^2	272
	Retail / F&B	536m^2	
Building 5	Retail / F&B	635m^2	101
	Medical Centre	5 Practitioners	
	Office	2,045m^2	

3.3 Access Arrangements

Vehicular access is proposed at the 5 locations shown in **Figure** 15.

- **Access 1** – Entry and exit access for heavy and light vehicles via Redemptora Road
- **Access 2** – Entry and exit access to Building 1 (hotel) car park via Redemptora Road
- **Access 3** – Left-in and left-out access for light vehicles along Quill Way.
- **Access 4** – Left-in, left-out and right-in entry and exit access for heavy and light vehicles.
- **Access 5** – Left-out exit access for heavy vehicles.

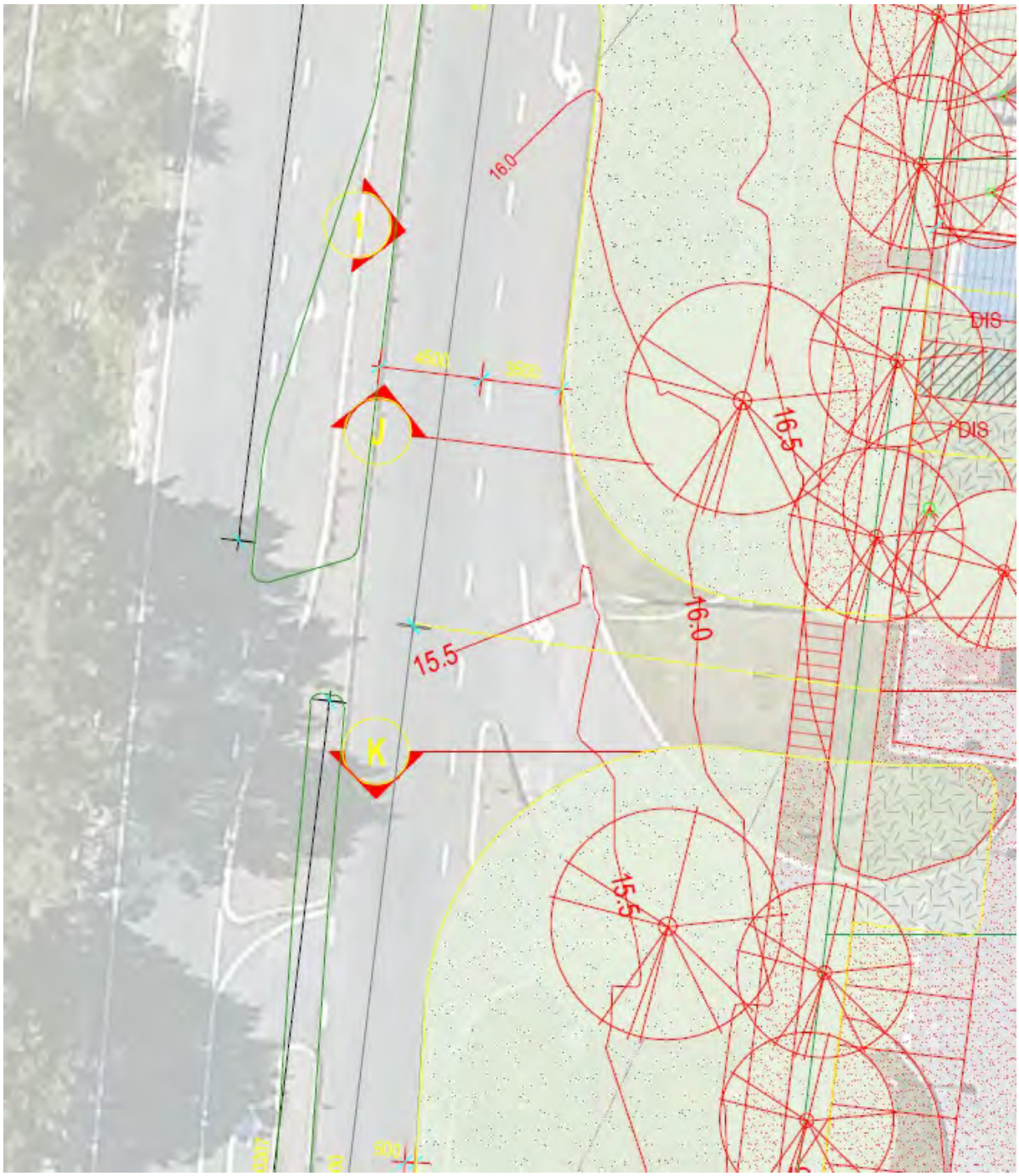
Figure 15 Proposed Vehicular Access Locations



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It is noted that existing Access 2 (off Quill Way) includes a short right-turn lane for northbound vehicles along Quill Way to turn in to the Site. As this access is proposed to be relocated slightly north to align with the internal accessway, this will require the existing right-turn lane to be extended, which in turn will reduce the length of the right-turn lane from Quill Way to Redemptora Road by approximately 15m. This change is shown in **Figure 16**.

Figure 16 Proposed Modification to Length of Quill Way / Redemptora Right-Turn Lane



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3.3.1 Access Routes – Servicing and Delivery

The loading areas for Lots 1 and 2 can be accessed by up to 12.5m Heavy Rigid Vehicles (HRVs), while Lots 3 and 4 can be accessed up to 8.8m Medium Rigid Vehicles (MRVs). The swept paths for these service/delivery vehicles are shown in **Figure 17** to **Figure 19**. It is noted that the kerbs adjacent to these areas will be trafficable/flush, to facilitate these movements.

It is noted that majority of deliveries to the Office buildings are likely to be relatively small in nature and therefore limited to van deliveries. These vans will be able to park either in the service parking bays located at the back of these buildings. Larger deliveries can be undertaken for trucks up to a length of 8.8m Medium Rigid Vehicles (MRVs) at the loading docks which are also located towards the back of these buildings. As each building will only have 1 loading dock each, these deliveries will need to be scheduled in advance and coordinated with the building management to ensure the loading dock will be available at the time of the delivery.

Figure 17 HRV Swept Path for Lot 1

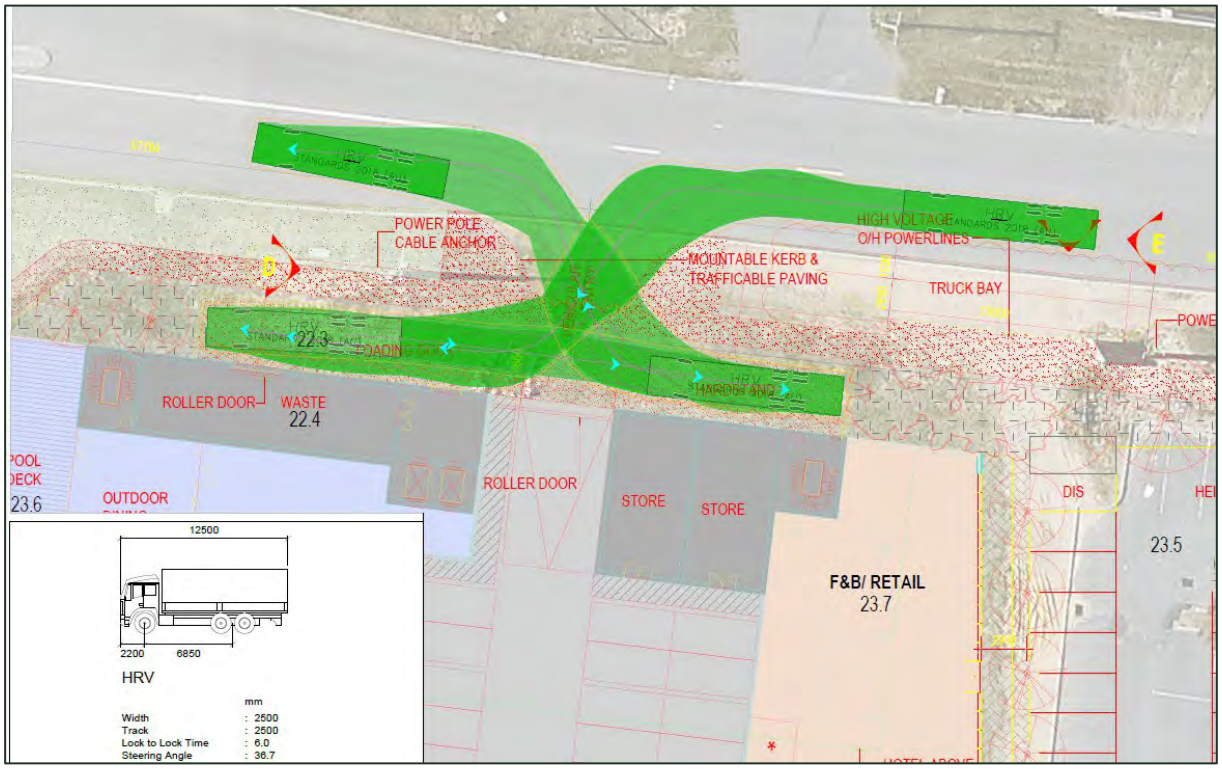


Figure 18 HRV Swept Path for Lot 2

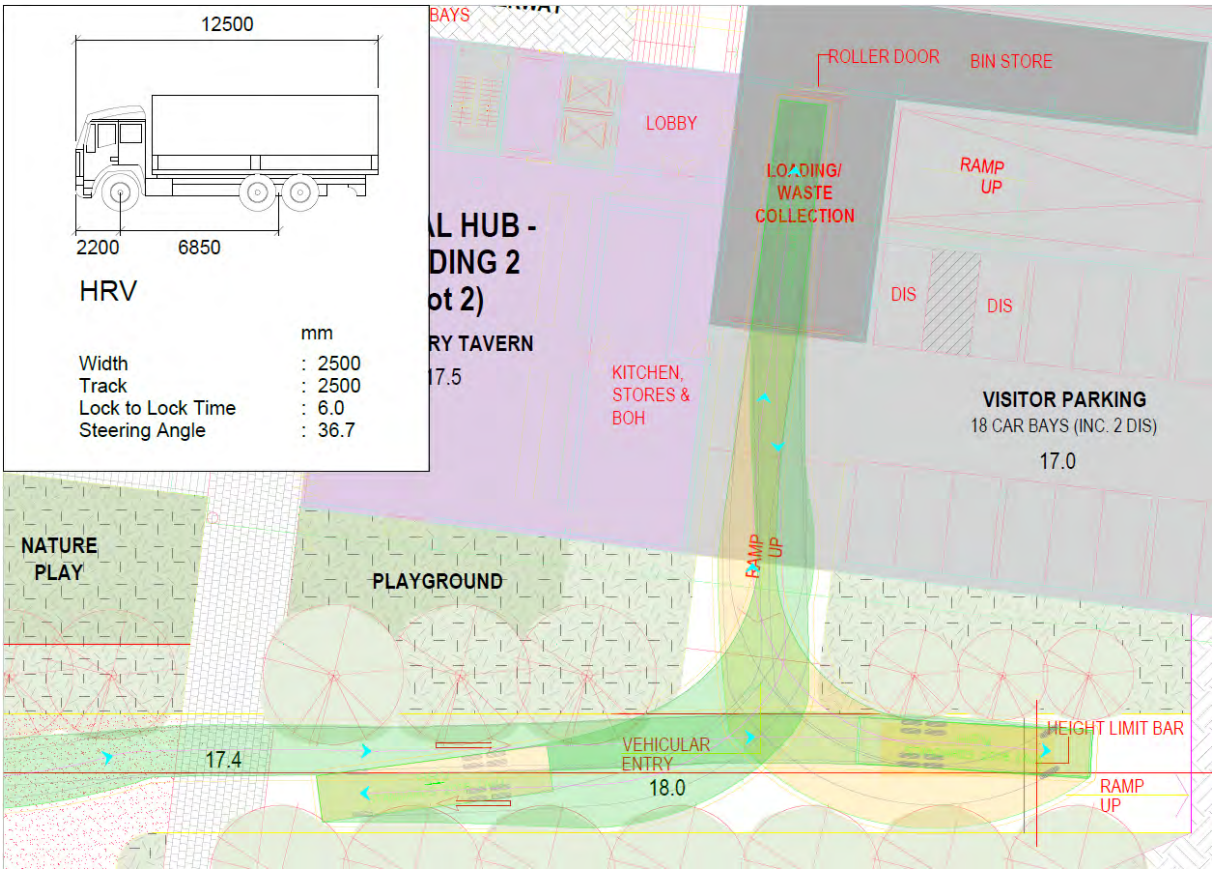
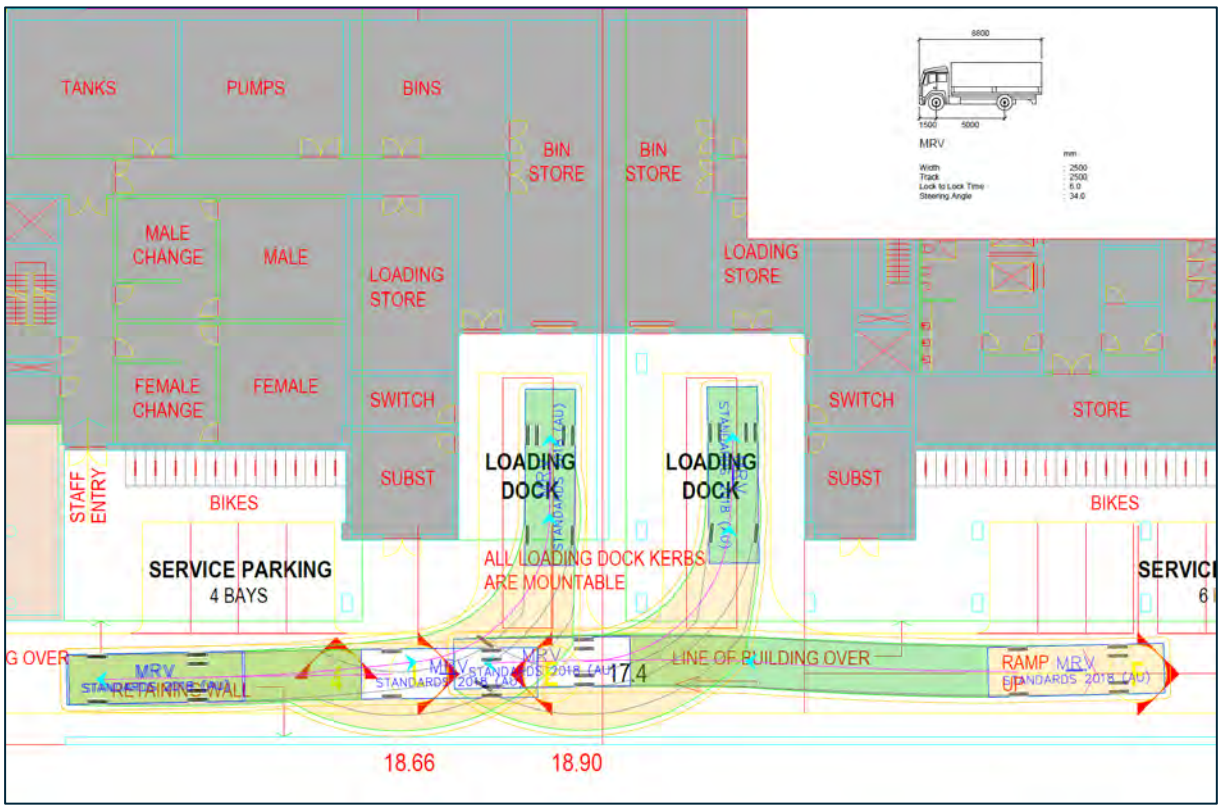


Figure 19 HRV Swept Path for Lot 4



3.3.2 Access Routes – Waste Collection

Swept path analysis with a 10m waste collection vehicle was undertaken for Lot 1, Lot2 & Lot 4 (Mixed Use) developments whereas for Lot 3 & 4 with an 8.8m Vehicle. **Figure 20** to **Figure 23** illustrate the waste truck swept paths around the designated waste loading areas for each of the Lots. The analysis demonstrates that the waste vehicle can access the site, collect the waste, and exit in forward gear without difficulties. It is noted that the kerbs adjacent to this area will be trafficable/flush (as indicated on the plans), to facilitate these movements.

Figure 20 Waste Truck Swept Path – 10m (Lot 1- Hotel)

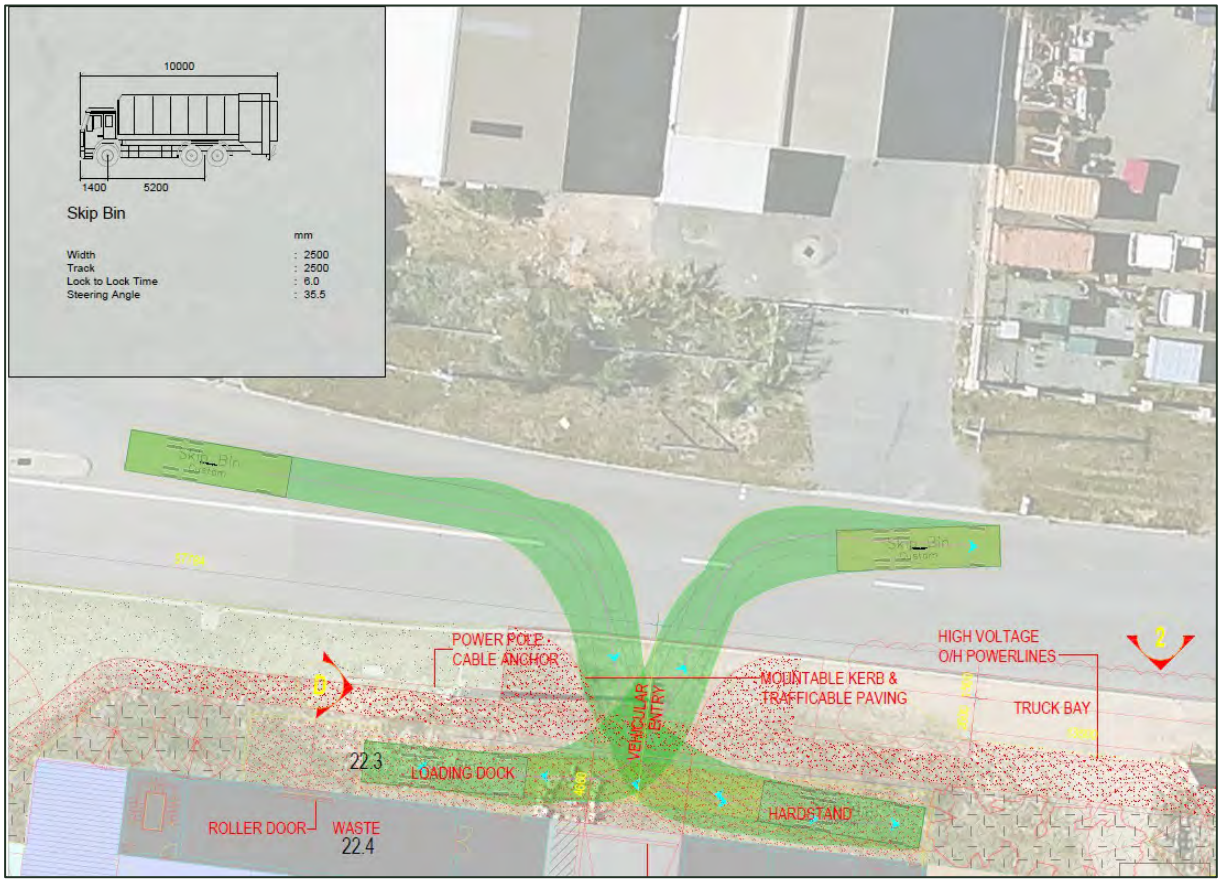


Figure 21 Waste Truck Swept Path – 10m (Lot 2- Social Hub)

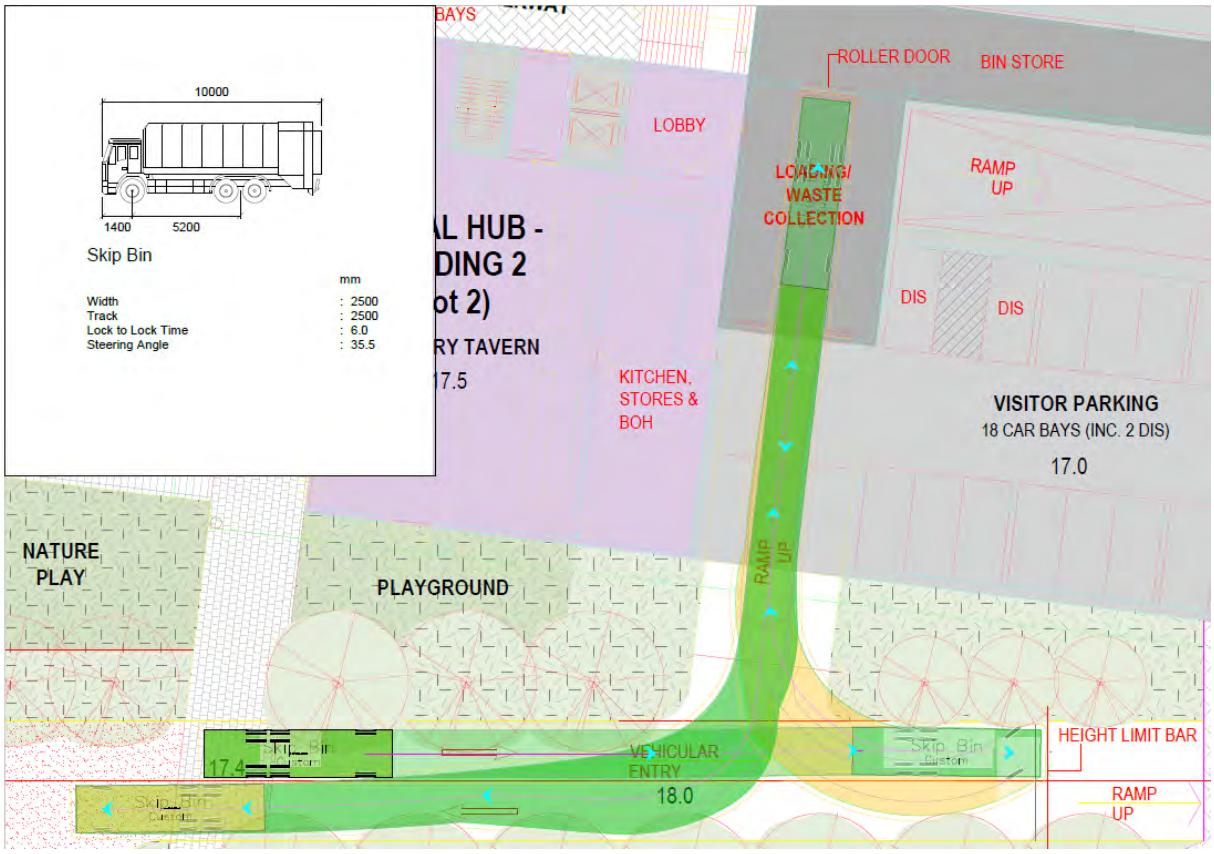
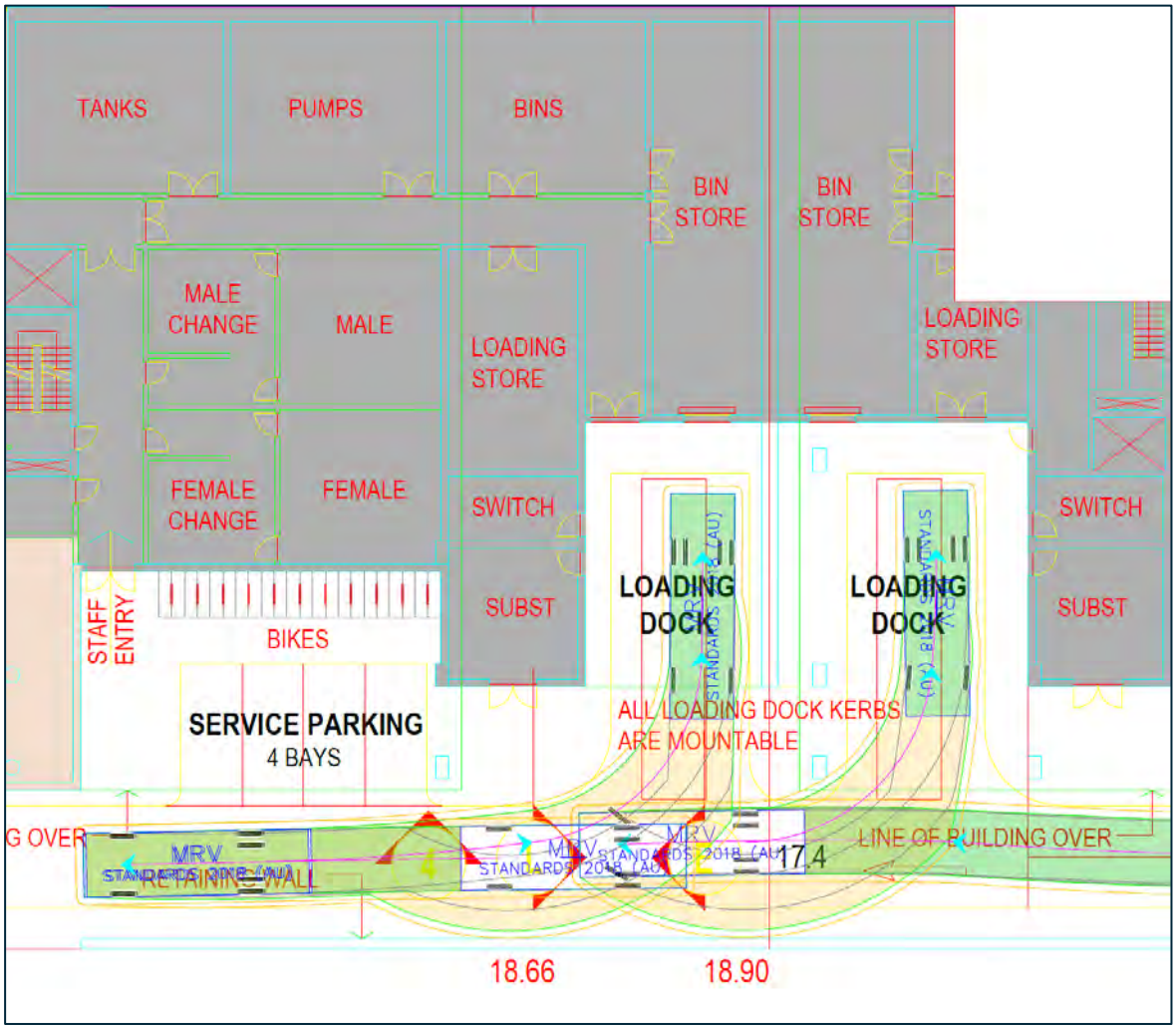


Figure 22 Waste Truck Swept Path – 10m (Lot 3 & 4- Office)



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Figure 23 Waste Truck Swept Path – 10m Entry (Lot 4- Mixed Use)

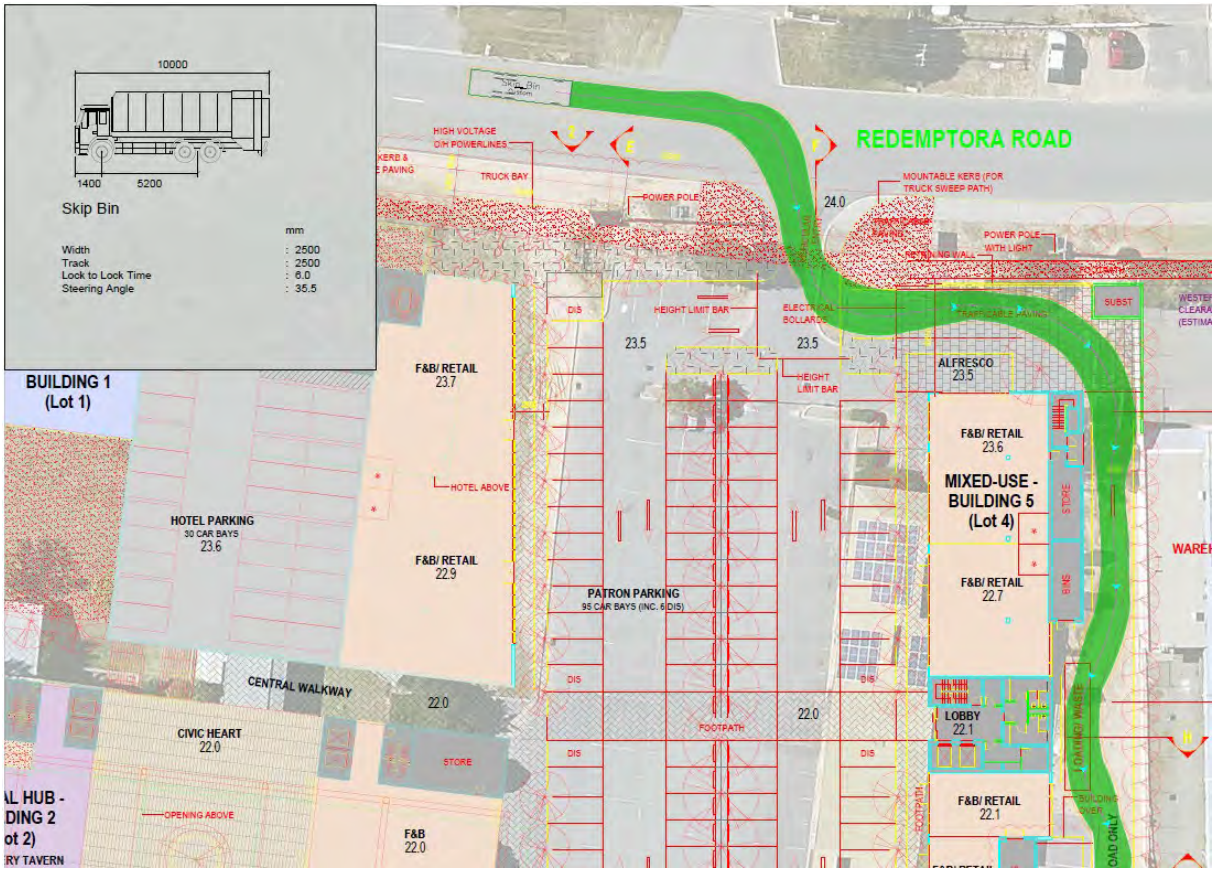
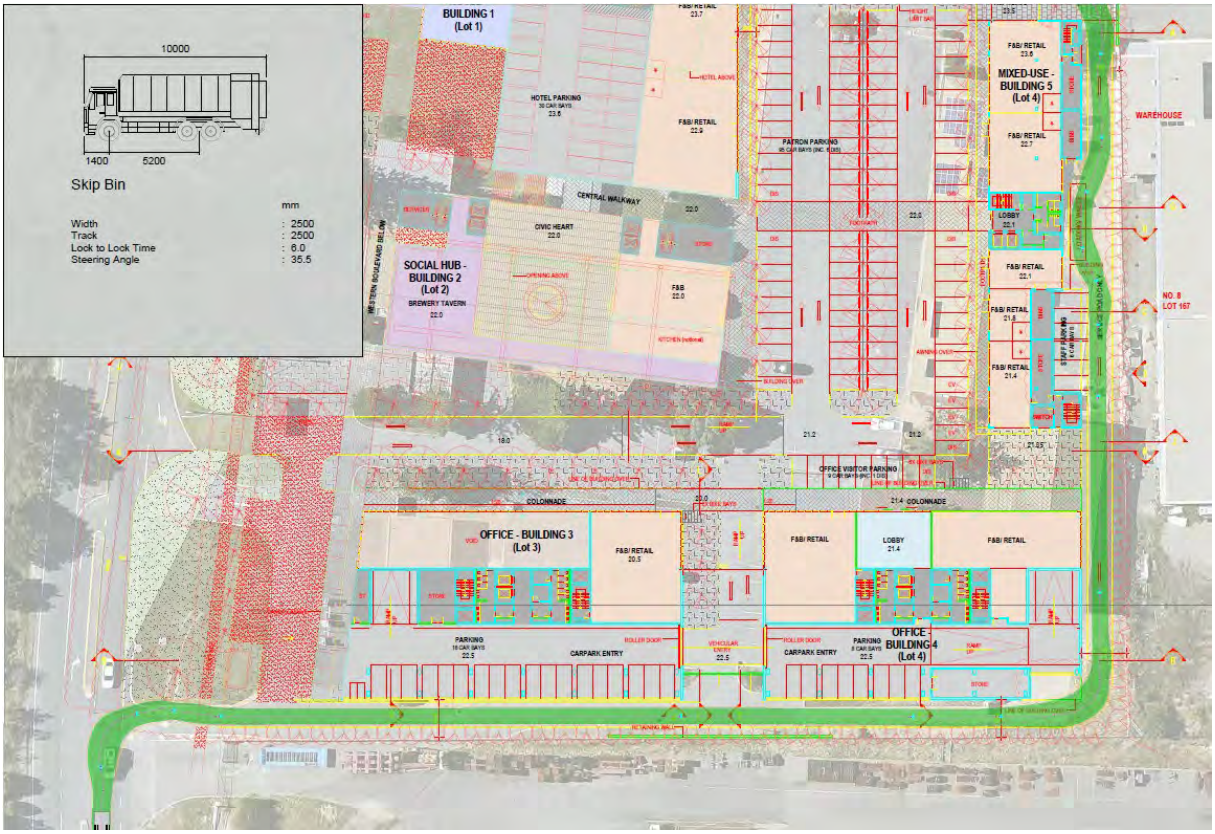


Figure 24 Waste Truck Swept Path – 10m Exit (Lot 4- Mixed Use)



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3.4 Sight Line Assessment

Sight line assessment was in accordance with AS2890.1 and AS2890.2 undertaken at each of the proposed accesses. As the posted speed on Quill Way is 60km/h, the sightline requirement for the accesses along Quill Way is 83m, while the sightline requirement for the accesses along Redemptora Road is 69m as the posted speed on this road is 50km/h. The sight line assessment show that the required sightlines can be achieved at each of the proposed accesses.

Figure 25 Sightline Assessment for Access 1 (Redemptora Road)

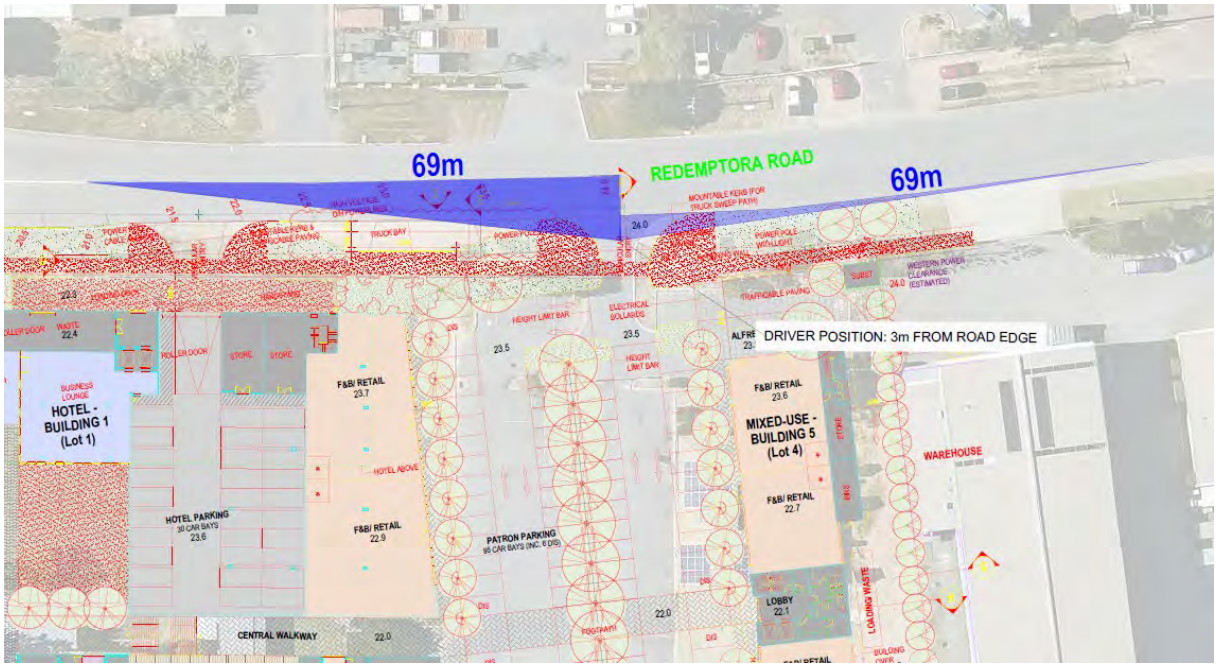
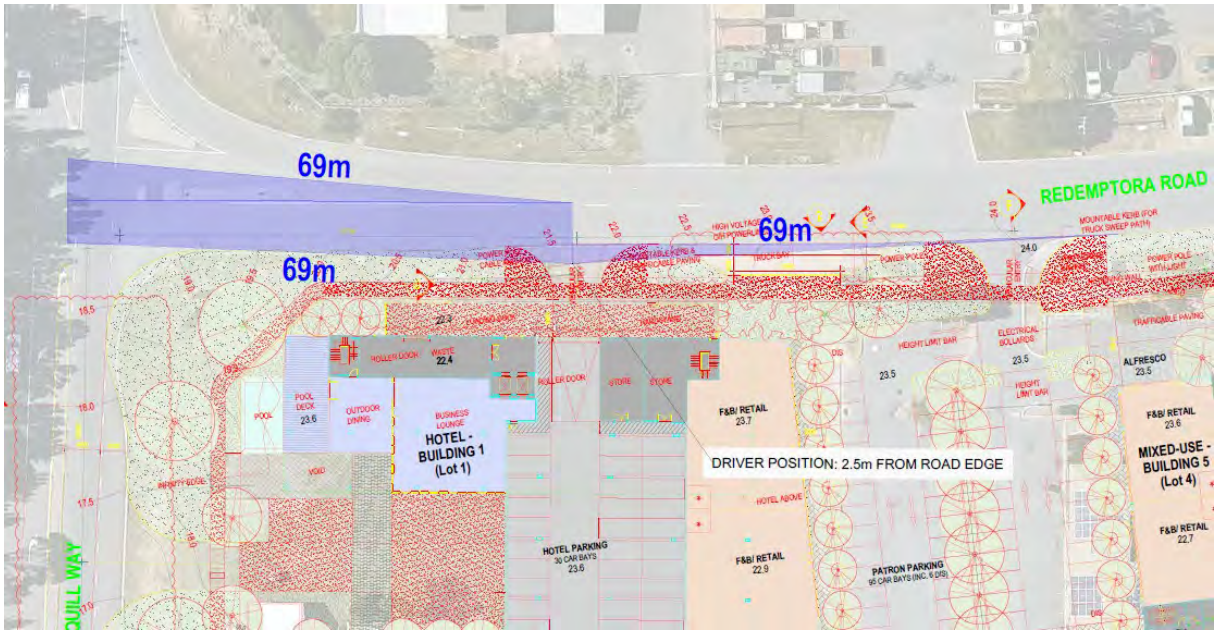


Figure 26 Sightline Assessment for Access 2 (Redemptora Road)



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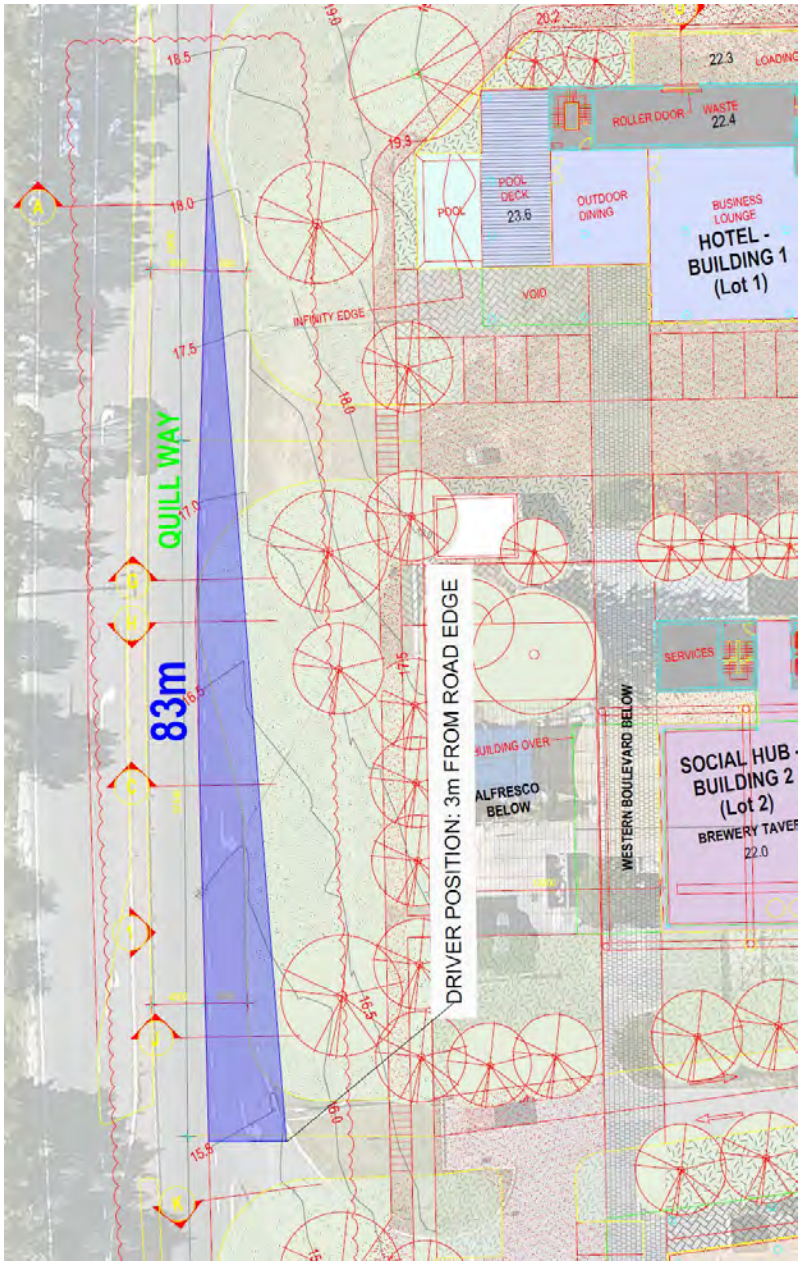
Figure 27 Sightline Assessment for Access 3 (Quill Way)



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This information is provided by the City of Cockburn

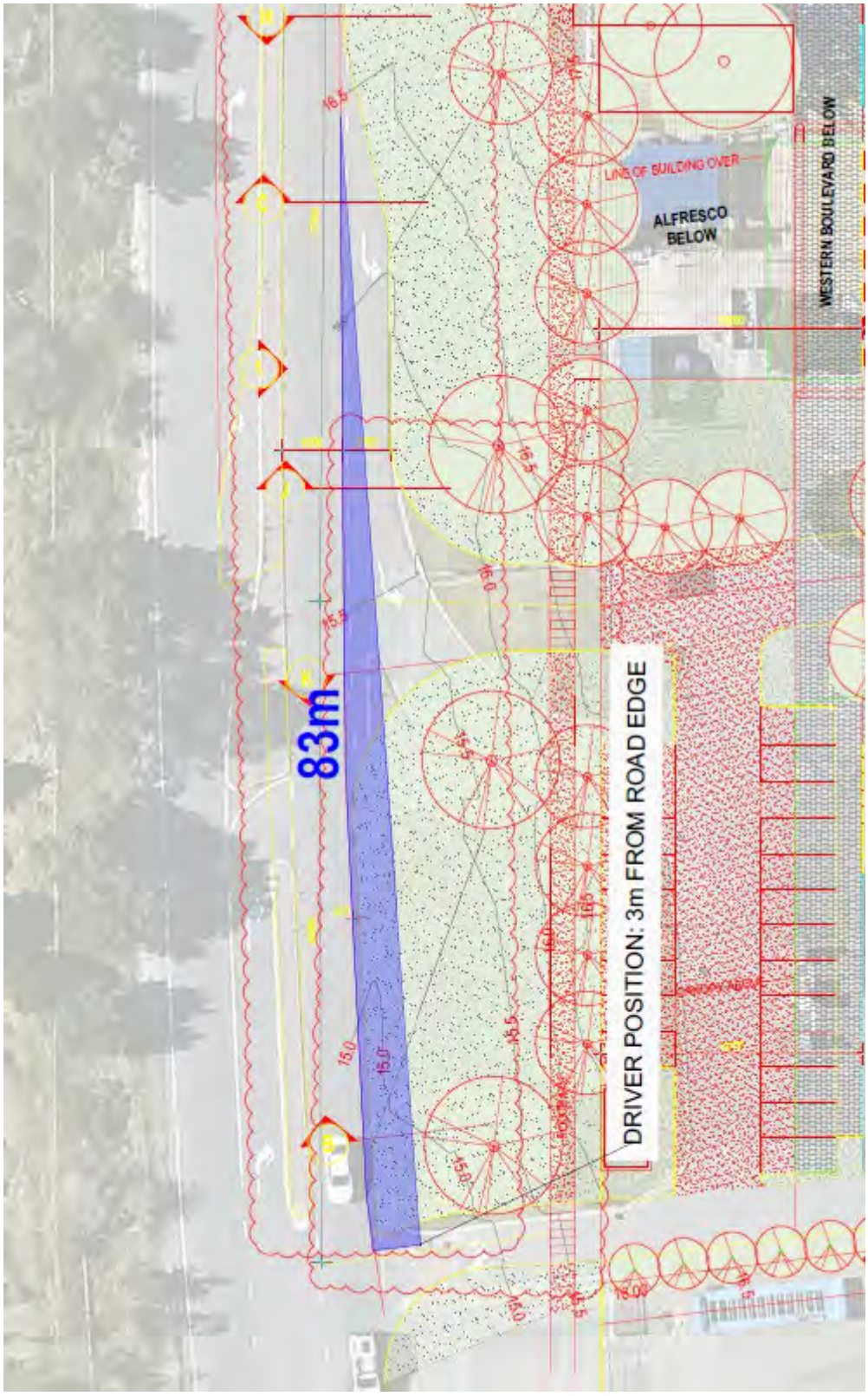
Figure 28 Sightline Assessment for Access 4 (Quill Way)



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This information is provided by the City of Cockburn

Figure 29 Sightline Assessment for Access 5 (Quill Way)



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3.5 Parking Provision

The statutory car parking requirements as documented in the City of Cockburn Local Planning Scheme No. 3 (Part IV, Table 2 and Table 3) has been used to estimate the parking requirements for the Master Plan (Revision A, dated 11/12/2024). A summary of the parking requirements and provisions of the proposed development is shown in **Table 5** below.

Table 5 Car Parking Requirements and Supply

Lots	Land Use	Yield	Car Parking Requirements		Car Parking Requirements (Total)	Number of Bays Provided
Building 1	Hotel	161 rooms	1 : 1 bedroom	161	207	118
	Retail/F&B	557 sqm NLA	1 : 12m² NLA	46		
Building 2	Tavern	505 sqm NLA	1 : 2 m² NLA of Drinking Area	252	351	166
	Restaurant	100 seats	1 per 4 seats	25		
	Gym/Fitness	836 sqm NLA + 10 staff	1 : 20 m² NLA + 1 per staff member	74		
Building 3	Office	12,439 sqm GLA	1 : 50m² GLA	249	327	217
	Retail/F&B	939 sqm NLA	1 : 12 m2 NLA	78		
Building 4	Office	12,439 sqm GLA	1 : 50m² GLA	249	294	272
	Retail/F&B	536 sqm NLA	1 : 12m² NLA	45		
Building 5	Medical	5 practitioners	5 : 1 Practitioner*	25	119	101
	Office	2,045 sqm GLA	1 : 50m² GLA	41		
	Retail/F&B	635 sqm NLA	1 : 12 m² NLA	53		
Total On-Site Car Bay Required					**1,298**	
Total On-Site Car Bays Provided					**874**	
Parking Surplus/Shortfall (+/-)					**-424**	

As outlined in **Table 5,** the proposed development requires a total parking supply of 1,298 car parking bays based on the statutory requirements. As the Site will provide a total of 874 parking bays (which includes 13 ACROD bays), this represents a shortfall of 424 bays compared to the statutory requirements. However, a detailed breakdown of how the parking will be managed across the site, including justification of any shortfalls within each of the Lots/buildings, is provided in the following sections.

3.5.1 Building 1 – Hotel

The hotel building will include a total of 161 rooms and 118 parking bays, which will be fully managed by the hotel operator. These bays are designed with a length of 5400mm and width of 2500mm to reflect the intended long-term use of these bays.

Any guests staying at the hotel will therefore be required to also book a parking spot if they require one during their stay. The hotel operator will also operate a small fleet of cars that will be parked in allocated bays, which guests can book for short-term use if required. Whilst there is a statutory shortfall of 43 bays for the hotel, this shortfall should be disregarded as the future operator has direct oversight and management of the use of these bays. It is also noted, whilst the hotel is unrestricted in terms of who can stay at the hotel, there will clearly be a higher proportion of workers associated with AUKUS. In this respect, overseas and interstate personnel are likely to travel in groups, where only one vehicle may service the travel needs of 3-4 persons. In addition, the use ride-share platforms and chartered vehicle services will also serve hotel guests.

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3.5.2 Buildings 3, 4 and 5 – Office

The office buildings 3 and 4 will each include multi-storey parking facilities that will be restricted to the staff in the office buildings, while 9 at-grade parking bays for office visitors will also be available out the front of Building 4. Building 5 also includes some office space, however its car parking is intended to be co-located within Buildings 3 and 4.

These bays are designed with a length of 5400mm and width of 2400mm to reflect the intended long-term use of these bays. In total the office floorspace in Buildings 3, 4 and 5 requires 539 car parking bays. Buildings 3 and 4 are providing 489 bays, which is contributing to the overall shortfall of 50 bays.

While the management of multi-storey parking bays will be undertaken by the office facilities manager, this will likely include dedicated parking bays to some staff, general/shared parking bays, as well as fleet vehicles for staff use. It is also noted that the parking requirement of 1 bay per 50m^2 GLA of office land use does not reflect recent changes to office workplace culture, including flexible working arrangements that allow staff to work remotely. 2024 Australian Bureau of Statistics recorded that 36% of Australian generally work from home or remotely. Whilst this is on a national level, recent statistics suggest that hybrid working in Western Australia is as high as 40%. Whilst these numbers are deemed on the higher-end and would likely relate to inner-city environments, the majority of white-collar workers would work on average one day at home a week which equates to a 20% reduction. This small change would reduce the overall car parking demand by 107 bays. Given the flexibility that employers now must accommodate, this is not an unreasonable percentage to apply, and this conservative adjustment has a vast impact on the overall parking demand.

As such, the proposed parking supply for the office land use is considered adequate, subject to the proposed management measures.

3.5.3 Remaining Land Uses – Retail/F&B, Tavern, Restaurant, Gym/Fitness & Medical

The remaining land uses are proposed to share the 95 at-grade parking bays within the main courtyard area, as well as the 22 parking bays to the west of Building 3, while 166 parking bays will be provided as part of Building 2, and an additional 6 parking bays will be provided for staff to the back of Building 5. Excluding the staff parking bays, these parking bays will be intended for medium-term visitor use and likely include time restrictions during typical office hours (e.g., 9am – 5pm). These bays are designed with a length of 5500mm (including 600mm overhang where applicable) and width of 2500mm to reflect the intended medium-term use of these bays.

The 95 bays are intended to service the ground floor retail/lunch bar tenancies as well as patrons of the medical centre. Based on the City's car parking requirements these land uses contribute a total of 222 bays. This is a huge number for some ground floor tenancies and medical centre, intending to provide high-turnover, essential amenities for workers. The nature of these land uses will be businesses such as:

- Newsagency;
- Hairdresser;
- Chemist;
- Lunch Bar (pre-prepared food);
- Fresh Food goods e.g. Bakery; and
- Café/Coffee Shop.

These land uses are not intended to be high-dwell time land uses in main-street shopping centres. For the scheme to require 222 bays for these ground floor tenancies is simply beyond any planning reasoning and is not locational-specific to Henderson.

The ground floor shop land uses equate to 2,667m^2 in floor area. The 1:12 ratio is an outdated car parking assessment ratio. In reference to a more contemporary framework, the Western Australian Planning Commission (WAPC) have released a planning manual – Non-Residential Car Parking Rates in Perth and Peel (November 2024). A shop or lunch bar land uses in a Local Centre is suggested with a **maximum** rate of 1:20m^2. As the more contemporary car parking standard, this would result in 113 car parking bays being required. In addition to the fact, there will be reciprocal use see **section 3.5.4**, these land uses will only have a limited peak period at lunch-time, and whilst walkability is sub-par in this locality, it should not be completely disregarded, as workers are still likely to walk to the site for lunch, particularly if the shared path along Quill Way (refer to

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Section 4.3) is constructed. This would all contribute to more fair and robust car parking rate in comparison to a 1:12m^2 ratio.

Building 2 includes a tavern, ground floor restaurant and gym. This results in a parking requirement of 351 car parking bays. To support the City's assessment, additional basement levels of car parking have been provided to support Building 2 which equates to a total of 166 bays. Notwithstanding this, the requirement of 351 bays for these uses is considered to be extremely high. Firstly, the ratios being applied under TPS3 are not consistent with Non-Residential Car Parking Rates in Perth and Peel (November 2024) released by the WAPC. Looking at the maximum rates, this would drastically alter the car parking assessment just on this aspect alone if more contemporary car parking rates were assessed:

- Tavern: 51 bays
- Restaurant: 33 bays
- Gym/Health Studio: 60 bays (120 persons assumed)
  Total; 144 bays in lieu of TPS 3 which requires 351 bays

Building 3 would actually have a surplus of car parking bays, if the WAPC Non-Residential Car Parking Rates in Perth and Peel were used, even with the maximum rates applied.

Building 3 will be self-sustained by the number of car parking bays provided on-site. It is noted the Tavern and Restaurant peak times will be during later evening periods, particularly on Fridays, consistent with the peak periods of the current Tavern on-site. In respect to the peak periods of the ground floor shop land uses, it is anticipated the gym at lunch time will have a similar peak period. However, given the Tavern and Restaurant will be well-below their peak periods at this time, and the fact there will be reciprocal use between the office and hotel patrons, there will be ample parking to service this period.

With consideration to the above, the car parking assessment should be determined based on **Table 6**. It is noted the only shortfall remaining is the shop/medical uses. This table does not assume shared and reciprocal car parking, which is discussed further in **section 3.5.4**.

Table 6 Summary of Parking Requirements and Provision

Land Use	Yield	Bays Required (as per TPS3)	Bays Provided	Shortfall (as per TPS3)	Adjusted Shortfall
Hotel	161 Rooms	161	118	43 bays	0 Bays There is no shortfall to the hotel, given the hotel can manage its car parking intake.
Retail / F&B	2,667m^2	222 bays	101 Bays	146 bays	57 Bays The shortfall should be reduced by 89 bays (remaining shortfall of 57 bays) based on WAPC Non-Residential Car Parking Rates.
Medical	5 practitioners	25 bays			
Restaurant	100 Seats	25 bays	166	185 bays	0 Bays There should be no shortfall for Building 3 land uses. Utilising the WAPC Non-Residential Car Parking Rates the 166 bays provided would be in surplus to contemporary car parking standards.
Tavern	505m^2	252 bays			
Gym/Fitness	836m^2	74 bays			
Office	26,923m^2	539 bays	489 bays	50 bays	0 Bays There should be no shortfall for office. Applying a conservative rate of 20% in hybrid working, would bring office to a surplus.
Total			**874 Bays**	**424 Bays**	**57 Bays**

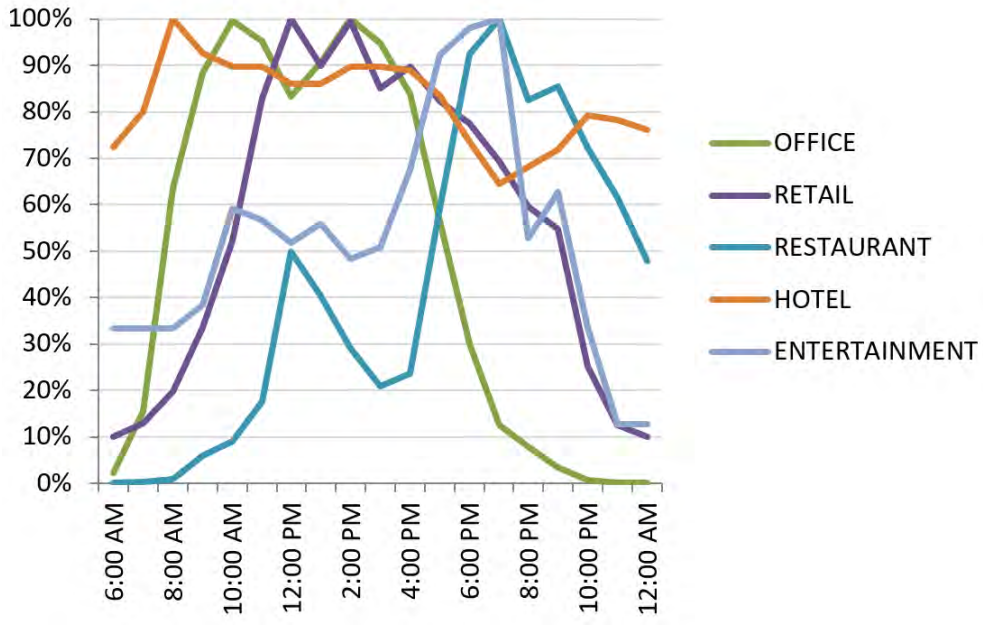
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3.5.4 Shared and Reciprocal Parking Analysis

Based strictly off the statutory parking requirements, the site has a significant shortfall of bays. However, these parking requirements do not consider the benefits of shared parking and assume that each component of the development operates in complete isolation from its local context. In reality, the high employment density from the Office buildings and, to a lesser extent, the Hotel building will have a significant impact on the need for clients/customers/guests to drive and park, while the flexibility of a shared on-site parking supply will support a more efficient parking arrangement. Additional analysis has therefore been undertaken to assess the shared and reciprocal parking effects on these parking requirements based on best-practice profiles from the Urban Land Institute's *Shared Parking* and Institute of Transport Engineers ITE Parking Generation, and the City of Cockburn LPS No. 3 parking requirements for the above on-site land uses.

Parking demand varies across the day, with different peak times for each of the land uses. The figure below describes best-practice weekday parking demand profile for each of the development land uses.

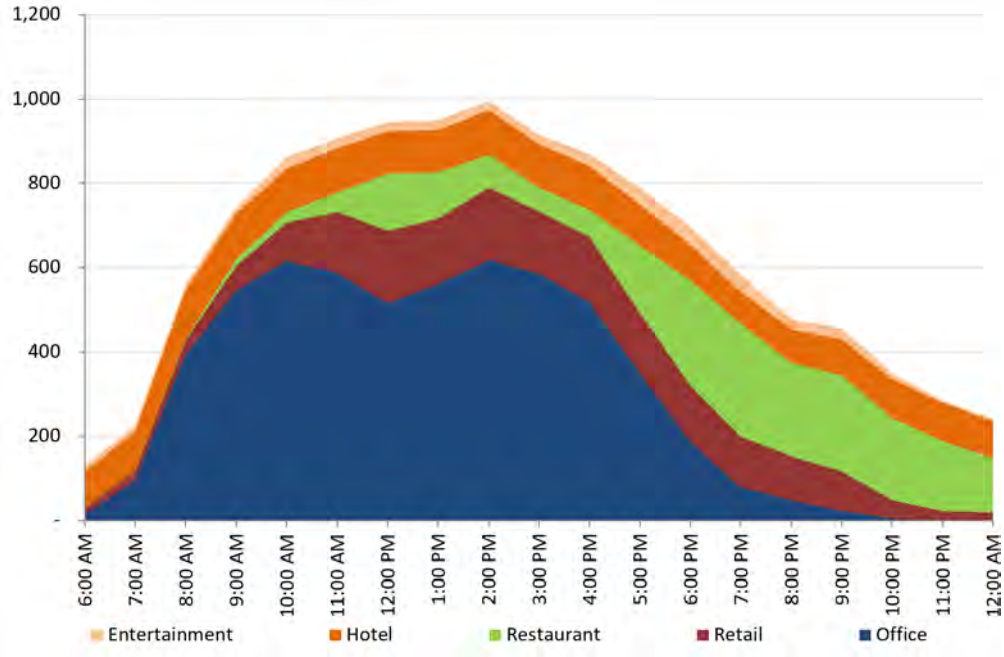
Figure 30 Weekday Parking Profiles by Land Use



Applying the development yields to these parking demand profiles result in a projection for parking demand across the day, by land use. These generation rates assume car-as-drive mode shared to the development is consistent with an isolated site.

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Figure 31 Parking Demand Across 24-Hour Period by Land Use



These profiles show the effect of shared parking, with the peak of each land use at a different time of day, resulting in a peak demand of 993 parking bays. However, as the Hotel and Office parking supply will be for exclusive use of the hotel guests and office workers (as described in Sections 3.5.1 and 3.5.2), these are excluded from the demand analysis, reducing the peak demand for the remaining uses to 272 bays. As a total of 267 parking bays will be provided to accommodate these parking demands, this represents a shortfall of only 5 bays which is considered negligible considering the scale of the proposed development.

3.6 Commercial Vehicle Parking

As described in Section 3.3.1, each of the Lots will include a dedicated loading/servicing area for HRVs (Lots 1 and 2) and MRVs (Lots 3 and 4), while 4 service parking bays will be provided in Building 3 (Lot 3) and 30 shared service and staff parking tandem bays will be provided in Building 4 (Lot 4).

While the City of Cockburn Local Planning Scheme No. 3 (Part IV, Table 2 and Table 3) also require 1 delivery bay per 500m^2 GLA of office space, this is considered excessive in this context as it would result in a requirement of approximately 50 delivery bays for the office buildings alone. A benchmarking exercise was therefore undertaking to compare the service/delivery parking rates for other LGAs across the Perth metropolitan area, with extracts provided in the following sub-sections. These policies all stipulate either 1 or a minimum of 1 service/delivery bays is to be provided for non-residential development. As noted in Section 3.3.1, the majority of deliveries to these buildings will likely be of small nature and therefore undertaken by delivery vans. As such, the proposed service/delivery parking arrangements proposed for these buildings are considered to be appropriate.

3.6.1 City of South Perth

As described in the City of South Perth Local Planning Policy 2.3 Non-Residential Parking, section 5.4: *"A minimum of one service/loading bay shall be provided on-site and marked for the exclusive use of service, delivery and courier vehicles between 7:00am – 7:00pm.. The requirement for a service bay may be varied based on the operational requirements of the use as determined by the City."*

3.6.2 City of Stirling

As described in the City of Stirling 6.7 Parking and Access Policy Manual, section 5.1.1: "*In non-residential developments with over 500m² of GFA, a minimum of one bay shall be permanently set aside and marked for the exclusive use of delivery, service, and courier vehicles*"

3.6.3 City of Melville

As described in the City of Melville Local Planning Policy No. 1.6 - Parking and Access, section 6.1: "*For developments with a NLA of greater than 500m² at least one service or loading bay to be set aside and marked for the exclusive use of service, delivery and courier vehicles between 7am – 7pm each day.*"

3.6.4 City of Vincent

As described in the City of Vincent Local Planning Policy: Non-Residential Parking, section 3.1: "*One (1) service bay per development shall be provided on-site and clearly marked.*"

3.7 End of Trip Facilities

As outlined in the City of Cockburn Local Planning Scheme No. 3 (Part IV, Table 3), the required bike parking spaces for the Site are summarised in **Table 7**.

Table 7 Bicycle Racks Requirements and Supply

Proposed Land Use		Yield	Bike Parking Requirements		Number of Bays Provided
Building 1	Hotel	161 rooms	Not applicable	-	-
	Retail/F&B	557 sqm NLA	1:200m²NLA	3	
Building 2	Tavern	1,035 sqm NLA	1:50m² GLA	21	8 bike bays
	Gym/Fitness	836 sqm NLA	1:200m²NLA	4	
Building 3	Office	453 sqm NLA	1:200m² GLA employees 1:750 m² GLA visitors	3	54 bike bays
	Retail/F&B	635 sqm NLA	1:200m²NLA	3	
Building 4	Office	10,333 sqm NLA	1: 1:200m² GLA employees 1:750 m² GLA visitors	66	90 bike bays
	Retail/F&B	536 sqm NLA	1:200m²NLA	3	
Building 5	Medical	375 sqm NLA	1:400m² GLA employees 1:200 m² GLA visitors	4	-
	Office	2,045 sqm GFA	1:200m² GLA employees 1:750 m² GLA visitors	14	
	Retail/F&B	635 sqm NLA	1:200m²NLA	3	
Total On-Site Bike Rack Required				122	
Total On-Site Bike Racks Provided				152	
Bike Parking Surplus				**30**	

A total of 152 bicycle parking spaces is provided on site, resulting in a surplus of 30 spaces compared to the City's requirement of 122 bicycle parking spaces.

The bike parking facilities are to be shared within the whole development. The site also provides male and female changing rooms are also available at in Buildings 3 and 4.

3.8 Road Network

The proposed development will utilise the existing road network for access to the Site. There are no public roads proposed within the Site, only driveways and internal circulating roadways.

3.9 Intersection Layouts and Controls

The intersections and controls for the proposed access locations are described in Section 3.3.

3.10 Pedestrian / Cycle Networks and Crossing Facilities

The proposed development will include construction of a 1.8m wide footpath along the section of Quill Way and Redemptora Road fronting the Site.

3.11 Public Transport Services

No changes to the public transport services are proposed as part of the development.

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4 INTEGRATION WITH SURROUNDING AREA

4.1 Surrounding Major Attractors / Generators

As shown in **Figure 32**, the Site is located within the Australian Marine Complex (AMC). The purpose of the proposed development is to provide land uses and services to support the general industrial and marine construction and maintenance activities undertaken within the AMC.

Figure 32 Surrounding Major Attractors / Generators

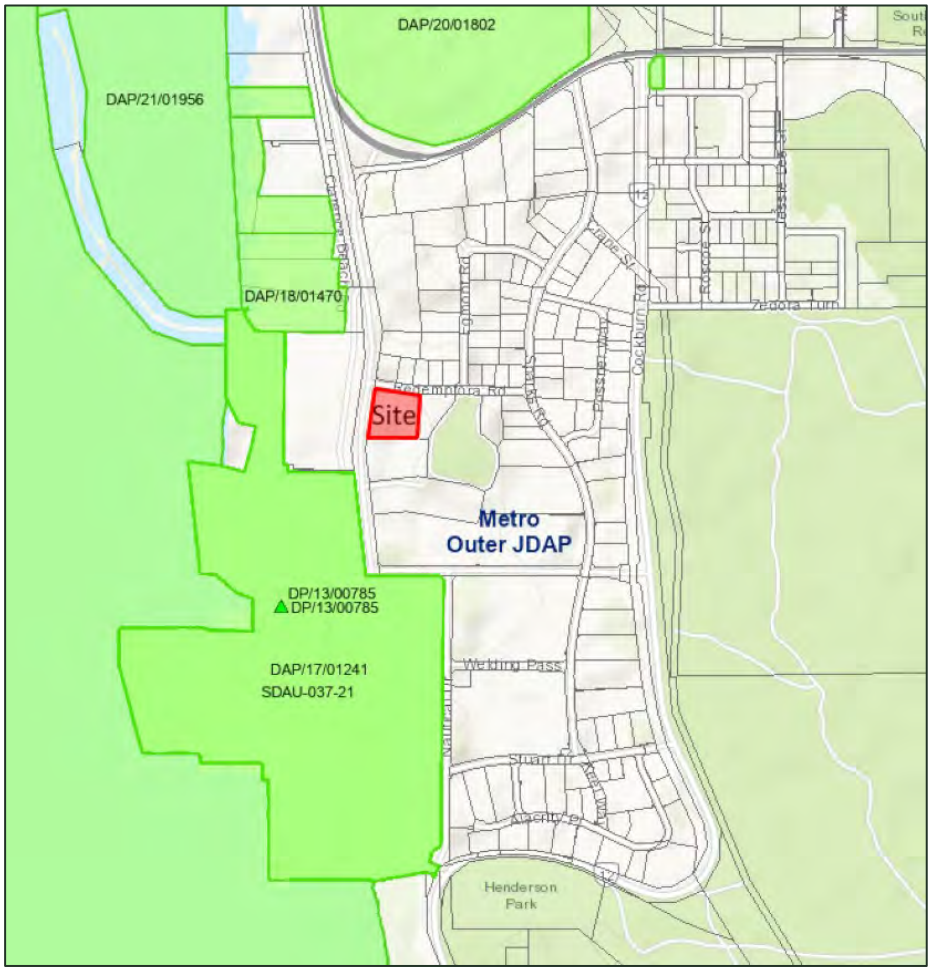


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4.2 Committed Development and Transport Proposals

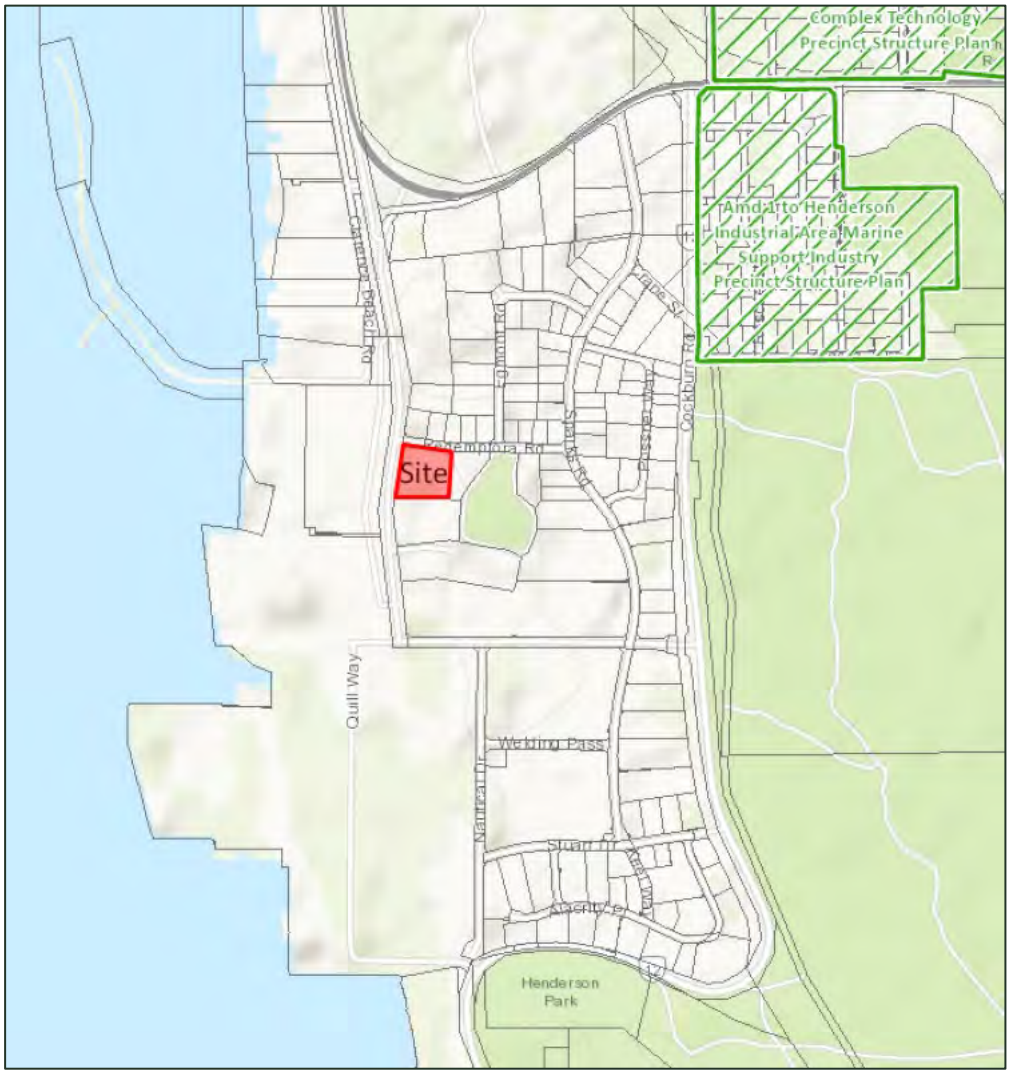
A search of the PlanWA website and database did not show any active development applications (refer to **Figure 33**) or structure plans (refer to **Figure 34**) within or adjacent to the Site. The development applications shown in **Figure 33** were resolved in 2020/21 or earlier.

Figure 33 Development Applications adjacent to Site



Source: PlanWA

Figure 34 Approved Structure Plans adjacent to Site



Source: PlanWA

4.3 Proposed Changes to External Road Network

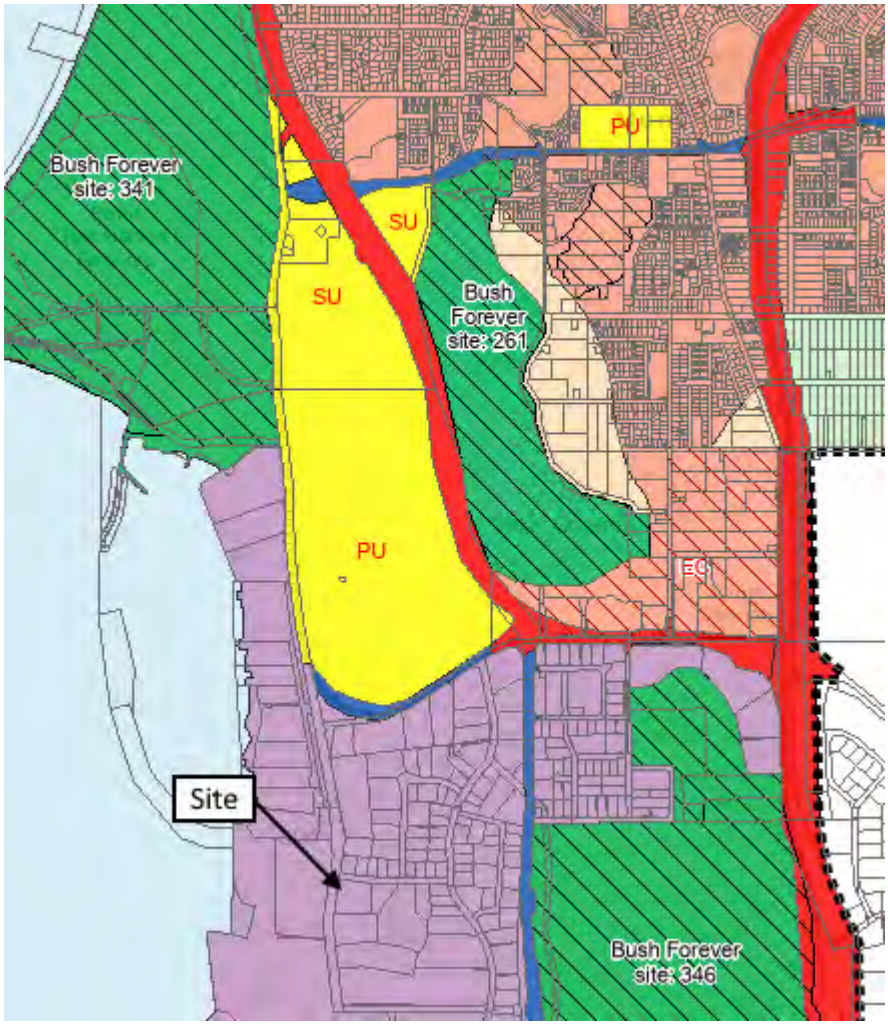
4.3.1 Quill Way Shared Path

PTG also contacted Department of Energy and Economic Diversification (DEED) (formerly the Department of Jobs, Tourism, Science and Innovation) who has previously commissioned a detailed transport study for the AMC precinct. While DEED confirmed that there are no immediate plans for changes to the existing road network along Quill Way they advised that a shared path is proposed to be constructed on one side of Quill Way to improve pedestrian and cyclist connectivity in the area. At this stage, the proposal remains unfunded and as a result an indicative timeframe for the construction of the shared path has not yet been determined.

4.3.2 Cockburn Road Extension

As shown in **Figure 35**, while not directly adjacent to the Site, the Metropolitan Region Scheme (MRS) includes a Primary Road reservation for an extension of Cockburn Road to the north of the intersection of Cockburn Road / Russell Road. As this proposed extension will result in a 4-way intersection at Cockburn Road / Russell Road, the form of intersection control would need to change from the existing priority control to either roundabout or traffic signal control. As there is no funding commitment to the construction of this road extension and considering the proposed alignment of the road adjacent to Bush Forever site 261 (Lake Coogee), this road extension has not been considered in the traffic analysis undertaken as part of this assessment.

Figure 35 MRS Road Reservation for Cockburn Road Extension



Source: PlanWA

4.4 Proposed Changes to Land Uses within 1200 metres

PTG is not aware of any proposed land use changes within 1200 metres of the Site.

4.5 Deficiencies in Existing Transport Networks and Remedial Measures

While the existing road network is considered sufficient, the pedestrian and cycling networks within AMC are generally considered to be deficient. As described in **Section 3.9**, the proposed development will include construction of a 1.8m wide footpath along the section of Quill Way and Redemptora Road fronting the Site.

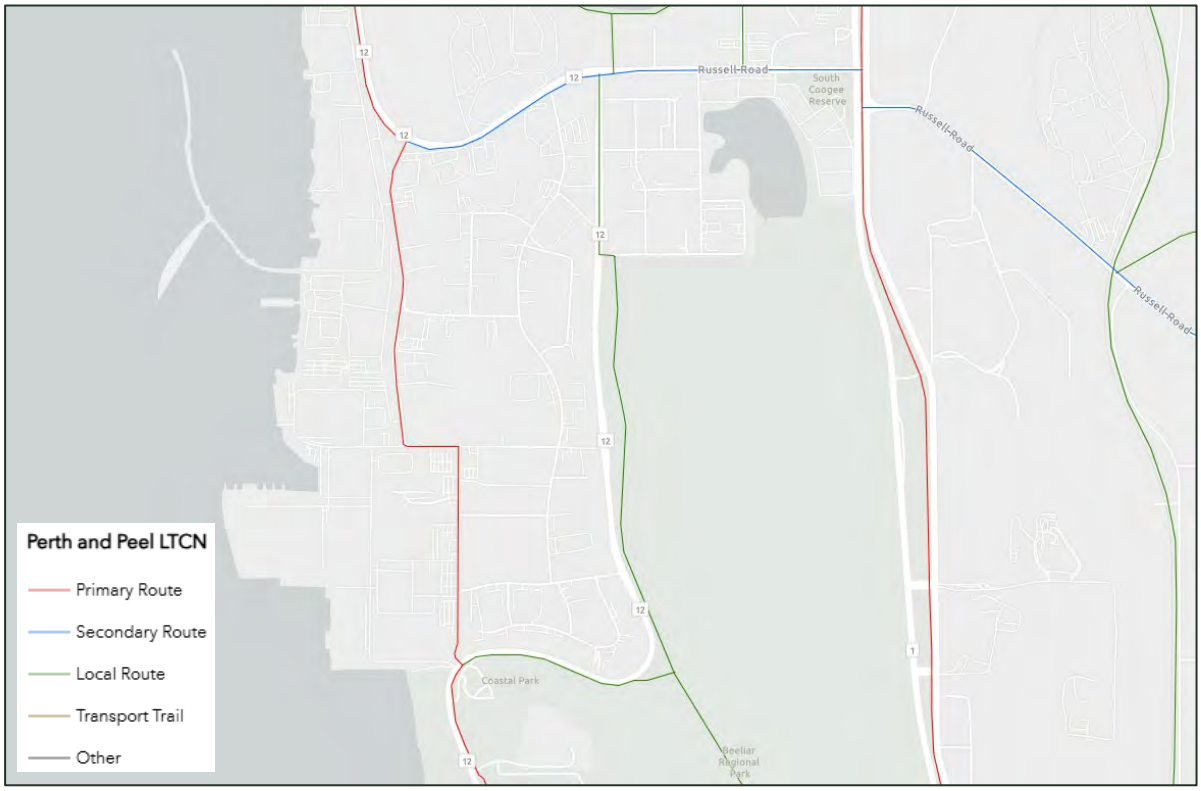
The proposed shared path along Quill Way, as described in **Section 4.2**, will improve both the pedestrian and cycling connectivity from AMC to the adjacent paths.

4.6 Proposed Changes to Pedestrian / Cycle Network

The Long-Term Cycle Network (LTCN) designates Quill Way as one of the Primary Routes, Cockburn Road/ Russel Road as a Secondary Route, and Redemptora Road as a Local Route.

The LTCN for the immediate surrounds of the Site is shown in **Figure 36**.

Figure 36 Perth and Peel Long-Term Cycle Network



Source: Department of Transport

This information is provided by the City of Cockburn

5 ANALYSIS OF TRANSPORT NETWORK

5.1 Assessment Years and Time Periods

The following time periods have been identified as the peak times in terms of traffic generation for the proposed land uses:

- Weekday AM Peak
- Weekday PM Peak

Based on information provided by the Client, the Site is expected to be fully developed by 2028. As such, assessment has been undertaken for the following assessment years:

- 2028, representing the year of full development for the Site
- 2038, representing 10 years post-opening

5.2 Development Generated Traffic

The traffic generation rates for the proposed Neighbourhood Activity Centre (NAC) land uses were based on the following sources:

- Institute of Transportation Engineers (ITE) 11th Edition
- RMS NSW Trip Generation and Parking Demand Surveys

The trip generation rates and development yields are detailed in **Table 8**, while the trip in/out distribution are summarised in **Table 9**. The total expected traffic volumes generated are summarised in **Table 10** for each of the proposed land uses and in **Table 11 f**or each of the Lots within the Site.

Table 8 Development Trip Generation Rates

Lot	Proposed Land Use	Source	Yield	Weekday AM Peak	Weekday PM Peak
Building 1	Hotel	ITE310	161 rooms	0.53/room	0.6/room
	Retail/ F&B	WAPC	557m2 NLA	2.50/100sqm GFA	10.00/100sqm GFA
Building 2	Tavern	ITE 975	505m2 NLA	-	16.72/100sqm GFA
	Fitness	ITE492	1,278m2 NLA	1.5/100sqm GLFA	4.22/100sqm GLFA
	Restaurant	ITE 931	100 seats	-	0.29 per seat
Building 3	Retail/ F&B	WAPC	939m2 NLA	2.50/100sqm GFA	10.00/100sqm GFA
	Office	ITE710	10,079m2 NLA	1.64/100sqm GLFA	1.98/100sqm GLFA
Building 4	Retail/ F&B	WAPC	536m2 NLA	2.50/100sqm GFA	10.00/100sqm GFA
	Office	ITE710	10,333 m2 NLA	1.64/100sqm GLFA	1.98/100sqm GLFA
Building 5	Retail, F&B	NSW	635m2 NLA	2.50/100sqm GFA	10.00/100sqm GFA
	Medical	ITE630	375m2 NLA	3.7/100sqm GLFA	4.54/100sqm GLFA
	Office	NSW	2,045m2 GLA	1.64/100sqm GLFA	1.98/100sqm GLFA

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Table 9 Directional Distribution

Land Use	Weekday AM Peak		Weekday PM Peak	
	IN	OUT	IN	OUT
Hotel	39%	61%	55%	45%
Retail F&B	80%	20%	50%	50%
Restaurant	-	-	67%	33%
Tavern	-	-	68%	32%
Office	88%	12%	17%	83%
Medical	60%	40%	42%	58%
Fitness	46%	54%	52%	48%

Table 10 Total Trip Generation per Land Use

Land Use	Weekday AM Peak		Weekday PM Peak	
	IN	OUT	IN	OUT
Hotel	45	41	57	41
Retail F&B	54	14	134	134
Restaurant	-	-	19	10
Tavern	-	-	57	27
Office	323	44	59	289
Medical	8	6	8	9
Fitness	9	10	28	26
TOTAL	**439**	**115**	**362**	**536**
	554		**898**	

Table 11 Total Trip Generation per Building

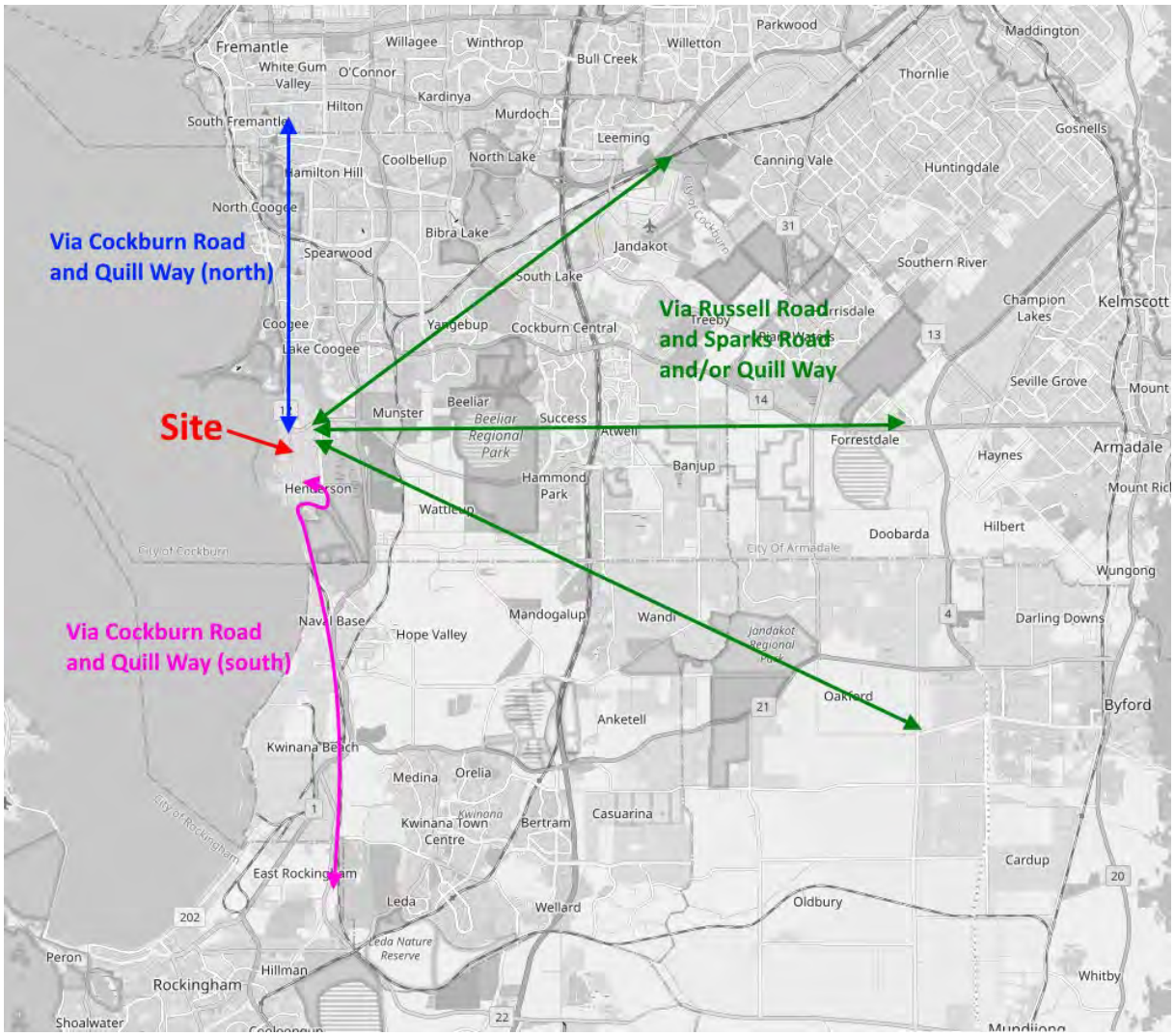
Land Use	Weekday AM Peak		Weekday PM Peak	
	IN	OUT	IN	OUT
Building 1	56	44	85	69
Building 2	9	10	104	63
Building 3	164	25	74	177
Building 4	160	23	54	160
Building 5	50	13	45	67
TOTAL	**439**	**115**	**362**	**536**
	554		**898**	

This information is provided by the City of Cockburn

5.3 Distribution of Generated Traffic

The traffic distribution was based on likely routes from residential areas to the north, south, and east where the workforce would reside; workers from the Fremantle and Cockburn were assumed to enter the AMC area via Cockburn Road and Quill Way (north), while workers from Kwinana, Rockingham and Mandurah were assumed to enter via Cockburn Road and Quill Way (south). Workers from LGAs further east (for example, Armadale, Gosnells, Canning, Kalamunda, etc) were assumed to enter via Russell Road and Sparks Road, although it is noted that the ease of undertaking right-turn movements at the intersections along Cockburn Road, as well as the turn movement permitted at each of the site accesses, were also considered. These regional desire lines are shown in **Figure 37**.

Figure 37 Regional Desire Lines to/from Site



The resulting assumed wider access distribution of the development-generated traffic is shown in **Figure 38** and **Figure 39**, while the site-specific traffic distribution is shown in **Figure 40** and **Figure 41**.

Figure 38 Directional Distribution to the Wider Network (Inbound)



Figure 39 Directional Distribution to the Wider Network (Outbound)

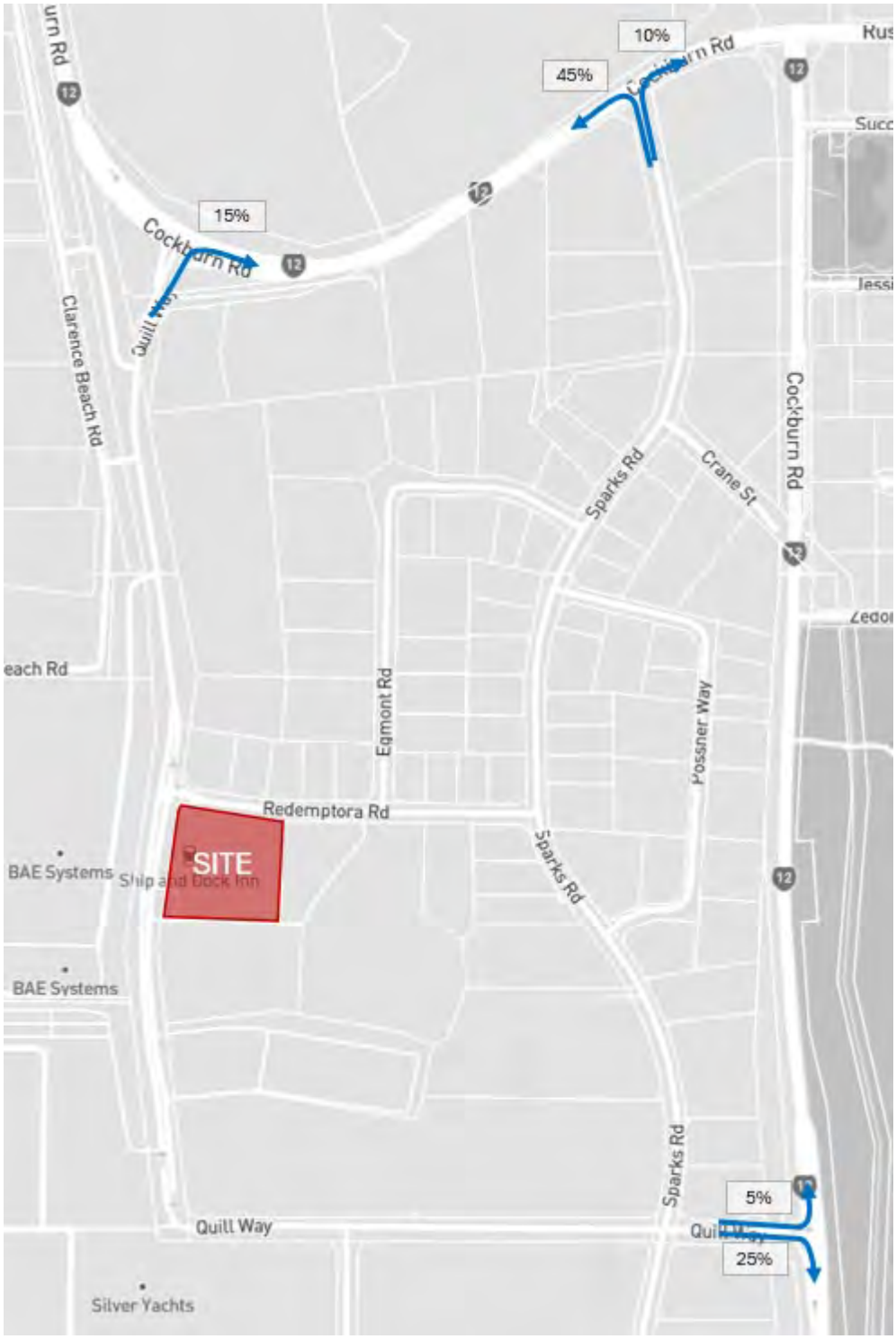


Figure 40 Directional Distribution (Inbound)



Figure 41 Directional Distribution (Outbound)



5.4 Existing Background Traffic Flows

Background traffic volumes on Quill Way were sourced from the traffic data described in **Section 2.4**, the majority of which was collected in May 2024.

While the WAPC Transport Assessment Guidelines do not provide specific guidance on the age of traffic data to be adopted for traffic analysis, Section 2 of Volume 5 - Technical Guidance notes that some traffic data is published in the *Statewide Traffic Digest* and covers the most recent six-year period. As the traffic data collected in May 2024 was collected within a two-year period, and also noting that a 2% per annum growth factor was applied to this traffic data to account for potential increases that may since have occurred, this data is considered sufficiently fit-for-purpose to be used as basis for this assessment.

The existing background traffic volumes are shown in **Figure 41** to **Figure 45.**

Figure 42 Background Traffic Flows (Site)

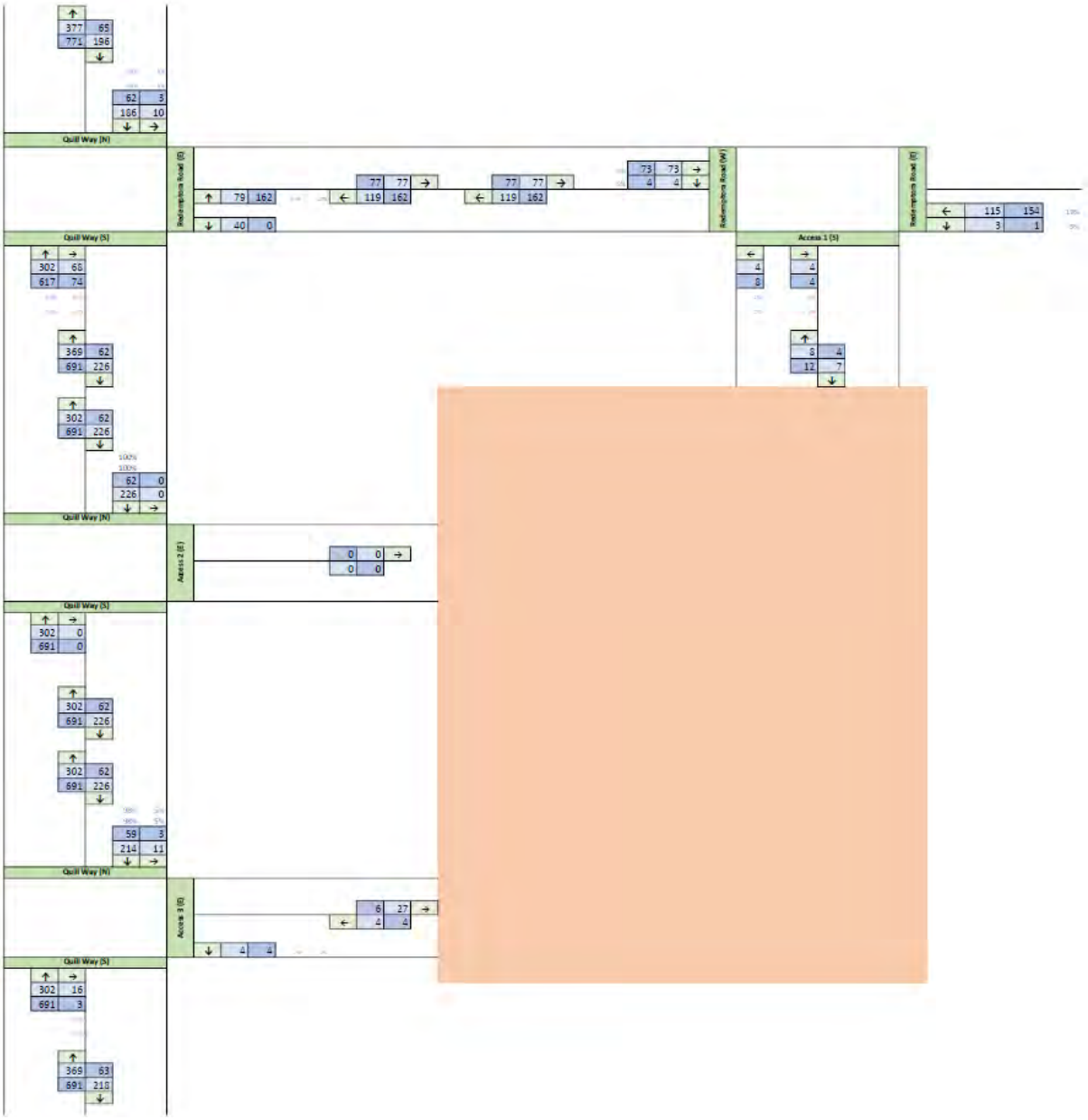


Figure 43 Background Traffic Flows (Quill Way/Cockburn Road)

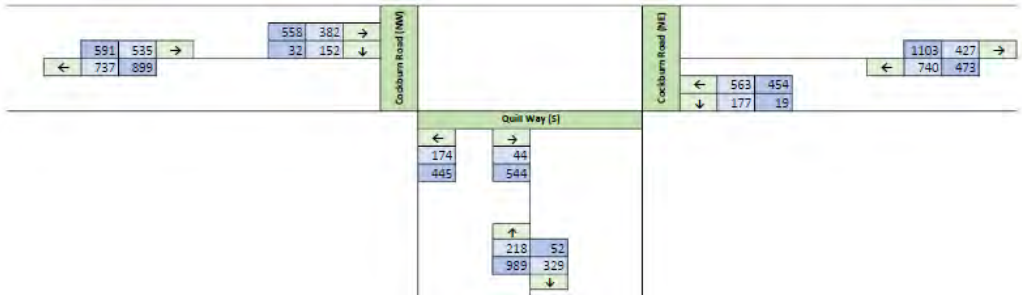


Figure 44 Background Traffic Flows (Cockburn Road/Spark Road Intersection) (north)

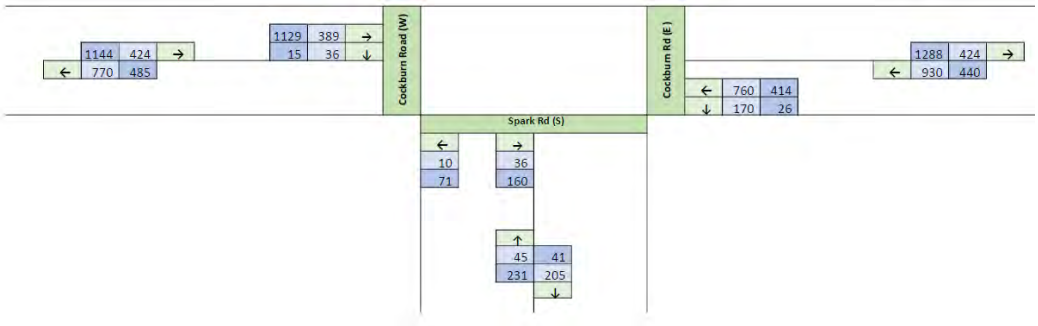


Figure 45 Background Traffic Flows (Redemptora Road/Spark Road Intersection)

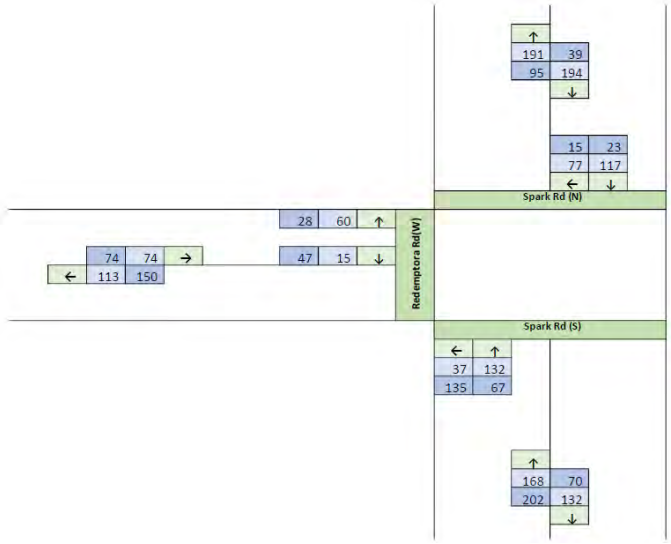
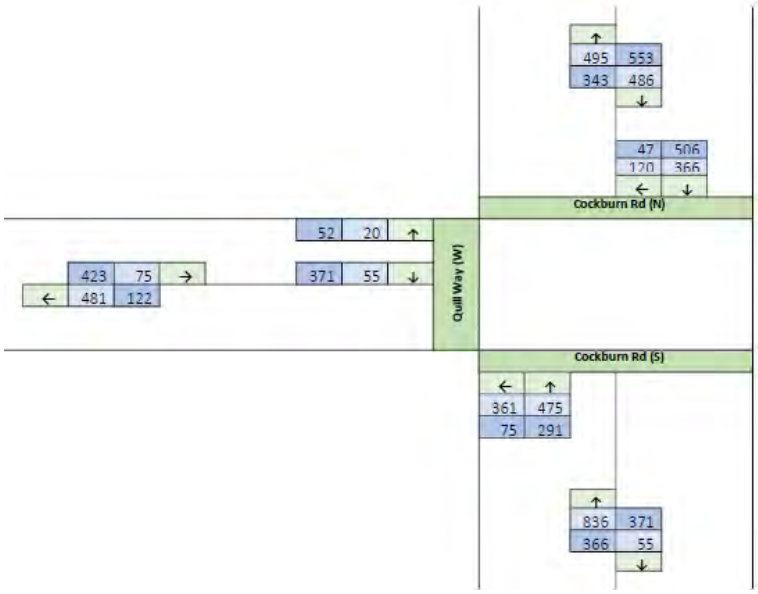


Figure 46 Background Traffic Flows (Cockburn Road/Quill Way Intersection) (south)



5.5 Background and 'With Development' Traffic Flows

A growth rate of 2.0% per annum was applied to the existing background traffic volumes to estimate the 2028 and 2038 background traffic volumes.

The 2028 and 2038 combined background and development traffic volumes for relevant intersections are shown in **Figure 46** to **Figure 55**.

Figure 47 2028 Background with Development Traffic Flows

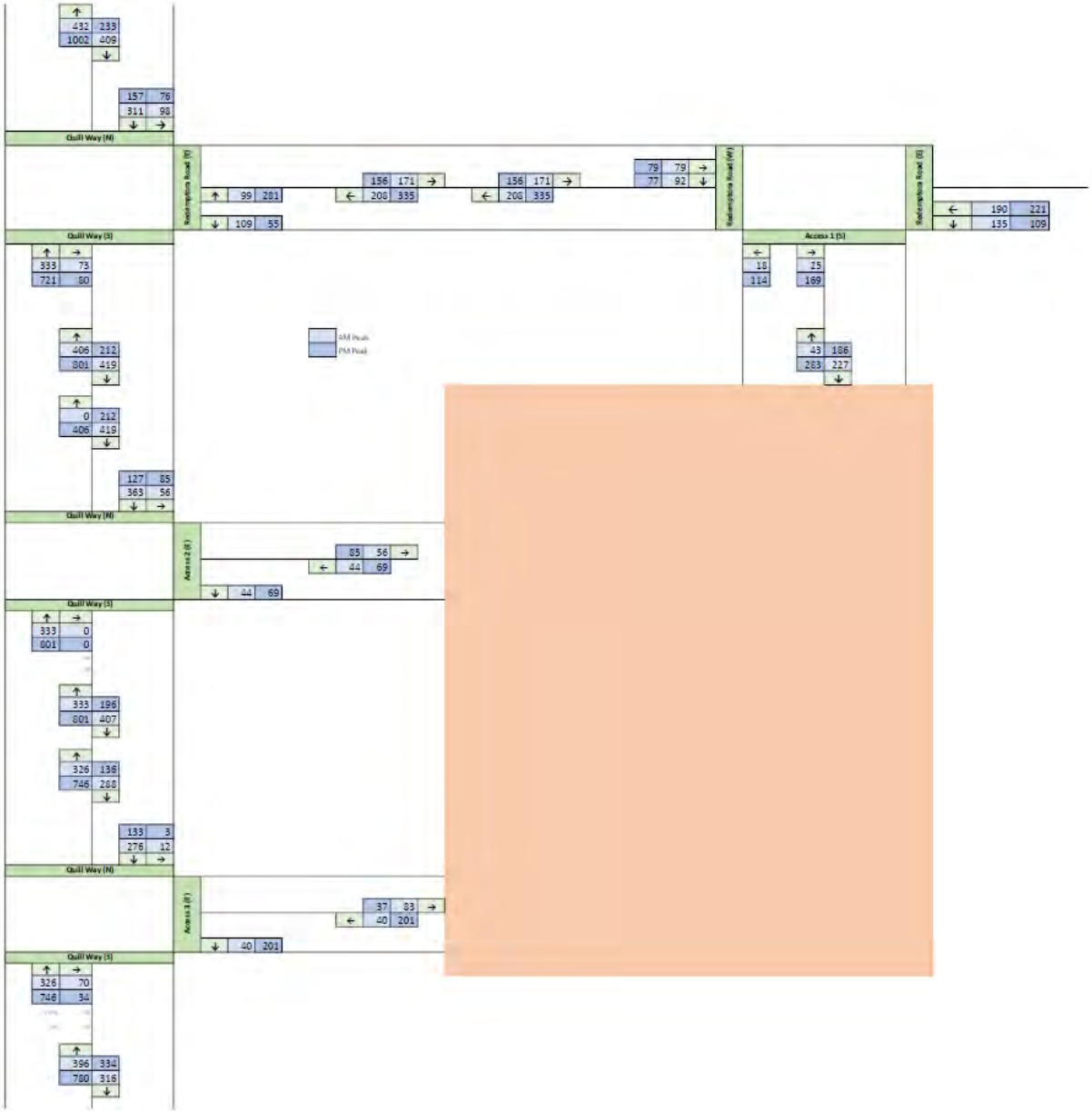


Figure 48 2038 Background with Development Traffic Flows (Site)

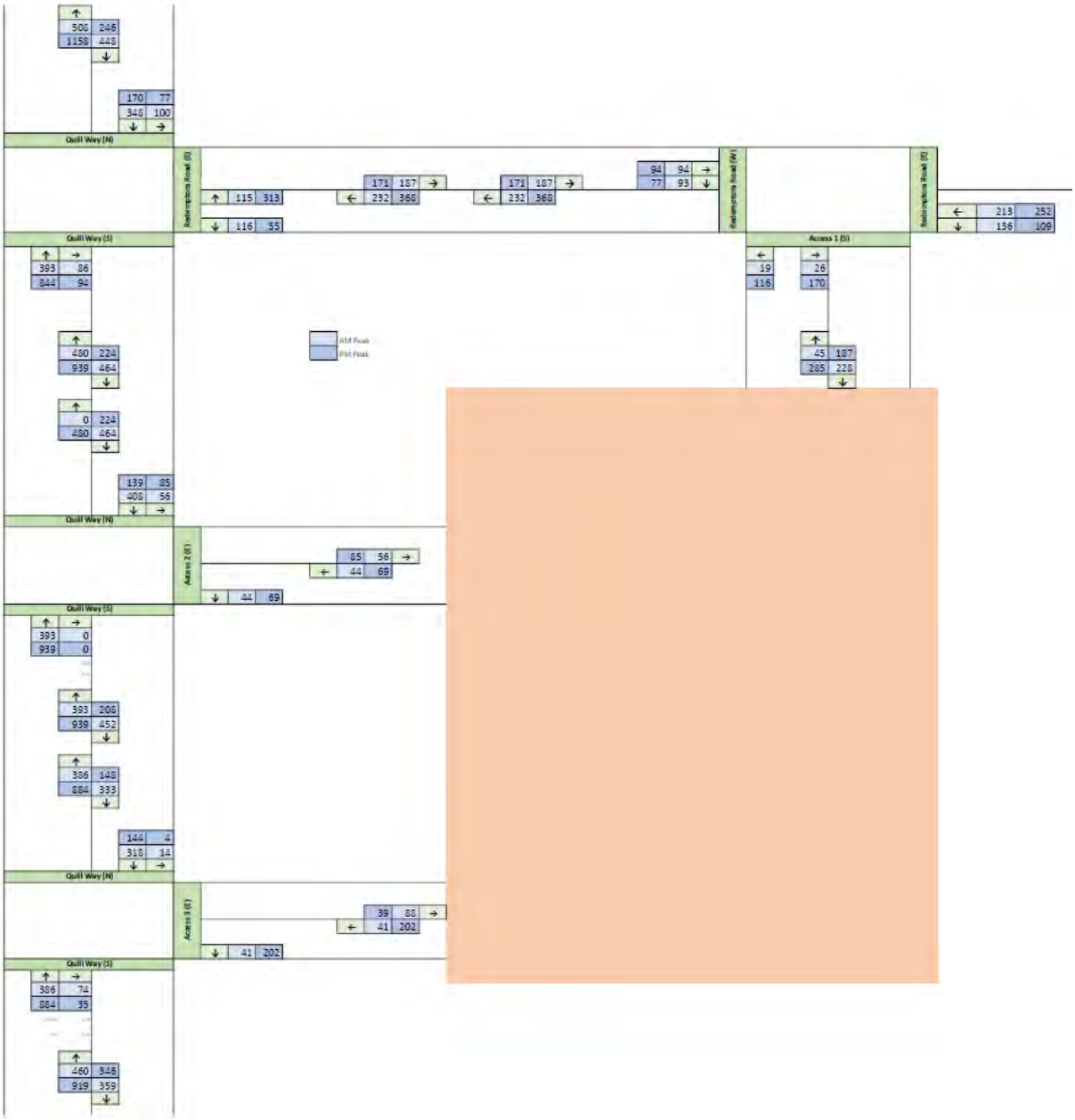


Figure 49 2028 Background with Development Traffic Flows (Cockburn Road/Quill Way Intersection) (north)

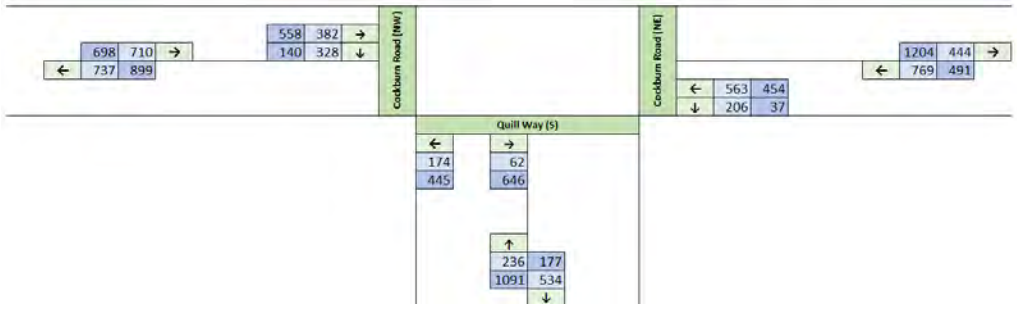


Figure 50 2038 Background with Development Traffic Flows (Cockburn Road/Quill Way)(north)

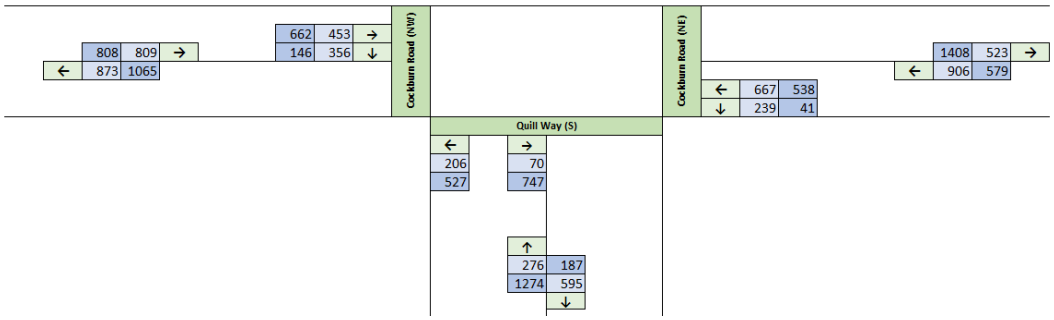


Figure 51 2028 Background with Development Traffic Flows (Cockburn Road/Spark Road Intersection)

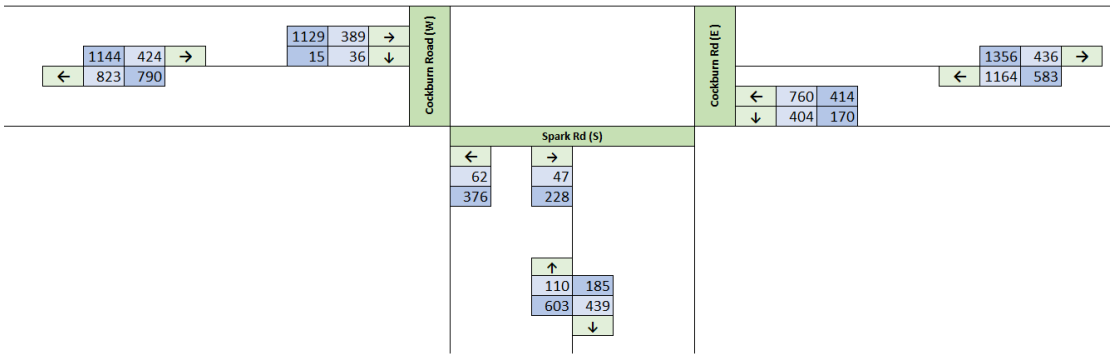


Figure 52 2038 Background with Development Traffic Flows (Cockburn Road/Spark Road Intersection)

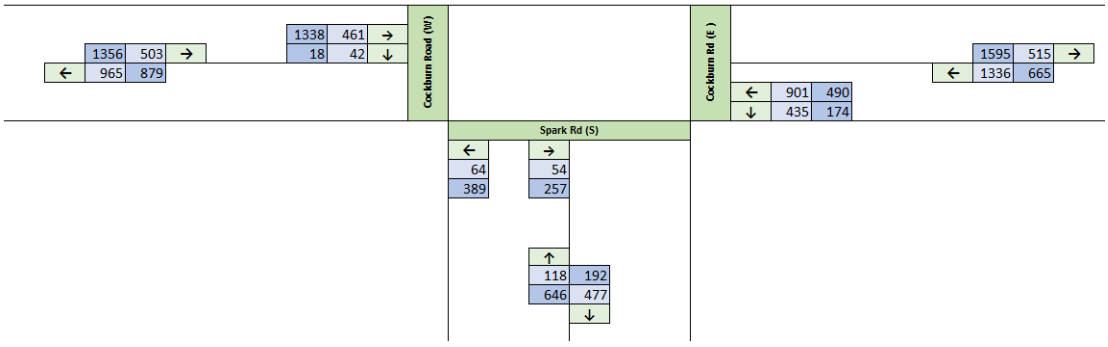


Figure 53 2028 Background with Development Traffic Flows (Redemptora Road / Spark Road Intersection)

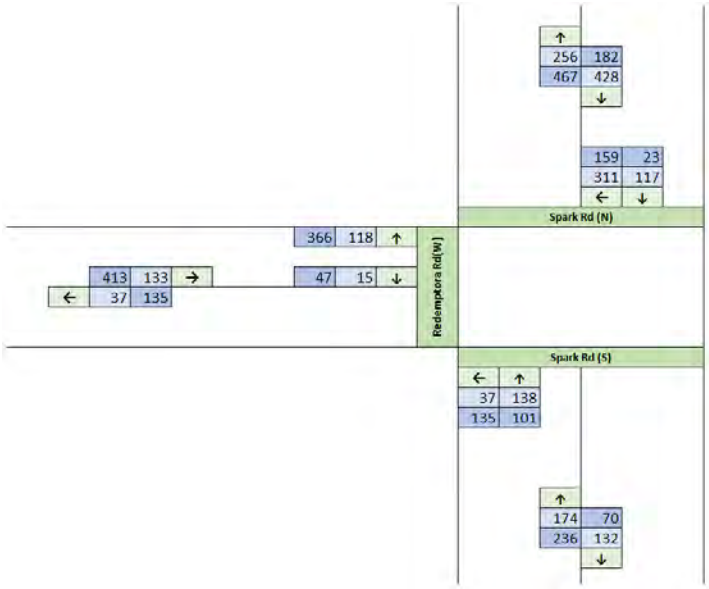


Figure 54 2038 Background with Development Traffic Flows (Redemptora Road/Spark Road Intersection)

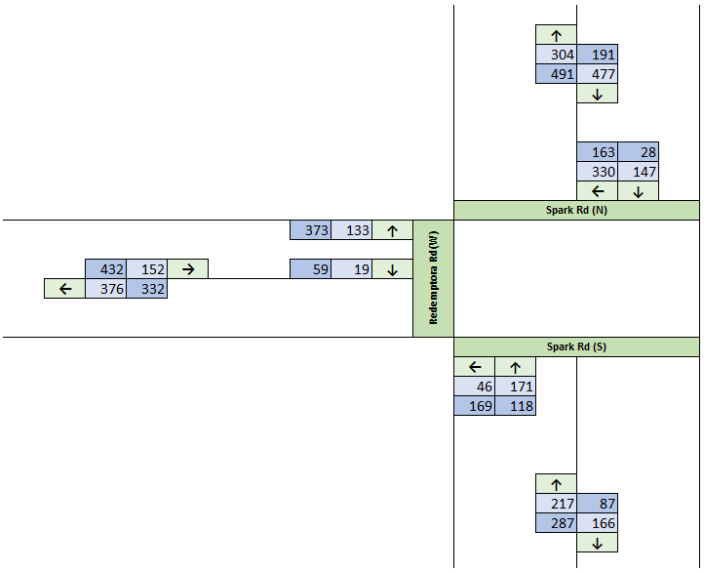


Figure 55 2028 Background with Development Traffic Flows (Cockburn Road/Quill Way Intersection)

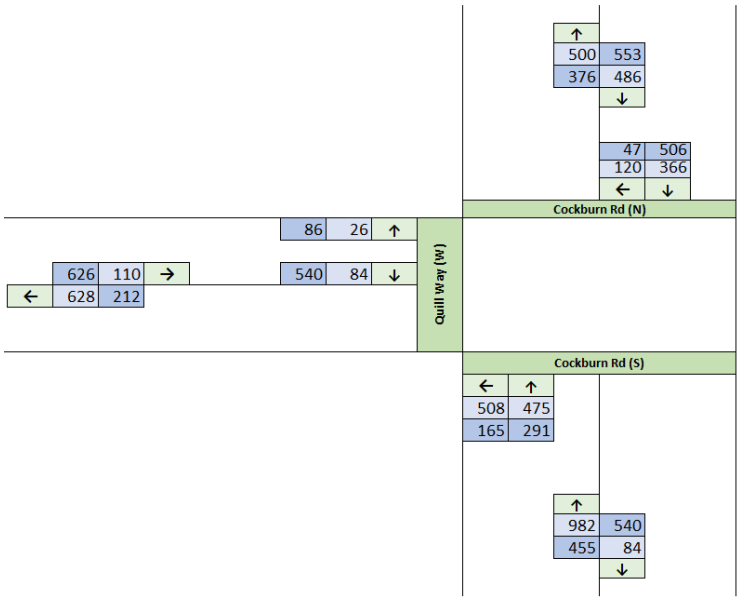
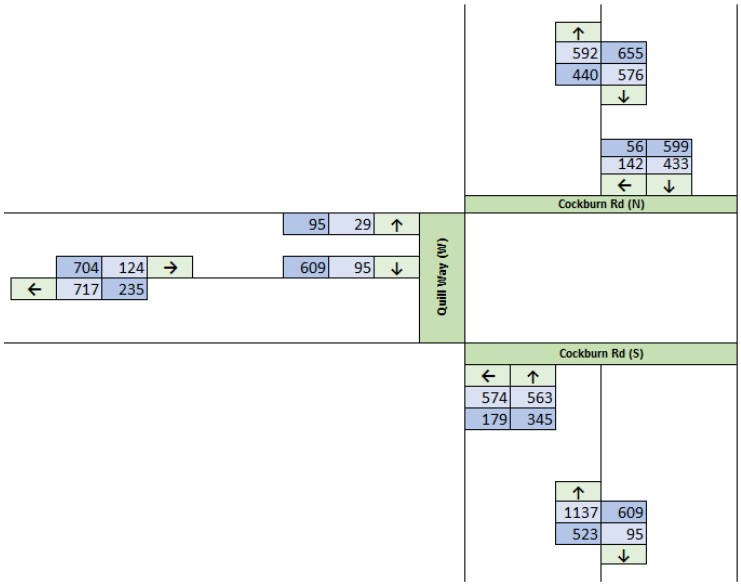


Figure 56 2038 Background with Development Traffic Flows (Cockburn Road/Quill Way Intersection)



5.6 Analysis of Development Accesses

SIDRA intersection analysis was undertaken for the following intersections:

- Access 1 / Redemptora Road
- Access 2 / Quill Way
- Access 3 / Quill Way
- Quill Way / Redemptora Road
- Quill Way / Cockburn Road (north)
- Quill Way / Cockburn Road (south)
- Quill Way / Sparks Road

The above intersections have been analysed using the SIDRA analysis program. This program calculates the performance of intersections based on input parameters, including geometry and traffic volumes. As an output, SIDRA provides values for the Degree of Saturation (DOS), queue lengths, delays, level of service, and 95th Percentile Queue. These parameters are defined as follows:

- DOS: is the ratio of the arrival traffic flow to the capacity of the approach during the same period. The theoretical intersection capacity is exceeded from an un-signalized intersection where DOS > 80;
- 95% Queue: is the statistical estimate of the queue length up to or below which 95% of all observed queues would be expected;
- Average Delay: is the average of all travel delays for vehicles through the intersection; and
- Level of Service (LOS): is the qualitative measure describing operational conditions within a traffic system and the perception by motorists and/or passengers. The different levels of service can generally be described as shown in **Table 12**. A LOS exceeding these values indicates that the road section is exceeding its practical capacity. Above these values, users of the intersections are likely to experience unsatisfactory queueing and delays during the peak hour periods.

Table 12 LOS Performance Criteria

LOS	Description	Signalised Intersection	Roundabout	Unsignalised Intersection
A	No or minimal delays (best condition). Queues are rarely more than one vehicle	≤10 sec	≤10 sec	≤10 sec
B	Short traffic delays. Occasionally more than one queued vehicle.	10-20 sec	10-20 sec	10-15 sec
C	Average traffic delays. Often more than one queued.	20-35 sec	20-35 sec	15-25 sec
D	Long traffic delays. Regularly more than one queued vehicle.	35-55 sec	30-50 sec	25-35 sec
E	Very long traffic delays. Traffic demand is near or equal to the practical capacity of the intersection. Almost always more than one queued vehicle.	55-80 sec	50-70 sec	35-50 sec
F	Forced flow conditions with extensive delays caused by geometric and/or operational constraints external to the intersection.	≥80 sec	≥70 sec	≥50 sec

Source: Highway Capacity Manual

Detailed SIDRA Movement Summaries are provided in **Appendix C** for each of the intersections and scenarios.

5.6.1 Quill Way/ Redemptora Road Intersection

The SIDRA Layout for the intersection of Quill Way/ Redemptora Intersection is shown in **Figure 56**.

The SIDRA model results are summarised in **Table 13** to **Table 14** for the 2028 and 2038 scenarios respectively. The model results suggest that while the development traffic will increase the average delays at the intersection, the delays will remain below the WAPC-recommended thresholds.

Figure 57 SIDRA Layout of Quill Way/ Redemptora Road Intersection

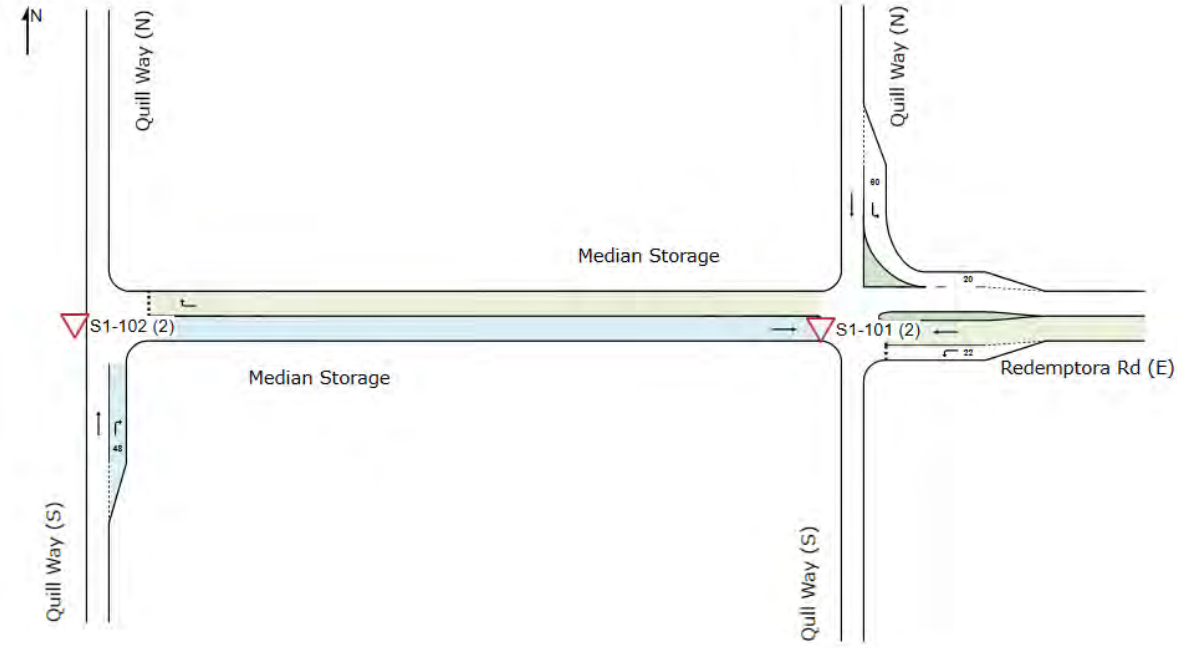


Table 13 Summary of SIDRA Movement Summary for Quill Way/ Redemptora Road Intersection (2028)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Quill Way (S)	T	0.18	0	A	0	0.37	0	A	0
	R	0.05	9	A	3	0.05	8	A	2
Redemptora Road (E)	L	0.12	9	A	4	0.05	9	A	1
	R	0.14	15	C	4	0.63	23	C	17
Quill Way (N)	L	0.06	6	A	0	0.04	6	A	0
	T	0.17	0	A	0	0.08	0	A	0
All Vehicles	-	0.18	-	-	4	0.63	-	-	17

Table 14 Summary of SIDRA Movement Summary for Quill Way/ Redemptora Road Intersection (2038)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Quill Way (S)	T	0.22	0	A	0	0.43	0	A	0
	R	0.05	9	A	3	0.05	8	A	0
Redemptora Road (E)	L	0.13	10	B	4	0.66	9	A	1
	R	0.17	17	C	5	0.79	31	D	32
Quill Way (N)	L	0.06	6	A	0	0.04	6	A	0
	T	0.19	0	A	0	0.09	0	A	0
All Vehicles	-	0.22	-	-	5	0.79	-	-	32

5.6.2 Access 1 / Redemptora Road

The SIDRA Layout for the intersection of Redemptora Road/Access 1 is shown in **Figure 57**. The SIDRA model results are summarised in **Table 15** and **Table 16** for the 2028 and 2038 scenarios respectively. The model results this intersection will perform satisfactorily for both scenarios.

Figure 58 SIDRA Layout of Redemptora Road/Access 1 Intersection

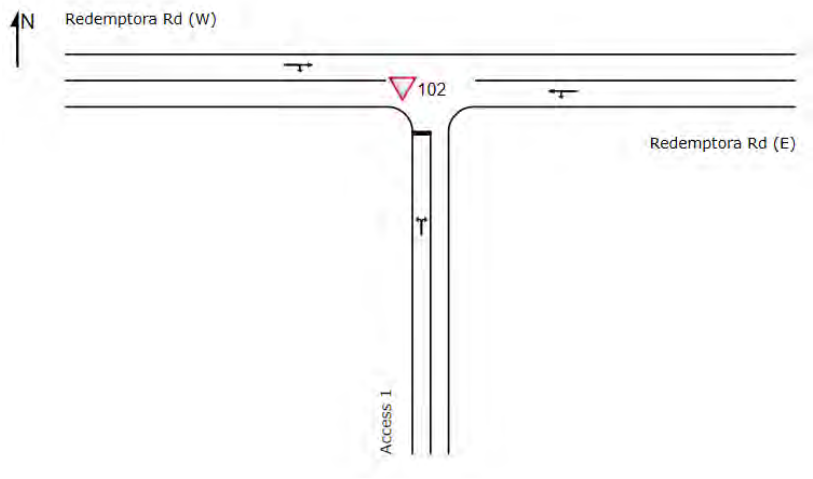


Table 15 Summary of SIDRA Movement Summary for Redemptora Road / Access 1 Intersection (2028)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Access 1 (S)	L	0.05	1	A	1	0.36	6	A	13
	R	0.05	3	A	1	0.36	7	A	13
Redemptora Road (E)	L	0.18	6	A	0	0.17	5	A	0
	T	0.18	0	A	0	0.17	0	A	0
Redemptora Road (W)	T	0.13	1	A	5	0.11	1	A	4
	R	0.13	7	A	5	0.11	6	A	4
All Vehicles	-	0.18	-	-	5	0.36	-	-	13

Table 16 Summary of SIDRA Movement Summary for Redemptora Road / Access 1 (2038)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Access 1 (S)	L	0.06	1	A	2	0.39	6	A	15
	R	0.06	3	A	2	0.39	9	A	15
Redemptora Road (E)	L	0.20	6	A	0	0.20	5	A	0
	T	0.20	0	A	0	0.20	0	A	0
Redemptora Road (W)	T	0.14	1	A	6	0.12	1	A	4
	R	0.14	7	A	6	0.12	6	A	4
All Vehicles	-	0.20	-	-	6	0.39	-	-	15

5.6.3 Access 2 / Quill Way

The SIDRA Layout for the intersection of Quill Way/ Access 2 is shown in **Figure 58**.

The SIDRA model results are summarised in **Table 17** and **Table 18**, and suggest that the intersection will perform satisfactorily for both scenarios.

Figure 59 - SIDRA Layout of Quill Way/ Redemptora Road Intersection - Scenario 2 and 3

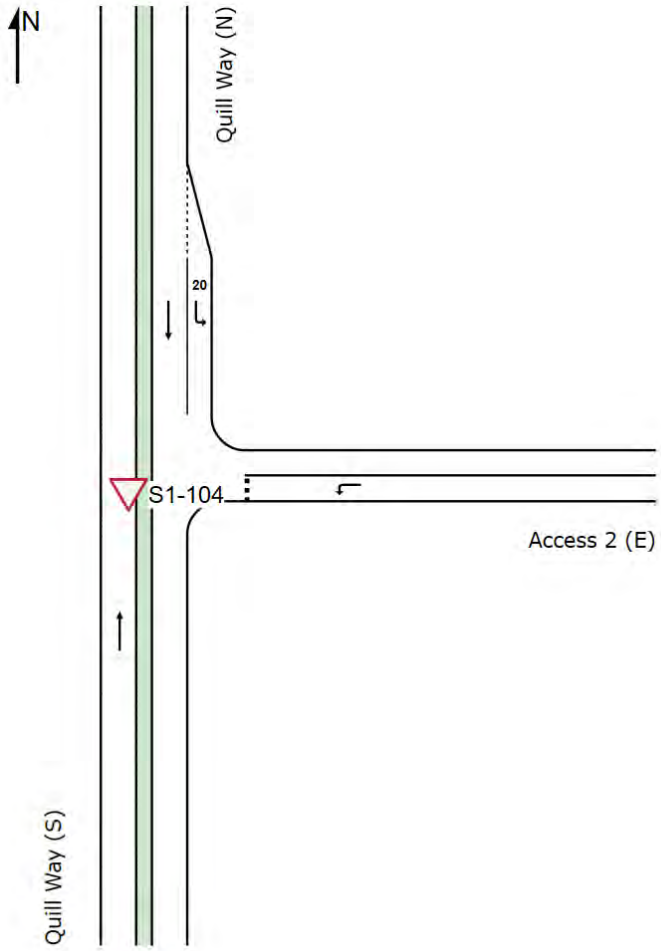


Table 17 Summary of SIDRA Movement Summary for Quill Way/ Access 2 (Scenario 2)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Quill Way (S)	T	0.19	0	A	0	0.45	0	A	0
Quill Way (N)	L	0.04	2	A	0	0.05	4	A	0
	T	0.20	4	A	0	0.07	0	A	0
Access (E)	L	0.05	0	A	1	0.05	1	A	2
All Vehicles	-	0.20	-	-	1	0.45	-	-	2

Table 18 Summary of SIDRA Movement Summary for Quill Way/ Access 2 (Scenario 3)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Quill Way (S)	T	0.22	0	A	0	0.53	0	A	0
Quill Way (N)	L	0.04	2	A	0	0.05	4	A	0
	T	0.23	4	A	0	0.08	0	A	0
Access (E)	L	0.05	0	A	1	0.05	1	A	2
All Vehicles	-	0.23	-	-	1	0.53	-	-	2

5.6.4 Access 3 / Quill Way

The SIDRA Layout for the intersection of Quill Way/ Access 3 is shown in **Figure 59.** The SIDRA model results are summarised in **Table 19** and **Table 20** for the 2028 and 2038 scenarios respectively. The model results this intersection will perform satisfactorily for both scenarios.

Figure 60 SIDRA Layout of Quill Way/ Redemptora Road Intersection

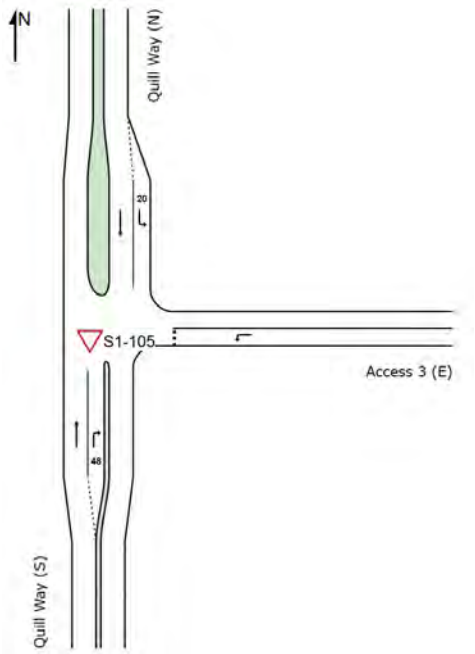


Table 19 Summary of SIDRA Movement Summary for Quill Way/ Access 3 Intersection (Scenario 2)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Quill Way (S)	T	0.18	0	A	0	0.42	0	A	0
	R	0.06	6	A	2	0.02	5	A	1
Access 3 (E)	L	0.04	1	A	1	0.16	1	A	6
Quill Way (N)	L	0.01	4	A	0	0.01	4	A	0
	T	0.15	0	A	0	0.07	0	A	0
All Vehicles	-	0.18	-	-	2	0.42	-	-	6

Table 20 Summary of SIDRA Movement Summary for Quill Way/ Access 3 Intersection (Scenario 3)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Quill Way (S)	T	0.22	0	A	0	0.50	0	A	0
	R	0.07	6	A	2	0.03	5	A	1
Access 3 (E)	L	0.04	1	A	1	0.16	1	A	6
Quill Way (N)	L	0.01	4	A	0	0.01	4	A	0
	T	0.18	0	A	0	0.08	0	A	0
All Vehicles	-	0.22	-	-	2	0.50	-	-	6

5.6.5 Quill Way / Redemptora Road

The SIDRA Layout for the intersection of Quill Way/ Sparks Road is shown in **Figure 60.** The SIDRA model results are summarised in **Table 21** and **Table 22** for the 2028 and 2038 scenarios respectively. The model results this intersection will perform satisfactorily for both scenarios.

Figure 61 SIDRA Layout of Quill Way/ Sparks Road Intersection

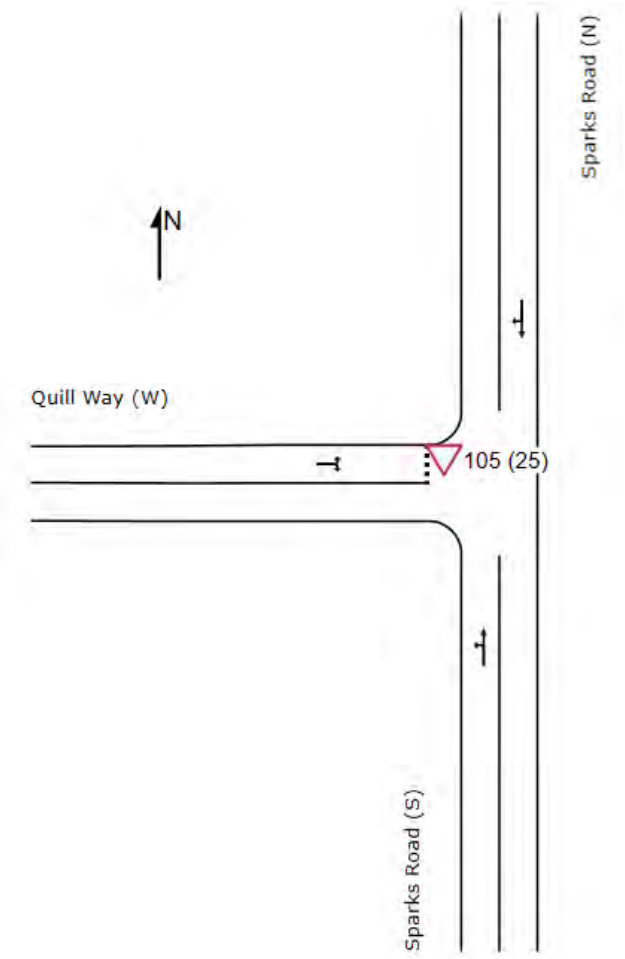


Table 21 Summary of SIDRA Movement Summary for Sparks Road / Quill Way (2028)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Sparks Road (S)	L	0.10	5	A	0	0.14	5	A	0
	T	0.10	0	A	0	0.14	0	A	0
Sparks Road (N)	T	0.29	1	A	14	0.15	1	A	6
	R	0.29	6	A	14	0.15	6	A	6
Redemptora Road (W)	L	0.11	5	A	4	0.34	5	A	14
	R	0.11	8	A	4	0.34	7	A	14
All Vehicles	-	0.29	-	-	14	0.34	-	-	14

Table 22 Summary of SIDRA Movement Summary for Sparks Road / Quill Way (2038)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Sparks Road (S)	L	0.13	5	A	0	0.18	5	A	0
	T	0.13	0	A	0	0.18	0	A	0
Sparks Road (N)	T	0.33	1	A	16	0.15	1	A	6
	R	0.33	6	A	16	0.15	6	A	6
Redemptora Road (W)	L	0.14	5	A	5	0.35	5	A	14
	R	0.14	9	A	5	0.35	7	A	14
All Vehicles	-	0.33	-	-	16	0.35	-	-	14

5.6.6 Quill Way / Cockburn Road (north)

The SIDRA Layout for the intersection of Quill Way/ Cockburn Road (north) is shown in **Figure 61.** The SIDRA model results are summarised in **Table 23** and **Table 24** for the 2028 and 2038 scenarios respectively. The model results this intersection will perform satisfactorily for both scenarios

Figure 62 SIDRA Layout of Quill Way/ Cockburn Road (north) Intersection

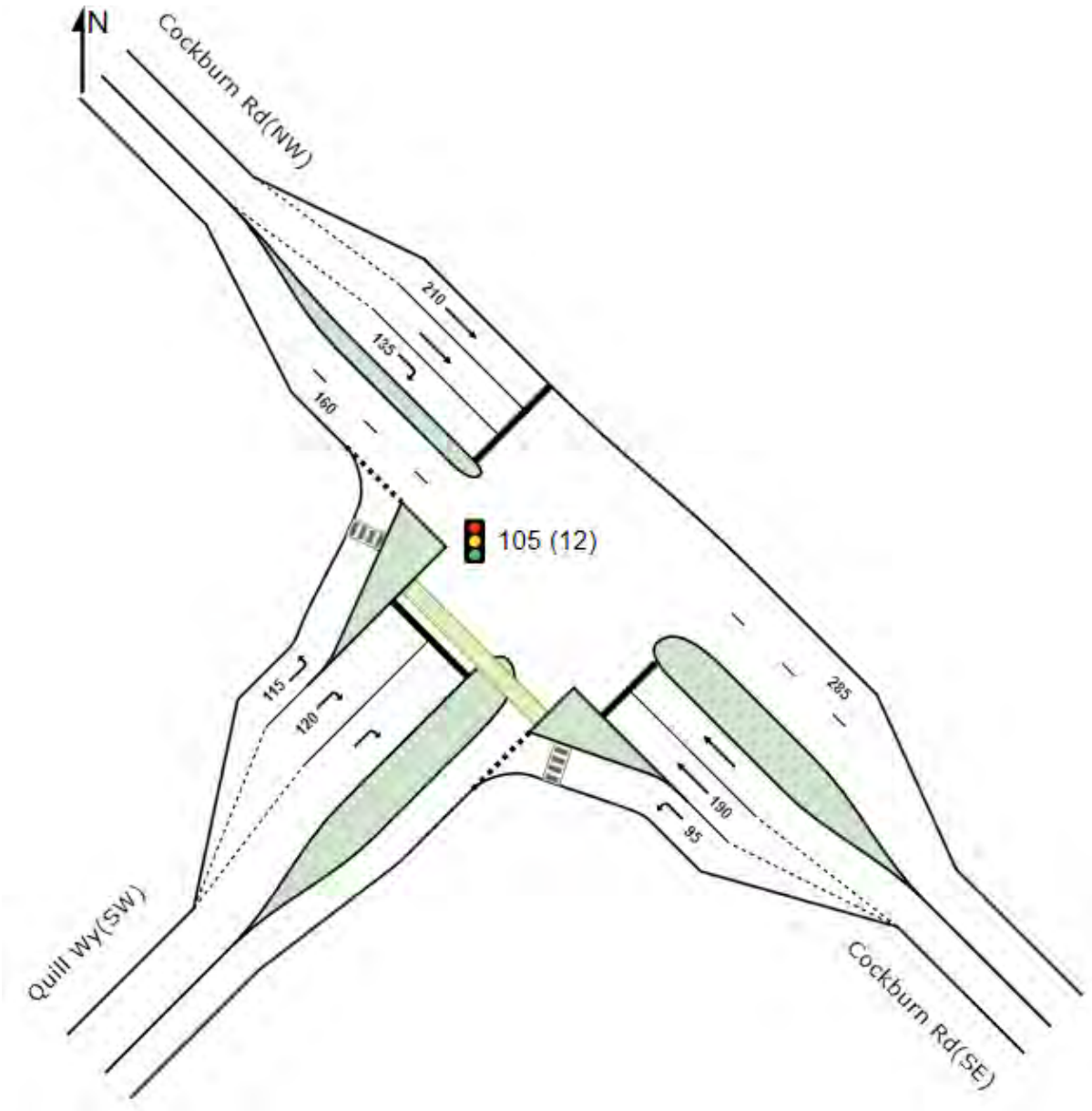


Table 23 Summary of SIDRA Movement Summary for Sparks Road / Quill Way (north) (2028)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Cockburn Road (E)	L	0.19	7	A	9	0.03	6	A	1
	T	0.61	22	C	62	0.50	22	C	48
Cockburn Road (W)	T	0.16	4	A	16	0.31	11	B	40
	R	0.61	25	C	68	0.62	35	C	34
Quill Way (S)	L	0.16	9	A	13	0.38	9	A	45
	R	0.17	34	C	7	0.62	27	C	68
All Vehicles	-	0.61	16	B	67	0.62	19	B	68

Table 24 Summary of SIDRA Movement Summary for Sparks Road / Quill Way (north) (2038)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Cockburn Road (E)	L	0.22	7	A	12	0.04	6	A	1
	T	0.69	23	C	77	0.59	23	C	59
Cockburn Road (W)	T	0.18	4	A	20	0.37	12	B	50
	R	0.69	27	C	78	0.69	36	D	37
Quill Way (S)	L	0.19	9	A	19	0.47	11	B	57
	R	0.19	34	C	8	0.69	29	C	82
All Vehicles	-	0.69	16	B	78	0.69	20	C	82

5.6.7 Quill Way / Cockburn Road (south)

The SIDRA Layout for the intersection of Quill Way/ Cockburn Road (south) is shown in **Figure 61.** The SIDRA model results are summarised in **Table 25** and **Table 26** for the 2028 and 2038 scenarios respectively. The model results this intersection will perform satisfactorily for both scenarios

Figure 63 SIDRA Layout of Quill Way/ Cockburn Road (south) Intersection

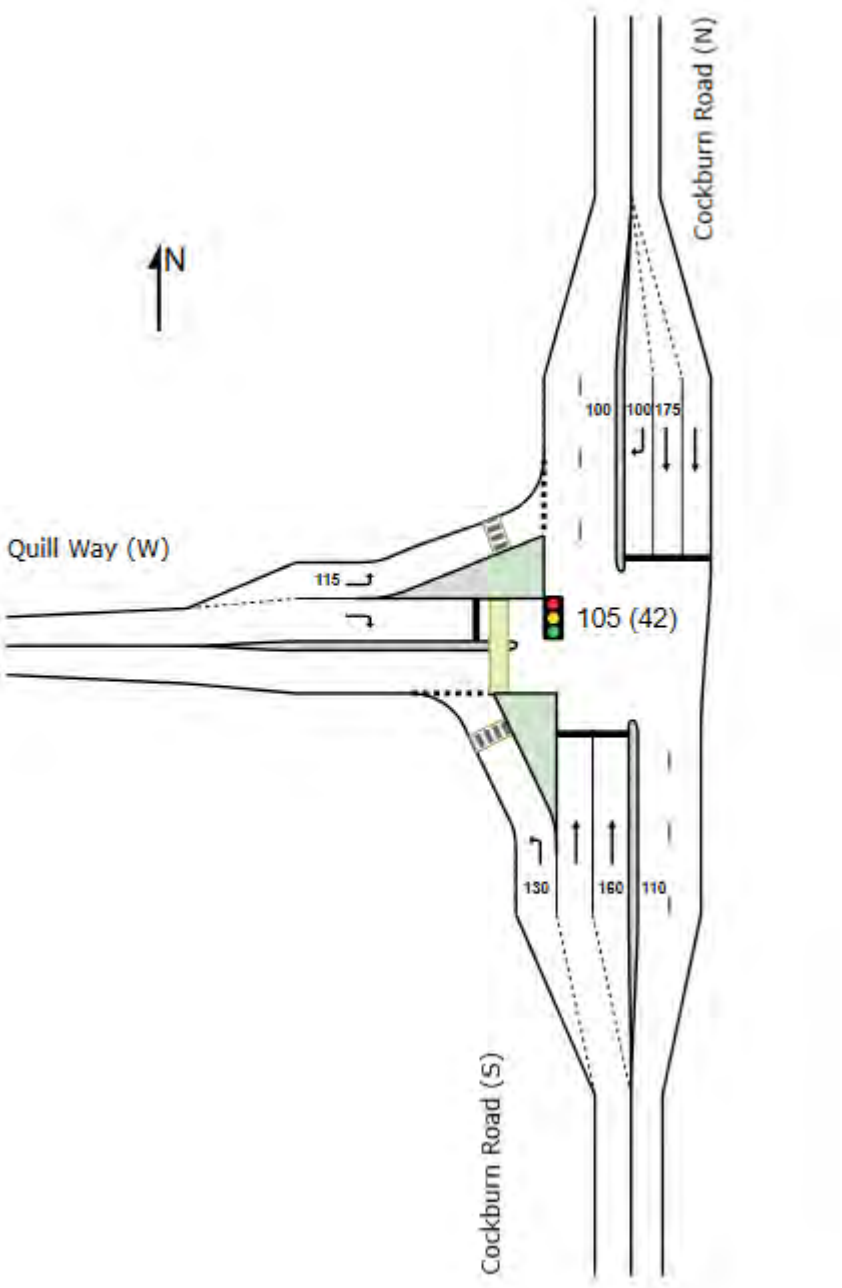


Table 25 Summary of SIDRA Movement Summary for Sparks Road / Quill Way (south) (2028)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Cockburn Road (S)	L	0.76	9	A	61	0.31	7	A	0
	T	0.38	19	B	93	0.68	28	C	52
Cockburn Road (N)	T	0.18	5	A	30	0.51	19	B	64
	R	0.38	48	D	50	0.31	36	D	12
Quill Way (W)	L	0.03	8	A	2	0.07	7	A	5
	R	0.38	54	D	36	0.75	24	C	123
All Vehicles	-	0.76	17	B	93	0.75	21	C	123

Table 26 Summary of SIDRA Movement Summary for Sparks Road / Quill Way (south) (2038)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Cockburn Road (S)	L	0.86	22	C	170	0.37	7	A	1
	T	0.43	23	C	138	0.81	31	C	67
Cockburn Road (N)	T	0.21	5	A	41	0.61	22	C	80
	R	0.43	58	E	75	0.37	36	D	15
Quill Way (W)	L	0.03	9	A	3	0.08	8	A	6
	R	0.43	68	E	52	0.85	31	C	165
All Vehicles	-	0.86	23	C	170	0.85	25	C	165

5.6.8 Cockburn Road / Sparks Road

The SIDRA Layout for the intersection of Cockburn Road / Sparks Road is shown in **Figure 63.** The SIDRA model results are summarised in **Table 25** for the 2028 scenario. It is noted that due to the signalised intersections at Rockingham Road / Russell Road and Cockburn Road / Quill Way (north), the "Extra Bunching" parameter was increased to 20% on the eastern and western approaches to account for the platooning effects resulting from these intersections.

Figure 64 SIDRA Layout of Cockburn Road / Sparks Road Intersection

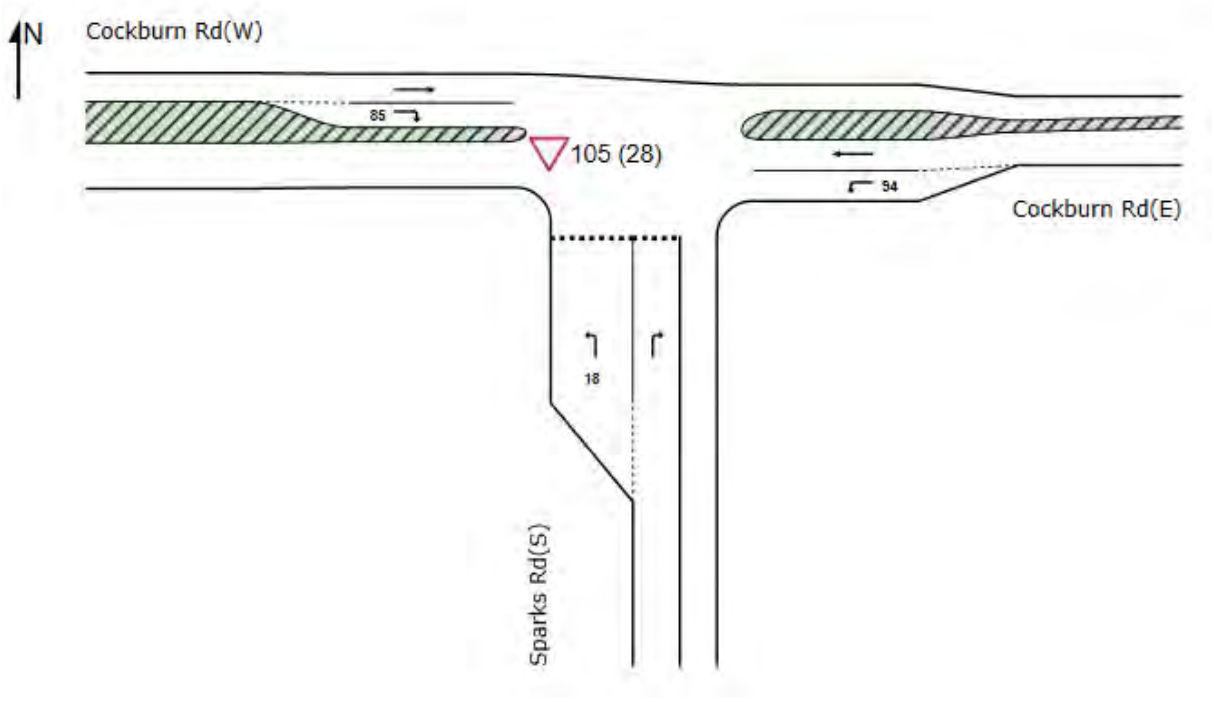


Table 27 Summary of SIDRA Movement Summary for Cockburn Road / Sparks Road (2028)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Sparks Road (S)	L	0.13	11	B	4	0.45	20	C	23
	R	0.64	73	F	15	3.71	>1000	F	840
Cockburn Road (E)	L	0.25	7	A	0	0.10	7	A	0
	T	0.44	0	A	0	0.22	0	A	0
Cockburn Road (W)	T	0.28	0	A	0	0.62	0	A	0
	R	0.11	17	C	0	0.02	9	A	1
All Vehicles	-	0.64	-	-	15	3.71	-	-	840

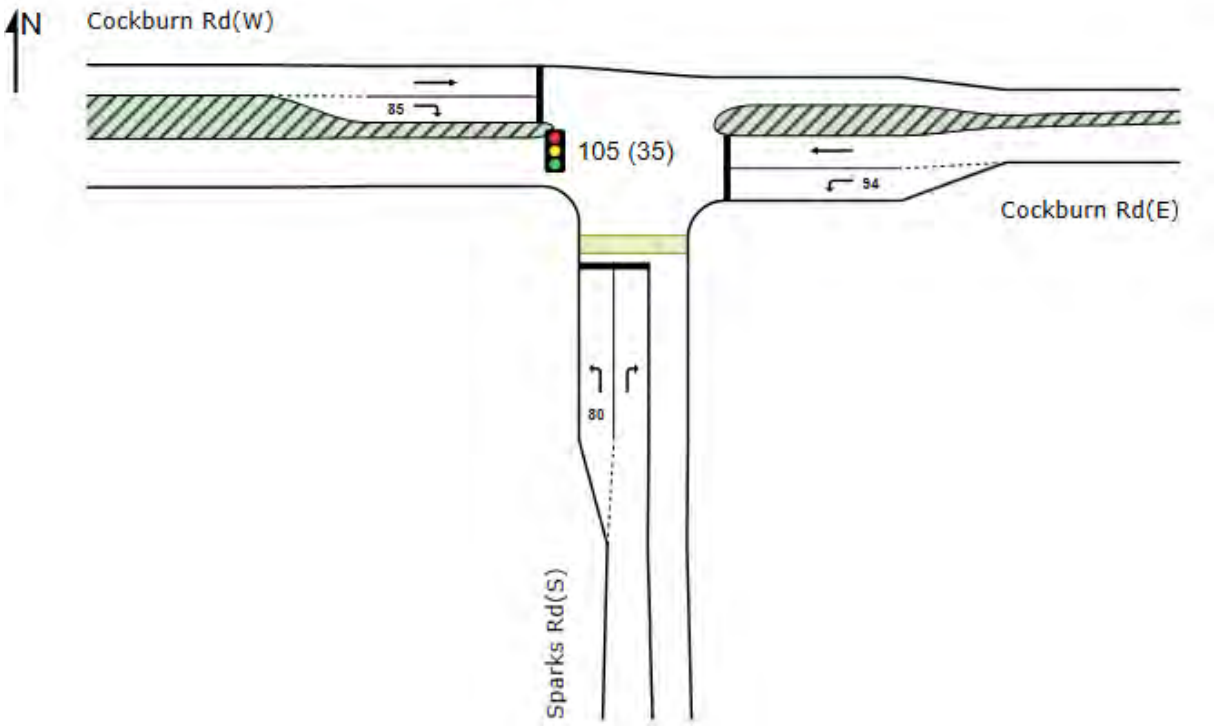
The model results show that the intersection will have insufficient capacity to accommodate the demand for the right-turn movement in the 2028 PM peak hour. A separate scenario has therefore been modelled to evaluate the intersection performance for "background only" traffic for the same intersection layout. The model results for this scenario are summarised in **Table 28** and show that the intersection would also have insufficient capacity to accommodate the background traffic volumes only for the 2028 PM peak hour.

Table 28 Summary of SIDRA Movement Summary for Cockburn Road / Sparks Road - Background Traffic Only (2028)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Sparks Road (S)	L	0.02	10	B	1	0.09	9	A	3
	R	0.38	49	E	9	2.34	>1000	F	473
Cockburn Road (E)	L	0.10	7	A	0	0.02	7	A	0
	T	0.44	0	A	0	0.22	0	A	0
Cockburn Road (W)	T	0.23	0	A	0	0.62	0	A	0
	R	0.08	14	B	2	0.02	9	A	1
All Vehicles	-	0.44	-	-	9	2.34	-	-	473

A potential mitigation measure for the intersection is shown in **Figure 64** and involves changing the form of intersection control to traffic signals. The lengths of the left-and-right turn lanes on Cockburn Road would remain as per existing but a separate 80m (nominal length) left-turn lane would be provided on Sparks Road.

Figure 65 Summary of SIDRA Movement Summary for Cockburn Road / Sparks Road - Potential Mitigation Measure (2028)



The model results for the suggested mitigation measure are summarised in Table 29 for the 2028 PM peak hour background traffic only scenario and show that the potential mitigation measure can accommodate the 2028 PM peak hour traffic demands.

The model results for the 2028 and 2038 "background plus development traffic" scenarios are summarised in **Table 30** and **Table 31** respectively. The model results suggest that while the suggested mitigated measure can accommodate the 2028 traffic demands, with the further increases to background traffic volumes in the 2038 scenarios, further mitigation measures will likely be required. However, as the Cockburn Road Extension (refer to **section 4.3.2**) may have been constructed by 2038, this would substantially reduce the traffic volumes on this section of Cockburn Road, in which case further mitigation measures would likely not be required.

Table 29 Summary of SIDRA Movement Summary for Cockburn Road / Sparks Road - Background Traffic Only (2028)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Sparks Road (S)	L	0.04	47	D	4	0.17	34	C	20
	R	0.43	64	E	19	0.82	53	D	61
Cockburn Road (E)	L	0.12	8	A	14	0.02	8	A	2
	T	0.60	8	A	165	0.36	9	A	69
Cockburn Road (W)	T	0.27	2	A	37	0.82	10	B	247
	R	0.42	65	E	17	0.16	56	E	7
All Vehicles	-	0.60	10	B	165	0.82	15	B	247

Table 30 Summary of SIDRA Movement Summary for Cockburn Road / Sparks Road (2028)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Sparks Road (S)	L	0.20	38	D	22	0.75	39	D	127
	R	0.46	52	D	20	0.86	54	D	89
Cockburn Road (E)	L	0.31	9	A	39	0.13	9	A	13
	T	0.67	9	A	169	0.38	11	B	76
Cockburn Road (W)	T	0.28	3	A	37	0.86	19	B	317
	R	0.34	53	D	14	0.16	58	E	7
All Vehicles	-	0.67	11	B	169	0.86	23	C	317

Table 31 Summary of SIDRA Movement Summary for Cockburn Road / Sparks Road (2038)

Intersection Approach		Weekday AM Peak				Weekday PM Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
Sparks Road (S)	L	0.33	66	E	38	0.92	95	F	259
	R	0.82	87	F	38	0.92	106	F	171
Cockburn Road (E)	L	0.30	11	B	43	0.12	9	A	19
	T	0.84	13	B	319	0.42	15	B	139
Cockburn Road (W)	T	0.31	2	A	46	0.92	29	C	583
	R	0.62	84	F	26	0.35	90	F	29
All Vehicles	-	0.84	15	B	319	0.92	43	D	583

6 ROAD SAFETY AND ACCESSIBILITY IMPACT

6.1 Impact on Neighbouring Areas

The traffic analysis undertaken in **Section 5** show that the existing road network will have sufficient capacity to accommodate the development-generated traffic.

The proposed development will provide essential land uses and services to support the general industrial and marine construction and maintenance activities undertaken within the AMC.

6.2 Road Safety

As described in **Section 2.10**, only 2 crashes have been recorded in the vicinity of the Site over the past 5 year period. The low rate of crashes suggest that the crashes are isolated incidents rather than indicative of a systematic safety issues on the frontage roads.

6.3 Public Transport Access

No changes to public transport accessibility or services are proposed or warranted by the proposed development.

6.4 Analysis of Pedestrian / Cycle Network

While the existing road network is considered sufficient, the pedestrian and cycling networks within AMC are generally considered to be deficient. As described in **Section 3.9**, the proposed development will include construction of a 1.8m wide footpath along the section of Quill Way and Redemptora Road fronting the Site.

The proposed shared path along Quill Way, as described in **Section 4.2**, will improve both the pedestrian and cycling connectivity from AMC to the adjacent paths.

6.5 Safe Walk / Cycle to School (for residential and school site development only)

N/A.

6.6 Traffic Management Plan (where appropriate)

N/A.

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7 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 at Appendix A. The following conclusions can be drawn from this TIA:

- The proposed development will provide a mix of service, retail, hospitality and office land uses and services that will support the general industrial and marine construction and maintenance activities
- The proposed development will include 874 parking bays across the entire Site.
  - In accordance with the statutory requirement documented in the City of Cockburn Local Planning Scheme No. 3, the proposed land uses will result in a statutory requirement of 1,298 car parking bays which represents a shortfall of 424 car parking bays.
  - However, when considering the reciprocity between the parking demands associated with the proposed land uses throughout the day, as well as the internal trip capture effect, the parking shortfall is considered manageable subject to the proposed management measures.
- A total of 152 bicycle parking spaces is provided across the Site. This represents a surplus 30 bike parking spaces when compared to the statutory requirements.
- Upon full development of the Site, the proposed development is estimated to generate 554 vehicle trips in the AM peak hour and 898 in the PM peak hour.
- The results of SIDRA assessment suggest that, with the exception of the intersection of Cockburn Road / Sparks Road, the internal roads and intersections, as well as the surrounding external roads and intersections, will have sufficient capacity to accommodate the development-generated traffic volumes.
  - The intersection of Cockburn Road / Sparks Road was found to have insufficient capacity to accommodate the demand for the right turn from Sparks Road (south) to Cockburn Road (east) in the 2028 PM peak hour, for both the "background only" and "combined background and development" traffic scenarios. A potential mitigation measure was therefore evaluated, which involved changing the intersection to traffic signal control. With the mitigation measure, the intersection was found to have sufficient capacity to accommodate the 2028 traffic demands. However, with the assumed further increases to background traffic volumes in the 2038 scenarios, further mitigation measures will likely be required by 2038. However, as the Cockburn Road Extension may have been constructed by 2038, this would substantially reduce the traffic volumes on this section of Cockburn Road, in which case further mitigation measures would likely not be required.

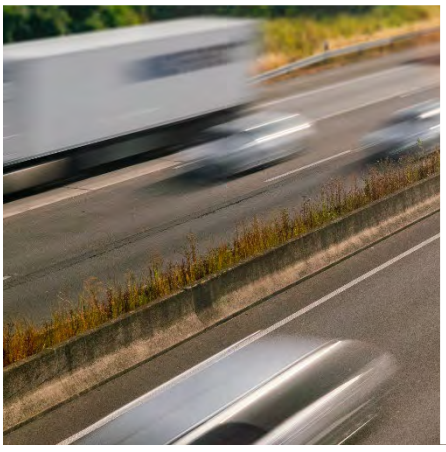
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Appendix A

WAPC CHECKLIST FOR INDIVIDUAL DEVELOPMENT - TRANSPORT IMPACT ASSESSMENT





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APPENDIX A – WAPC CHECKLIST

Item	Status	Comments/Proposal
Background	Section 1.1	
Existing situation	Section 2	
Existing land uses	Section 2.1	
Existing parking and demand	Section 2.2	
Existing access arrangements	Section 2.3	
Existing site traffic	Section 2.4	
Existing road network and traffic management	Section 2.5	
Traffic flows on surrounding roads and intersection	Section 2.6	
Operation of surrounding intersections	Section 2.7	
Existing pedestrian/cycle networks	Section 2.8	
Existing public transport services	Section 2.9	
Crash data	Section 2.10	
Proposed development	Section 3	
Regional context	Section 3.1	
Proposed land use	Section 3.2	
Access arrangements	Section 3.3	
Parking provision	Section 3.4	
End of trip facilities	Section 3.5	
Road network	Section 3.6	
Intersection layouts and controls	Section 3.7	
Pedestrian/cycle networks and crossing facilities	Section 3.8	
Public transport services	Section 3.9	
Integration with surrounding area	Section 4	
Surrounding major attractors/generators	Section 4.1	
Committed development and transport proposals	Section 4.2	
Proposed changes to land uses within 1200 meters	Section 4.3	
Deficiencies in existing transport network and remedial measures	Section 4.4	
Proposed changes to pedestrian/cycle network	Section 4.5	
Analysis of transport network	Section 5	
Assessment years and time periods	Section 5.1	
Development generated traffic	Section 5.2	
Distribution of generated traffic	Section 5.3	
Existing background traffic flows	Section 5.4	
Background 'with development' traffic flows	Section 5.5	

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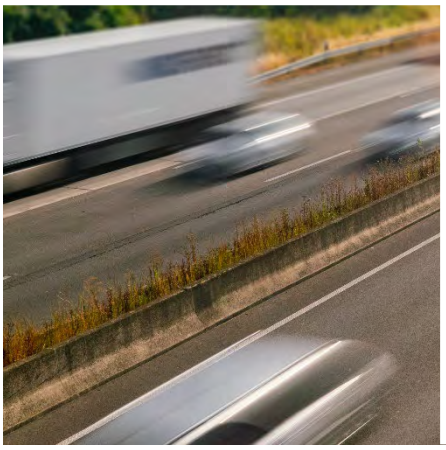
Analysis of development accesses	Section 5.6	
Impact on the surrounding roads and intersection	Section 5.7	
Road Safety and Accessibility Impact	Section 6	
Impact on neighbouring areas	Section 6.1	
Road safety	Section 6.2	
Public transport access	Section 6.3	
Analysis of pedestrian/cycle network	Section 6.4	
Safe walk/cycle to school (for residential and school site developments only)	Section 6.5	
Traffic management plan (where appropriate)	Section 6.6	

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Appendix B

Site Plans





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APPENDIX B – SITE PLANS

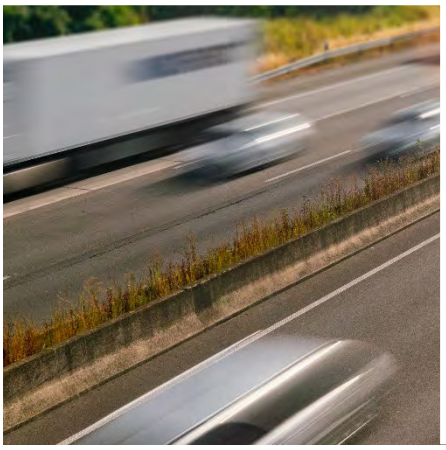
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Appendix C

SIDRA Movement Summary Tables





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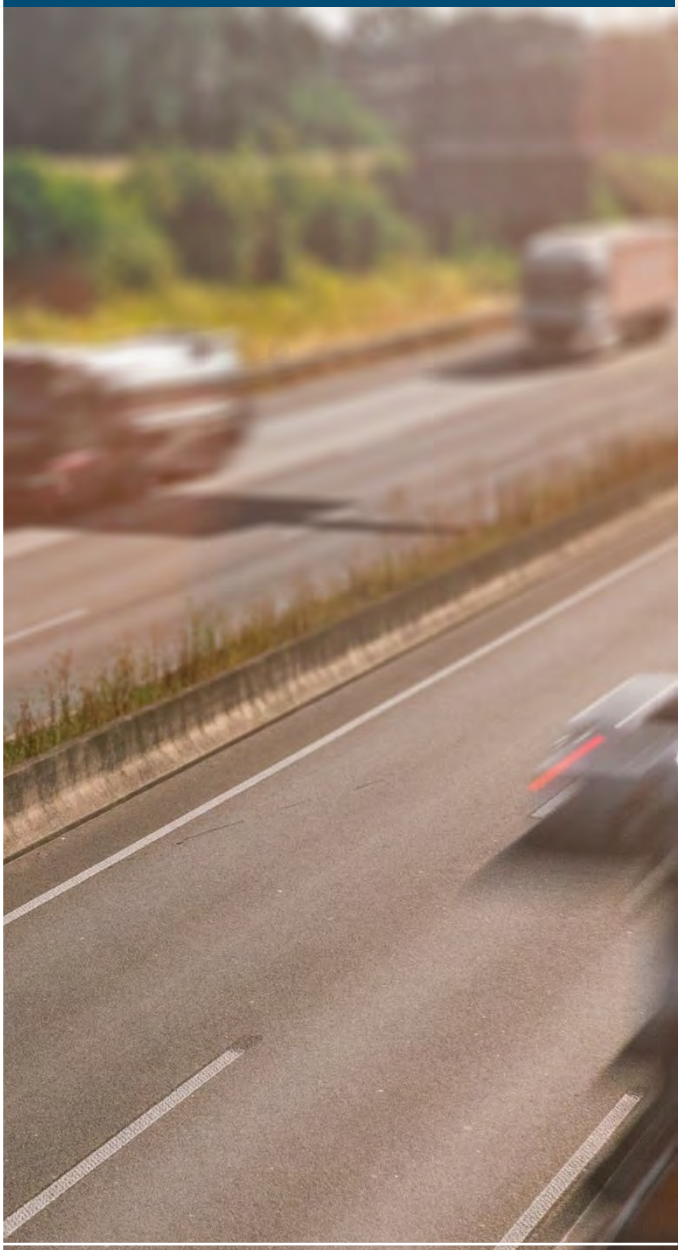
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APPENDIX C – SIDRA MOVEMENT SUMMARY TABLES

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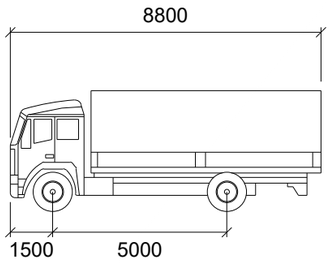
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ACCESS 1 SWEPT PATH

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LEGEND

- Centreline
- Vehicle Body
- Vehicle Wheels
- Body Clearance (300mm)



MRV

	mm
Width	: 2500
Track	: 2500
Lock to Lock Time	: 6.0
Steering Angle	: 34.0

MRV STANDARDS 2018 (AU)

B99 STANDARDS 2004 (AU_NZ)

REDEMPTORA ROAD

MOUNTABLE KERB (FOR TRUCK SWEEP PATH)

TRAFFICABLE PAVING

RETAINING WALL

TRUCK BAY

13500

2600

1500

24.0

KERB

ARDSTAND

STORE

DIS

HEIGHT LIMIT BAR

ELECTRICAL BOLLARDS

TRAFFICABLE PAVING

SUBST

WESTERN POWER CLEARANCE (ESTIMATED)

23.5

23.5

F&B/ RETAIL
23.7

ALFRESCO
23.5

HEIGHT LIMIT BAR

PLANTER RECESSED

F&B/ RETAIL
23.6

MIXED-USE - BUILDING 5 (Lot 4)

STORE

BINS

F&B/ RETAIL
22.7

WAREHOUSE

HOTEL PARKING
30 CAR BAYS
23.6

F&B/ RETAIL
22.9

PATRON PARKING
95 CAR BAYS (INC. 6 DIS)

CENTRAL WALKWAY

22.0

22.0

LOBBY
22.1

LOADING/ WASTE

CIVIC HEART
22.0

PATRON PARKING

18.0

STORE

F&B/ RETAIL
21.7

F&B
22.0

OPENING ABOVE

F&B/ RETAIL
22.1

BUILDING OVER

F&B/ RETAIL
21.8

BINS

SERVICE ROAD ONLY

NO. 8
LOT 167

KITCHEN (optional)

F&B/ RETAIL

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Version: 1, Version Date: 07/04/2026
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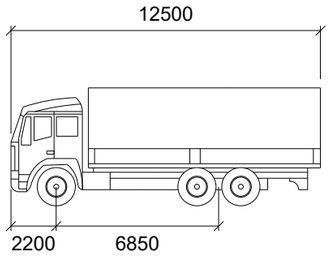
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ACCESS 2 SWEPT PATH

This information is provided by the City of Cockburn

LEGEND

- Centreline
- Vehicle Body
- Vehicle Wheels
- Body Clearance (300mm)



HRV

	mm
Width	: 2500
Track	: 2500
Lock to Lock Time	: 6.0
Steering Angle	: 36.7

HRV STANDARDS 2018 (AU)

HRV STANDARDS 2018 (AU)

HRV STANDARDS 2018 (AU)

HRV STANDARDS 2018 (AU)

HRV STANDARDS 2018 (AU)

D

E

KERB

LINE MARKINGS

KERB

2600

1500

TRUCK BAY

13500

22.3

LOADING DOCK

HARDSTAND

ROLLER DOOR

WASTE

22.4

ROLLER DOOR

STORE

STORE

POOL

POOL DECK

23.6

OUTDOOR DINING

BUSINESS LOUNGE

HOTEL - BUILDING 1 (Lot 1)

VOID

F&B/ RETAIL

23.7

DIS

HEIGHT LIMIT BAR

23.5

2500

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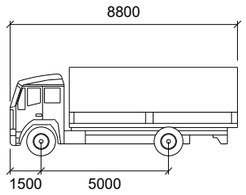
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LOTS 3 AND 4 SWEPT PATHS

This information is provided by the City of Cockburn

VOID
REFER LEVEL
BELOW



MRV

	mm
Width	: 2500
Track	: 2500
Lock to Lock Time	: 6.0
Steering Angle	: 34.0

LOADING DOCK VOID

LOADING DOCK VOID

LINE OF BUILDING OVER

RETAINING WALL

LINE OF BUILDING OVER

MRV STANDARDS 2018 (AU)

17.4

18.66

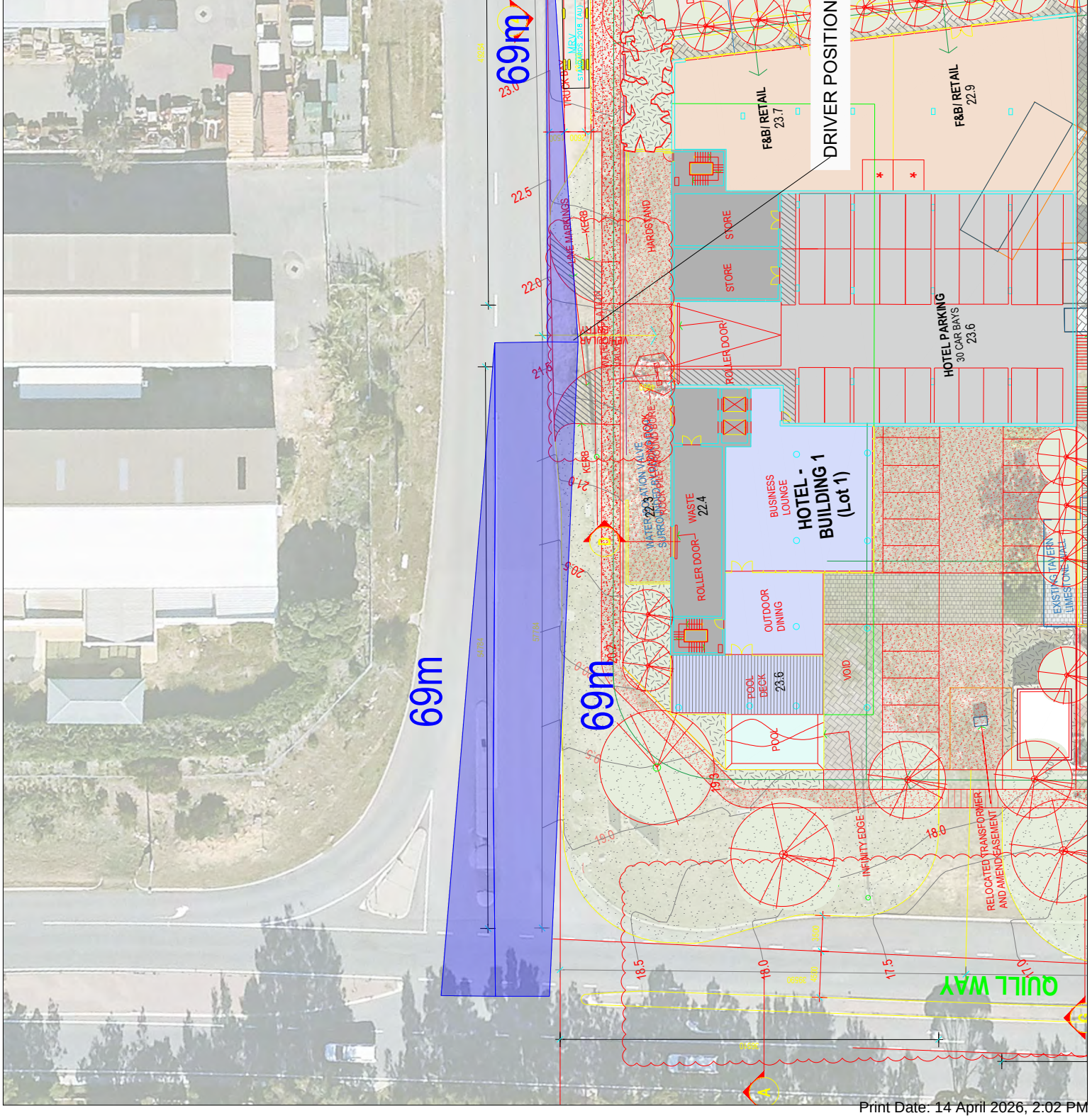
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ACCESS 2 SIGHTLINE ASSESSMENT

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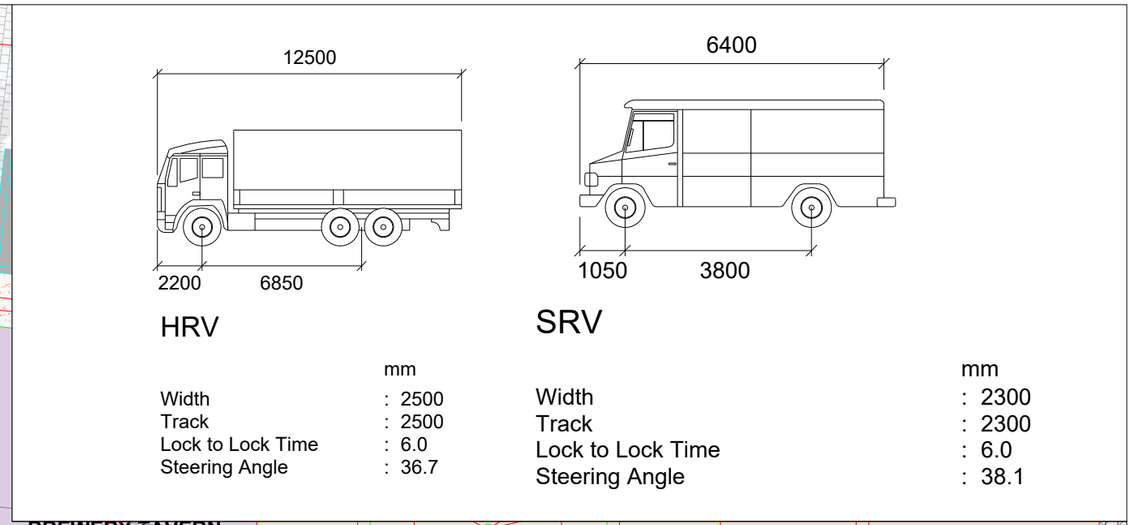
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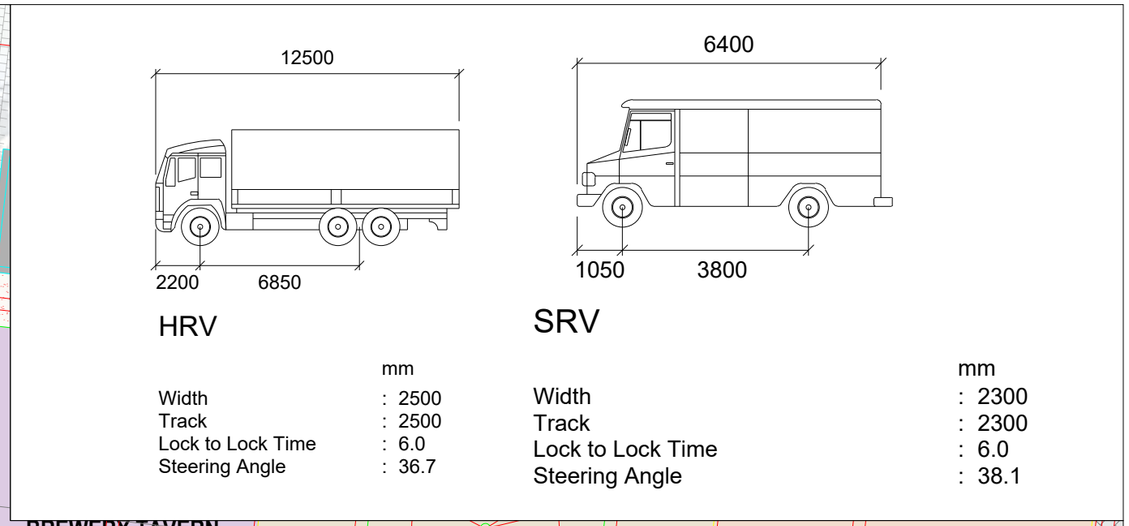
ACCESS 4 SWEPT PATHS

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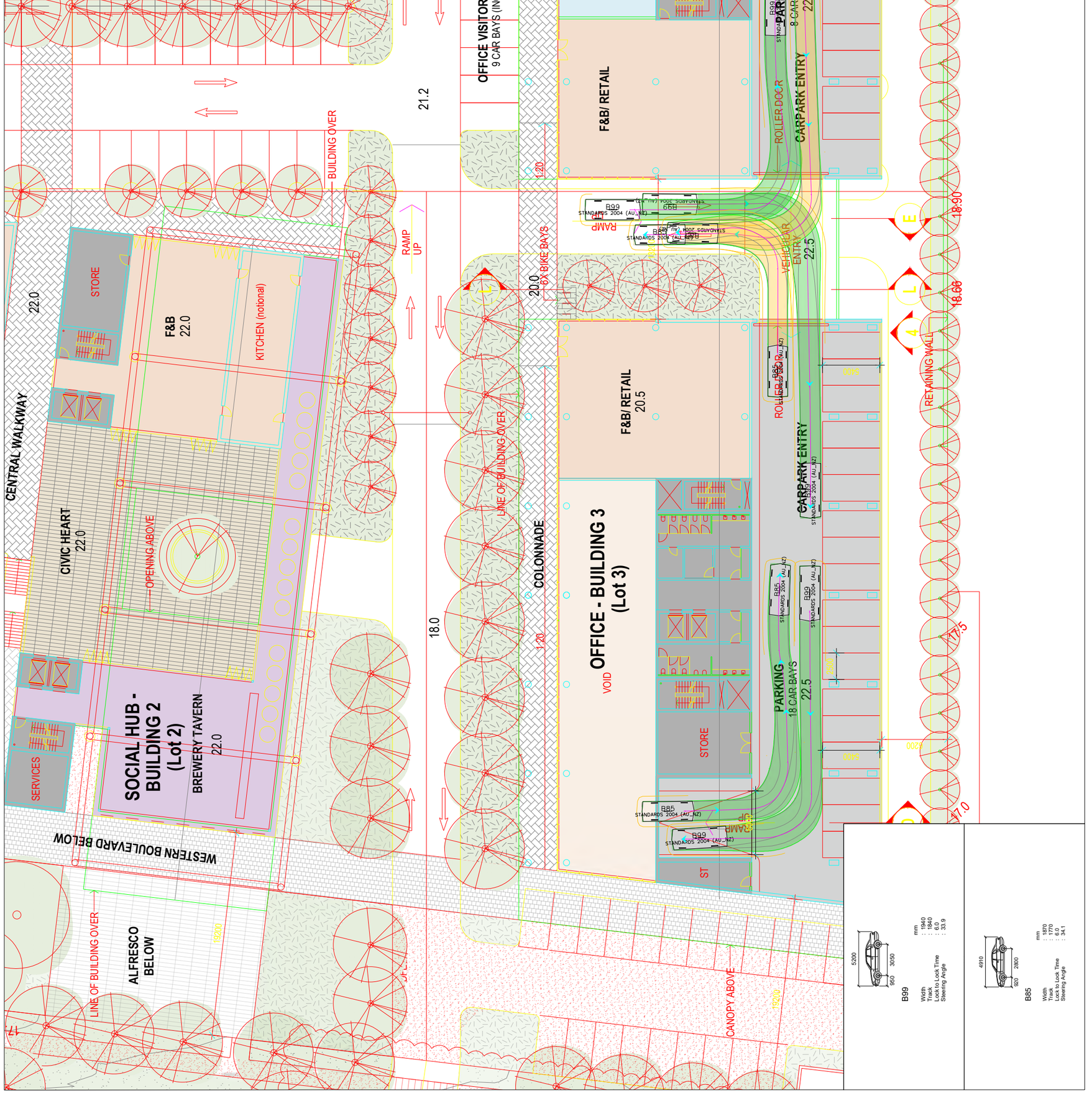


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CAR PARK COMPLIANCE CHANCE

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Document Set ID: 12674124
Version: 1, Version Date: 07/04/2026

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SERVICES

STORE

SOCIAL HUB - BUILDING 2 (Lot 2)

FITNESS CENTRE
31.85
(BREWERY TAVERN BELOW)

FITNESS CENTRE
31.85
(FITNESS CENTRE BELOW)

OFFICE
36.2

12215

18775

OFFICE - BUILDING 3 (Lot 3) 35.1

OFFICE - BUILDING 4 (Lot 4) 37.3

RAMP UP

RAMP UP

PARKING
50 CAR BAYS
33.3

PARKING
50 CAR BAYS
35.5

EV BAYS ON ONE LEVEL OF PARKING ONLY

EV EV EV EV EV EV

CANOPY BELOW

13200

5400

2400

6200

17.0

17.5

18.66

18.90

D L E F

5200

950 3050

B99

	mm
Width	: 1940
Track	: 1840
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

4910

920 2800

B85

	mm
Width	: 1870
Track	: 1770
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

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RETAINED TREES SCHEDULE | AS 4970-2025

No.	Tree Species	Height (m)	Comments	Stems	DSH (mm)	DAB (mm)	NRZ Radius (m)	NRZ Area (m²)	SRZ Radius (m)	SRZ Area (m²)
1A	*Araucaria heterophylla*	10	Mature	1	440	510	5.3	87.6	2.5	19.5
1B	*Araucaria heterophylla*	15	Semi-mature	1	700	820	8.4	221.7	3.0	29.1
16	*Eucalyptus utilis*	4	Mature / stunted	1	250	290	3.0	28.3	2.0	12.2
18	*Eucalyptus utilis*	4	Semi-mature	1	200	230	2.4	18.1	1.8	10.0

EXTERNAL LIGHTING RATIONALE

G GARDEN LIGHTING
Portable LED garden luminaire with earthspike, connecting cable and power plug. Luminaire with opal glass for a soft and uniform light distribution. (BEGA 55 010)

W WALL LUMINAIRES
Wall luminaires with four X 6.9w led light distributions that accent wall surfaces at low ambient brightness. (BEGA 24 048 K3)

P POLE / BOLLARD LIGHTING
Light building element with rotationally symmetrical light distribution for lighting entrance and entertainment areas. (BEGA 84 991)

LEGEND

- **TREES TO BE RETAINED** to be protected to AS 4970
- **TREES TO REMOVED** excavate and remove root ball and roots
- **PROPOSED TREE** Large - Medium | Small tree in Planter
- **MASS PLANTING | GROUND COVERS** 75mm mulch | 4 plants/sqm | 130mm pots
- **FEATURE PLANTING** edible species | succulent or vertical accent
- **TRAFFICABLE PAVEMENT** black asphalt | mountable or flush kerbs | wheel stops
- **DECORATIVE PAVING** 80 thick cream concrete | exposed aggregate 200 x 600 traffiicable units
- **CONCRETE PAVING** reinforced + saw cut joints | sponge-swirl finish
- **ELECTRICAL SUBSTATION** refer achitects drawing for specific detail
- **DECKING | COMPOSITE** light tones | coordinate with arch | fascia boards to FGL
- **GRANULAR PAVING | Permeable** 75 cracked pea gravel fines | compacted insitu

IRRIGATION RATIONALE

Irrigation will be a smart, automatic irrigation system that will provide subsurface watering to verge planting and internal landscapes

- **POTENTIAL BORE LOCATION** check status | water quality | pump | yeild
- **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, over spray & evaporation
- **HYDROZONING** designed with water demand calibrated stations
- **SOIL MOISTURE SENSORS** smart system to respond to soil moisture levels
- **RAIN SENSORS** smart system to respond to prevailing weather
- **PASSIVE IRRIGATION** direct storm water to gardens before drains

HENDERSON | WA
SEASONAL MEANS

SUMMER SUN 18 - 31°C

SOLAR DIAGRAM
SEASONAL SUNLIGHT

WIND DIRECTION
SEASONAL STRENGTH

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	*Conostylis candicans* **Grey Cotton Heads**	*Eremophila glabra* **Kalbarri Carpet**	
M2	*Anigozanthos flavidus* **Yellow Velvet KP**	*Anigozanthos manglesii* **Mangles Kangaroo Paw**	
M2	*Myoporum parvifolium* **Creeping Boobialla**	*Casuarina 'Cousin It'* **Cousin It**	*Viola hederacea* **Native Violet**
M4	*Dianella spp.* **Little Jess**	*Lepidosperma gladiatum* **Gladiator**	
M5	*Billardiera heterophylla* **WA Blue Bell**	*Hibbertia scandens* **Snake Vine**	*Trachelospermum jasminoides* **Star Jasmine**
M6	*Agave attenuatta* **Century Plant**	*Aeonium arboreum* **Irish Rose**	
M7	*Dichondra repens* **Kidney Weed**	*Dichondra argentea* **Silver Falls**	
M8	*Rosemarinus officianalis* **Rosemary**	*Salvia officianalis* **Sage**	*Thymus vulgaris* **Thyme**

SMALL TREE SYMBOL DIMENSIONS

note: symbols on plan are drawn to scale to demonstrate the following areas and dimensions:

- Typical deep soil area (9 m²)
- Location (refer species code + pot size)
- Minimum dimension (2m x 2m)

TYPICAL TREE PLANTING PALETTE

Af	*Allocasuarina fraseriana*	**Kondil**	30L
Bg	*Banksia grandis*	**Mungitch**	30L
Bm	*Banksia menziesii*	**Bulgalla**	30L
Ml	*Melaleuca lanceolata*	**Moonah**	30L
Bp	*Banksia prionotes*	**Manyret**	30L
Cl	*Citrus limon*	**Lemon Tree**	45L
Co	*Casuarina obesa*	**Goolee**	30L
	Dracena marginata	**Dragon Tree**	45L
Mh	*Melaleuca huegelii*	**Yowarl**	30L
Bg	*Eucalyptus gomphocephala*	**Tuart**	30L
Et	*Eucalyptus todtiana*	**Dwutta**	30L
Hf	*Hymenosporum flavum*	**Native Frangipani**	100L

0 5 10 15 20 25m

propagule

HENDERSON COMMERCIAL
81 QUILL WAY | HENDERSON , WA

LANDSCAPE MASTER PLAN
DEVELOPMENT APPLICATION

AUTHOR: JC
CHECKED: SP
PROJECT NO: P25-021
SCALE: 1:500 @ A2
DATE: 17 / 12 / 25

Document Set ID: 12558041
Version: 1, Version Date: 18/12/2025
Print Date: 14 April 2026, 2:00 PM

This information is provided by the City of Cockburn

HENDERSON | WA
SEASONAL MEANS

SUMMER SUN 18 - 31°C

SOLAR DIAGRAM
SEASONAL SUNLIGHT

WIND DIRECTION
SEASONAL STRENGTH

13.6%
SITE LANDSCAPE
2510 SQM (EXCLUDES VERGE)
18464 SQM LOT

24%
COMBINED
4430 SQM (EXCLUDES VERGE)
18464 SQM LOT

10.4%
VERGE LANDSCAPE
1925 SQM (EXCLUDES VERGE)
18464 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 — *Conostylis candicans* **Grey Cotton Heads**; *Eremophila glabra* **Kalbarri Carpet**
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POLE / BOLLARD LIGHTING
Light building element with rotationally symmetrical light distribution for lighting entrance and entertainment areas. (BEGA 84 991)

LEGEND

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to be protected to AS 4970

TREES TO REMOVED
excavate and remove root ball and roots

PROPOSED TREE
Large - Medium | Small tree in Planter

MASS PLANTING | GROUND COVERS
75mm mulch | 4 plants/sqm | 130mm pots

FEATURE PLANTING
edible species | succulent or vertical accent

TRAFFICABLE PAVEMENT
black asphalt | mountable or flush kerbs | wheel stops

DECORATIVE PAVING
80 thick cream concrete | exposed aggregate 200 x 600 trafficable units

CONCRETE PAVING
reinforced + saw cut joints | sponge-swirl finish

ELECTRICAL SUBSTATION
refer architects drawing for specific detail

DECKING | COMPOSITE
light tones | coordinate with arch | fascia boards to FGL

GRANULAR PAVING | Permeable
75 cracked pea gravel fines | compacted insitu

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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, over spray & evaporation

HYDROZONING
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SOIL MOISTURE SENSORS
smart system to respond to soil moisture levels

RAIN SENSORS
smart system to respond to prevailing weather

PASSIVE IRRIGATION
direct storm water to gardens before drains

SMALL TREE SYMBOL DIMENSIONS

note: symbols on plan are drawn to scale to demonstrate the following areas and dimensions:

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Minimum dimension (2m x 2m)

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Bg 30L — *Banksia grandis* **Mungitch**
Bm 30L — *Banksia menziesii* **Bulgalla**
Ml 30L — *Melaleuca lanceolata* **Moonah**
Bp 30L — *Banksia prionotes* **Manyret**
Cl 45L — *Citrus limon* **Lemon Tree**
Co 30L — *Casuarina obesa* **Goolee**
Dracena marginata **Dragon Tree** 45L
Mh 30L — *Melaleuca huegelii* **Yowarl**
Bg 30L — *Eucalyptus gomphocephala* **Tuart**
Et 30L — *Eucalyptus todtiana* **Dwutta**
Hf 100L — *Hymenosporum flavum* **Native Frangipani**

0 2 4 6 8

0 5 10 15 20 25m

propagule

HENDERSON COMMERCIAL
81 QUILL WAY | HENDERSON , WA

LANDSCAPE MASTER PLAN
LANDSCAPE AREA ANALYSIS

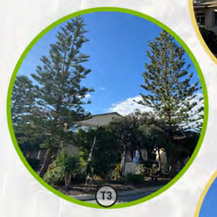
AUTHOR: JC
CHECKED: SP
PROJECT NO: P25-021
SCALE: 1:500 @ A2
DATE: 12/12/2025

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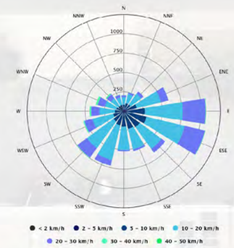




HENDERSON | WA
SEASONAL MEANS

SUMMER SUN 18 - 31°C

SOLAR DIAGRAM
SEASONAL SUNLIGHT



WIND DIRECTION
SEASONAL STRENGTH

SITE FEATURES LEGEND

EXISTING TREES | RETAIN
retain in situ | protect to AS-4970

EXISTING TREES | DEMOLISH
poor form or health | encumbered location

EXISTING TOPOGRAPHY
high point to low point | refer contours for levels

IMPERVIOUS SURFACE
buildings | asphalt | paving | rock outcrop

EXISTING EMBANKMENT
steep slope | greater than 1:3

SIGNIFICANT VISTA
views to ocean | landmark feature | outlook

EXISTING SITE PERMEABILITY

20%
PERMEABLE
3839m² of 18464m² site area

80%
IMPERVIOUS
14625m² of 18464m² site area

0 5 10 15 20 25m

propagule

HENDERSON COMMERCIAL
81 QUILL WAY | HENDERSON , WA

LANDSCAPE MASTER PLAN
SITE ANALYSIS

AUTHOR: JC
CHECKED: SP
PROJECT NO: P25-021
SCALE: 1:500 @ A2
DATE: 17/12/2025

Document Set ID: 12558041
Version: 1, Version Date: 18/12/2025
Print Date: 14 April 2026, 2:00 PM

Bushfire Management Plan Coversheet

Site address:	Lot 168, 81 Quill Way Henderson

Site visit / date:	Yes	✓	No	31 July 2025

Report author or reviewer:	Kathy Nastov

Not accredited		Level 1 BAL assessor		Level 2 practitioner		Level 3 practitioner	✓

BPAD accreditation number:	27794	Accreditation expiry – month / year	August 2025

Bushfire Management Plan - version / date:	V1.1	16 December 2025

If one or more of the following responses are yes, then these should be automatically referred to DFES.	Yes	No
Strategic planning is required to address SPP 3.7 and the Guidelines		✓
The application is a vulnerable land use	✓	

If one or more of the following responses are yes, and the decision-maker requires input from DFES, then the application can be referred.	Yes	No
The BAL rating has been calculated by a method other than Method 1 as prescribed by AS 3959		✓
An outcomes-based approach has been submitted to demonstrate compliance with the bushfire protection criteria		✓

Note: If a subdivision or development application meets all the acceptable solutions and does not otherwise trigger a referral as listed above, seeking advice from DFES on SPP 3.7 or other matters is at the discretion of the decision-maker.

The information provided within this bushfire management plan, to the best of my knowledge, is true and correct:

Dated signature of report author or reviewer:		16 December 2025

This information is provided by the City of Cockburn

BUSHFIRE PRONE PLANNING

Bushfire Management Plan

(PREPARED FOR PLANNING APPLICATION ASSESSMENT PURPOSES)



Compiled in accordance with State Planning Policy 3.7 Bushfire and the Planning for Bushfire Guidelines

Lot 168, 81 Quill Way Henderson

City of Cockburn

Development Application - Commercial/Industrial Development and Vulnerable Land Use

16 December 2025

Job Reference No: 240816

Document Set ID: 12558043
Version: 1, Version Date: 18/12/2025

Print Date: 14 April 2026, 2:00 PM

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BPP GROUP PTY LTD T/A BUSHFIRE PRONE PLANNING

ACN: 166 551 784 | ABN: 139 166 551 784

SUITE 11, 36 JOHNSON STREET
GUILDFORD WA 6055

PO BOX 388
GUILDFORD WA 6935

08 6477 1144 | admin@bushfireprone.com.au

DOCUMENT CONTROL

PREPARATION		
Author:	Tessa Ferreira	
Reviewed:	Kathy Nastov (BPAD Level 3 No. 27794)	

VERSION HISTORY		
Version	Status/Details	Date
1.0	Original	15 September 2025
1.1	Updated Site Plans	16 December 2025

DISTRIBUTION					
Destination		Version	No. Copies	Hard Copy	Electronic Copy
Person	Email				
Robert Engelhard	robert@scopepropertygroup.com.au	1.1		☐	☒

Limitations: The protection measures that will be implemented based on information presented in this Bushfire Management Plan are minimum requirements and they do not guarantee that buildings or infrastructure will not be damaged in a bushfire, persons injured, or fatalities occur either on the subject site or off the site while evacuating.

This is substantially due to the unpredictable nature and behaviour of fire and fire weather conditions. Additionally, the correct implementation of the required protection measures (including bushfire resistant construction) and any other required or recommended measures, will depend upon, among other things, the ongoing actions of the landowners and/or operators over which Bushfire Prone Planning has no control.

All surveys, forecasts, projections and recommendations made in this report associated with the proposed development are made in good faith based on information available to Bushfire Prone Planning at the time. All maps included herein are indicative in nature and are not to be used for accurate calculations.

Notwithstanding anything contained therein, Bushfire Prone Planning will not, except as the law may require, be liable for any loss or other consequences whether or not due to the negligence of their consultants, their servants or agents, arising out of the services provided by their consultants.

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STATEMENT OF PURPOSE – THE 'PLANNING' BUSHFIRE MANAGEMENT PLAN

EXPLANATORY INFORMATION

SITE/USE PLANNING

This BMP is produced to present the information necessary for a planning proposal's assessment against the State's bushfire planning requirements. The developed information is to inform and assist decision-making authorities, planners, landowners/proponents and referral agencies in their implementation WA's State Planning Policy 3.7 Bushfire – and where relevant, any supplementary provisions of a local planning scheme or policy.

Policy Document Versions Applied in This BMP	State Planning Policy 3.7 Bushfire (SPP 3.7)	November 2024	Planning for Bushfire Guidelines (supporting SPP 3.7	November 2024

The Stated Intent of SPP 3.7 is to *implement effective, risk based land use planning and development which in the first instance avoids bushfire risk, but where unavoidable, manages and/or mitigates the risk to people, property and infrastructure to an acceptable level. The preservation of life and the management of bushfire impact are paramount.*

SITE OPERATIONS

This BMP is not an 'operational' BMP for property and operations management. Such a BMP would apply additional and more specific bushfire protection measures to more comprehensively reduce the level of risks associated with a bushfire event. These being the potential loss of life, injury, or destroyed or damaged assets which results in personal loss and economic loss.

However, this 'planning' BMP does establish certain responsibilities for the implementation and maintenance of the bushfire protection measures that are considered the minimum for bushfire planning decision making.

BUSHFIRE RESISTENT CONSTRUCTION

This 'planning' BMP is not required to consider the requirement to construct certain buildings, in designated bushfire prone areas, to the standard corresponding to the Bushfire Attack Level (BAL) they are subject to. This requirement is dealt with under the State Building Act 2011/Building Regulations 2012 and the referenced Building Code of Australia.

DETERMINED BUSHFIRE ATTACK LEVEL (BAL) RATINGS AND CONSTRUCTION – CAUTION!

For construction purposes a determined (not indicative) BAL rating is required to be known and a BAL Certificate produced for submission with a building application. This establishes the construction design and materials that are to be complied with in accordance with AS 3959 Construction in bushfire prone areas (as amended) and/or NS 300 NASH Standard Steel Framed Construction in Bushfire Areas (as amended).

This 'planning' BMP cannot necessarily determine a BAL rating that will apply to a future building. All variables required for that calculation may not be known at the assessed stage of planning. For example, actual location of a building footprint on a lot and/or any classified vegetation that will remain, at the time of construction, within the lot or on neighbouring lots.

This 'planning' BMP is only required to identify if a viable sized building can be located on a lot and be subject to a BAL rating not exceeding BAL-29, based on certain allowable assumptions. This is a planning requirement not a building requirement and a BAL contour map can be used to illustrate this information as an 'indicative' BAL rating.

Be aware that typically you cannot derive the determined BAL rating for a future building(s) on a specific lot from a BAL contour map (when presented in a BMP prepared for planning approval purposes). This is only possible in limited circumstances.

Planning assessment requirements are different to building assessment requirements. Refer to explanatory information above and Appendix B1 for additional information.

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1 THE PLANNING PROPOSAL

1.1 Details, Plans and Maps

SUBJECT LAND AND PROPONENT (LANDOWNER)		
Address Details	Lot 168, 81 Quill Way Henderson	
Applicable Local Government	City of Cockburn	
Proponent	Scope Property Group	
Entity Commissioning Production of the BMP	Robert Engelhard – Scope Property Group	
THE PLANNING PROPOSAL STAGE AND TYPE		
Strategic Planning Document	☐	N/A
Structure Plan	☐	N/A
Subdivision Application	☐	N/A
Development Application	☑	Construction of a habitable building and/or a vulnerable use that is subject to bushfire planning requirements.
DESCRIPTION		
The proposal includes the construction of a Hotel, Mixed-Use buildings, Offices, Retail spaces, and a Tavern with associated parking. As the Hotel is classified as a vulnerable land use, a Bushfire Management Plan (BMP) has been prepared for the entire site and Development Application. However, it is only the Hotel that triggers the requirement to prepare a Bushfire Management Plan and demonstrate compliance with SPP 3.7, as the other proposed buildings are commercial (not vulnerable) and situated within BAL-12.5 or BAL-19 areas.		
EXPLANATORY INFORMATION Note: A habitable building is defined in the *Planning and Development (LPS) Regulations 2015* to mean: A permanent or temporary structure on land that: (a) Is fully or partially enclosed; and (b) Has at least one wall of solid material and a roof of solid material; and (c) Is used for a purpose that involves the use of the interior of the structure by people for living, working, studying or being entertained.		
The Primary Proposed Construction		
Type(s)	New Building(s)	
BCA Classification	Class 5 (office building - professionals)	Class 6 (building for sale of retail goods or supply of services)
	Class 7a (carparks)	Class 7b (warehouse/storage/wholesale)
	Class 10a (non-habitable building)	Class 1b (house/hostel)

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Vulnerable Land Use Determination	
Applying the definition established in SPP 3.7:	
• A land use which is designed to accommodate people who are less physically or mentally able and likely to present evacuation challenges; and/or	☐
• A land use which due to the building design or use, or the number of people accommodated, likely to present evacuation challenges; and/or	☐
• A land use which involves visitors who are unfamiliar with the surroundings.	☑
Applying the guidance established in the Guidelines, Appendix B5 in determining whether a day use is vulnerable, consideration is to be given to:	
• The location and to the number of employees and visitors on-site at any one time; and	☐
• If the decision-maker considers that the preparation of a bushfire emergency plan is warranted, then the use should be considered vulnerable.	☐
Assessment Supporting Details: The development includes a hotel, which is classified as a vulnerable land use. All other proposed buildings within the development are not considered vulnerable land uses.	

Development Type for Assessment Against the Bushfire Protection Criteria			
Development Commercial and Industrial	Construction of or addition to, a habitable building for commercial or industrial uses. *[Guidelines s7]*		
Development Vulnerable Land Use - Tourism Land Uses and Day Uses	For the construction, and/or use of, or additions to a habitable building for a vulnerable tourism land use. *[Guidelines s8]*	Tourist and visitor accommodation.	☑
		Day Uses (no overnight stay)	☐
		Outdoor Events (may include overnight camping).	☐
		Caravan Park, nature based park and/or camping ground, with or without a habitable building(s).	☐
Assessment Supporting Details: None required.			

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0 2 5 10m

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4. THE DRAWINGS REPRESENT GENERAL ARCHITECTURAL INTENT FOR THE PURPOSE OF THIS PLANNING PERMIT ONLY.
5. THE INTERNAL LAYOUT IS SHOWN INDICATIVELY AND IS SUBJECT TO FURTHER DESIGN DEVELOPMENT. PROPOSED WAITING AREA SUBJECT TO CHANGE DEPENDANT ON TENANT REQUIREMENTS.
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7. THE LOCATION OF DOORS ON THE FACADES ADJOINING A TENANCY ARE SUBJECT TO CHANGE DEPENDING ON THE FINAL TENANCY DIVISIONS

LEGEND

- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING
- HARD LANDSCAPING
- HARD LANDSCAPING
- HARD LANDSCAPING
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
2	12.11.25	DRP 2	PA
1	20.09.25	DRP 1	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SITE PLAN - LEVEL B

SCALE	DATE
1:250@A1 / 1:500@A3	12.11.25

DRAWING No.	PROJECT No.	REVISION
A2.02	240615	2

Print Date: 14 April 2026, 2:00 PM

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Figure 1.2

Proposed Development

Lot 168 on Diagram 076646, Area : 1.8472 ha
81 Quill Way
HENDERSON
CITY OF COCKBURN

------ LEGEND ------

- Subject Site
- Cadastral
- Hydrants
- Driveways / Accessways

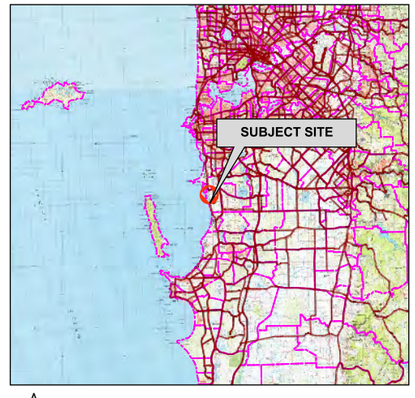
Buildings

- Hotel
- Mixed-Use
- Office
- Social Hub

0 10 20 30 40 50

Metres

------ LOCALITY ------



AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Merctaor Units: Metre
Map by: Tessa 16-12-2025
SCALE (A3): 1 : 1000

BUSHFIRE PRONE PLANNING

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Figure 1.3

Location Map

Lot 168 on Diagram 076646, Area : 1.8472 ha
81 Quill Way
HENDERSON
CITY OF COCKBURN

------ LEGEND ------

- Subject Site
- Reserves
- Bush Forever Sites

DFES Stations (DFES-023)

- State Emergency Service Unit

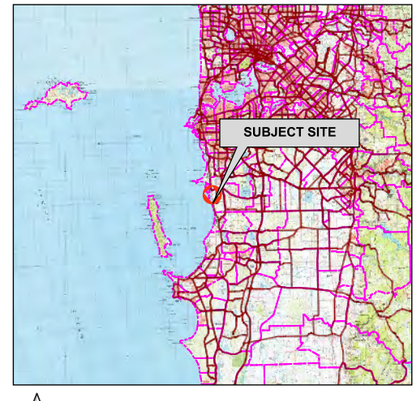
DBCA Legislated Lands and Waters (DBCA-011)

- Conservation Park
- Crown Freehold - Dept Managed
- Nature Reserve
- Section 5(1)(h) Reserve

0 500 1,000 1,500 2,000 2,500

Metres

------ LOCALITY ------



AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Merctaor Units: Metre
Map by: Tessa Ferreira 22-08-2025
SCALE (A3): 1 : 40000

BUSHFIRE PRONE PLANNING

240816_LOC_81 Quill Way.qgz

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1.2 The Planning Proposal and its Requirement to Address Bushfire Risk

EXPLANATORY INFORMATION

For the subject planning proposal, the intent of this section is to:

- Identify the relevant statutory bushfire planning provisions that have established its requirement to address bushfire risk;
- Identify the relevant policy/guideline 'triggers' to apply SPP 3.7 Bushfire;
- Identify when a local government, as the decision maker, has established additional 'triggers' to apply defined bushfire planning assessments; and
- Identify the consideration of any relevant exemptions from application of SPP 3.7 Bushfire.

Relevant Terms

Development means the development or use of any land, including (a) any demolition, erection, construction, alteration of or addition to any building or structure on the land (b) the carrying out on the land of any excavation or other works (Planning and Development Act 2005, Part1, s.4; and

Habitable building means a permanent or temporary structure on land that:

(a) is fully or partially enclosed; and

(b) has at least one wall of solid material and a roof of solid material; and

(c) is used for a purpose that involves the use of the interior of the structure by people for living, working, studying or being entertained;

Specified building means a structure of a kind specified in this Scheme as a kind of structure to which this Part applies in addition to its application to habitable buildings.

Development site means that part of a lot on which a building that is the subject of development stands or is to be constructed - Planning and Development (LPS) Regulations 2015, s.78A.

Construction of a building includes the erection, assembly or placement of a building but does not include the renovation, alteration, extension, improvement or repair of a building;

1.2.1 Applied Statutory Bushfire Provisions Requiring a Planning Application

A PLANNING AND A BUILDING APPLICATION IS TO BE SUBMITTED TO THE LOCAL GOVERNMENT FOR DETERMINATION	
For the proposed development (construction and/or use) the local government is the decision maker. The local government determination will be made under: • The Planning and Development Act 2005, its relevant subsidiary legislation (e.g. Regulations) and associated policies that establish the objectives and high-level guidance; and/or • The local government's local planning scheme and associated policies that establishes objectives and guidance, specific to the jurisdiction, in addressing the requirements established by the above legislation and associated policy.	
A BUILDING OR PLANNING APPLICATION REQUIRES A BAL RATING AND PLANNING APPROVAL The proposed development is for building works subject to the Building Code of Australia and is located in a designated bushfire prone area (Map of Bushfire Prone Areas). One or more of the following applies.: • The local government requires submission of a building permit application under the Building Act 2011 / Building Regulations 2012) including a bushfire attack level (BAL) assessment (and certificate). Applicable when the proposed development is a class of building subject to bushfire construction requirements (i.e. Classes 1, 2, 3 buildings and associated Class 10a, and certain Class 9 buildings under the Building Code of Australia).	✓

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• The local government has a responsibility under the Planning and Development (LPS) Regulations 2015 to ensure strategic planning proposals, structure plans and development applications address SPP 3.7 and the Guidelines. • The local government, in accordance with its local planning scheme, is responsible to administer the relevant development controls, with due regard to SPP 3.7 and the Guidelines.	
WHERE PRE-DEVELOPMENT BUSHFIRE ATTACK LEVEL (BAL) OF RELEVANT BUILDINGS IS BAL-40 OR BAL-FZ The Deemed Provisions in Schedule 2 of the Planning and Development (Local Planning Schemes) Regulations 2015, Part 10A – Bushfire risk management, establish: 1. If the proposed development is: (a) The construction or use, or construction and use, of a single house or ancillary dwelling on a lot or lots with a total area of 1,100 m^2 or more; or (b) The construction or use, or construction and use, of (i) a habitable building other than a single house or ancillary dwelling; or (ii) a specified building; and (c) Is not the use of a dwelling as hosted or unhosted short-term rental accommodation (STRA) which is specifically excluded; and 2. The development site is wholly or partly within a designated bushfire prone area (Map of Bushfire Prone Areas), requiring the developer to have prepared a BAL assessment for the development site: then 3. Where the pre-development (before the establishment of an APZ), calculated bushfire attack level of the development site is BAL-40 or BAL-FZ, then the developer must have development approval to commence any development on the development site.	-
Assessment Supporting Details: The pre-development BAL rating off all proposed buildings is BAL–12.5. The commercial buildings trigger no assessment under the Guidelines. The 'Hotel' component however represents a vulnerable land use, and the Guidelines require a Bushfire Management Plan be prepared in instances when the BAL rating exceeds BAL-LOW. A BMP is required to primarily address the vulnerable land use component of the proposal, noting the entire site must be considered.	

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1.2.2 Applied Triggers to Apply State Planning Policy 3.7 Bushfire

EXPLANATORY INFORMATION

State Planning Policy 3.7 Bushfire (SPP 3.7) provides broad objectives and high-level guidance for how planning proposals and development applications within bushfire prone areas should be considered. Implementation is supported by more detailed instructions within the *Planning for Bushfire Guidelines*.

The following table identifies the guidance that has resulted in the planning proposal being required to apply SPP 3.7.

Inconsistent Information (as of December 2024):

- There are inconsistences between the provisions of the applicable legislation (Planning and Development (LPS) Regulations 2015), the clauses of the associated policy (SPP 3.7 Bushfire) and its associated guidance (Planning for Bushfire Guidelines Nov. 2024).
- This has resulted in inconsistencies in the establishment of the 'triggers' to lodge proposals, plans and applications for planning approval sourced from these documents.

Until legislation/policy/guideline amendments are completed, the advice from WAPC/DPLH is that the decision maker should apply SPP 3.7 and the Guidelines as they deem necessary. *(Source: Explanatory Note SPP 3.7, DPLH, 25/11/24)*

Bushfire Prone Planning's Current Approach:

- To apply the 'triggers' for application of SPP 3.7/Guidelines in accordance with the current version of the Guidelines (Planning for Bushfire Guidelines, November 2024), in Sections 6, 7 and 8 - as this is best aligned with the current version (3 Nov 2024) of the LPS Regulations 2015; unless
- The relevant decision maker has determined, and confirmed in writing to the proponent, that SPP 3.7/Guidelines is to be applied.

	SPP 3.7 AND THE GUIDELINES - ESTABLISHING THE NEED TO GIVE DUE REGARD TO SPP 3.7	APPLICABLE
1	THE LAND SUBJECT TO THE PLANNING PROPOSAL IS:	
	Designated bushfire prone and 'Area 1 (Urban)' on the Map of Bushfire Prone Areas (refer to Figure 1.4); or	No
	Designated bushfire prone and 'Area 2' on the Map of Bushfire Prone Areas (refer to Figure 1.4).	Yes
	AND	
2	THE PLANNING PROPOSAL WILL:	
	Result in the intensification of development (or land use); or	Yes
	Result in an increase of visitors, residents or employees; or	Yes
	Adversely impact or increase the bushfire risk to the subject or surrounding site(s).	No
	AND	
3	THE PLANNING PROPOSAL IS A:	
	(Source: SPP 3.7, Part 4) A development application for construction and/or use of a habitable building (other than a single house or ancillary dwelling), for a vulnerable land use and where the development site(s) has a BAL rating above BAL-LOW.	Currently not triggered by legislation - BUT – the relevant decision-maker has established the requirement to apply SPP 3.7

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Assessment Supporting Details:

None required.

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1.2.3 Identified Exemptions

EXPLANATORY INFORMATION	
The following situations provide for an exemption from the application of SPP 3.7/Guidelines. They are established by the stated sources and are presented below as: • Evidence they have been considered when relevant; and • Justification for the application of SPP 3.7/Guidelines despite a relevant exemption applying to part or all of the planning proposal.	
EXEMPTION SCENARIOS	**APPLICABLE**
(Source: LPS Regulations 2015 Part 10A - Bushfire risk management) Does not apply to land where there is no existing local planning scheme or where a local planning scheme has ceased to have legal effect.	No
(Source: Guidelines s1.2.1) For a structure plan or subdivision application, for proposed lot(s) that: • Are not designated as bushfire prone; • Or where there is no increase in the development potential and therefore no intensification of land use or bushfire risk, such as a boundary realignment, that does not restrict the ability to establish or maintain an APZ; and • does not restrict vehicular access/egress to any existing or future habitable building.	No
(Source: Guidelines s1.2.1) - For incidental non- habitable buildings or structures located not less than six metres from the habitable building, including but not limited to private garages, carports, patios, storage sheds, outbuildings, swimming pools, spa pools and fences.	No
(Source: Guidelines s1.2.1) - For a change of use, minor renovations, extensions, alterations, improvements or repair of an existing habitable building where: • The application does not result in an increase of occupants onsite; and/or • There is no increase in the bushfire risk, such as an extension being further away from the bushfire hazard, or the extension does not restrict vehicular access or the provision of water for the development.	No
Assessment Supporting Details: No exemptions can be applied.	

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Figure 1.4

Bushfire Prone Area

Lot 168 on Diagram 076646, Area : 1.8472 ha
81 Quill Way
HENDERSON
CITY OF COCKBURN

------ LEGEND ------

Subject Site

Bushfire Prone Area 2024

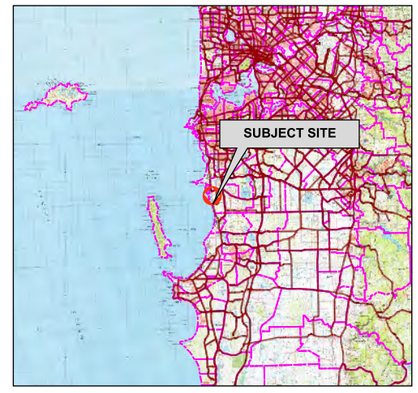
Bushfire Prone Area 1

Bushfire Prone Area 2

0 100 200 300 400 500

Metres

------ LOCALITY ------



AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Merctaor Units: Metre
Map by: Tessa Ferreira 22-08-2025
SCALE (A3): 1 : 10000

BUSHFIRE PRONE PLANNING

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1.3 Required 'Bushfire Planning' Assessments and Documents

INFORMATION PRESENTED IN THIS 'PLANNING' BMP (OR THE BEP) - PROVIDED TO ACCOMPANY THE PROPONENT'S PLANNING SUBMISSION						
The requirements are established by SPP 3.7 Part 4, Guidelines Section 1.2, 4.4, 5.5, 6.4, 7.2, 8.3 and A1.2. The green highlighted column identifies the required information for the subject planning proposal.		Strategic Planning Document		Structure Plan / Subdivision Application		Development Application
Required Information	Details	Map of Bushfire Prone Areas Designation				
		Area 1 (Urban)	Area 2	Area 1 (Urban)	Area 2	Areas 1 & 2
Environment - Identification of environmental, biodiversity or conservation values on subject site(s)	Presented in the BMP. Identifies how proposal siting and design avoids and/or minimises clearing of native vegetation in applying required bushfire protection measures.	BUSHFIRE PLANNING ASSESSMENTS ARE NOT REQUIRED	✓	✓	✓	✓
BLA - Broader Landscape Assessment (see note below)	Presented in the BMP. Considers subject site suitability based on exposure to bushfire hazards, potential for landscape scale bushfire, road network and suitable evacuation destinations.		✓	-	✓	-
BHL - Bushfire Hazard Level Assessment (pre-development)	Presented in the BMP. Can include detail of treatments required to achieve BHL of moderate and/or low.		✓	-	-	-
BAL - Bushfire Attack Level Assessment	Presented in the BMP in BAL contour map format as a requirement and in table format as an additional option.		-	✓	✓	-
	Presented in the BMP in table format and/or BAL contour map format – dependant on which is more efficient and effective at presenting the results (e.g. BAL contour map for multiple buildings).		-	-	-	✓
BPC - Assessment against the relevant Elements (E1 – E4) of the Bushfire Protection Criteria	Presented in the BMP. Strategic planning will necessarily focus on Element 1: Location. Can demonstrate compliance using acceptable solutions and/or an outcomes-based approach.		✓	✓ **Excluding E1**	✓	✓ **Excluding E1**
BEP - Bushfire Emergency Plan	For vulnerable land uses only. Provided as a separate document or an addition / modification to an existing BEP or site Emergency Management Plan.		-	-	-	-
LMP – Landscape Management Plan	For vulnerable land uses only. Provided as a separate document or an addendum to the BMP.					
Note: Where a relevant planning proposal (e.g. subdivision) was previously assessed and approved under the SPP 3.7/Guidelines 2015, it is likely that a BLA will not be required. Also, if an application (e.g. subdivision) is compliant with a structure plan and/or a local planning scheme amendment, which were assessed and approved under the 2015 SPP/Guidelines, it is likely that a BLA will not be required. Confirmation from a relevant DPLH officer may be required (DPLH advice to BPP 20/2/2025).						

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1.4 Other Documents Relevant to Preparing the BMP

EXPLANATORY INFORMATION

This section identifies any known assessments, reports or plans that have been conducted and prepared previously, or are being prepared concurrently, and are relevant to the subject planning proposal.

They may have implications for the assessment of bushfire hazard threats and the identification and implementation of the bushfire protection measures that are established by this BMP.

RELEVANT DOCUMENTS

Document	Relevant	Exists	To Be Concurrently Developed	Copy Provided by Proponent / Developer	Title
Structure Plan	No	No	No	N/A	-
Bushfire Management Plan	No	No	No	N/A	-
Preliminary bushfire advice (may include a BAL contour map)	No	No	No	N/A	-
Bushfire Emergency Plan	Yes	No	No	N/A	-
<u>Implications for the BMP:</u> It is required that under SPP 3.7 that a BEP be prepared for the proposed development. This will be prepared at a later stage.					
Bushfire Risk Report	No	No	No	N/A	-
Environmental Asset or Vegetation Survey	No	No	No	N/A	-
Landscape Management Plan	No	No	N/A	N/A	-
All planned landscaping is in small garden beds mostly surrounded by concrete and the landscaping is not large enough to warrant a landscaping management plan to address bushfire risk.					
Revegetation Plan	No	No	No	N/A	-

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2 ENVIRONMENTAL CONSIDERATIONS – NATIVE VEGETATION

EXPLANATORY INFORMATION

Some bushfire prone areas also have high biodiversity values. SPP3.7 objective 5.4 prioritises the retention of native vegetation for biodiversity conservation, environmental protection and landscape amenity.

Clearing or modification of native vegetation for the purpose of land use or development is assessed under **State Planning Policy 2: Environment (SPP 2), State Planning Policy 2.8: Bushland policy for the Perth Metropolitan Region (SPP 2.8)** and relevant environmental legislation. A key objective of these polices is to avoid development that may result in unacceptable environmental damage.

Any 'modification' or 'clearing' of vegetation to reduce bushfire risk is considered 'clearing' under the *Environmental Protection Act 1986* (EP Act) and requires a clearing permit under the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations) – unless for an exempt purpose.

Clearing native vegetation is an offence, unless done under a clearing permit or the clearing is for an exempt purpose. Exemptions are contained in the EP Act or are prescribed in the Clearing Regulations (note: these exemptions do not apply in environmentally sensitive areas).

The *Department of Water and Environmental Regulation* (DWER) is responsible for issuing 'clearing' permits and the framework for the regulation of clearing. Approvals under other legislation, from other agencies, may also be required, dependent on the type of flora or fauna present.

Local Planning Policy or Local Biodiversity Strategy: Natural areas that are not protected by the above Act and Regulation (or any other National or State Acts) may be protected by a local planning policy or local biodiversity strategy. Permission from the local government will be required for any modification or removal of native vegetation in these Local Natural Areas (LNA's). Refer to the relevant local government for detail.

For further Information refer to Native vegetation clearing permits | Western Australian Government, the Planning for Bushfire Guidelines (as amended) and the Bushfire and Vegetation Factsheet - WAPC, Dec 2021.

2.1 Biodiversity or Conservation Values Identified

EXPLANATORY INFORMATION

The required information, relevant to bushfire planning and informing the production of this BMP, is sourced and presented as indicated below.

Note that where a 'desktop' assessment has been conducted, this should not be considered a replacement for a full Environmental Impact Assessment. It is a summary of potential biodiversity or conservation values at the subject site, inferred from information contained in public available datasets and/or reports, which are only current to the date of last modification.

The information provided in the BMP should be considered indicative where the subject site has not previously been subject to a site-specific environmental assessment by an appropriate professional.

The required information is sourced from the environmental/planning consultant report developed for the subject site and provided to the bushfire consultant (details below when applicable). The information it contains is not repeated in this BMP as it will accompany the planning submission. The implications for the subject planning proposal and this BMP are stated below when relevant.	No Report Available / Provided
The required information is sourced by the bushfire consultant as a 'desktop' assessment from publicly available data bases and/or a local government's local biodiversity strategy or local planning strategy. When applicable, this information is presented on the following pages of this BMP.	Yes - Fully

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IDENTIFICATION OF RELEVANT BIODIVERSITY OR CONSERVATION VALUES							
Dataset	Relevant to Subject Planning Proposal	Influence on Bushfire Threat Levels and / or Application of Bushfire Protection Measures	Information Source(s) Applied				Further Action Required by Proponent
			WA Govt. Agency Dataset (ID)		Landowner or Developer Statements	Environmental Asset or Vegetation Survey Report	
Department of Biodiversity, Conservation and Attractions (DBCA) Datasets							
Conservation Category Wetlands and Buffer (geomorphic wetlands – relevant area)	N/A	No	☒	DBCA-019	☐	☐	None
RAMSAR Sites (wetlands of international importance)	N/A	No	☒	DBCA-010	☐	☐	None
Threatened and Priority Flora	N/A	No	Restricted Scale of Data Available (security)	DBCA-036	☐	☐	Confirm with relevant agency
Threatened Ecological Communities	N/A	No		DBCA-038	☐	☐	Confirm with relevant agency
Legislated Lands and Waters (national/conservation parks, nature/crown reserves, state forest)	N/A	No	☒	DBCA-011	☐	☐	None
Department of Planning, Lands and Heritage (DPLH) Datasets							
Bush Forever Areas 2000	N/A	No	☒	DPLH-019, 022 and MRS Bush Forever	☐	☐	None
Department of Water and Environmental Resources (DWER) Datasets							
Clearing Regulations – Environmentally Sensitive Areas	N/A	No	☒	DWER-046	☐	☐	None
Swan Bioplan Regionally Significant Natural Areas 2010	N/A	No	☒	DWER-070	☐	☐	None

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ADDITIONAL INFORMATION

No environmental biodiversity or conservation values have been identified over the subject site.

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Figure 2.1

Environmental Considerations Map

Lot 168 on Diagram 076646, Area : 1.8472 ha
81 Quill Way
HENDERSON
CITY OF COCKBURN

------ LEGEND ------

- Subject Site
- Clearing Regulations

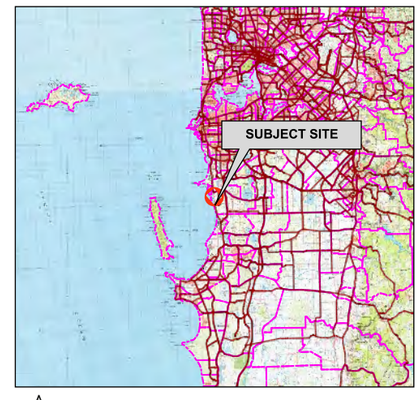
Environmentally Sensitive Areas
- Threatened Ecological Community

Geomorphic Wetlands Swan Coastal Plain
- Dampland
- Lake
- No Longer a Wetland
- Sumpland

0 200 400 600 800

Metres

------ LOCALITY ------



AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Merctaor Units: Metre
Map by: Tessa Ferreira 22-08-2025
SCALE (A3): 1 : 30000

BUSHFIRE PRONE PLANNING

240816_Fig 2-1_ENV_81 Quill Way.qgz

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2.2 Response of the Planning Proposal to Protection of Native Vegetation

The protection of native vegetation is to be prioritised by avoiding areas that would require clearing or modification of native vegetation, specifically for the purpose of bushfire mitigation (BMP Manual, November 2024 DPLH).

SOLUTIONS APPLIED TO MINIMISE NATIVE VEGETATION REMOVAL / MODIFICATION	
Clearing and/or modification of native vegetation is proposed and necessary.	No
There is little or no native vegetation on the site that is required to be removed for the development. If native species are required to be removed, approval will be required.	
Conservation Response	
The proposal reserves native vegetation for conservation, recreation or environmental protection purpose. These can include ecological linkage, local natural area, waterway, or foreshore area or wetland buffer.	No
Siting / Design / Construction Responses	
Reduction in the proposed intensification of land use or development potential.	N/A
Containing or clustering areas of intensification of land use to reduce clearing requirements.	N/A
Consideration of locating proposed development to have greater initial vegetation separation distances from bushfire hazards by utilising non-vegetated interfaces.	N/A
Modification or redesign of the proposed areas of intensification of land use to avoid areas with high environmental, biodiversity or conservation values.	N/A
The proposal has applied a reduction in the intensification of land use or development potential (e.g. reduced lot yield or smaller building footprints), to ensure the retention of greater areas of native vegetation while achieving the required vegetation separation distances to limit exposure to unacceptable levels of potential bushfire impact.	N/A
The proposal situates required non-vegetated elements (e.g. footpaths, paved areas, roads, parking, open drainage channels, and major services delivery installed in common corridors), between bushfire hazards and elements at risk – to effectively achieve required vegetation separation distances with less vegetation clearing and/or modification.	N/A
The proposal applies building envelopes, and these have located to minimise the requirement to clear and/or modify native vegetation.	N/A
The proposal utilises the clustering habitable buildings to reduce requirements for native vegetation clearing and/or modification.	N/A
The proposal aligns roads and pathways to work around trees and other vegetation, preserving their ecological values.	N/A
The proposal establishes requirements for the construction of building(s) to satisfy the requirements corresponding to higher BAL ratings to ensure a reduced vegetation separation distance requirement.	N/A

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2.3 Vegetation Management Plans with Implications for the BMP

EXPLANATORY INFORMATION

This section identifies the area(s) of land (supporting vegetation), within or near the subject site (i.e. onsite or offsite) to which one or more of the following scenarios and their corresponding management actions applies.

If none of these scenarios is relevant to the subject planning proposal, this is stated.

1. Area(s) subject to a **LANDSCAPE PLAN THAT RESULTS IN RELEVANT ELEMENTS AT RISK BEING EXPOSED TO A LOW BUSHFIRE THREAT LEVEL** from existing or planned area(s) of vegetation and establishes the following management actions:

    (a) To apply landscaping design (including the modification and/or establishment of plants/shrubs/trees), that will enable the area(s) to be excluded from classification under AS 3959 BAL determination methodology;

    (b) To actively manage the area(s) to maintain the low bushfire threat level in perpetuity. Thereby ensuring the applicable bushfire protection measures, applied in accordance with the BMP, remain effective;

    (c) To achieve and maintain the low threat state through using a combination of mechanisms including:

        (i) Minimising vegetation fuel loads through design and ongoing management;

        (ii) Using low flammability and/or higher moisture content species;

        (iii) Incorporating non-vegetated elements; and

    (d) To identify the entity responsible for ensuring the landscape plan is complied with in perpetuity and when required, will contain written confirmation of their acceptance of the responsibility.

2. Area(s) subject to a **LANDSCAPE PLAN THAT RESULTS IN RELEVANT ELEMENTS AT RISK BEING EXPOSED TO A REDUCED BUSHFIRE THREAT LEVEL** from existing or planned area(s) of vegetation and establishes the following management actions:

    (a) To apply landscaping design involving the removal and/or modification of existing vegetation that will enable the area(s) to be classified as a lower threat class under AS 3959:2018 BAL determination methodology;

    (b) To actively manage the area(s) to maintain the reduced bushfire threat level in perpetuity. Thereby ensuring the applicable bushfire protection measures, applied in accordance with the BMP, remain effective;

    (c) To identify the entity responsible for ensuring the landscape plan is complied with in perpetuity and when required, will contain written confirmation of their acceptance of the responsibility.

3. Area(s) subject to a **REVEGETATION PLAN THAT MAY RESULT IN RELEVANT ELEMENTS AT RISK BEING EXPOSED TO AN ADDITIONAL BUSHFIRE HAZARD AND/OR AN INCREASED BUSHFIRE THREAT LEVEL** from an existing area(s) of vegetation and establishes the following information:

    (a) The location of the areas to be revegetated (as distinct from natural regeneration which is accounted for in the vegetation classification under AS 3959 BAL determination methodology); and

    (b) A description of the planned design regarding density and species of plants/shrubs/trees to inform the bushfire consultant's classification of the vegetation under AS 3959:2018 BAL determination methodology.

Relevance of the Stated Scenarios to the Subject Planning Proposal	Only Scenario 1 is relevant.

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2.3.1 Landscape Management Plan – Low Bushfire Threat Level

PLANNED LANDSCAPING – LOW BUSHFIRE THREAT LEVEL	
The proposed development has (or required) a landscape plan that results in elements at risk being exposed to a low Bushfire Threat Level from existing or planned area(s) of vegetation.	No
Assessment Supporting Details: The development is classified as a vulnerable land use, which would typically require a Landscape Management Plan. However, as there are no areas of classified vegetation within the site requiring management, and the proposed landscaping is limited to small garden beds surrounded by carparks that present no bushfire risk. It would be open to the decision maker to determine that a Landscape Management Plan is not warranted for the purpose of the bushfire assessment in this instance.	

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3 THE BUSHFIRE HAZARD – POTENTIAL IMPACT - LANDSCAPE AND VEGETATION DATA

3.1 Bushfire Attack Level (BAL) Assessment Summary (Contour Map Format)

EXPLANATORY INFORMATION

Caution! Future building works require a 'determined' BAL rating for building permit applications. When a BAL contour map is being used for planning assessment purposes, (as opposed to a building assessment purpose), the required 'determined' BAL rating typically is not able to be derived from the map (there are only limited scenarios where this is possible).

The BAL ratings identified from the map will more likely be only 'indicative' of what can be achieved – with planning compliance for this factor being achieved when BAL-29 is indicated.

Otherwise, an additional assessment of the site data for building application purposes is required, and potentially approval will need to be obtained for native vegetation modification and/or removal from the relevant authority.

Refer to Appendix B for additional information including interpretation of the BAL Contour Map.

3.1.1 BAL Determination Methodology and Location of Data and Results

LOCATION OF DATA & RESULTS					
BAL Determination Methodology		Location of the Site Assessment Data			Location of the Results
AS 3959:2018	Applied to Assessment	Classified Vegetation and Topography Map(s)	Calculation Input Variables		Assessed Bushfire Attack Levels and/or Radiant Heat Levels
			Summary Data	Detailed Data with Explanatory and Supporting Information	
Method 1 (Simplified)	Yes	Figure 3.1	Table 3.2	Appendix A1	Table 3.1 Table 3.3 / BAL Contour Map

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3.1.2 BAL Ratings Derived from the Contour Map

Table 3.1: Indicative and determined BAL(s) for existing and/or proposed building works.

BUSHFIRE ATTACK LEVEL FOR EXISTING/PLANNED BUILDINGS/STRUCTURE [1]		
Building/Structure Description	Indicative BAL [2]	Determined BAL [2]
Hotel	N/A	BAL-19
Mixed-Use	N/A	BAL-12.5
Office	N/A	BAL-19
Social Hub	N/A	BAL-12.5

[1] The assessment data used to derive the BAL ratings is sourced from Table 3.1 and Figure 3.2 'BAL Contour Map'.

[2] Refer to the start of Section 3 for an explanation of indicative versus determined BAL ratings.

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3.1.3 Site Assessment Data Applied to Construction of the BAL Contour Map(s)

RELEVANT CLASSIFIED VEGETATION	
Identification of Classified Vegetation that is Relevant to the Production of the BAL Contour Map(s)	Relevant Vegetation Map
The relevant vegetation will be all areas of classified vegetation that exist at the time of the site assessment – both within the subject site (onsite) and external to the subject site (offsite).	Figure No.3.1
The relevant vegetation for the post-development BAL contour map will be any area of classified vegetation - both within the subject site (onsite) and external to the subject site (offsite) - that will remain at the intended end state of the subject development once earthworks, any clearing and/or landscaping and re-vegetation have been completed.	Figure No.3.2
Supporting Assessment Details: None required.	

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Table 3.2: Calculation inputs applied to deriving the vegetation separation distances corresponding to different levels of potential radiant heat transfer.

DATA APPLIED TO CALCULATE THE SITE SPECIFIC VEGETATION SEPARATION DISTANCES CORRESPONDING TO POTENTIAL RADIANT HEAT TRANSFER LEVELS [1]												
Applied BAL Determination Method		METHOD 1 - SIMPLIFIED PROCEDURE (AS 3959:2018 CLAUSE 2.2)										
The Calculation Input Variables - Corresponding to the Applied BAL Determination Method [2]												
Methods 1 and 2		Method 1	Method 2									
Vegetation Classification		FDI	Effective Slope		Site Slope	FFDI or GFDI	Flame Temp.	Elevation of Receiver	Flame Width	Fireline Intensity	Flame Length	Modified View Factor
			Applied Range	Measured								
Area	Class		degree range	degrees	degrees		K	metres	metres	kW/m	metres	% Reduction
1	(A) Forest	80	Upslope or flat 0	-	-	-	-	-	-	-	-	-
2	(D) Scrub	80	Downslope >15-20	-	-	-	-	-	-	-	-	-
3	(D) Scrub	80	Upslope or flat 0	-	-	-	-	-	-	-	-	-
4	(C) Shrubland	80	Downslope >15-20	-	-	-	-	-	-	-	-	-
5	(G) Grassland	80	Upslope or flat 0	-	-	-	-	-	-	-	-	-
6	Excluded cl 2.2.3.2(e)	N/A	N/A	-	-	-	-	-	-	-	-	-
7	Excluded cl 2.2.3.2(f)	N/A	N/A	-	-	-	-	-	-	-	-	-

Note 1: The values used to indicate levels of potential radiant heat transfer (from fire in bushfire prone vegetation to exposed elements at risk), will be stated in subsequent tables as either as a bushfire attack level (BAL) and/or as kilowatts per square metre (kW/m2), as relevant to the application of the value and the type and use of the element at risk.

Note 2: All data and information supporting the determination of the classifications and values stated in this table is presented in Appendix A. Where the values are stated as 'default' these are either the values stated in AS 3959:2018, Table B1 or the values calculated as intermediate or final outputs through application of the equations of the AS 3959:2018 BAL determination methodology. They are not values derived by the assessor.

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Table 3.3: Vegetation separation distances corresponding to the stated levels of potential radiant heat transfer.

THE CALCULATED (SITE SPECIFIC) VEGETATION SEPARATION DISTANCES CORRESPONDING TO THE STATED LEVEL OF POTENTIAL RADIANT HEAT TRANSFER (METRES) [1]									
Vegetation Classification		Maximum Radiant Heat Transfer (Flux)							
		>40 kW/m²	40 kW/m²	29 kW/m²	19 kW/m²	12.5 kW/m²	N/A [2]	10 kW/m²	2 kW/m²
		Bushfire Attack Levels							
Area	Class	BAL-FZ	BAL-40	BAL-29	BAL-19	BAL12.5	BAL-LOW		
1	(A) Forest	<16	16-<21	21-<31	31-<42	42-<100	>100	-	-
2	(D) Scrub	<15	15-<21	21-<31	31-<43	43-<100	>100	-	-
3	(D) Scrub	<10	10-<13	13-<19	19-<27	27-<100	>100	-	-
4	(C) Shrubland	<10	10-<15	15-<22	22-<31	31-<100	>100	-	-
5	(G) Grassland	<6	6-<8	8-<12	12-<17	17-<50	>50	-	-
6	Excluded cl 2.2.3.2(e)	-	-	-	-	-	-	-	-
7	Excluded cl 2.2.3.2(f)	-	-	-	-	-	-	-	-

Note 1: The calculated results are illustrated in Figure 3.2 as a BAL Contour Map and/ or additional defining lines as necessary. All applied calculation input variables are presented in Table 3.2. A copy of the radiant heat calculator output for each area of classified vegetation is presented in Appendix A3.

Note 2: The BAL-LOW rating does not represent a maximum level of radiant heat transfer. The rating is applied when the separation distance is at least 100m from all classified vegetation except Grassland, for which 50m applies.

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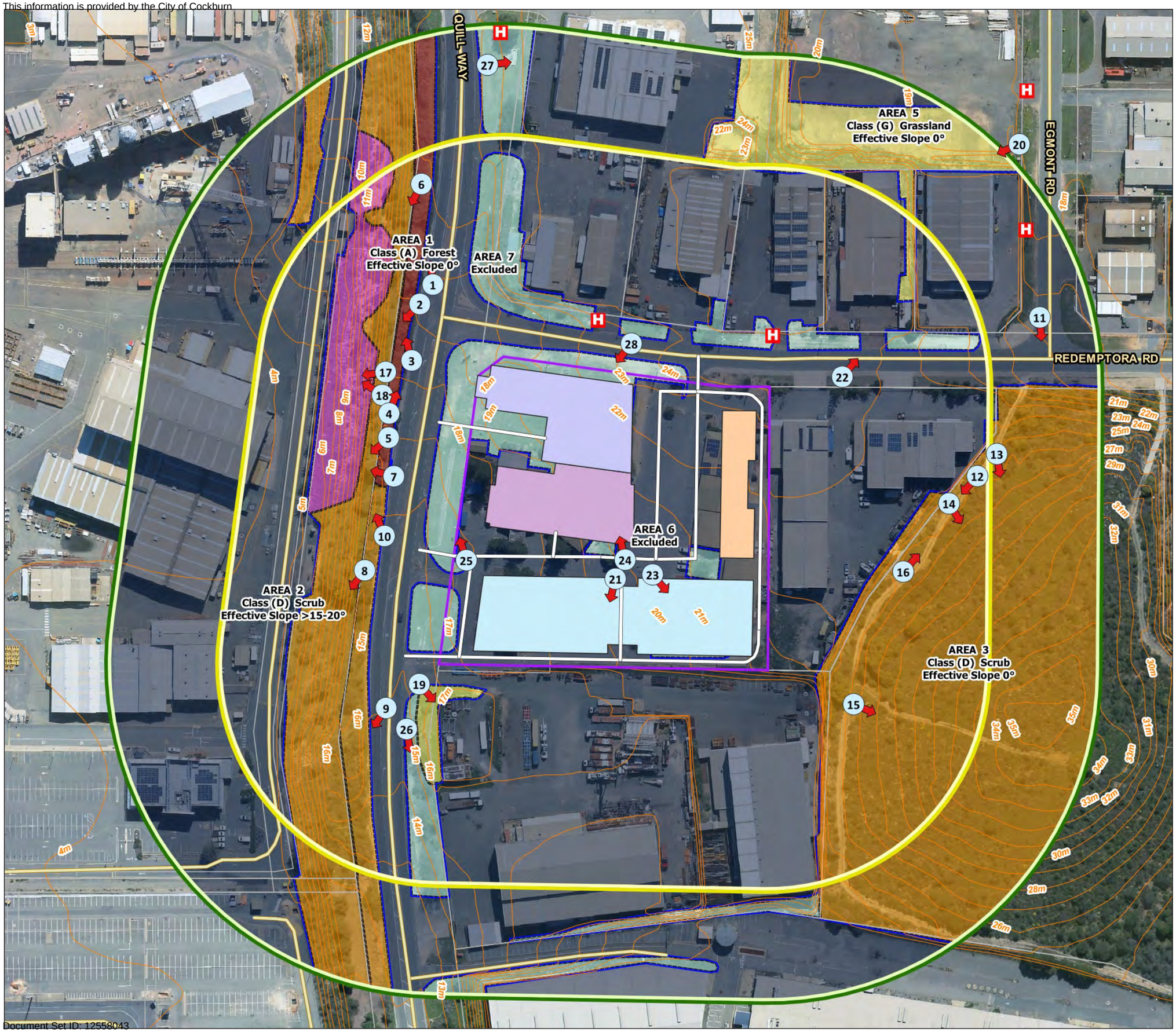


Figure 3.1

Classified Vegetation & Topography (Existing)

Lot 168 on Diagram 076646, Area : 1.8472 ha
81 Quill Way
HENDERSON
CITY OF COCKBURN

------ LEGEND ------

- Subject Site
- Cadastral
- Photo and Direction
- Hydrants
- 150m Assessment Area
- 100m Assessment Area

Buildings

- Hotel
- Mixed-Use
- Office
- Social Hub

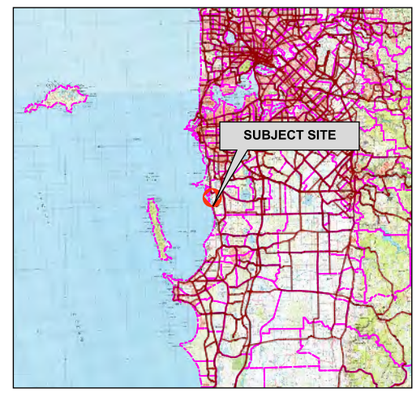
Classified Vegetation

- Forest
- Shrubland
- Scrub
- Grassland
- Excluded 2,2,3,2 (e)
- Excluded 2,2,3,2 (f)

0 20 40 60 80 100

Metres

------ LOCALITY ------



AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Merctaor Units: Metre
Map by: Tessa 16-12-2025
SCALE (A3): 1 : 1600

BUSHFIRE PRONE PLANNING

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Figure 2

BAL Assessment Map

Lot 168 on Diagram 076646, Area : 1.8472 ha
81 Quill Way
HENDERSON
CITY OF COCKBURN

------ LEGEND ------

- Subject Site
- Cadastral
- Hydrants
- 100m Assessment Area

Buildings

- Hotel
- Mixed-Use
- Office
- Social Hub

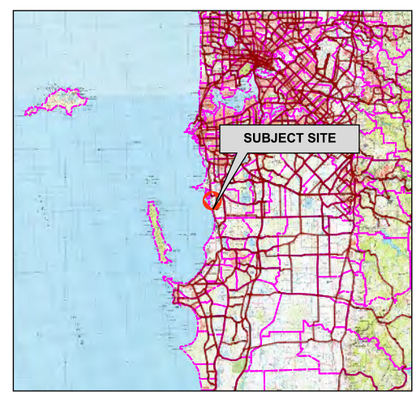
Bushfire Attack Levels

- BAL-FZ
- BAL-40
- BAL-29
- BAL-19
- BAL-12.5
- BAL-LOW

0 20 40 60 80 100

Metres

------ LOCALITY ------



AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Merctaor Units: Metre
Map by: Tessa 16-12-2025
SCALE (A3): 1 : 1300

BUSHFIRE PRONE PLANNING

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4 IDENTIFICATION OF BUSHFIRE HAZARD ISSUES

EXPLANATORY INFORMATION

Section Intent

1. To function as a concise initial reference point informing decision makers of key bushfire hazard issues specific to the planning proposal. This is achieved by providing context regarding:
   (a) How the identified bushfire prone vegetation contributes to the level of risks to persons/property and infrastructure. With injury/death, damage/loss, and service disruption being the relevant risks associated with a bushfire event (i.e. 'bushfire risk'); and
   (b) How likely the application of the relevant deemed to comply bushfire protection measures (i.e. the acceptable solutions of the BPC), will contribute to mitigating this bushfire risk to an acceptable or tolerable level.
2. To inform decision makers of any bushfire hazard issues that, in the opinion of the bushfire consultant, are likely to require specific consideration and are additional to a 'standard' review of the submitted BMP.
3. When necessary, to provide the bushfire consultant a location in the BMP where matters can be noted that would either not be considered or only be partially considered, under the assessments conducted in accordance with SPP 3.7/Guidelines. These include matters that would potentially reflect poorly on their professional integrity if ignored.

Achieving the Intent

1. Identify when environmental constraints are likely to limit a proposal's ability to apply effective bushfire protection measures that reduce bushfire hazard threat levels and/or persons/property exposure to those threats.
2. Identify if bushfire hazard threats and the level of those threats is significantly greater or lower than implied by the bushfire assessment methodologies applied in accordance with the Guidelines.
3. Stating when an outcomes-based approach has been applied as a justifiable alternative to compliance with the applicable acceptable solutions, and if the approach:
   (a) Delivers an equivalent or lower level of residual bushfire risk than that intended to be derived from the application of those acceptable solutions; or
   (b) Delivers higher level of residual risk and justifies why this can and should be tolerated.
4. Identifying when compliance with the BPC requires the establishment of vegetation management responsibilities - including formal management agreements when necessary – for vegetation on land adjoining a lot that is part of a planning proposal, but that land does or could have different legal ownership.
5. Identify other relevant issues as necessary. This may include the possible development, by the bushfire consultant, of required and/or recommended additional bushfire protection measures for consideration by the decision maker.

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This information is provided by the City of Cockburn

4.1 Environmental Considerations

BUSHFIRE PRONE VEGETATION WITHIN THE SUBJECT SITE (refer to detail in Section 2)		
Identified As	Relevance to the Planning Proposal	Implications for the Planning Proposal's Ability To Comply With The Bushfire Protection Criteria
Protected Vegetation	None	No Change
Required Removal of Native Vegetation	None	No Change
Planned Retention of Unprotected Native Vegetation	None	No Change
Planned Revegetation with Native Vegetation	None	No Change
Assessment Supporting Details: None required.		

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4.2 Bushfire Assessment – Bushfire Attack Level (BAL)

BUSHFIRE ATTACK LEVEL ASSESSMENT – IDENTIFIED ISSUES	
The following issues regarding the ability of current or future development sites to be located within a lot and subject to a radiant heat impact not exceeding 29 kW/m^2 (BAL-29) may have been addressed in the BMP. When applicable to the subject planning proposal this is identified and discussed.	
For a lot(s) of land that are part of this planning proposal, compliance with the BPC requires the establishment of ongoing vegetation management responsibilities on adjoining land that has, or could in the future, different legal ownership. This has created the requirement develop a formal agreement(s) with a third party(s) to manage vegetation in a modified and/or low threat state in perpetuity. Evidence of the agreement is provided in this BMP.	X
The planning proposal is for a staged subdivision. Classified vegetation within a subsequent stage of a subdivision requires removal or modification to ensure that proposed lots within the current stage of the subdivision achieve a development site with a radiant heat impact not exceeding 29 kW/m^2 (BAL-29). This has created the requirement to establish a responsibility for the developer of the subsequent stage	X
Area(s) of land within a lot(s) are subject to BAL-40/FZ but sufficient area remains for a development site(s). At the discretion of the decision maker, this may require considering the application of building envelopes or restrictive covenants, to ensure the location of future buildings within a lot cannot be subject to BAL-40/FZ.	X

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4.3 Ability to Comply with the Bushfire Protection Criteria (Relevant Elements Only)

IMPLICATIONS OF THE ENVIRONMENTAL CONSIDERATIONS AND BUSHFIRE ASSESSMENTS FOR THE PLANNING PROPOSAL'S ABILITY TO COMPLY WITH THE BUSHFIRE PROTECTION CRITERIA (BPC) VIA ACCEPTABLE SOLUTIONS AND/OR OUTCOMES (refer to detail in Section 5)					
Relevant Element of the BPC	Relevant Acceptable Solution	Implication Level	Ability to Comply	Outcomes-Based Approach Applied	Description/Comments (as required)
BPC- E2: Siting and Design	A2.2a: Siting and Design	Significant Positive	Currently Compliant	N/A	Not required
BPC- E3: Vehicular Access	A3.1 Public roads	Significant Positive	Currently Compliant	N/A	Not required
	A3.2a Access routes	Significant Positive	Currently Compliant	N/A	Not required

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5 ASSESSMENT AGAINST THE BUSHFIRE PROTECTION CRITERIA (BPC)

EXPLANATORY INFORMATION

State Planning Policy 3.7 Bushfire (SPP 3.7) establishes policy outcomes (cl. 6) that "specify the role of planning and development in contributing to the overall objectives" of the policy. These policy outcomes are also incorporated within the four Elements of the bushfire protection criteria.

A planning proposal in a designated bushfire prone area is required to demonstrate that compliance with the bushfire protection criteria can be achieved.

The Planning for Bushfire Guidelines (Guidelines) establishes two pathways to demonstrate compliance with the bushfire protection criteria:

1. The deemed to comply pathway in which compliance with all relevant acceptable solutions associated with each Element, for a specific planning stage or use, is able to be demonstrated; or

2. When all relevant acceptable solutions cannot be fully achieved, the alternative pathway which utilises either the outcomes-based approach (established in SPP 3.7 cl. 6) alone, or a combination of the outcomes-based approach and the acceptable solutions (as established in the Guidelines s. 2.2.1).

Assessment of the planning proposal utilising the deemed to comply pathway is presented in this section of the BMP.

Notes:

1. *The additional primary bushfire protection measure of bushfire construction requirements that are to apply to certain classes of habitable buildings in WA (corresponding to their assessed Bushfire Attack Level) - is implemented through the process of applying the Building Code of Australia (Volumes 1 and 2 of the National Construction Code) in accordance with WA building legislation – not through any planning legislation].*

2. *The requirement to prepare a Bushfire Emergency Plan (BEP) for vulnerable land uses is an additional bushfire protection measure established by SPP 3.7. This is to be produced as a separate standalone operational document. However, some requirements identified in the BEP may necessarily incorporated into this BMP and the responsibilities it creates.*

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5.1 Local Government Variations to Apply

EXPLANATORY INFORMATION	
1. Local governments may add to or modify the acceptable solutions contained within the Guidelines, through regional or local variations that form part of a local planning strategy and/or local planning scheme to recognise special local or regional circumstances that reinforce the SPP 3.7 objectives and outcomes (via a scheme amendment or special control area). This could include acceptable solutions that address topography, vegetation or climate to the satisfaction of the Western Australian Planning Commission (WAPC) that the modifications comply with the corresponding SPP 3.7 objectives and outcomes. (Planning for Bushfire Guidelines, s. 3.4, 2024). 2. Under the relevant state legislation (LPS Regulations 2015), SPP 3.7 does not apply to hosted or unhosted short-term rental accommodation. However, the local government under its Local Planning framework (i.e. Strategy / Scheme and Policy as applicable), may require that certain bushfire protection measures or variations to the measures (the bushfire protection criteria), established by SPP 3.7 and the Guidelines, are to be applied.	
Endorsed regional or local variations to the acceptable solutions apply to the assessments against the Bushfire Protection Criteria for the planning proposal?	No
The proposed land use for hosted or unhosted short-term rental accommodation, and the local government requires certain bushfire protection measures, contained within the BPC, to be applied, that under the LPS Regulations 2015, would otherwise not be required?	No

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5.2 Assessment Summary

HOW THE REQUIRED BUSHFIRE PLANNING OUTCOMES OF SPP 3.7 ARE ACHIEVED FOR THE PLANNING PROPOSAL		
DEVELOPMENT – VULNERABLE LAND USES (TOURISM AND DAY USES)		
The Bushfire Protection Criteria (BPC) Elements and Acceptable Solutions	Compliance Pathway Applied and Assessment Outcome	
	Deemed to Comply	Outcomes-Based Approach
	Requires Compliance with All Applicable Acceptable Solutions	Expert Opinion Identifies Achieving the Required SPP 3.7 Outcomes can be Demonstrated [1]
E2: SITING AND DESIGN Outcome: Ensure siting and design solutions (a) manage or mitigate the bushfire risk to people, property and infrastructure; and (b) avoid, or where unavoidable, minimises the clearing of native vegetation.	Fully Compliant	Not Required
A2.1a Siting and design	Fully Compliant	
A2.1b Siting in an area with a radiant heat impact exceeding 29 kW/m² (BAL-40 or BAL-FZ)	Not Applicable	
A2.2 Asset Protection Zone (APZ)	Not Applicable	
A2.3 Clearing of native vegetation	Fully Compliant	
A2.4 Landscape management plan	Not Applicable	
A2.5 Onsite shelter (safer building) - schools	Not Applicable	
E3: VEHICULAR ACCESS Outcome:	Fully Compliant	Not Required
A3.1 Public roads	Fully Compliant	
A3.2a Access routes	Fully Compliant	
A3.2b Access routes for a day use with no overnight accommodation	Not Applicable	
A3.3a No-through roads	Not Applicable	
A3.3b No-through roads technical requirements	Not Applicable	
A3.4 Emergency access way	Not Applicable	
A3.5 Onsite shelter	Not Applicable	
A3.6 Fire service access route	Not Applicable	
A3.7 Internal vehicular access & private driveways	Fully Compliant	
A3.8 Signage	Fully Compliant	
E4: WATER SUPPLY	Fully Compliant	Not Required

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A4.1 Water supply	Fully Compliant	
Note 1: Assessment details addressing the criteria established by SPP 3.7 cl. 7.5, are provided in the following section when this compliance pathway is applied.		

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5.3 BPC 8.2: Development – Vulnerable Land Uses (Tourism and Day Uses) - Acceptable Solutions Assessment

5.3.1 Element 2: Siting and Design

ELEMENT 2: SITING AND DESIGN (DEVELOPMENT –VULNERABLE LAND USES (TOURISM USES AND DAY USES)

All details of acceptable solution requirements are established in the Planning for Bushfire Guidelines (Guidelines) – WA Department of Planning, Lands and Heritage (DPLH, as amended). When relevant, the 'Bushfire Management Plan Guidance for the Dampier Peninsula' (DPLH, 2021 Rev B), is also referenced.

EXPLANATORY INFORMATION

(Additional Information in Appendix B3 of BMP)

The APZ and the Planning Assessment

The assessment is a 'planning assessment' being conducted for planning approval purposes. This is not an assessment conducted for building approval purposes.

The acceptable solutions and required assessment are aligned with the following bushfire planning policy and guidance which must be given due regard:

> *SPP 3.7 Bushfire, Policy Objectives, cl. 5.5 states – "Prioritise the retention of native vegetation for biodiversity conservation, environmental protection and landscape amenity.*
>
> *SPP 3.7 Bushfire, Policy Outcomes, cl. 6.2 - establishes that clearing of native vegetation is to be avoided or minimised in managing or mitigating bushfire risk.*
>
> *The Guidelines, Appendix B2, B.2.1 states - "clearing or modification of native vegetation to reduce the radiant heat impact below 29 kW/m² is generally not supported."*

To comply with the relevant acceptable solutions, the subject planning proposal must demonstrate that the required minimum sized asset protection zone (APZ) can be installed, to the required technical requirements, surrounding a habitable or specified building and applying the APZ location constraints and allowances established by the Guidelines.

The required minimum dimensioned APZ is that which ensures that the relevant existing and/or proposed buildings works will be subject to the BAL-29 level of radiant heat exposure. The only exceptions to this will be when a lower level of radiant heat exposure is a requirement of an acceptable solution, or a protection measure established by the application of the outcomes-based approach (e.g. 10 kW/m²) in which case this is stated in the assessment and the responsibilities checklist.

> *Note that the derivation of 'determined' BAL ratings for future building works, to be used in building permit applications, is not an intended outcome of this planning assessment. However, in limited situations, these may be able to be determined.*

Important APZ Installation Information

An approved BMP, unless stated otherwise, is only approving the installation of an APZ comprised of the minimum dimensions that ensures the radiant heat impact of a bushfire (on building works) does not exceed 29 kW/m² (BAL-29).

*The **'minimum'** dimensions of the approved APZ are also the 'maximum' approved dimensions when installation of the APZ will require the modification/removal of native vegetation. Installing a larger dimensioned APZ - to lower the determined BAL rating of specific building works - will need additional approval from the relevant authority (refer to the relevant local government) when modification/removal of native vegetation is required.*

Refer to the bushfire protection measure implementation checklist in Section 6 for the dimensions applicable to this planning proposal.

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	State Planning Policy 3.7 Bushfire - Outcomes to be Achieved
O2	**SPP 3.7, 6.2: Ensure siting and design solutions:** • **Manage or mitigate the bushfire risk to people, property and infrastructure; and** • **Avoid, or where unavoidable, minimises the clearing of native vegetation.**
E2	Statement for Compliance with Element E1 – The Deemed to Comply Pathway
	The planning proposal is fully compliant with all applicable acceptable solutions and therefore achieves the required outcomes of this element.
	Alternative Pathway Applied to Achieve SPP 3.7 Outcomes
	N/A

ACCEPTABLE SOLUTIONS - ASSESSMENT STATEMENTS

Check Box Legend: ☑ Relevant & met ☒ Relevant & not met ⃠ Not relevant

A2.1a Siting and design	Applicable: Yes	Compliant: Yes

☑ ☐ ☐	Every habitable building achieves a radiant heat impact not exceeding 29 kW/m² (BAL-29).
☐ ☐ ⃠	A2.1a is not applicable to the subject planning proposal as it cannot be complied with and an alternative acceptable solution A2.2a (dealing with the same protection measure), is provided and establishes a higher level of radiant heat impact that will be considered for planning approval, if it can be satisfactorily demonstrated that the allowable constraints apply to the subject development site.

Assessment Supporting Details: All habitable buildings can achieve a BAL-12.5

A2.1b Asset Protection Zone (APZ)	Applicable: No	Compliant: -

☐ ☐ ⃠	A2.1b is not applicable to the subject planning proposal because it is a requirement associated with the compliant application of A2.1a. Given A2.1a is not applicable to the subject planning proposal, A2.1b is also not applicable.

Where a habitable building(s) cannot be wholly within an area with a radiant heat impact not exceeding 29 kW/m² (BAL-29) in its pre-development state, an indicative APZ is to be provided and meet the following requirements for width, location and management:

☐ ☐ ⃠	**APZ Width:** The APZ, when measured from the development site (or any external wall or supporting post or column), is of sufficient size to ensure the radiant heat impact of a bushfire does not exceed 29 kW/m² (BAL-29) to any part of the building, in all circumstances.
☐ ☐ ⃠	**APZ Location – Option 1:** The indicative 'Planning BAL-29' APZ can be contained solely within the boundaries of the lot.
☐ ☐ ⃠	**APZ Location – Option 2:** The indicative 'Planning BAL-29' APZ cannot be contained solely within the boundaries of the lot. However, the relevant vegetation on the adjoining land / lot(s) is, and will continue to be, on an ongoing basis in perpetuity, low threat as per: • Clause 2.2.3.2 of AS 3959 (including non-vegetated land such as a sealed or unsealed road, or a water body); or • The requirements of the Guidelines Appendix B.2, Table 9 – APZ technical requirements; or

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	• The alternative standard in the local planning scheme (when it exists).
☐ ☐ ⊘	**APZ Management:** The APZ is (or can and will be) managed in accordance with the requirements established in the Guidelines, Appendix B.2 or the alternative standard in the gazetted local planning scheme (when it exists).

Assessment Supporting Details:

A2.1b is not applicable because the habitable buildings can be wholly within an area with a radiant heat impact not exceeding 29 kW/m² (Bal-20) in its pre-development state.

A2.2a Siting in an area with a radiant heat impact exceeding 29 kW/m² (BAL-40 or BAL-FZ)	Applicable:	No	Compliant:	-

☑ ☐ ☐	A2.2a is not applicable to the subject planning proposal because A2.1a can be complied with.
☐ ☐ ⊘	The habitable building(s) or structure(s) is sited with a radiant heat impact exceeding 29 kW/m² (i.e. BAL-40 or BAL-FZ) and is unable to establish an APZ in accordance with A2.1b. However, meeting **all** of the following established requirements allows consideration for approval.
☐ ☐ ⊘	There are no bushfire construction standards required under the BCA; and
☐ ☐ ⊘	There are demonstrated site characteristics and/or environmental values that prevent the achievement of a radiant heat impact not exceeding 29 kW/m2 (BAL-29); and
☐ ☐ ⊘	It is acknowledged within the bushfire management plan that it is understood that in the event of a bushfire it is possible the building or structure will be damaged or destroyed; and
☐ ☐ ⊘	The vegetation immediately surrounding the building(s) or structure(s) can and will be managed as defendable space in accordance with Appendix B.2, Table 9 – APZ technical requirements.

Assessment Supporting Details: None required.

A2.2b Asset Protection Zone (APZ)	Applicable:	No	Compliant:	-

☑ ☐ ☐	A2.2b is not relevant to the subject planning proposal because A2.2a is not applicable.
☐ ☐ ⊘	The provision of an APZ with width and location requirements in accordance with acceptable solution A2.1b (to result in BAL-29 exposure), cannot be achieved for the subject planning proposal. Instead, the vegetation immediately surrounding the habitable building, to the extent possible within the lot, is to be managed as defendable space in accordance with Appendix B.2, Table 9 – APZ technical requirements.

Assessment Supporting Details: None required.

A2.3 Clearing of native vegetation	Applicable:	Yes	Compliant:	Yes

☑ ☐ ☐	The development avoids, or where unavoidable, minimises the clearing of native vegetation.

Assessment Supporting Details: No native vegetation is required to be removed of managed.

A2.4 Landscape management plan	Applicable:	No	Compliant:	-

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☐ ☐ ⊘	A landscape management plan has been prepared to identify ongoing onsite vegetation management.

Assessment Supporting Details: There are development application situations where this acceptable solution is unlikely to serve a purpose and would not contribute meaningfully to the reduction of bushfire risk or therefore the required outcomes of SPP 3.7. Consequently, it is an unnecessary acceptable solution.

The development is classified as a vulnerable land use, which would typically require a Landscape Management Plan. However, as there are no areas of classified vegetation within the site requiring management, and the proposed landscaping is limited to small garden beds surrounded by carparks that present no bushfire risk, a Landscape Management Plan is not considered necessary in this instance.

A2.5 Onsite shelter (if required)	Applicable:	No	Compliant:	-

☐ ☐ ⊘	An onsite shelter is proposed. It will comply with A3.5 Onsite shelter and can and will meet all the relevant following established requirements.
☐ ☐ ⊘	An onsite shelter building(s) is proposed for which there is sufficient separation distance from the bushfire prone vegetation to avoid exposure to a radiant heat flux exceeding 10 kW/m^2 (applying an assumed flame temperature of 1200 K.
☐ ☐ ⊘	The building(s) identified as suitable for onsite shelter is (or can and will be) designed in accordance with Building Code of Australia and the ABCB Design and Construction of Community Bushfire Refuges Handbook.
☐ ☐ ⊘	An open space area is proposed to function as an onsite shelter. There is sufficient separation distance between the open space area and the bushfire prone vegetation to avoid exposure to a radiant heat flux exceeding 2 kW/m^2 (applying an assumed flame temperature of 1200 K).
☐ ☐ ⊘	Pedestrian paths to any onsite shelter(s) are (or can and will be) provided and clearly signposted.

Assessment Supporting Details: None required.

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5.3.2 Element 3: Vehicular Access

ELEMENT 3: VEHICULAR ACCESS (DEVELOPMENT –VULNERABLE TOURISM LAND USES AND DAY USES)					
All details of acceptable solution requirements are established in the Planning for Bushfire Guidelines (Guidelines) – WA Department of Planning, Lands and Heritage (DPLH, as amended). When relevant, the 'Bushfire Management Plan Guidance for the Dampier Peninsula' (DPLH, 2021 Rev B), is also referenced. The technical construction requirements for access types and components are established in the Guidelines Appendix B.3, Table 10 (certain information is copied and presented in Appendix C of this BMP). The local government will advise the proponent where different requirements are to apply and when any additional specifications such as those for signage and gates are to apply. These are included as an appendix if requested by the local government. *Note:* *The following understanding of what constitutes a 'road', and the stated definitions can be important considerations for assessments against an acceptable solution for Element 3.* • *Guidelines Appendix B3: Vehicular Access, identifies a 'road' as being either a public road (that includes a no-through road) or a perimeter road. All other access types (i.e. emergency access ways, fire service access routes, battle-axes and private driveways) are considered a different class of access i.e. they are not 'roads'.* • *SPP 3.7 defines 'no-through road' as "a cul-de-sac or dead end road".* • *SPP 3.7 defines 'two-way access' as "vehicular access from a site in two different directions to at least two different suitable destinations". This allows for required access to potentially be provided by an emergency access way.*					
O3	State Planning Policy 3.7 Bushfire - Outcomes to be Achieved				
	SPP 3.7, 6.3: Ensure the design and capacity of vehicular access and egress provide: • **For efficient and effective evacuation to a suitable destination(s); and/or** • **As a contingency measure for vulnerable land uses, an on-site shelter, where demonstrated appropriate, as a last resort option.**				
E3	Statement for Compliance with Element E1 – The Deemed to Comply Pathway				
	The planning proposal is fully compliant with all applicable acceptable solutions and therefore achieves the required outcomes of this element.				
	Alternative Pathway Applied to Achieve SPP 3.7 Outcomes				
	N/A				
ACCEPTABLE SOLUTIONS - ASSESSMENT STATEMENTS					
Check Box Legend:	☑ Relevant & met	☒ Relevant & not met	⃠ Not relevant		
A3.1 Public roads		Applicable:	Yes	Compliant:	Yes
☑ ☐ ☐	Public roads meet (or can and will meet) the technical requirements for minimum vertical clearance (4.5 metres) and minimum weight capacity (15 tonnes - includes bridges, culverts).				
☑ ☐ ☐	Public roads meet (or can and will meet) the technical requirement <u>recommended</u> in the Guidelines in Appendix B3, B3.1 for a minimum horizontal clearance of 6 metres.				

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☑ ☐ ☐	Public road technical requirements for minimum horizontal clearance, gradients and curves should be in accordance with the class of road as specified in the Public Works Engineering Australasia (IPWEA) subdivision guidelines, Liveable Neighbourhoods, Austroads Standards, any applicable or relevant Main Roads standards, supplements, policies and any applicable or relevant local government standards or policies. The assessment conducted for the bushfire management plan indicates that it is likely that the proposed development can and will comply with the requirements. However, the applicable class of road, the associated technical requirements and subsequent proposal compliance, will need to be confirmed with the relevant local government and/or Main Roads WA.

Assessment Supporting Details: All public roads can and will comply with the above requirements

A3.2a Access routes	Applicable:	Yes	Compliant:	Yes

☐ ☐ ⊘	A3.2a is not applicable to the subject planning proposal because it is for a day use and will not provide any overnight accommodation. Therefore A3.2b is the applicable acceptable solution.
☐ ☐ ⊘	The subject site is in Area 1 (Urban) (Map of BPA). Public road access, with all-weather surfaces, is to be provided to at least one suitable destination.
☑ ☐ ☐	The subject site is in Area 2 (Map of BPA). Public road access, with all-weather surfaces, is provided in two different directions, to at least two different suitable destinations.

Assessment Supporting Details: Public road access is available to the site via sealed public road Quill Way and Redemptora Road. This links with the broader road network and provides access to non-bushfire prone areas/"suitable destinations" within the Henderson Industrial Area. These roads provide two-way public road connection/access to the site to at least two different suitable destinations to the North, South and East of the site.

A3.2b Access routes for a day use with no overnight accommodation	Applicable:	No	Compliant:	-

☑ ☐ ☐	A3.2b is not applicable to the subject planning proposal because it is not a day use and provides overnight accommodation. Therefore A3.2a is the applicable acceptable solution.
☑ ☐ ⊘	The subject site is in Area 1 (Map of BPA). Public road access, with all-weather surfaces, is (or can and will be) provided in one direction to a single suitable destination.
☐ ☐ ⊘	The subject site is in Area 2 (Map of BPA). Public road access, with all-weather surfaces, is (or can and will be) provided in two different directions, to at least two different suitable destinations.
☐ ☐ ⊘	The subject site is in Area 2 (Map of BPA). Public road access, with all-weather surfaces, is (or can and will be) provided in one direction to a single suitable destination. The Guidelines establish this as an acceptable solution when the following established requirements can be met:
☐ ☐ ⊘	It is demonstrated that secondary access (including an emergency access way), cannot be provided due to site constraints; and
☐ ☐ ⊘	The vulnerable land use (tourism use or any day use) is within a residential built out area; or
☐ ☐ ⊘	The required Bushfire Emergency Plan (BEP) provides for:

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- Closure during days forecasted to be an extreme or catastrophic fire danger rating and/or days a total fire ban is declared; and
- For the early evacuation of patrons and staff; or

☐ ☐ ⊘ The required Bushfire Emergency Plan (BEP) provides for non-operation during the bushfire season.

Assessment Supporting Details: None required.

A3.3a No-Through Roads	Applicable:	No	Compliant:	-

☐ ☐ ⊘ A3.3a is not applicable to the subject planning proposal because the subject site is in Area 1 (Urban) (Map of BPA), for which there is no limitation on no-through road lengths.

☑ ☐ ☐ The subject site is in Area 2 (Map of BPA) but A3.3a is not applicable to the subject planning proposal because access to the subject site is via a private driveway from a public road providing two-way access.

Consequently, vehicular access to the subject site does not have a no-through road component.

☐ ☐ ⊘ The subject site is in Area 2 (Map of BPA); Access to the subject site is via a no-through public road that does not exceed the established maximum of 200 metres in length from the subject site boundary to an intersection where two-way access is provided.

☐ ☐ ⊘ The subject site is in Area 2 (Map of BPA): Access to the subject site / lot(s) is via a no-through public road that exceeds the established maximum of 200 metres in length from the proposed lot(s) boundary to an intersection where two-way access is provided.

It is demonstrated that there are site constraints and/or that there are no alternative design options to achieve the 200 metre maximum length.

Compliant two-way access within 200 metres from the proposed lot(s) boundary will be established through the provision (or existence) of a compliant emergency access way through the application of acceptable solution A3.4: Emergency Access Way.

☐ ☐ ⊘ The subject site is in Area 2 (Map of BPA); Access to the subject site is via a no-through public road that exceeds the established maximum of 200 metres in length from the proposed lot(s) boundary to an intersection where two-way access is provided.

However, the additional road length can be considered to satisfy the acceptable solution as the following three established requirements can be met:

☐ ☐ ⊘ 1. It is demonstrated that that an alternative access, including an emergency access way, cannot be provided due to site constraints; and

☐ ☐ ⊘ 2. The no-through road travels towards a suitable destination; and

☐ ☐ ⊘ 3. The balance of the no-through road that is greater than 200 metres from the subject site is:
- Wholly within a residential built-out area; or
- Wholly within an area designated Area 1 (Urban) on Map of BPA; or
- Potentially subject to radiant heat levels from adjacent bushfire prone vegetation not exceeding 12.5 kW/m^2 / BAL-LOW (Guidelines Figure 29).

☐ ☐ ⊘ The subject site is in Area 2 (Map of BPA) but A3.3a is not applicable to the subject planning proposal as the identified single access route to a suitable destination satisfies the relevant 'access' acceptable

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	solution A3.2b (for a day use that will not provide any overnight accommodation and satisfies the two-way access exception conditions – refer to the A3.2b assessment). Compliant access can be via a no-through road - irrespective of length – because the requirement for an "intersection within 200 metres of the subject lot boundary from which two-way access is available", is not relevant to a compliant single access route to one suitable destination. *Note to decision makers:* *DPLH officer level advice has been received by BPP stating their agreement with the above interpretation of the relevant acceptable solutions and that consideration of the relative level of risk for the different use scenarios is incorporated into those acceptable solutions.* *The intended risk outcome is to ensure that the residual level of risk to 'vulnerable' persons can be considered as equally acceptable or tolerable for both compliant overnight stay and day use only scenarios.* *The application of this approach is identified in the DPLH SPP 3.7 Explanatory Note (25/11/2024), Part 3 where it is identified risk levels are being considered "… specific bushfire protection criteria for day uses … have been introduced. This acknowledges the lesser risk and increased opportunities for businesses approved for development to close on days with an extreme or catastrophic fire danger rating."*
Assessment Supporting Details: None required.	

A3.3b No-through roads technical requirements	Applicable:	No	Compliant:	-

☑ ☐ ☐	A3.3b is not applicable to the subject planning proposal because the assessment against A3.3a has established that vehicular access to the site does not have a no-through road component.
☐ ☐ ⊘	The no-through road meets (or can and will meet) the public road technical requirements for minimum vertical clearance (4.5 metres) and minimum weight capacity (15 tonnes - includes bridges, culverts).
☐ ☐ ⊘	The no-through road meets (or can and will meet) the public road technical requirement recommended in the Guidelines in Appendix B3, B3.1 for a minimum horizontal clearance of 6 metres.
☐ ☐ ⊘	The no-through road (i.e. public road) technical requirements for minimum horizontal clearance (excluding perimeter road), gradients and curves should be in accordance with the class of road as specified in the Public Works Engineering Australasia (IPWEA) subdivision guidelines, Liveable Neighbourhoods, Austroads Standards, any applicable or relevant Main Roads standards, supplements, policies and any applicable or relevant local government standards or policies.
☐ ☐ ⊘	The turnaround area/head meets (or can and will meet) the design requirements established by the Guidelines, Figure 30.
Assessment Supporting Details: None required	

A3.4 Emergency access way	Applicable:	No	Compliant:	-

☑ ☐ ☐	A3.4 is not applicable to the subject planning proposal because it has been assessed as compliant with A3.2a and 3.2b (and A3.3a and A3.3b when applicable), and an emergency access way is not required.
☐ ☐ ⊘	A3.4 is applicable to the subject planning proposal because an emergency access way currently exists and has been part of the subject planning proposal's ability to comply with A3.2a.

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	Consequently, it will apply with regard to meeting (or being able to meet), the specified technical requirements and ongoing management requirements, rather than its installation.
☐ ☐ ⊘	The requirements established for acceptable no-through road access to the subject site in A3.2 and A3.3 cannot be achieved. An emergency access way (EAW) is provided as the alternative access and can be considered as an acceptable solution, when the following established requirements are met:
☐ ☐ ⊘	It is demonstrated that site constraints prevent the requirements of A3.2 and A3.3 being met; and
☐ ☐ ⊘	The access way is no more than 500 metres in length, provides a through connection to a public road connecting to a public road network; and
☐ ☐ ⊘	The access way meets the technical requirements (Guidelines Appendix B3, Table 10) for minimum horizontal clearance (Map of BPA Area 1 (Urban) = 6 metres and Area 2 = 10 metres), minimum vertical clearance (4.5 metres), minimum weight capacity (15 tonnes - includes bridges, culverts) and minimum inner radius of road curves (8.5 metres); and
☐ ☐ ⊘	The access way meets the technical requirements (Guidelines Appendix B3, Table 10) for crossfalls and gradients for different surfaces and dips; and
☐ ☐ ⊘	The access way will be signposted and, if gated, gates will open for the whole carriageway width and remain unlocked; and
☐ ☐ ⊘	The proponent has obtained consent from the local government, that it will accept care, control and management responsibilities for the emergency access way.

Assessment Supporting Details: None required

A3.5 Onsite shelter	Applicable:	No	Compliant:	-

☑ ☐ ☐	A3.5 is not applicable to the subject planning proposal because the proposal has been assessed as compliant with the relevant part of A3.2, A3.3 (if applicable) and A3.4 (if required), providing two-way access and an onsite shelter is not required.
☐ ☐ ⊘	The proposed development has a capacity of up to a maximum of 50 guests and employees at any one time and the requirement for compliant two-way access cannot be achieved. Consequently, an onsite shelter will be provided in accordance with A2.5.
☐ ☐ ⊘	The proposed development has a capacity of up to a maximum of 50 guests and employees at any one time and the requirement for compliant two-way access cannot be achieved and the bushfire practitioner considers an onsite shelter not necessary. An outcomes-based approach may be prepared to determine the level of relevant risks to persons and property and whether adequate protection measures can be implemented to result in an acceptable or tolerable level of residual risk.
☐ ☐ ⊘	The proposed development has a capacity greater than 50 guests and employees at any one time, the requirement for compliant two-way access cannot be achieved and/or the bushfire practitioner considers an onsite shelter not necessary. An outcomes-based approach may be prepared to determine the level of relevant risks to persons and property and whether adequate protection measures can be implemented to result in an acceptable or tolerable level of residual risk.

Assessment Supporting Details: None required

A3.6 Fire service access route	Applicable:	No	Compliant:	-

☐ ☐ ⊘	A3.6 is not applicable to the subject planning proposal because the proposed lots only adjoin Class G Grassland (classified under AS 3959) or adjoin classified vegetation that is not Class G Grassland but for which firefighter access is currently available.
☐ ☐ ⊘	The proposed lots adjoin classified vegetation that is not Class G Grassland (classified under AS 3959. A fire service access route is to be provided for firefighter access to this vegetation. It can and will meet the following established requirements:
☐ ☐ ⊘	The access route is a through-route with no dead-ends, no further than 500 metres from a public road and will be signposted; and
☐ ☐ ⊘	The access route meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for minimum horizontal clearance (Map of BPA Area 1 (Urban) = 6 metres and Area 2 = 10 metres), minimum vertical clearance (4.5 metres), minimum weight capacity (15 tonnes - includes bridges, culverts) and minimum inner radius of road curves (8.5 metres); and
☐ ☐ ⊘	The access route meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for crossfalls and gradients for different surfaces and dips; and
☐ ☐ ⊘	When gated, gates will open the whole carriageway width and can be locked by the local government and/or the emergency services, when keys are provided for each gate; and
☐ ☐ ⊘	The proponent has obtained consent from the local government, that it will accept care, control and management responsibilities for the fire service access route (unless it is a Crown reserve managed by another entity).

Assessment Supporting Details: A FSAR is intended to be an unobstructed accessway which travels along an area of classified vegetation adjoining a proposed subdivision. The FSAR provides fire crews with an accessway adjoining the vegetated area which is unobstructed by boundary fences and therefore more practical than accessing firebreaks on separate properties.

For a single lot development application a FSAR does not serve a purpose, is not and would not contribute meaningfully to the reduction of bushfire risk or therefore the required outcomes of SPP 3.7.

A3.7 Internal vehicular access and private driveways	Applicable:	Yes	Compliant:	Yes

☐ ☐ ⊘	A3.7 is not applicable to the subject planning proposal because the proposal does not contain internal vehicular access and private driveways longer than 70 metres.
☑ ☐ ☐	There are internal vehicular access and private driveways longer than 70 metres and the subject site meets (or can and will meet) all the following established requirements:
☑ ☐ ☐	The private driveway meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for minimum horizontal clearance (6 metres) or where not required to comply with the Guidelines width, it meets the requirements of the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision; and

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☑ ☐ ☐	The private driveway meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for minimum vertical clearance (4.5 metres), minimum weight capacity (15 tonnes - includes bridges, culverts) and minimum inner radius of road curves (8.5 metres); and
☑ ☐ ☐	The private driveway meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for the gradients of different surfaces and dips; and
☑ ☐ ☐	Passing bays are (or can and will be) installed every 200 metres with a minimum length of 20 metres and a minimum additional carriageway width of 2 metres i.e. the combined carriageway width of the passing bay and constructed private driveway will be a minimum 6 metres; and
☑ ☐ ☐	The turnaround area/head meets (or can and will meet) the design and location (within 30m of main habitable building) requirements established by the Guidelines (refer to Figures 30 and 38).

Assessment Supporting Details: The proposed accessways (as per Figure 1.2) will be compliant with the Guidelines.

A3.8 Signage	Applicable:	Yes	Compliant:	Yes

☑ ☐ ☐	Signage can and will be provided within the subject site, advising of where each access route travels to and the distance and general information on what to do in the event of a bushfire.

Assessment Supporting Details:

The BEP will be prepared at a later stage to accompany this BMP. The BEP will identify the evacuation routes to ensure the client is aware of the local access options.

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5.3.3 Element 4: Water Supply

ELEMENT 4: WATER SUPPLY (DEVELOPMENT –VULNERABLE TOURISM LAND USES AND DAY USES)	
All details of acceptable solution requirements are established in the Planning for Bushfire Guidelines (Guidelines) – WA Department of Planning, Lands and Heritage (DPLH, as amended). When relevant, the 'Bushfire Management Plan Guidance for the Dampier Peninsula' (DPLH, 2021 Rev B), is also referenced.	
O4	State Planning Policy 3.7 Bushfire - Outcomes to be Achieved
	SPP 3.7, 6.4: Ensure that sufficient water is available and accessible for emergency services, to enable people, property and infrastructure to be defended from bushfire.
E4	Statement for Compliance with Element E1 – The Deemed to Comply Pathway
	The planning proposal is fully compliant with all applicable acceptable solutions and therefore achieves the required outcomes of this element.
	Alternative Pathway Applied to Achieve SPP 3.7 Outcomes
	N/A

ACCEPTABLE SOLUTIONS - ASSESSMENT STATEMENTS

Check Box Legend: ☑ Relevant & met ☒ Relevant & not met ⃠ Not relevant

A4.1 Water supply	Applicable: Yes	Compliant: Yes

☑ ☐ ☐	Evidence is provided that a reticulated water supply, available for firefighting purposes, exists or can be provided. Hydrant connection(s) will be provided in accordance with the specifications established by the relevant water supply authority (refer also to hydrant location information in Appendix D of this BMP).
☐ ☐ ⃠	The provision of or the specifications of a reticulated water supply cannot be met. Evidence is provided that a sufficient, sustainable and accessible non-reticulated water supply, dedicated to firefighting purposes, can and will be provided in accordance with the specifications established in the Guidelines, Appendix B4: Water Supply.
☐ ☐ ⃠	The planning proposal is for a vulnerable land use development (not camping ground). For each habitable building a water supply, dedicated to firefighting purposes, will be stored in tanks at 10,000 litres of water per 500 m^2 of floor area up to 50,000 litres in total.
☐ ☐ ⃠	The planning proposal is for a 'camping ground' vulnerable land use development. The required water supply dedicated to firefighting purposes is to be determined at the discretion of the local government and this will be complied with. Evidence is provided of the determined requirements and is presented as an Addendum in this BMP.
☐ ☐ ⃠	The above ground water supply tank(s), dedicated to firefighting purposes (and tank stand(s) when applicable), will be constructed of non-combustible material and as necessary, will comply with AS/NZS 3500.1(as amended). This includes not using the same water supply for both domestic use and firefighting purposes. If a combined use tank(s) is to be used, it will separate the storage compartments in accordance with the provisions of the standard (i.e. internal installation of double partition walls).

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☐ ☐ ⊘	The outlet connection fitting for the water supply tank(s), dedicated to firefighting purposes, will have a full flow valve and a 50 mm male camlock coupling.
☐ ☐ ⊘	All above-ground, exposed water supply pipes and fittings will be metal and positioned facing away from the source of bushfire hazard and/or shielded against potential bushfire impact – to allow access by emergency services.
☐ ☐ ⊘	The planned provision of the water supply tank(s) will consider locations relative to the bushfire hazard. Location of the tank(s) and management of vegetation will ensure vegetation will not exist over or against the tank(s) and that sufficient separation exists to limit the potential bushfire impact. Due consideration will also be given to the provision of sufficient separation from vegetation and/or shielding for the protection of firefighters accessing the water supply.
☐ ☐ ⊘	An unobstructed, hardened ground surface, for emergency services vehicle access, can and will be installed within 4 metres of the water supply outlet (refer to Figure 39, Guidelines).
☐ ☐ ⊘	It is proposed for a water supply tank outlet(s) is to be remote from the tank, the local government and DFES will have been consulted regarding the application and location. The determined requirements are presented as an Addendum in this BMP.
☐ ☐ ⊘	Planned below ground water supply tank(s), dedicated to firefighting purposes, will have at least a 200 mm diameter access hole – or a suitable inspection opening - to allow tankers or emergency services vehicles to refill direct from the tank, with the outlet location clearly marked on the surface. As necessary, the tanks(s) will comply with AS/NZS 3500.1 (as amended).
☐ ☐ ⊘	The planning proposal intends that a suitable static water supply is to be provided by a dam or river that complies with the DFES guidelines for acceptable sources of water for firefighting purposes. Evidence is provided that: • Demonstrates that the water level will be maintained above the top of the highest fire brigade suction point; and • Approval has been obtained from the decision maker in consultation with the emergency services and is presented as an Addendum in this BMP.
☐ ☐ ⊘	The BPC Explanatory Notes in Appendix B.4: Water Supply introduce additional measures as best practice but voluntary. The following measure is adopted by the planning proposal: The subject site is in a non-reticulated area. Pumping equipment is installed and will be powered by means other than the electricity network such as an appropriately powered and capacity petrol/diesel or onsite generator/electricity, driven pump, and be shielded against potential bushfire impact.
☐ ☐ ⊘	The BPC Explanatory Notes in Appendix B.4: Water Supply introduce additional measure as best practice but voluntary. The following measure is adopted by the planning proposal: The subject site will have a reticulated water supply but is in an area designated as Area 2 on the Map of BPA and/or the local government area has known issues with water supply or pressure. Water supply tank(s) and fittings dedicated to firefighting purposes (noting that combining drinking and firefighting uses of water is not recommended and may be contrary to relevant provisions), that satisfy the construction and design requirements established in the Guidelines, Appendix B4: Water Supply, will be provided.
☐ ☐ ⊘	The BPC Explanatory Notes in Appendix B.4: Water Supply introduce additional measure as best practice but voluntary. The following measure is adopted by the planning proposal:

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This information is provided by the City of Cockburn

	The subject site is serviced by reticulated water. However, the distance from the public road (along which the fire hydrant is located) to the farthest part of the habitable building is greater than 70 metres, exceeding the reach of a hose reel. A water supply tank will be installed within the lot.
Assessment Supporting Details: Hydrants are available on Redemptora Road indicated on Figure 1.2 [Refer to additional technical requirement information contained in Appendix D]	

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6 RESPONSIBILITY CHECKLISTS

EXPLANATORY INFORMATION

This section of the BMP sets out the responsibilities of the relevant entity or person for:

- The initial implementation of the required bushfire protection measures and their timing; and
- The ongoing maintenance of the required bushfire protection measures to ensure their continued effectiveness.

Note: Protection measures that may be recommended by the bushfire consultant in the BMP section titled "Additional Recommended Bushfire Protection Measures' are not be included in the Responsibility Checklists. Their application is at the discretion of the decision maker and/or the proponent.

6.1 Bushfire Protection Measures - Implementation Checklist

TABLE 6.1
PROPONENT/LANDOWNER RESPONSIBILITIES PRIOR TO SALE/OCCUPANCY/OPERATION

No.	IMPLEMENTATION OF BUSHFIRE PROTECTION MEASURES Measures Established Under SPP 3.7 / Guidelines
1	Construct the private driveways / internal vehicular access to comply with the technical requirements stated and/or referenced in Section 5.3 of the BMP at Element 3: Vehicular access, A3.6 Internal vehicular access and private driveways
2	A purchaser, occupier and/or operator of the site must be made aware of the existence of this approved BMP and provided with access to a copy and be informed of their ongoing responsibilities it contains.
3	The development is a 'vulnerable use', produce a Bushfire Emergency Plan (BEP) for site operations and complete all relevant actions contained within the 'Site Preparation Procedure'.
4	The development is a 'vulnerable use'. Ensure the required signage is provided within the subject site, advising of where each access route travels to and the distance and general information on what to do in the event of a bushfire. Comply with the site specific requirements developed in the BMP at Element 3: Vehicular access, A3.7.
	IMPLEMENTATION OF BUSHFIRE PROTECTION MEASURES Measures Established by the Building Code of Australia (Vol. 1 and 2 of the National Construction Code)
5	Inform builders engaged to construct dwellings/additions and/or other relevant structures on the lot of the existence of this approved Bushfire Management Plan (BMP). The BMP identifies that the development site is within a designated bushfire prone area and states the indicative (or determined) BAL rating(s) that may (or will) be applied to buildings/structures. A BAL assessment report may be required to confirm determined ratings and will be required when stated ratings are only indicative. BAL certificates will need to be produced to accompany building applications.

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	The BMP may also establish, as a 'Required Additional Bushfire Protection Measure', that bushfire construction requirements to be applied must be those corresponding to a specified higher BAL rating. Compliance with the current Building Code of Australia (Volumes 1 and 2 of the National Construction Code), will require certain bushfire resistant construction requirements be applied to residential buildings in bushfire prone areas (i.e., Class 1, 2 and 3 and associated Class 10a buildings and decks) and certain Class 9 buildings. Other classes of buildings may also be required to comply with these construction when established by the relevant authority or if identified as a 'Required Additional Bushfire Protection Measure' bushfire protection measure within the BMP. The deemed to satisfy solutions that will meet the relevant bushfire performance requirements are found in AS 3959 – Construction of Building in Bushfire Prone Areas (as amended) and the NASH Standard - Steel Framed Construction in Bushfire Areas (as amended).

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6.2 Bushfire Protection Measures - Maintenance Checklist

TABLE 6.2 LANDOWNER/OCCUPIER – MAINTENANCE OF BUSHFIRE PROTECTION MEASURES	
No.	MAINTENANCE OF BUSHFIRE PROTECTION MEASURES Measures Established Under SPP 3.7 / Guidelines
1	Annually review and enact the following maintenance responsibilities established in this approved BMP for the development site prior to the bushfire season.
2	The site's use is a 'vulnerable use', and a Bushfire Emergency Plan (BEP) will be produced for site operations. Complete all relevant actions contained within the 'Site Preparation Procedure' annually prior to the bushfire season.
3	Maintain the private driveways / internal vehicular access to comply with the technical requirements stated and/or referenced in Section 5.3 of the BMP at Element 3: Vehicular access, A3.6 Internal vehicular access and private driveways
4	The sites use is a 'vulnerable use'. Maintain the required signage within the subject site, advising of where each access route travels to and the distance and general information on what to do in the event of a bushfire. Comply with the site specific requirements developed in the BMP at Element 3: Vehicular access, A3.7.
5	When the property changes ownership or occupancy, to assist with the ongoing maintenance of the implemented bushfire protection measures, ensure that the relevant person(s) is aware of the BMP, and the responsibilities it contains. Provide access to a copy of the BMP and the Bushfire Emergency Plan (BEP).
MAINTENANCE OF BUSHFIRE PROTECTION MEASURES Measures Established by a Local Government's Section 33 Notice Under the Bush Fires Act 1954	
6	Maintain the required firebreaks, providing emergency access within the lot, to the stated specifications established by the City of Cockburn Fire Control Order.
MAINTENANCE OF BUSHFIRE PROTECTION MEASURES Measures Established by the Building Code of Australia (Vol. 1 and 2 of the National Construction Code)	
7	Prior to any future building work, inform the builder of the existence of this approved Bushfire Management Plan (BMP). The BMP identifies that the development site is within a designated bushfire prone area and states the indicative (or determined) BAL rating(s) that may (or will) be applied to buildings/structures. A BAL assessment report may be required to confirm determined ratings and will be required when stated ratings are only indicative. BAL certificates will need to be produced to accompany building applications. The BMP may also establish, as a 'Required Additional Bushfire Protection Measure', that bushfire construction requirements to be applied must be those corresponding to a specified higher BAL rating.

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	Compliance with the current Building Code of Australia (Volumes 1 and 2 of the National Construction Code), will require certain bushfire resistant construction requirements be applied to residential buildings in bushfire prone areas (i.e., Class 1, 2 and 3 and associated Class 10a buildings and decks) and certain Class 9 buildings. Other classes of buildings may also be required to comply with these construction when established by the relevant authority or if identified as a 'Required Additional Bushfire Protection Measure' bushfire protection measure within the BMP. The deemed to satisfy solutions that will meet the relevant bushfire performance requirements are found in AS 3959 – Construction of Building in Bushfire Prone Areas (as amended) and the NASH Standard - Steel Framed Construction in Bushfire Areas (as amended).

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APPENDIX A: DETAILED BAL ASSESSMENT DATA AND SUPPORTING INFORMATION

A1: BAL Assessment Inputs Common to the Method 1 and Method 2 Procedures

A1.1: FIRE DANGER INDICES (FDI/FDI/GFDI)

When using Method 1 the relevant FDI value required to be applied for each state and region is established by AS 3959:2018, Table 2.1. Each FDI value applied in Tables 2.4 – 2.7 represents both the Forest Fire Danger Index (FFDI) and a deemed equivalent for the Grassland Fire Danger Index (GFDI), as per Table B2 in Appendix B. When using Method 2, the relevant FFDI and GFDI are applied.

The values may be able to be refined within a jurisdiction, where sufficient climatological data is available and in consultation with the relevant authority.

Relevant Jurisdiction:	WA	Region:	Whole State	Method 1	Applied FDI:	80
				Method 2	Applied FFDI:	N/A
					Applied GFDI:	N/A

A1.2: VEGETATION ASSESSMENT AND CLASSIFICATION

Vegetation Types and Classification

In accordance with AS 3959:2018 Clauses 2.2.3 and C2.2.3.1, all vegetation types within 100 metres of the 'site' (defined as "the part of the allotment of land on which a building stands or is to be erected"), are identified and classified. Any vegetation more than 100 metres from the site that has influenced the classification of vegetation within 100 metres of the site, is identified and noted. The maximum excess distance is established by AS 3959: 2018 Clause 2.2.3.2 and is an additional 100 metres.

Classification is also guided by the Visual Guide for Bushfire Risk Assessment in WA (WA Department of Planning February 2016) and any relevant FPA Australia practice notes.

Modified Vegetation

The vegetation types have been assessed as they will be in their natural mature states, rather than what might be observed on the day. Vegetation destroyed or damaged by a bushfire or other natural disaster has been assessed on its expected re-generated mature state. Modified areas of vegetation can be excluded from classification if they consist of low threat vegetation (refer to Appendix B) and that any required active management can be expected to continue in perpetuity, and this can be adequately justified.

The Influence of Ground Slope

Where significant variation in effective slope exists under a consistent vegetation type, these will be delineated as separate vegetation areas to account for the difference in potential bushfire behaviour, in accordance with AS 3959:2018 Clauses 2.2.5 and C2.2.5.

THE INFLUENCE OF VEGETATION GREATER THAN 100 METRES FROM THE SUBJECT SITE	
Vegetation area(s) within 100m of the site whose classification has been influenced by the existence of bushfire prone vegetation from 100m – 200m from the site:	None
Assessment Statement:	No vegetation types exist close enough, or to a sufficient extent, within the relevant area to influence classification of vegetation within 100 metres of the subject site.

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VEGETATION AREA 1				
Classification	**A. FOREST**			
Types Identified	Open forest A-03			
Exclusion Clause	N/A			
Effective Slope	Measured	flat 0 degrees	Applied Range (Method 1)	Upslope or flat 0 degrees
Justification Comments:	This small section of roadside verge is classified as Class A Forest. It comprises a dense stand of Allocasuarina (Sheoak) trees forming a well-established canopy layer. The trees are closely spaced, providing significant canopy connectivity, with an understorey dominated by grasses and minimal mid-storey development. Despite its limited extent, the vegetation exhibits the structural characteristics of forest, with a continuous canopy.			
Post Development Assumptions:	Vegetation reasonably expected to remain as is in perpetuity.			



PHOTO ID: 1



PHOTO ID: 2



PHOTO ID: 3



PHOTO ID: 4

VEGETATION AREA 2				
Classification	**D. SCRUB**			
Types Identified	Closed scrub D-13	Open scrub D-14		
Exclusion Clause	N/A			
Effective Slope	Measured	d/slope 18 degrees	Applied Range (Method 1)	Downslope >15-20 degrees
Justification Comments:	The area of vegetation is classified as Class D Scrub and occurs on a short but steep bank. The vegetation is less than 6 metres in height, as shown by the adjacent fence line in the site photos. It is composed predominantly of native species, including Rottnest Pine (*Callitris preissii*) and various Acacia species, with a grassy understorey. The canopy is relatively open, with patches of shrubs and grasses contributing to the overall fuel structure.			
Post Development Assumptions:	Vegetation reasonably expected to remain as is in perpetuity.			



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VEGETATION AREA 3				
Classification	**D. SCRUB**			
Types Identified	Closed scrub D-13	Open scrub D-14		
Exclusion Clause	N/A			
Effective Slope	Measured	flat 0 degrees	Applied Range (Method 1)	Upslope or flat 0 degrees
Justification Comments:	This vegetation area is composed of two areas of vegetation that are classified as Class D Scrub. • **Roadside verge to the west of the subject site**: This area consists of a narrow strip of vegetation along the roadside, composed of a mix of native species with a disturbed understorey dominated by European grasses. The vegetation is less than 6 m in height (see fence line in photos), with limited canopy development and a discontinuous structure typical of degraded scrub. • **Reserve to the east of the subject site**: This larger section of remnant native vegetation forms part of a designated reserve and exhibits a *Bulga scrub structure*. It comprises a variety of native species, including grass trees (*Xanthorrhoea* spp.), acacias, grevilleas, and melaleucas. While most of the vegetation is under 2 m in height and would ordinarily be consistent with shrubland, some sections contain taller plants exceeding this threshold. Applying the precautionary principle, the vegetation has been conservatively classified as Class D Scrub.			
Post Development Assumptions:	Vegetation reasonably expected to remain as is in perpetuity.			



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VEGETATION AREA 4				
Classification	**C. SHRUBLAND**			
Types Identified	Low shrubland C-12			
Exclusion Clause	N/A			
Effective Slope	Measured	d/slope 18 degrees	Applied Range (Method 1)	Downslope >15-20 degrees
Justification Comments:	This vegetation is on a short but steep bank and is a section composed primarily of tussock grasses interspersed with patches of low native shrubs. Height is under 2m, consistent with shrubland classification.			
Post Development Assumptions:	Vegetation reasonably expected to remain as is in perpetuity.			



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VEGETATION AREA 5				
Classification	**G. GRASSLAND**			
Types Identified	Dense sown pasture G-25 Tussock grassland G-22			
Exclusion Clause	N/A			
Effective Slope	Measured	flat 0 degrees	Applied Range (Method 1)	Upslope or flat 0 degrees
Justification Comments:	Patches of gasses around the edge of industrial lots that are greater than 100mm in height. Classified under the precautionary principle.			
Post Development Assumptions:	Vegetation reasonably expected to remain as is in perpetuity or be managed to low threat.			



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VEGETATION AREA 6				
Classification	**N/A**			
Types Identified	N/A			
Exclusion Clause	2.2.3.2 (e) Non-vegetated area			
Effective Slope	Measured	N/A	Applied Range (Method 1)	N/A
Justification Comments:	Non vegetated areas include sealed public roads, private driveways, carpark, and buildings.			
Post Development Assumptions:	Non vegetated areas are reasonably expected to remain non-vegetated in perpetuity.			



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VEGETATION AREA 7				
Classification	**N/A**			
Types Identified	N/A			
Exclusion Clause	2.2.3.2 (e) Non-vegetated areas and (f) Low threat vegetation - minimal fuel condition.			
Effective Slope	Measured	N/A	Applied Range (Method 1)	N/A
Justification Comments:	Low threat vegetation includes managed, reticulated lawns, and garden beds and yards with native and non-native species managed to a minimal fuel state.			
Post Development Assumptions:	Low threat vegetation is reasonably expected to remain in a low threat state in perpetuity.			



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A1.3: EFFECTIVE SLOPE

EXPLAINING THE ASSESSMENT METHODOLOGY APPLIED BY BUSHFIRE PRONE PLANNING

DEFINITION: Effective slope is "the slope under that classified vegetation which most influences the bushfire attack" (AS 3959:2018, Clause 1.5.11).

"The effective slope under the classified vegetation is not the same as the average slope for the land surrounding the site of the proposed building. The effective slope is that slope which most significantly influences bushfire behaviour" (AS 3959:2018, Clause CB4).

The slope is described as upslope, flat or downslope when viewed from an exposed element (e.g., building) and looking towards the vegetation. It is measured in degrees.

[Note: Additional relevant guidance provided by AS 3959:2018 and NSW RFS, Planning for Bushfire Protection (2019) is incorporated into the applied assessment methodology and is presented at the end of this explanation.]

COMPOUND SLOPES UNDER VEGETATION AND DETERMINING SLOPE SIGNIFICANCE

Non-Linear Slopes: When the slope of ground under the vegetation out to the distance to be assessed (100 m or further if necessary), is not a straight line or nearly straight line slope, then it is made up of several different slopes i.e., it is a compound slope. The different slope angles and lengths must be factored into the determination of the effective slope value to be applied. Different slopes will potentially influence the bushfire rate of spread and intensity, both increasing and decreasing it.

Significant Slope: The AS 3959:2018 bushfire attack level determination methodology, with default inputs, models a fully developed bushfire. Therefore, a 'significant' slope is one that will significantly influence bushfire behaviour. To be 'significant' the length of the slope must be 'sufficient' to support a fully developed fire on that slope. The angle of a significant slope could be the determined effective slope for the area of classified vegetation if it is the one that 'most influences the bushfire attack'.

Sufficient Slope Length: Is a slope that will, as a minimum, allow the entire flame depth (flaming zone) of a fully developed fire (100m flame width) to exist on that slope.

The expected flame depth of a fully developed bushfire is a function of the length of time the flaming phase will exist on a section of the fuel bed (the 'residence time') and the bushfire's 'rate of spread'. For a given rate of spread, longer residence times result in greater flame depths. Greater flame depths are correlated with greater flame temperatures and greater flows of radiant heat.

The primary factors that will increase the residence time are:

- Heavier fine fuel loads of grass, leaf litter, twigs, bark etc less than 6mm in width and existing within the surface and near surface layers (and elevated fuel layers when contiguous with the base layers); and
- A greater percentage of larger fine fuels within the fuel load.

The primary factors that increase the rate of spread (apart from fire weather factors), include finer fuels, drier fuels, horizonal continuity of fuel and steeper upward ground slope in the direction of fire travel.

Example values:

- Residence Time: Grassfire 5 – 15 seconds, Forest fire 25 -50 seconds.
- Rate of Spread: Grassfires of a few km/hr are considered fast moving, 5-10 km/hr is common and fastest in the order of 25km/hr. Forest fire typically recorded in metres/hour with 1-1.5 km/hr being considered fast moving and fastest in the order of 3–4 km/hr.
- Flame Depth: More typically, a few metres for grasses to tens of metres for forest fires.

An Isolated Slope: For scenarios where there is a single significant slope (based on the above criteria) additional consideration would need to be given to the time and distance consumed by a bushfire still in its 'developing' phase. This will require due consideration be given to how it is potentially ignited i.e., from a single or multiple points, as this will influence the time and distance required to fully develop. For such scenarios, a normally significant slope may not be sufficiently long. It may be necessary to determine the potential bushfire impact more accurately by

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justifying the application of a lesser effective slope, or a lower threat vegetation classification, or calculating a reduced head fire width (using short fire run modelling).

Determined Effective Slope: Only a 'significant' slope can potentially be the effective slope by itself. In which case, for a defined area of classified vegetation area, the worst significant slope under that vegetation is to apply.

The table below presents Bushfire Prone Planning's considerations applied to assessing short and/or compound slopes in determining the effective slope.

Slope Length (m)	Considered a Significant Slope	Considerations in Determining the Effective Slope
< 5	No	Where these short slopes exist as part of a compound slope under an area of classified vegetation, they can be ignored as they will not influence the fire behaviour in that vegetation.
5-20	Will Vary	These slopes will have a range of influence on fire behaviour from very little to a degree of influence that must be accounted for to some extent by the effective slope value that is applied (i.e., with a greater length - apply to a greater extent). But the actual slope of these shorter slopes is less likely to be applied as it is not a 'significant' length.
20-30	Possibly - Likely	The same considerations applied to the 5-20m slope lengths should be applied here. However, more justification would need to be presented to support an assessment of not 'significant'. For these slope lengths, consideration must be given more broadly to the potential level of risks associated with a bushfire event in this location. The risk level will be a function of the bushfire hazard threat levels (direct attack mechanisms) within the immediate and broader assessment area as influenced by local topography, vegetation extents and types and the exposure and vulnerability of persons and/or buildings/structures to these threats. Higher consequent risk levels require greater precaution meaning these length slopes should be considered 'significant', and vice versa. Consider the potential for a bushfire on adjoining or nearby land be a source of ignition and/or pre-heating to vegetation on the subject slope. Consider if vegetation on the slope is likely be ignited by a single ignition point or is multipoint ignition possible from bushfire an adjoining slopes or the surrounding area. Single point ignition will require a fire to travel further before being fully developed (DFES considers less than 100m fire runs may be considered a short fire run for forest, woodland and scrub vegetation classifications, RFS NSW applies 150m). Isolated slopes of this length are less likely to be considered significant as compared to when part of a compound slope.
>30	Yes	Likely to always be a significant slope unless isolated (i.e., exists alone) – in which case, justifying the application of a lesser effective slope, or a lower threat vegetation classification, or calculating a reduced head fire width, are approaches that may justifiably be applied.

BPP Approach - Slope Variation Within Areas of Vegetation

When multiple 'significant' slope lengths with large differences in degrees of effective slope (or different applicable slope ranges when AS 3959:2018 Method 1 is applied), exists under a single vegetation classification, these will be delineated as separate vegetation areas of classified vegetation to account for the difference in potential bushfire behaviour and impact, in accordance with AS 3959:2018 clauses 2.2.5 and C2.2.5.

Effective Slope Variation Due to Multiple Development Sites

When the effective slope, under a single area of bushfire prone vegetation, will vary significantly relative to multiple proposed development sites (exposed elements), then the effective slopes corresponding to each of the different

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locations, are separately identified. The relevant (worst case) effective slope is determined in the direction corresponding to the potential directions of fire spread towards the subject building(s).

AS 3959:2018 EFFECTIVE SLOPE DETERMINATION - GUIDANCE

The Standard presents a broad set of guidance statements that indicate the intent of deriving an effective slope value for use in calculations, rather than detailing the 'in the field' determination process. These include:

- Highlighting the importance of the value by stating "The slope of the land under the classified vegetation has a direct influence on the rate of fire spread, the severity of the fire and the ultimate level of radiant heat flux" (Clause C2.2.5). [Note: A common rule of thumb is that for every 10 degrees of upslope, a fire will double its rate of spread if moving in the direction of the prevailing wind].
- "It may be necessary to consider the slope under the classified vegetation for distances greater than 100 m in order to determine the effective slope for that vegetation classification) ... (i.e. the vegetation within 100 m) (Clause C2.2.5).
- "Where there is more than one slope within the classified vegetation, each slope shall be individually assessed, and the worst case Bushfire Attack Level shall apply" (Clause 2.2.5).

NSW RFS 2019, PLANNING FOR BUSHFIRE PROTECTION - APPENDIX A1.5 - ADDITIONAL DETERMINATION GUIDANCE

- "In identifying the effective slope - it may be found that there are a variety of slopes covering different distances within the vegetation. The effective slope is considered to be the slope under the vegetation which will most significantly influence the bushfire behaviour for each aspect. This is usually the steepest slope. In situations where this is not the case, the proposed approach must be justified".
- "Vegetation located closest to an asset may not necessarily be located on the effective slope".

SITE ASSESSMENT DETAILS - EXPLANATION & JUSTIFICATION

The effective slopes determined from the site assessment are recorded in Table 3.2 of this Bushfire Management Plan.

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A1.4: SEPARATION DISTANCE

Measuring

The separation distance is the distance in the horizontal plane between the receiver (building/structure or area of land being considered) and the edge of the classified vegetation (AS 3959:2018, clause 2.2.4)

The relevant parts of a building/structure from which the measurement is taken is the nearest part of an external wall or where a wall does not exist, the supporting posts or columns. Certain parts of buildings are excluded including eaves and roof overhangs.

The edge of the vegetation, for forests and woodlands, will be determined by the unmanaged understorey rather than either the canopy (drip line) or the trunk (AS 3959:2018, clause C2.2.5).

Measured Separation Distance as a Calculation Input

If a separation distance can be measured because the location of the building/structure relative to the edge of the relevant classified vegetation is known, this figure can be entered into the BAL calculation. The result is a determined BAL rating.

Assumed Separation Distance as a Calculation Input

When the building/structure location within the lot is not known, an assumed building location may be applied that would establish the closest positioning of the building/structure relative to the relevant area of vegetation.

The assumed location would be based on a factor that puts a restriction on a building location such as:

- An established setback from the boundary of a lot, such as a residential design code setback or a restrictive covenant; or
- Within an established building envelope.

The resultant BAL rating would be indicative and require later confirmation (via a Compliance Report) of the building/structure actual location relative to the vegetation to establish the determined BAL rating.

Separation Distance as a Calculation Output

With the necessary site specific assessment inputs and using the AS 3959:2018 bushfire modelling equations, the range of separation distances that will correspond to each BAL rating (each of which represents a range of radiant heat flux), can be calculated. This has application for bushfire planning scenarios such as:

- When the separation distance cannot be measured because the exact location of the exposed element (i.e., the building, structure or area), relative to classified vegetation, is yet to be determined.

  In this scenario, the required information is the identification of building locations onsite that will correspond to each BAL rating. That is, indicative BAL ratings can be derived for a variety of potential building/structure locations; or

- The separation distance is known for a given building, structure or area (and a determined BAL rating can be derived), but additional information is required regarding the exposure levels (to the transfer of radiant heat from a bushfire), of buildings or persons, that will exist at different points within the subject site.

The calculated range of separation distances corresponding to each BAL rating can be presented in a table and/or illustrated as a BAL Contour Map – whichever is determined to best fit the purpose of the assessment.

For additional information refer to the information boxes in Section 3 'Bushfire Attack Levels (BAL) - Understanding the Results and Section 3.2. 'Interpretation of the BAL Contour Map'.

SITE ASSESSMENT DETAILS - EXPLANATION & JUSTIFICATION

the subject development/use the applicable separation distances values are derived from calculations applying the assessed site data. They are an output value, not an input value and therefore are not presented or justified in this appendix.

The derived values are presented in Section 3, Table 3.1 and illustrated as a BAL contour map in Figure 3.2.

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APPENDIX B: GUIDANCE – BUSHFIRE ATTACK LEVELS AND ASSET PROTECTION ZONES

B1: Bushfire Attack Level (BAL) - Understanding the Results

UNDERSTANDING A BAL RATING

The potential transfer (flux/flow) of radiant heat from a bushfire to a receiving object is measured in kW/m^2. The AS 3959:2018 Bushfire Attack Level (BAL) determination methodology establishes the ranges of radiant heat flux that correspond to each bushfire attack level. These are identified in increasing levels of flux as BAL-LOW, BAL-12.5, BAL-19, BAL-29, BAL-40 and BAL-FZ.

The bushfire performance requirements for certain classes of buildings are established by the Building Code of Australia (Vol. 1 & 2 of the NCC). The BAL will establish the bushfire resistant construction requirements that are to apply in accordance with AS 3959:2018 - *Construction of buildings in bushfire prone areas* and the NASH Standard – *Steel framed construction in bushfire areas (NS 300 2021),* whose solutions are deemed to satisfy the NCC bushfire performance requirements.

DETERMINED BAL RATINGS

A BAL can only be classed as 'determined' for an existing or future building/structure when:

1. The building/structure final design and position on the lot are known and the stated separation distance from classified bushfire prone vegetation exists and can justifiably be expected to remain in perpetuity; or
2. The building/structure will always remain subject to the same BAL regardless of:
    (a) The retention of all existing classified vegetation either onsite or offsite; and
    (b) Its design or position on the lot - including, as relevant and necessary, accounting for any regulatory or enforceable building setbacks from lot boundaries (i.e. R-codes, restrictive covenants and defined building envelopes).

A BAL Certificate <u>can</u> be issued for a determined BAL. If the BMP derives determined BAL(s), the BAL Certificate(s) required for submission with building applications can be provided, using the BMP as the supporting assessment data.

INDICATIVE AND CONDITIONAL BAL RATINGS

An indicative BAL indicates the highest BAL rating that exists for the applied set of assessment parameters (which may vary resulting in the inability to be considered 'determined').

A conditional BAL establishes the BAL rating that will be considered as a 'determined' rating once the stated required conditions are approved by the relevant authority and confirmed as being met.

The possible variables of the 'conditions' include:

- The future development sites being either identified accurately or modified; and/or
- Classified vegetation being modified or removed to establish the required vegetation separation distances.

A BAL Certificate <u>cannot</u> be issued for an indicative or conditional BAL rating.

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B4: BAL /APZ and Planning vs Building Approval Requirements

BAL RATINGS AND APZ DIMENSIONS - PLANNING VERSUS BUILDING APPROVAL REQUIREMENTS

Statement: It is not the purpose of this 'planning' BMP to derive a 'determined' BAL rating that will apply to an existing or future habitable or specified building to establish its bushfire resistant construction requirements in accordance with the Building Code of Australia (although in limited situations this can be done – refer to Appendix B1).

Planning Applications: To be compliant, a planning proposal must demonstrate it will be possible to install the required minimum sized asset protection zone (APZ), to the required technical requirements, surrounding a habitable or specified building, while applying APZ location constraints and allowances established by the Guidelines.

The Minimum Sized APZ: Is one whose dimensions ensure the potential radiant heat impact on the relevant buildings does not exceed 29 kW/m^2 from fire in any surrounding types of classified vegetation. This is the upper limit of the range of radiant heat flux corresponding to the BAL-29 rating. The dimensions of this 'BAL-29 APZ' will vary dependent on the site specific conditions.

Building Permit Applications: Require a determined BAL rating for proposed buildings works (stated on a BAL Certificate). The lower the BAL rating the greater the size of the corresponding APZ that would need to be installed and maintained in a low bushfire threat state to ensure the building's exposure to bushfire threats continues to be matched to the bushfire resistant construction applied.

APZ Dimensions: A larger APZ, potentially requiring the modification/removal of additional native vegetation, is required to subject a building to a lower BAL rating. However, bushfire planning policy does not support such an approach as evidenced by the following guidance to which due regard must be given:

> *SPP 3.7 Bushfire, Policy Objectives, cl. 5.5 states – "Prioritise the retention of native vegetation for biodiversity conservation, environmental protection and landscape amenity.*
>
> *SPP 3.7 Bushfire, Policy Outcomes, cl. 6.2 - establishes that clearing of native vegetation is to be avoided or minimised in managing or mitigating bushfire risk.*
>
> *The Guidelines, Appendix B2, B.2.1 states "clearing or modification of native vegetation to reduce the radiant heat impact below 29 kW/m^2 is generally not supported."*

Additional Assessment and Reporting: The implication of the planning policy's guidance is if developers/landowners desire to lower the BAL rating to which future building works are subjected – by modification or removal of native vegetation greater than the BAL-29 dimensioned APZ - additional site assessment and reporting would be required to be submitted to the relevant authority for approval to modify/remove that vegetation.

Consequently, the determination of a BAL rating for building permit application purposes is likely to require a separate assessment as:

- It will potentially have implications regarding the obtaining of approvals for native vegetation modification and/or removal – the retention of which is an objective of State Planning Policy 3.7 Bushfire; and/or
- The precise location of a future building/structure within a lot and relative to any bushfire hazard may not be known at the time of producing this BMP.

Dimensions of the APZ to be Installed and Maintained by the Landowner: The dimensions of the APZ that will be the responsibility of a landowner to implement and maintain around a habitable or specified building (to align the building bushfire resistance to its level of exposure to flames, radiant heat and embers), will be those corresponding to the building's 'determined' BAL rating and the site specific conditions.

The dimensions of the 'BAL-29 APZ' identified in this BMP for planning assessment purposes, will not necessarily be the APZ that is to be implemented and maintained by a landowner in perpetuity.

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B2: BAL Contour Map Interpretation

THE BAL CONTOUR MAP

Caution! Future building works require a 'determined' BAL rating for building permit applications. When a BAL contour map is being used for planning assessment purposes, (as opposed to a building assessment purpose), the required 'determined' BAL rating typically is not able to be derived from the map (there are only limited scenarios where this is possible).

The BAL ratings identified from the map will more likely be only 'indicative' of what can be achieved – with planning compliance for this factor being achieved when BAL-29 is indicated.

Otherwise, an additional assessment of the site data for building application purposes is required, and potentially approval will need to be obtained for native vegetation modification and/or removal from the relevant authority.

The Bushfire Attack Level (BAL) contour map, when used, is a diagrammatic representation of the results of the bushfire attack level assessment that has been conducted. It presents different coloured contours extending out from the different areas of classified vegetation.

Each contour represents a set range of radiant heat, corresponding to the BAL rating as defined by the AS 3959:2018 BAL determination methodology. When an exposed element (building, person or other defined element), is fully or partly located within a specific contour, it is potentially subject to the corresponding level of radiant heat transfer.

The width of each coloured BAL contour is dependent on both the BAL rating it represents, and the relevant site specific calculation inputs and will vary. It represents the minimum and maximum vegetation separation distances that correspond to each BAL rating for that site.

For post development BAL contour maps, the areas of classified vegetation applied to the production of the BAL contours, are those that will remain at the intended end state of the subject development once earthworks, clearing and/or landscaping and/or re-vegetation have been completed.

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B3: The Asset Protection Zone (APZ)

THE APZ – DESCRIPTION, DIMENSION AND TECHNICAL REQUIREMENTS

DESCRIPTION AND PURPOSE

An asset protection zone (APZ) is an area surrounding a habitable or specified building that is not vegetated and/or supports retained or planted vegetation that can be considered to present a low bushfire threat as a result of flammability and/or moisture content characteristics and/or minimal fuel loads (either naturally or as a result of continual maintenance).

The primary objectives of establishing an APZ are to ensure:

1. A reduction in the exposure of the building/structure to bushfire direct attack mechanisms (threats) of flame contact, radiant heat transfer and ember attack, by establishing appropriate separation from each area of classified vegetation. [The required APZ dimensions will be dependent on site specific conditions and the use of the site and are measured from the nearest part of an external wall and/or supporting posts of building parts without external walls]; and
2. A reduction in the exposure of the building/structure to bushfire indirect attack mechanisms (threats) by:
    - Preventing surface fire spreading to the building/structure;
    - Minimising the potential for tree strike; and
    - Limiting the potential for consequential fire to impact the building/structure by eliminating, reducing and/or shielding consequential fire fuels. These fuels include accumulated debris, stored combustible/flammable items and constructed combustible items. Consequential fire, typically ignited by embers, is the primary cause of building loss in a bushfire event; and
3. To provide a defendable space for firefighting activities.

DIMENSIONS

Established by the Guidelines

No APZ dimensions are established by the Planning for Bushfire Guidelines, DPLH/WAPC (as amended). The Guidelines are intended to inform the application of State bushfire planning policy. For planning approval purposes, it only needs to be demonstrated that a BAL-29 dimensioned APZ can be appropriately established, surrounding a building/structure for the specific development site conditions.

For certain vulnerable land uses, evidence of the ability to implement a larger APZ may be required to inform planning decisions. These include dimensions corresponding to radiant heat impact levels of 10 kW/m^2 and/or 2 kW/m^2 and calculated using a flame temperature of 1200 K rather than 1090 K.

Established by the 'Determined' BAL Rating

The dimensions of the APZ that will be the responsibility of a landowner to implement and maintain around a habitable or specified building - to align the building's bushfire resistance construction level, to its level of exposure to flames, radiant heat and embers - will be those corresponding to the building's 'determined' BAL rating.

This rating will account for the relevant physical characteristics of a specific site and the applicable building's separation distance from classified vegetation, the type of vegetation it is exposed to and the slope of the ground supporting that vegetation.

Variations to these dimensions (i.e. vegetation separation distances) will only exist as the result of either:

- A requirement presented within an associated Bushfire Management Plan to increase the size of the APZ as part of a required additional protection measure; or
- A directive of the relevant Local Government through their annual notice, issued under s.33 of the Bushfires Act 1954 (see below), that results in a larger dimension.

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Established by the Relevant Local Government

To satisfy the local governments requirements, a required APZ dimension may be stated in the notice issued annually by the relevant local government under s.33 of the Bushfires Act 1954 (e.g. Bushfire Risk Reduction Notice or Firebreak and Hazard Reduction Notice etc).

For certain vegetation/sites, based on environmental considerations, a maximum allowable dimension may be established, typically that corresponding to a BAL-29 rating for the relevant building – which will vary in response to the site specific conditions.

The existence of any such restrictions is information that would need to be sought from the relevant local government planning department.

TECHNICAL REQUIREMENTS

Established by the Guidelines

The relevant technical requirements for an APZ are established in the Planning for Bushfire Guidelines (DPLH/WAPC) (as amended), Appendix B2: Siting and design and available online at Planning WA - SPP 3.7 Bushfire

Established by the Relevant Local Government

Refer to the notice issued annually by the relevant local government under s33 of the Bushfires Act 1954 (e.g. Bushfire Risk Reduction Notice or Firebreak and Hazard Reduction Notice etc). It may state technical requirements that vary from and/or are additional to those established by the Guidelines to be complied with. Refer to the ratepayer notice and/or the local government's website for the current version.

The local government's technical requirements may be established by their gazetted local planning scheme.

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B5: Vegetation Excluded from Classification – Ensure Continued Low Threat Status

MAINTAINING THE LOW THREAT STATUS OF EXCLUDED VEGETATION

When applying AS 3959:2018 BAL determination methodology, vegetation adjoining or adjacent to the subject site can be excluded from classification based on being a 'low bushfire threat'. To maintain this status, certain requirements must continue to be met in accordance with the below extract from AS3959:2018. Refer to the 'Classified Vegetation and Topography Map' for the relevant low threat areas associated with the subject site.

Determination of 'low threat' vegetation is based on factors such as - proximity to the subject site / small areas of vegetation / low flammability / higher moisture content / low fuel load.

Aside from a naturally occurring low fuel load, vegetation maintained in a minimal fuel condition through active management can be excluded. The associated key requisite is that the active management can be expected to continue in perpetuity, and this can be adequately justified.

Acceptable forms of justification typically involve supportable evidence or the existence of an enforceable mechanism. Examples of enforceable mechanisms include:

- Requirements established by a Section 33 (Bush Fires Act 1954) notice issued by a local government;
- An appropriate and enforceable agreement between relevant parties (which may involve additions to land titles); and
- For public open space or crown land, written evidence that the land manager e.g. local government or a State Government department, agrees to maintain the designated area of land in a low threat state in perpetuity.

2.2.3.2 *Exclusions—Low threat vegetation and non-vegetated areas*

The following vegetation shall be excluded from a BAL assessment:

(a) Vegetation of any type that is more than 100 m from the site.

(b) Single areas of vegetation less than 1 ha in area and not within 100 m of other areas of vegetation being classified vegetation.

(c) Multiple areas of vegetation less than 0.25 ha in area and not within 20 m of the site, or each other or of other areas of vegetation being classified vegetation.

(d) Strips of vegetation less than 20 m in width (measured perpendicular to the elevation exposed to the strip of vegetation) regardless of length and not within 20 m of the site or each other, or other areas of vegetation being classified vegetation.

(e) Non-vegetated areas, that is, areas permanently cleared of vegetation, including waterways, exposed beaches, roads, footpaths, buildings and rocky outcrops.

(f) Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load. This includes grassland managed in a minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses (such as playing areas and fairways), maintained public reserves and parklands, sporting fields, vineyards, orchards, banana plantations, market gardens (and other non-curing crops), cultivated gardens, commercial nurseries, nature strips and windbreaks.

NOTES:

1 Minimal fuel condition means there is insufficient fuel available to significantly increase the severity of the bushfire attack (recognizable as short-cropped grass for example, to a nominal height of 100 mm).

2 A windbreak is considered a single row of trees used as a screen or to reduce the effect of wind on the leeward side of the trees.

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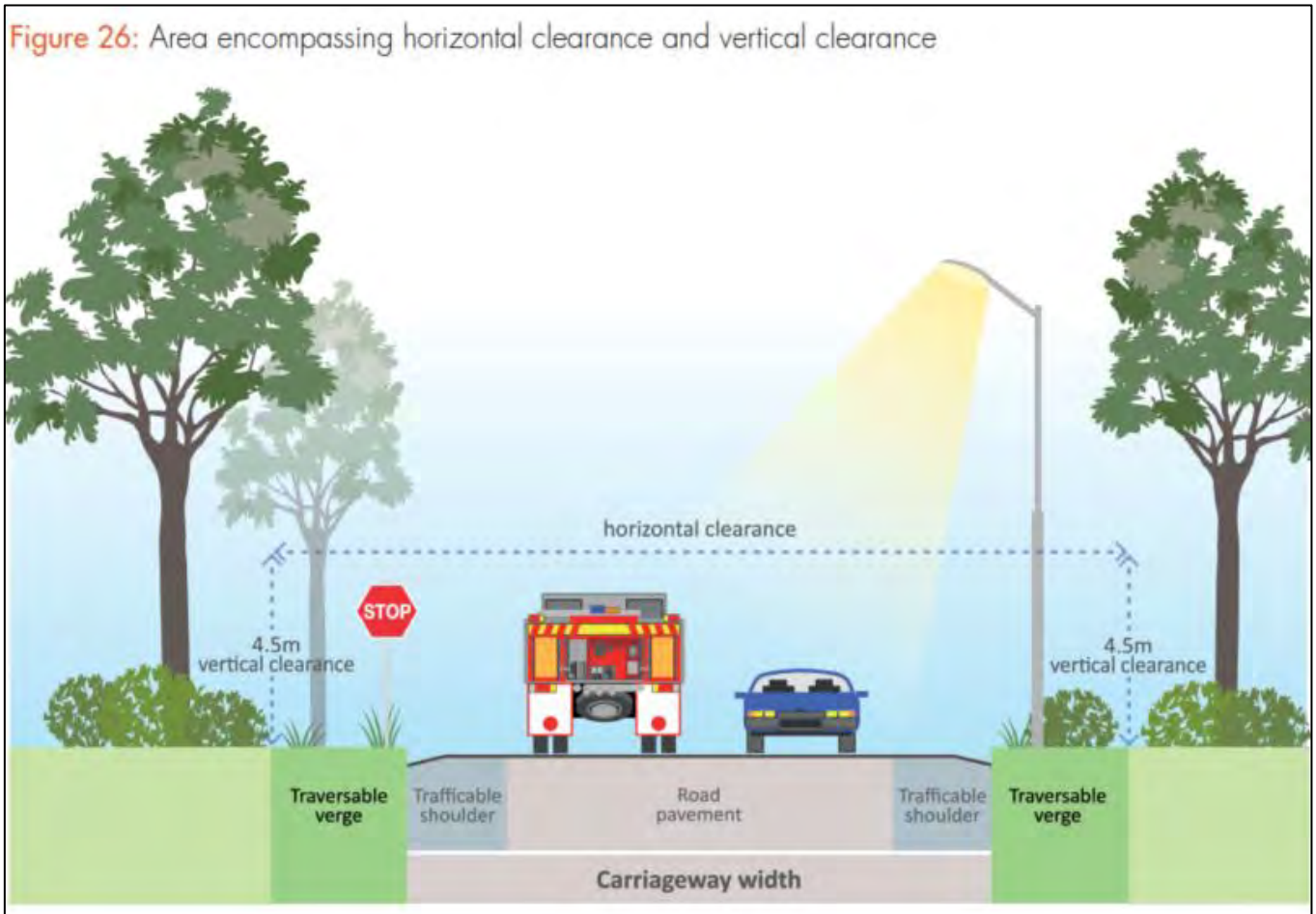
APPENDIX C: GUIDANCE - TECHNICAL REQUIREMENTS FOR VEHICULAR ACCESS

The relevant technical requirements are established in the Planning for Bushfire Guidelines (DPLH/WAPC) (as amended), Appendix B3: Vehicular access and available online at Planning WA - SPP 3.7 Bushfire

The following excerpts are presented here as a quick reference to applicable terminology and design requirements applied in the assessment against the bushfire protection criteria, Element 3: Vehicular access in this BMP.

C1: Road Component Terminology

Figure 26: Area encompassing horizontal clearance and vertical clearance



Horizontal clearance: The carriageway width (including the road pavement and trafficable shoulder) and traversable verge that provides for the movement and parking of vehicles and area required by emergency services to operate. Infrastructure and vegetation within the traversable verge should be frangible, however, non-frangible items can occur providing they do not restrict vehicular movement in the event of an emergency.

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C2: Vehicular Access Technical Requirements

Table 10: Vehicular access technical requirements

	1		2		3		4		5	
TECHNICAL REQUIREMENTS	**PERIMETER ROADS**		**PUBLIC ROADS**		**EMERGENCY ACCESS WAY[3]**		**FIRE SERVICE ACCESS ROUTE[3]**		**BATTLE-AXE & PRIVATE DRIVEWAYS[1]**	
MAP OF BUSH FIRE PRONE AREAS DESIGNATION	**Area 2**	**Area 1**	**Area 2**	**Area 1**	**Area 2**	**Area 1**	**Area 2**	**Area 1**	**Area 2**	**Area 1**
Minimum horizontal clearance (metres)	12	8	See note 5		10	6	10	6	6	
Minimum vertical clearance (metres)	4.5									
Minimum weight capacity (tonnes)	15									
Maximum grade unsealed road[2]	See note 5		See note 5		1:10 (10% or 6°)					
Maximum grade sealed road[2,4]					1:7 (14.3% or 8°)					
Maximum average grade sealed road					1:10 (10% or 6°)					
Minimum inner radius of road curves (metres)					8.5					

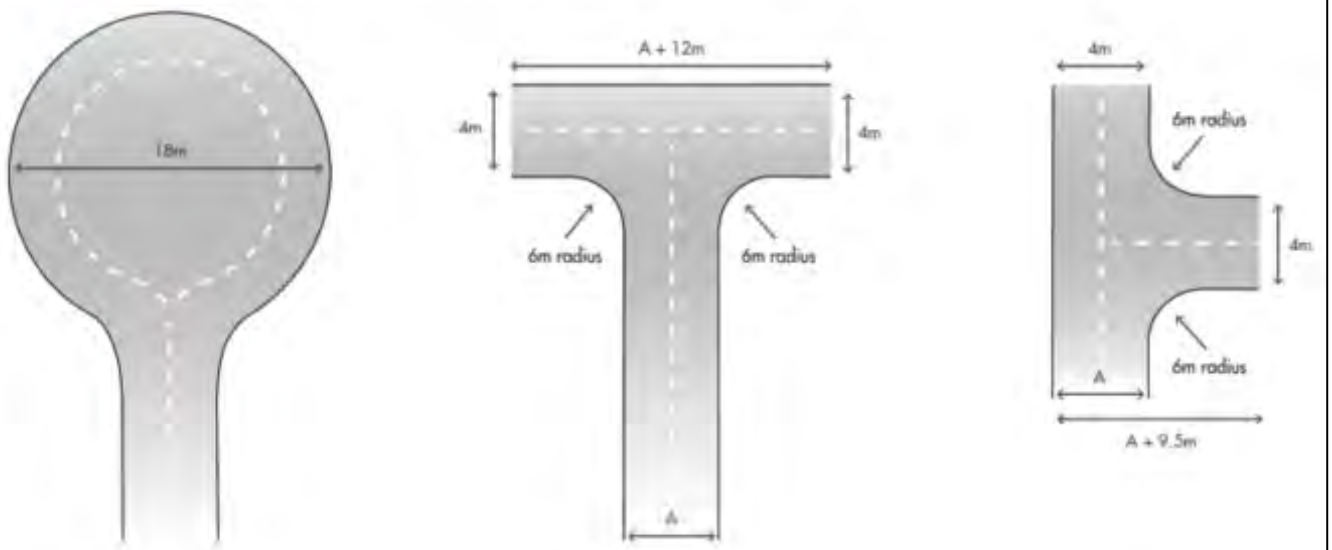
Notes:

1. Driveways and battle-axe legs to comply with the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision where not required to comply with the widths in this Appendix or the Guidelines.
2. Dips must have no more than a 1 in 8 (12.5% - 7.1 degrees) entry and exit angle.
3. To have crossfalls between 3 per cent and 6 per cent.
4. For sealed roads only the maximum grade of no more than 1 in 5 (20 per cent) (11.3 degrees) for no more than 50 metres is permissible, except for short constrictions to 3.5 metres for no more than 30 metres in length where an obstruction cannot be reasonably avoided or removed.
5. As outlined in the Institute of **Public Works Engineering Australasia (IPWEA) subdivision guidelines, Liveable Neighbourhoods, Austroads Standards** Main Roads standard, supplement, policy or guideline and/or any applicable or relevant local government standard or policy.

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Figure 30: Design requirements for a turn-around area



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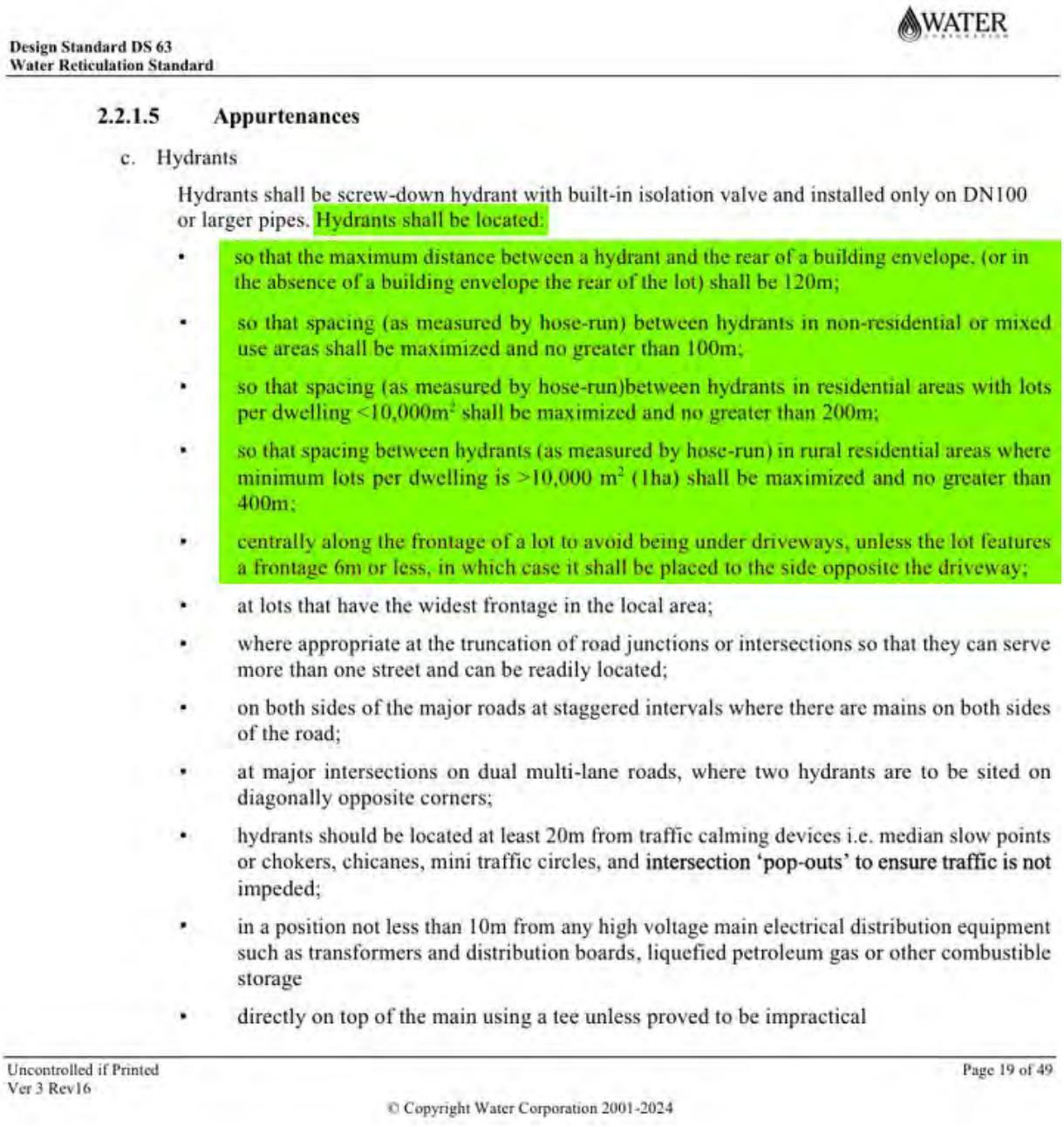
APPENDIX D: GUIDANCE - TECHNICAL REQUIREMENTS FOR FIREFIGHTING WATER SUPPLY

The relevant technical requirements are established in the Planning for Bushfire Guidelines (DPLH/WAPC) (as amended), Appendix B4: Water supply and available online at Planning WA - SPP 3.7 Bushfire

The information provided in this appendix is additional to that provided in the Guidelines. It includes:

- For reticulated water supply, the hydrant location specifications established by the WA Water Corporation (Design Standard DS 63), as dependant on land use type and relevant to bushfire planning assessments (highlighted). Note: the maximum distance from a hydrant to the rear of a lot/building is generally interpreted as not applicable to large lot sizes where the maximum distance becomes an impractical limitation i.e., typically rural residential areas; and
- Images of example installations of acceptable water supply tanks and outlet fittings.

D1: Hydrant Location in Reticulated Areas



Design Standard DS 63
Water Reticulation Standard

WATER

2.2.1.5 Appurtenances

c. Hydrants

Hydrants shall be screw-down hydrant with built-in isolation valve and installed only on DN100 or larger pipes. Hydrants shall be located:

- so that the maximum distance between a hydrant and the rear of a building envelope. (or in the absence of a building envelope the rear of the lot) shall be 120m;
- so that spacing (as measured by hose-run) between hydrants in non-residential or mixed use areas shall be maximized and no greater than 100m;
- so that spacing (as measured by hose-run)between hydrants in residential areas with lots per dwelling <10,000m^2 shall be maximized and no greater than 200m;
- so that spacing between hydrants (as measured by hose-run) in rural residential areas where minimum lots per dwelling is >10,000 m^2 (1ha) shall be maximized and no greater than 400m;
- centrally along the frontage of a lot to avoid being under driveways, unless the lot features a frontage 6m or less, in which case it shall be placed to the side opposite the driveway;
- at lots that have the widest frontage in the local area;
- where appropriate at the truncation of road junctions or intersections so that they can serve more than one street and can be readily located;
- on both sides of the major roads at staggered intervals where there are mains on both sides of the road;
- at major intersections on dual multi-lane roads, where two hydrants are to be sited on diagonally opposite corners;
- hydrants should be located at least 20m from traffic calming devices i.e. median slow points or chokers, chicanes, mini traffic circles, and intersection 'pop-outs' to ensure traffic is not impeded;
- in a position not less than 10m from any high voltage main electrical distribution equipment such as transformers and distribution boards, liquefied petroleum gas or other combustible storage
- directly on top of the main using a tee unless proved to be impractical

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CETEC Pty Ltd ABN 44 006 873 687
Melbourne | Sydney | Brisbane | **Perth** | London | San Francisco

Client: **Scope Property Group**
Project Reference: **P25080016.001**
Report Date: **16/12/2025**
Version: **v1.0 DRAFT REPORT**

Air Quality Measurement and Assessment – Henderson Business Hub
Location: 81 Quill Way, Henderson



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EXECUTIVE SUMMARY

The scope of this project was to conduct measurements of the environmental air on the site and to identify potential air quality issues that may impact the amenity of persons using the facility. Identification of potential pollutants is also required to identify necessary controls that may be required to comply with the Cockburn Council requirement to provide a suitable quality of indoor air in the facility such as specified in the National Construction Code[4] (NCC) or other reputable guidelines (see **Table 2**).

CETEC has installed instrumentation on the site to record air quality parameters over an extended period (one month) to determine both concentration levels, time of day and the direction from which the contaminants are approaching the site. The wind directions during the month were from all compass points and the temperature range of 11°C to 38.7°C (average 20.6°C) was typical of local weather conditions, hence the results should be representative of levels under typical Perth Weather conditions.

Preliminary results from the desk-top evaluation indicated that there are a number of contaminants that needed to be assessed, and therefore CETEC had recommended that on-site measurements are taken to confirm if these were contaminants at concentrations that may exceed the indoor air quality guidelines if not addressed in the design phase.

The level of compliance against guidelines has been assessed in this document with a targeted on-site monitoring program for particulates, organic compounds, and oxides of nitrogen, sulphur hydrogen sulphide, airborne metal and other compounds. The results against the corresponding guidelines are shown in **Table 3.** The instrument measurements over one month form the basis of the discussion section of this report; however, airborne contaminants [metals and volatile organic compounds (VOC)] were also measured by sample collection on two work days and analysed by a NATA certified laboratory.

Based on the instrument measurement data, CETEC's analysis indicates that it possible for air quality improvements to be made by incorporating appropriate measures in the design, however without these the potential for extended exposure for Hotel occupants may introduce a heightened risk for some and may impact the comfort of those using the facility. The results for metals were below detectable levels and the VOC characterisation indicated that the levels of compounds of concern (in the VOC, identified by USEPA method TO17) were not detected.

CETEC recommends that the mechanical consultant and builder:

- Consider specifying filters with a higher particulate efficiency than Business As Usual (BAU) under NCC, i.e. that are capable of controlling particulate concentrations in the building's air.
- Use filter media that are capable of removing particulates and compounds of concern. (see **Table 3**).
- Also minimising other pathways for contaminants to enter the building by ensuring that all buildings exceed the air tightness requirements of the National Construction Code (for example set an objective for air leakage of <5 $m^3/h/m^2$).

If a condition of development approval requires verification, CETEC can provide indoor air quality assessment of the completed building and building leakage assessment against ATTMA[11] guidelines.

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1 INTRODUCTION

CETEC was engaged by Scope Property Group to provide an air quality report to be included as part of a Development Application for a new Business Hub to be located at 81 Quill Way, Henderson.

The scope of works and deliverables for the on-site air quality assessment are as follows:

- Measure via instrumentation the compounds that can potentially contribute to poor air quality in the buildings that would be built on the site.
- Measure airborne metals and volatile organic compounds (VOC) during periods of southerly to south westerly and north to north-easterly winds.
- Provide any appropriate preliminary recommendations for consideration in the design of the building to mitigate potential indoor air quality concerns.

This document is a review of the collected data. This report will cover all data collected in November and early December 2025.

2 BACKGROUND AND METHODOLOGY

CETEC was engaged to evaluate air quality at the proposed site for a combined Office, Hotel and Retail Hub at 81 Quill Way, Henderson against available air quality data as part of the Development Application process and achieving suitable indoor quality of the proposed constructions on the site.

The methodology CETEC has applied was to install an air quality monitoring station at a secure location on the site. This unit has been operating since 11th November 2025 and has run continuously for one month. The data generated has been analysed for trends in air quality. This has included measurements over time, correlated against time of day and also correlated against wind direction data.

The data has been presented in **Table 3**. The results are referenced against recommended acceptable environmental levels published by reputable sources (see **Table 2**). The discussion also provides CETEC's recommendations based on the analysis of data collected. The possible sources are listed in **Table 1**.

Table 1: The principal air quality measures for a location such as the Henderson site

Possible Sources	Contaminants	Data Sources
• Woodman Point Water Resource Recovery Facility • Cockburn Cement Ltd • Henderson Waste Recovery Park • Henderson Shipyard (BAE Systems) • CIVMEC Construction & Engineering • LMS Energy Henderson	Carbon Monoxide (CO)	On Site measurements referencing Wind direction
	Nitrogen Dioxide (NO_2)	
	Sulphur Dioxide (SO_2)	
	VOCs	

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Possible Sources	Contaminants	Data Sources
• Other Industrial Activity • Road Transport + Vehicular Traffic	Hydrogen Sulphide	
Formed through chemical reactions with VOCs and NO_x from: • Industrial processes • Vehicle emissions	Ozone (O_3)	To be evaluated against time of day: estimate the impact of solar radiation
Important anthropogenic sources are: • Fossil fuel use and production • Solvents used in coatings & paints	VOCs	On-site measurements referencing wind direction
Particulates from dust, industrial activities, road grime, quarry activities, landscaping and natural sources etc.	$PM_{2.5}$	On-site measurements referencing wind direction
	PM_{10}	

Note: other parameters such specific contaminants (e.g. metals (i.e. lead etc in dust) have been sampled and analysis conducted, however the levels found in the samples were below detection limits and therefore not expected to contribute to the air quality.

3 DEVELOPMENT PROPOSAL

As part of the development application, this report will aid in the design of the facility and provide measures of air quality parameters and recommend possible mitigation strategies to address these. **Figure 1** shows an aerial location of the proposed site whilst **Figure 2** shows the locations of facilities for which some limited emission data can be obtained.

The following features are in close proximity to the proposed site:

- Approximately 1,900 metres Rockingham Road.
- Approximately 2,000 metres to Russel Road
- Approximately 700 metres to Cockburn Road
- Approximately 8200 metres to Kwinana Freeway
- Woodman Point Wastewater Treatment Plant located about 1,100 metres north
- Henderson Waste Recovery Park located 2600 metres east southeast
- BAE Systems Henderson Operations across Quill road 170 metres
- AMC Marine Complex located 500 metres to the southeast
- Air Liquide's site located to the north (650 m)
- CIVMEC's premises are 825 metres south
- Other industrial sites not included are Matrix Composites (600 metres to south southeast), and a number of fabrication facilities around this development site.

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Figure 1: Aerial view of proposed development site marked



Figure 2: Proximity to potential air contaminant sources



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4 AIR QUALITY TARGETS

The data from measuring air quality parameters (**Table 1**) was compared against recommended concentrations levels to the accepted, published guidelines from the Department of Water and Environmental Regulation (DWER) as listed within **Table 2**. The Guidelines recommended are the NCC are for Class 3 buildings[4] and other guidelines as appropriate (referred to collectively in this document as Guidelines).

Recommended levels published by the National Environment Protection Measures (NEPM) (Commonwealth) and the World Health Organisation (WHO), are shown in **Table 2** for comparison, but these are not used in this assessment except where relevant.

Table 2: References for Recommended Maximum Environmental Concentrations for Contaminants

Pollutant	Concentration Guidelines			
	NCC[4]	DWER (WA)[1]	NEPM[2]	WHO[3]
Carbon Monoxide (CO)	9.0 ppm (8 hr) 10.3 µg/m³ (8hr)	9 ppm (8hr)	9 ppm (8hr)	10 mg/m³ (8hr) {8.5 ppm (8hr)}
Nitrogen Dioxide (NO_2)	0.015 ppm (year) 0.028 µg/m³ (year)	0.12 ppm (1hr) {120 ppb (1hr)}	0.08 ppm (1hr) {80 ppb (1hr)} 0.015 ppm (year)	200 µg/m³ (1hr) {103 ppb (1hr)}
Sulphur Dioxide (SO_2)	0.020 ppm (day) 0.052 µg/m³ (day)	0.08 ppm (day)* {80 ppb (day)}	0.075 ppm (hour) 0.020 ppm (day) {20 ppb (day)}	40 µg/m³(day) {15 ppb (day)}
Ozone (O_3)	0.065 ppm (8hr) 0.128 µg/m³ (8hr)	0.1 ppm (1hr) {100 ppb (1hr)}	0.065 ppm (8hr) {65 ppb (8hr)}	100 µg/m³ (8hr) {50 ppb(8hr)}
PM_{10}	25 µg/m³ (year)	50 µg/m³(day) 20 µg/m³ (year)[4]	50 µg/m³(day) 25 µg/m³(year)	45 µg/m³(day)
$PM_{2.5}$	8 µg/m³ (year)	25 µg/m³(day) 10 µg/m3 (year)[4]	25 µg/m³(day) 8 µg/m³(year)	15 µg/m³ (day)
Lead[5]	0.50 µg/m³(year)		0.50 µg/m³(year)	
Total VOC	500 µg/m[6] (1 Hr Average[4]), {0.22 ppm}			
Hydrogen Sulphide	Minimal Risk Level (ATSDR[7]) 70 ppb (≤ 14days) 20 ppb (annual average), Odour threshold 0.5 to 300 ppb			

Notes for Table 2: (Guideline Units are expressed as referenced) conversion of ppb to µg/m³ :- (Concentration (ppb) = 24.45 x concentration (µg/m³) ÷ molecular weight. Also shown are the peak and average values for the instrument measured values for the air quality parameters. Concentration values in ppm (parts per million) can be converted to ppb (parts per billion) by multiplying by 1,000. Converted measurements and guideline values are shown in brackets {}. Averaging periods are shown in brackets.

ppm = parts per million by volume (that is, parts of pollutant per million parts of air)
ppb = parts per billion by volume (that is, parts of pollutant per billion parts of air)
PM_{10} = particles less than 10 micrometres in diameter

[1] https://www.der.wa.gov.au/images/documents/our-work/consultation/air%20emissions/Guideline%20-%20Air%20emissions.pdf
[2] Schedule 2 Standards and goal, National Environment Protection (Ambient Air Quality) Measure, https://www.legislation.gov.au/Details/F2021C00475
[3] WHO global air quality guidelines: particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide, https://apps.who.int/iris/bitstream/handle/10665/345329/9789240034228-eng.pdf?sequence=1&isAllowed=y
[4] https://ncc.abcb.gov.au/sites/default/files/resources/2023/Handbook-Indoor-Air-Quality-Verification-Methods-NCC-2022.pdf
[5] https://www.wa.gov.au/system/files/2023-03/2021-WA-air-monitoring-report.pdf
[6] https://www.nabers.gov.au/sites/default/files/2022-11/Ruling%20-Indoor%20Environment%20-Formaldeyde%20and%20TVOC%20formulas.pdf
[7] https://www.atsdr.cdc.gov/toxguides/toxguide-114.pdf

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$PM_{2.5}$ = particles less than 2.5 micrometres in diameter
µg/m³ = micrograms per cubic metre
NEPM = Schedule 2 Standards and goal, Table 1 National Environment Protection (Ambient Air Quality) Measure
*Current guideline (forecast to change to 0.075ppm (1hr) in 2025).

References used in Table 2 were as follows:

- NEPM[2] (National Environment Protection Measures) were established under The Commonwealth National Environment Protection Council Act 1994, and complementary State and Territory legislation allow the National Environment Protection Council to make National Environment Protection Measures (NEPMs). More information can be found on the National Environment Protection Council website.
- (WHO) World Health Organisation[3] is the United Nations agency that connects nations, partners and people to promote health has issued "The WHO Global air quality guidelines" which offer global guidance on thresholds and limits for key air pollutants that pose health risks.
- National Environment Protection Council[2] (see National Pollutant Inventory).
- Commonwealth of Australia; Federal Register of Legislation. (https://www.legislation.gov.au/)
- National Construction Code for Class 3 Buildings
- Agency for Toxic Substances and Disease Registry (ATSDR)[7]

Note that Nitrogen Dioxide is a surrogate for Oxides of Nitrogen in this document.

5 AIR QUALITY ESTIMATES FOR THE HENDERSON DEVELOPMENT SITE

5.1 Methodology

CETEC has produced the estimate of the average air quality at the Quill Way site based on the multiple parameter measurements made in November and early December 2025. The data was measured against time and included wind directions as the data was collected. This has enabled direction of the potential sources to be indicated based on wind direction and an analysis against time of day. This data set is representative of an extended period and is a likely indicator of air quality throughout a year. However, these assessments cannot account for occasional fugitive emissions or contaminant concentrations that are related to new local activities.

On site sample collection for analytical testing was also conducted for VOC and airborne metals.

5.2 Potential Impact Of Local Sources On Air Quality Parameters

Table 4 below shows relevant air emission data that is available for various industrial activities in vicinity of Quill Way in Henderson. Data were collected and sorted from the Australian Government's Department of Climate Change, Energy, the Environment and Water (DCCEEW). They show air emission per annum in kilograms and in milligrams per minute. The data from the wind direction and instrument measurements may indicate the sources from this DCCEEW data.

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6 OBSERVATIONS AND INTERPRETATION

The data acquired from the instrumentation for the period 11th November to 9th December has been recorded with the timeline of the readings, and against the direction of wind at the instrument location.

This report assesses the concentration of the pollutants (grouped as air-toxics) and compares the level calculated for the data with the relevant guidelines (in **Table 2**). While the current ambient levels may be within the guidelines for workplace exposure (for an 8 hour exposure time), some do not meet the guidelines for a Class 3[4] building (being for longer term exposure) on the Quill Way development site. This comment is relevant if the ambient outside air enters the building untreated.

Details for toxicological profiles for some of the common air pollutants such as carbon monoxide (CO),[8] sulphur dioxide (SO_2),[9] or ozone (O_3),[10] can be found on different government websites or reputable organisation guidelines and underline the importance of monitoring these pollutants. Other data, such as airborne concentrations of metals from airborne sampling and laboratory analysis did not detect the presence of these materials or VOC as listed in US EPA method TO17.

Table 3: Data Summary (note: ppm levels are 1000 times ppb levels)

Pollutant	#	Measured (16 day) Average Level (ppm)	Measured Maximum (1 min) Level (ppm)	Guidelines (ppm)
Carbon Monoxide (CO)	E	0.039	1.723	9.0 (8hr)[4]
Nitrogen Dioxide (NO_2)	-	0.033		0.015 (yr)[4]
			0.211	0.12 (1hr)[1]
Sulphur Dioxide (SO_2)	SW	0.0026		0.020 (day)[4]
			0.141	0.075 (1hr)[4]
Ozone (O_3)	-	0.019		0.065 (8hr)[4]
			0.069	0.10 (1hr)[1]
PM_{10}	NE	5.7 µg/m^3		20 µg/m^3(Year)[1]
			35 µg/m^3(hr)	50 µg/m^3(day)[1]
$PM_{2.5}$	NE	3.5 µg/m^3		8 µg/m^3(Year)[4]
			32 µg/m^3 (hr)	25 µg/m^3 (day)[1]
Total VOC	E	0.4		0.22 (hr)[4]
			793	0.22 (hr)[4]
Hydrogen Sulphide (H_2S)	SW	0.019		0.020 (year)[7]
			1.26	0.070 (14day)[7]

Red Numbers are in Exceedance of the guideline values. # Indicates direction of highest concentration

[8] https://www.atsdr.cdc.gov/toxprofiles/tp201.pdf
[9] https://www.atsdr.cdc.gov/toxprofiles/tp116.pdf
[10] https://www.ncbi.nlm.nih.gov/books/NBK430751/

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7 DISCUSSION

CETEC has gathered and reviewed available data relevant to the air quality parameters for the site of a proposed Business Hub at 81 Quill Way, Henderson and has provided estimates of air quality currently at the site.

The site is located in an area that sees various industrial activities that are dominated by Henderson's role as a major defence and marine hub. Key activities include fabrication, assembly, shipbuilding and maintenance, all supported by specialized facilities and infrastructure. It is understood that the City of Cockburn has concerns for potential adverse effects on people staying at the proposed Hotel for extended periods of time, i.e. for a number of days/nights or longer.

Local sources of these compounds that potentially affect air quality on the Development site include; to the North of the proposed development site, Water Corporation's Woodman Point Water Resource Recovery Facility while a few kilometres to the west of Quill Way, are the Henderson Waste Recovery Park and Cockburn Cement Ltd.'s Munster operations. The principal emission sources are shown in **Table 4** and **Table 5** shows a summary of the primary direction from which the compounds were detected and the time of day when these were most prevalent.

CETEC recommends that appropriate systems incorporating suitable air handling and filtering be installed in order for the indoor air quality to meet the National Construction Code for a Class 3 building[4]. As noted above the measured levels of contaminants do not meet the current guidelines. The contaminants of concern are nitrogen oxides (as NO_2), Particulates ($PM_{2.5}$) long term average, total VOC and hydrogen sulphide. The use of activated carbon filters combined with filters for the removal of fine ($PM_{2.5}$) particulates should be considered in the design for the air handling units. The peak concentrations identified by the instrumentation and reported in this document should be a guide to estimate the capacity and frequency of changing the filter media. While this strategy will reduce most of the compounds of concern, a separate strategy may be required for addressing the sulphur dioxide peak levels. While some short duration sulphur dioxide peak levels in the ambient unfiltered air (outside) were not compliant; if the building is designed and built to a high level of air tightness, short duration peaks would be diluted in the filtered air, that had previously entered the building with very low levels, thus the diluted levels in the building would be at a level compliant to the guidelines.

CETEC recommends that all buildings on the site are designed and constructed in compliance with Greenstar guidelines and to achieve higher levels of Air Tightness than those recommended in the National Construction Code. The benefits of reduced air leakage includes, while reducing energy, a reduced impact of uncontrolled ingress of contaminant materials from the outdoor environment. This strategy allows the dilution of short term peaks in compounds of concern to compliant levels. CETEC suggests 5 $m^3/h/m^2$ at 50Pa as an objective.

If a condition of development approval requires verification, CETEC can provide indoor air quality assessment of the completed building and building leakage assessment against ATTMA[11] guidelines.

[11] https://www.bcta.group/attma/

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Table 4: Available Air Emission Data for local sources

Report ID	Facility / Registered Business Name	Substance Name	Air Total Emission	
			(kg/pa)	mg/min
556616	Cockburn Cement Ltd	Carbon monoxide	761647	1449100.1
556616	Cockburn Cement Ltd	Oxides of Nitrogen	379380	721803.7
557902	Woodman Point WWTP	Ammonia (total)	126082	239882.0
555984	Henderson Renewable Energy Facility	Carbon monoxide	103751	197395.4
556616	Cockburn Cement Ltd	Particulate Matter ≤10.0 µm PM_{10})	84491	160751.5
557150	Civmec Construction & Engineering	Total Volatile Organic Compounds	57190	108809.0
555984	LMS Energy Pty Ltd / Henderson Renewable Energy Facility	Oxides of Nitrogen	47993	91310.9
554394	BAE Systems / Henderson Shipyard	Total Volatile Organic Compounds	25925	49324.6
555984	LMS Energy Pty Ltd / Henderson Renewable Energy Facility	Sulphur dioxide	20036	38120.2
557150	Civmec Construction & Engineering	Toluene (methylbenzene)	19798	37667.4
556616	Cockburn Cement Ltd	Total Volatile Organic Compounds	15170	28862.3
554394	Henderson Shipyard	Xylenes (individual or mixed isomers)	9966	18961.2
557902	Woodman Point WWTP	Oxides of Nitrogen	9629	18320.0
557150	Civmec Construction & Engineering	Xylenes (individual or mixed isomers)	9015	17151.8
556616	Cockburn Cement Ltd	Sulphur dioxide	8049	15313.9
557902	Woodman Point WWTP	Carbon monoxide	7235	13765.2
556536	Henderson Waste Recovery Park	Carbon monoxide	4118	7834.9
556536	Henderson Waste Recovery Park	Total Volatile Organic Compounds	3876	7374.4
557902	Woodman Point WWTP	Sulphur dioxide	3723	7083.3
556616	Cockburn Cement Ltd	Particulate Matter ≤2.5 µm ($PM_{2.5}$)	3204	6095.9
557902	Woodman Point WWTP	Particulate Matter ≤2.5 µm ($PM_{2.5}$)	2858	5437.6
557902	Woodman Point WWTP	Particulate Matter ≤10.0 µm (PM_{10})	2858	5437.6
556616	Cockburn Cement Ltd	Fluoride compounds	2390	4547.2
558220	Air Liquide Henderson	Acetone	1805	3434.2
556616	Cockburn Cement Ltd	Hydrochloric acid	1496	2846.3
557902	Woodman Point WWTP	Total Volatile Organic Compounds	460	875.2
556536	Henderson Waste Recovery Park	Toluene (methylbenzene)	158	300.6
556536	Henderson Waste Recovery Park	Hydrogen sulphide	63	119.9

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Report ID	Facility / Registered Business Name	Substance Name	Air Total Emission	
			(kg/pa)	mg/min
556536	Henderson Waste Recovery Park	Xylenes (individual or mixed isomers)	58	110.4
556536	Henderson Waste Recovery Park	Formaldehyde (methyl aldehyde)	41	78.0
556536	Henderson Waste Recovery Park	Dichloromethane	30	57.1
556536	Henderson Waste Recovery Park	Ethylbenzene	30	57.1
556536	Henderson Waste Recovery Park	Methyl ethyl ketone	30	57.1
556536	Henderson Waste Recovery Park	Acetone	22	41.9
556616	Cockburn Cement Ltd	Copper & compounds	21	40.0
556536	Henderson Waste Recovery Park	Tetrachloroethylene	19	36.1
556536	Henderson Waste Recovery Park	Acrylonitrile (2-propenenitrile)	19	36.1
556616	Cockburn Cement Ltd	Zinc and compounds	16	30.4
556536	Henderson Waste Recovery Park	n-Hexane	15	28.5
556616	Cockburn Cement Ltd	Nickel & compounds	15	28.5
556536	Henderson Waste Recovery Park	Chloroethane	15	28.5
556536	Henderson Waste Recovery Park	Benzene	14	26.6
556536	Henderson Waste Recovery Park	Methyl isobutyl ketone	11	20.9
556536	Henderson Waste Recovery Park	Ethyl acetate	10	19.0

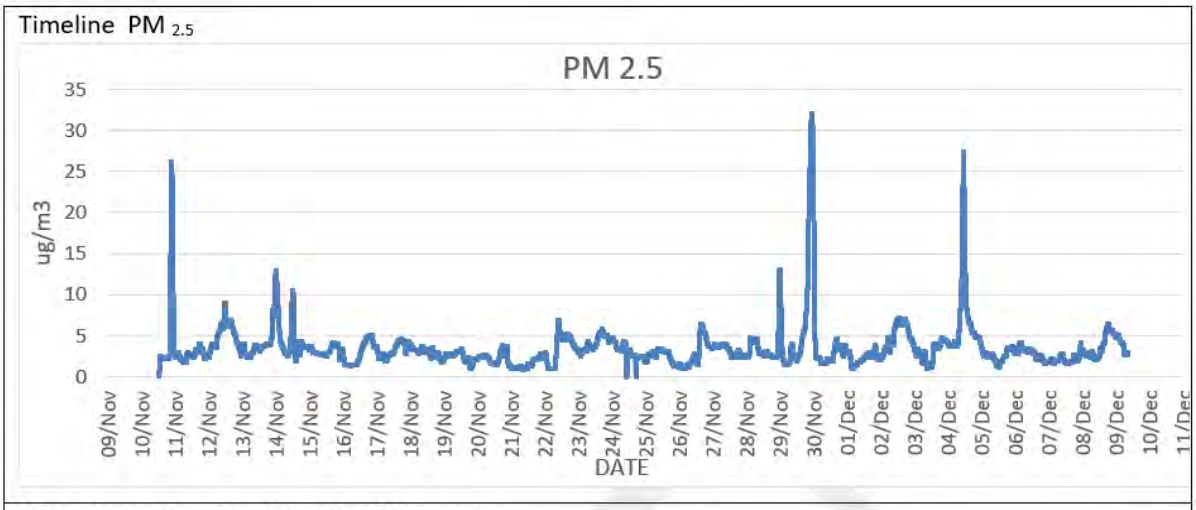
Table 5: Direction of Source and Time Of Day Analysis (approximate)

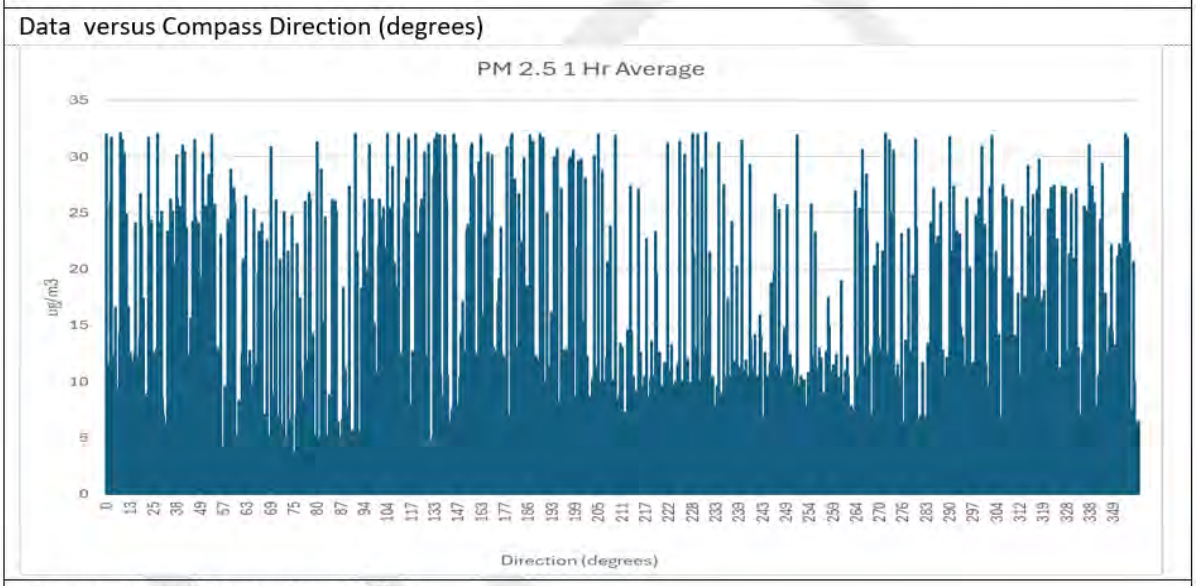
Compound	Source direction	Highest Time of Emission
Particulate ($PM_{2.5}$)	E to ESE and NW to NE	9am to 1pm and 8pm to MN
Particulate (PM_{10})	Constant, non-directional	6am to noon and 8pm to MN
Volatile Organic Compounds	N to ESE	Peak 10am and low 1pm to 5pm
Carbon Monoxide	N to SE	Peaks 7am, 9am, and 2pm, and 8pm to 11pm
Hydrogen Sulphide	SW to NNE	Noon to 9pm and 11pm to 1am
Nitrogen Oxides (as NO_2)	Constant, non-directional	6pm to 10am
Ozone	Constant, non-directional	7am to 10pm
Sulphur Dioxide	West (S to NNE)	1pm to 2am

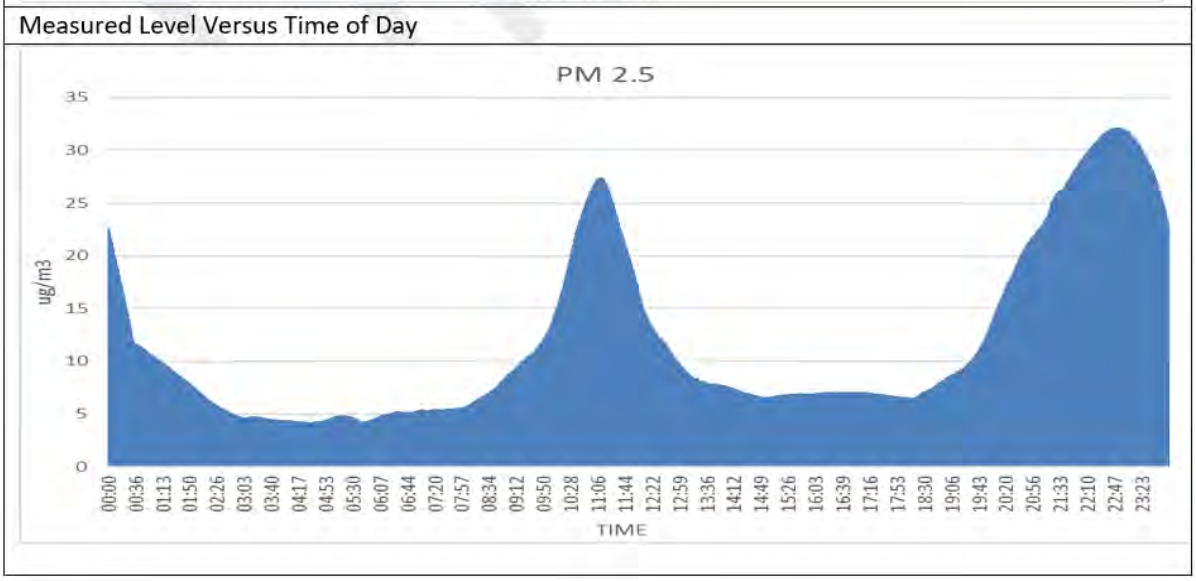
Document Set ID: 12688521
Version: 1, Version Date: 18/12/2026
Print Date: 14 April 2026, 2:31 PM

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APPENDIX A: GRAPHICAL DATA 11TH NOVEMBER TO 9TH DECEMBER



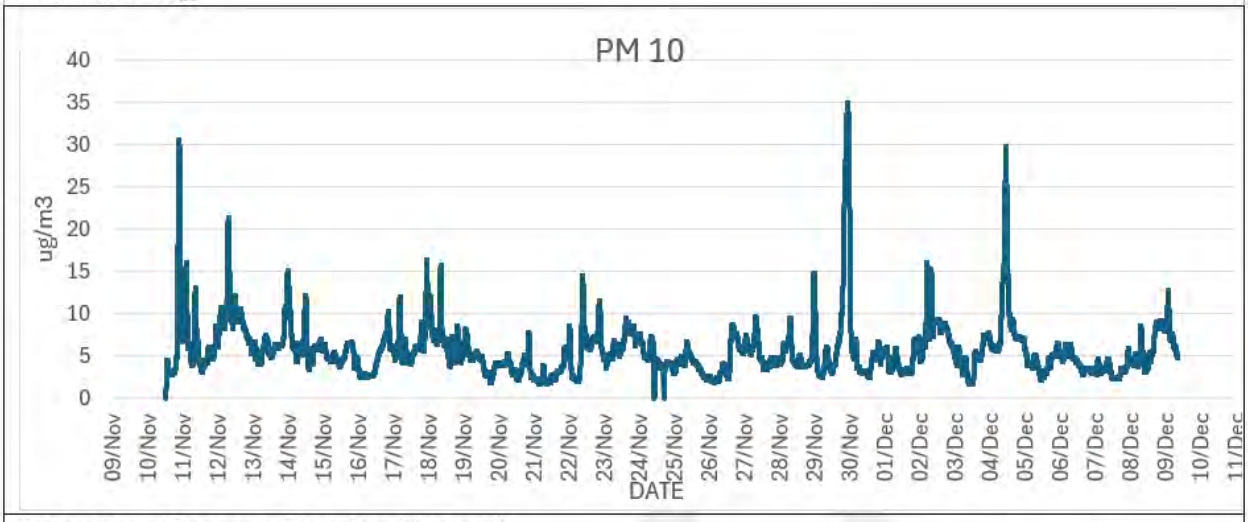




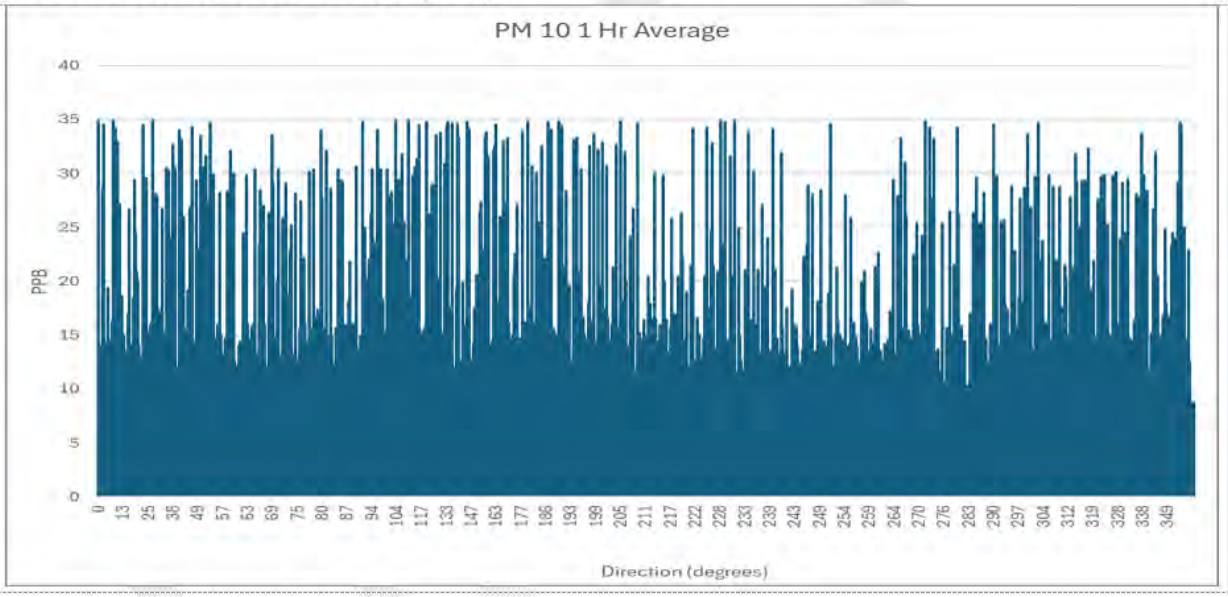
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Version: 1, Version Date: 18/12/2026
Print Date: 14 April 2026, 2:31 PM

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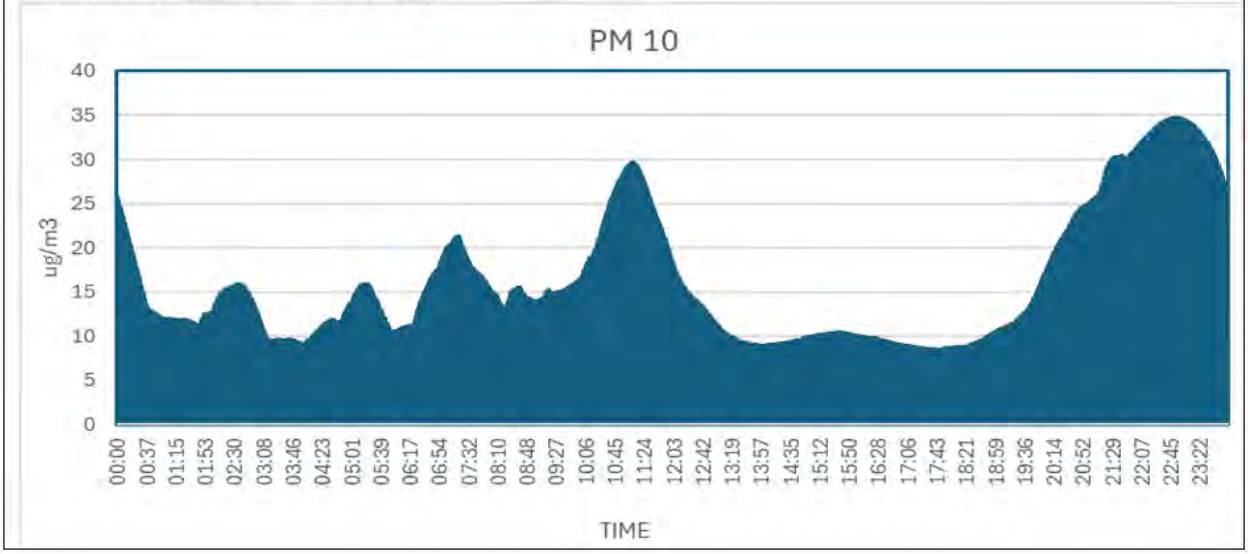
Timeline **PM 10**



Data versus Compass Direction (degrees)



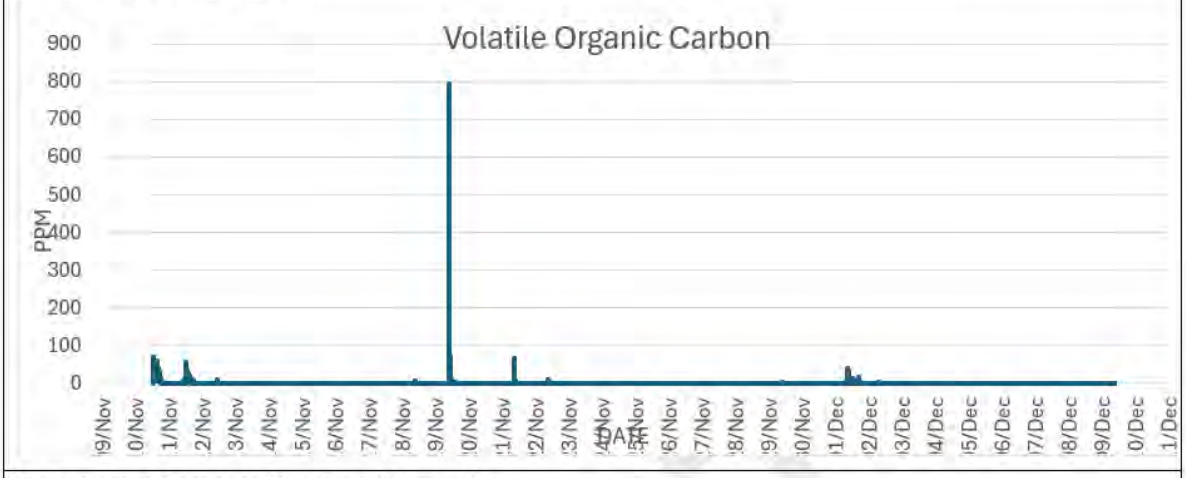
Measured Level Versus Time of Day



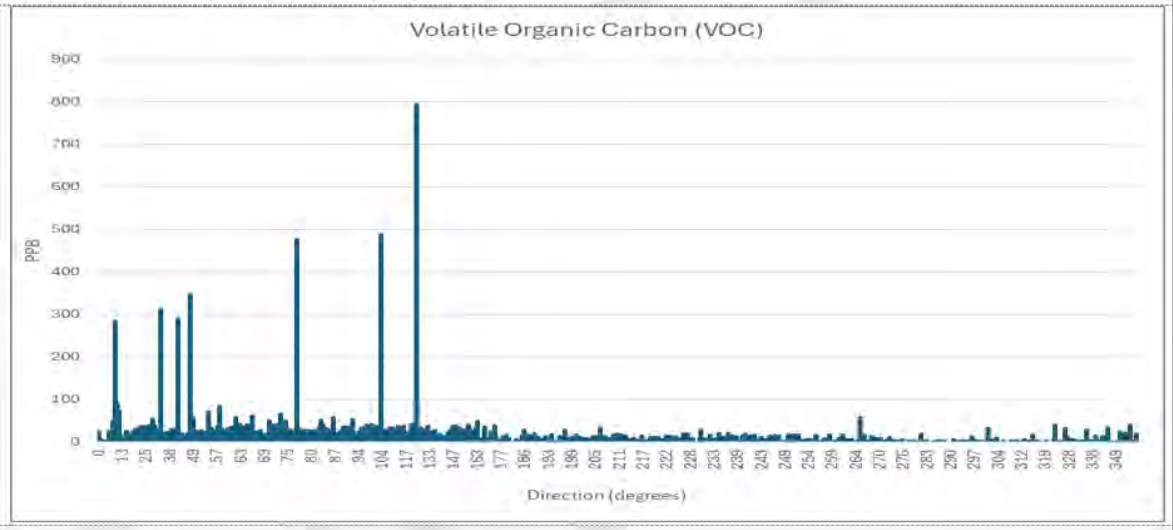
Document Set ID: 12688521
Version: 1, Version Date: 18/12/2026
Print Date: 14 April 2026, 2:31 PM

This information is provided by the City of Cockburn

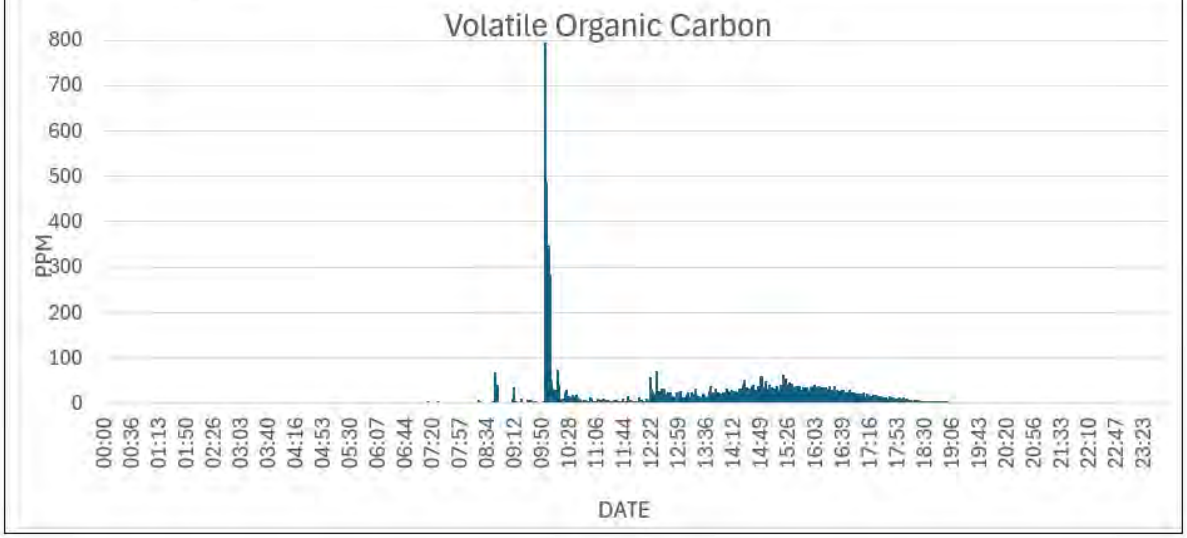
Timeline **VOC Emissions**



Data versus Compass Direction (degrees)



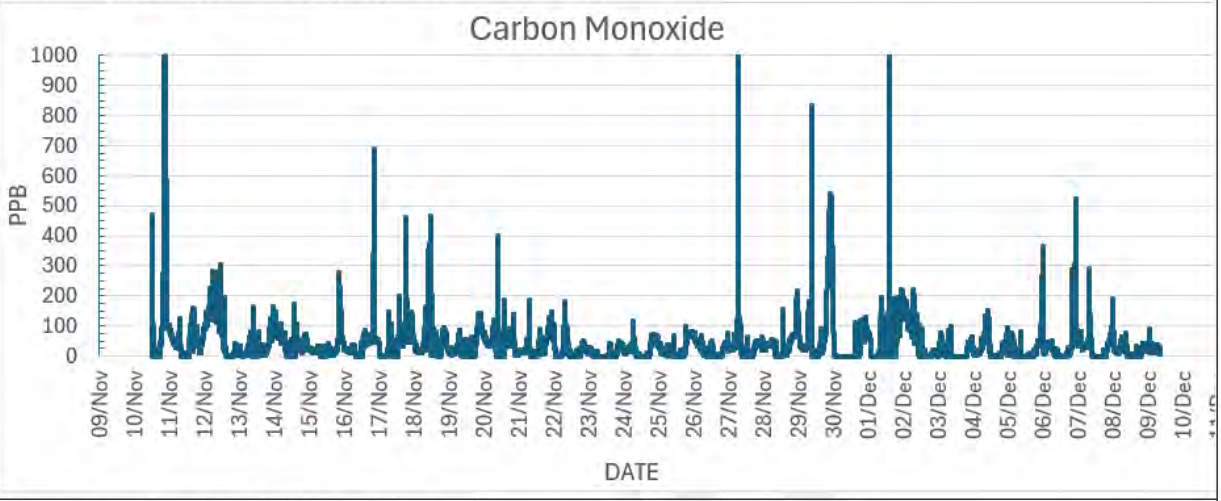
Measured Level Versus Time of Day



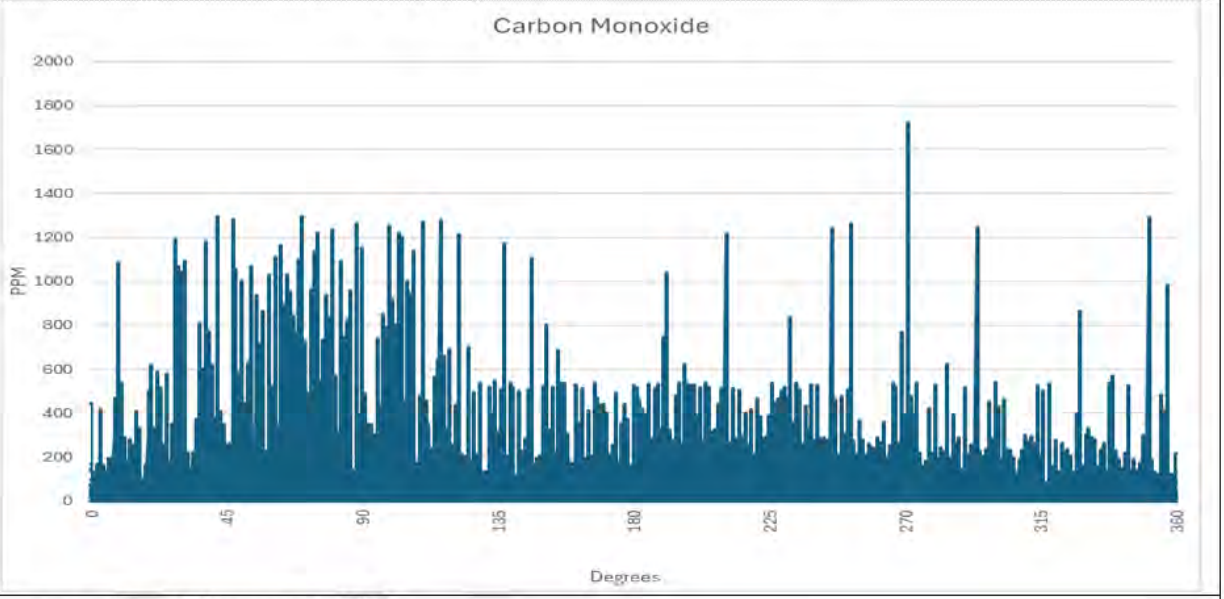
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Version: 1, Version Date: 18/12/2026
Print Date: 14 April 2026, 2:31 PM

This information is provided by the City of Cockburn

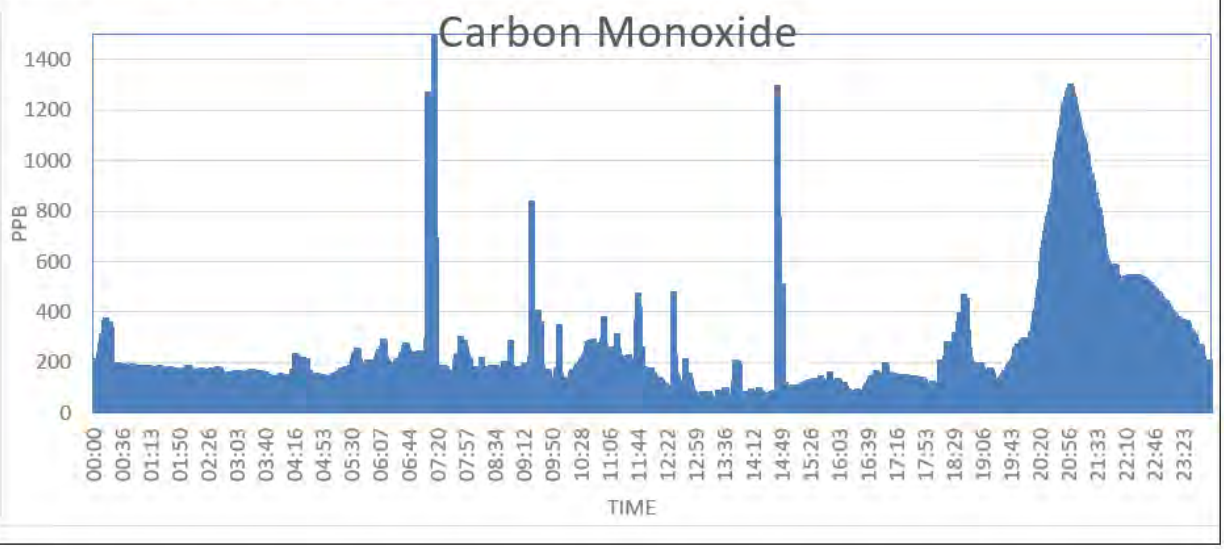
Timeline **Carbon Monoxide Emissions**



Data versus Compass Direction (degrees)



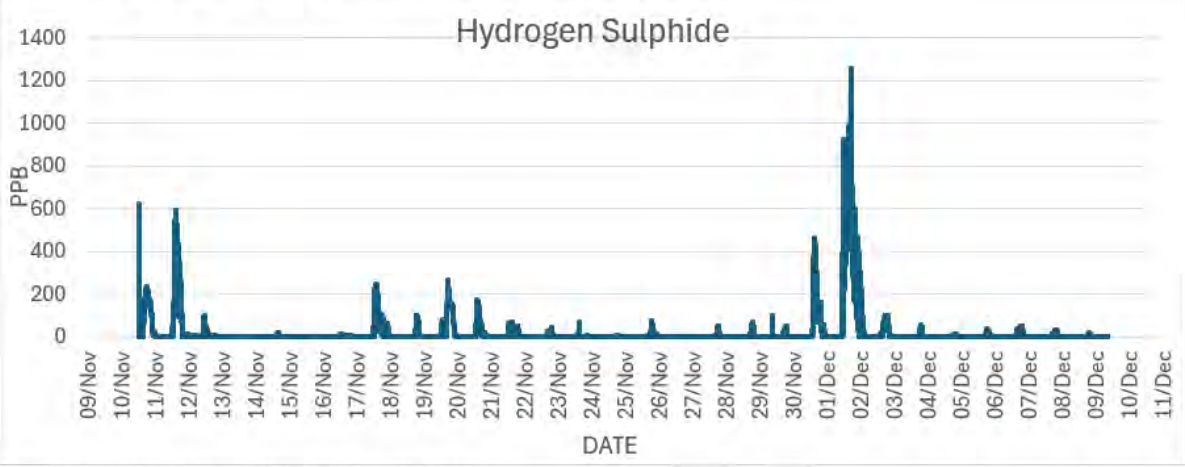
Measured Level Versus Time of Day



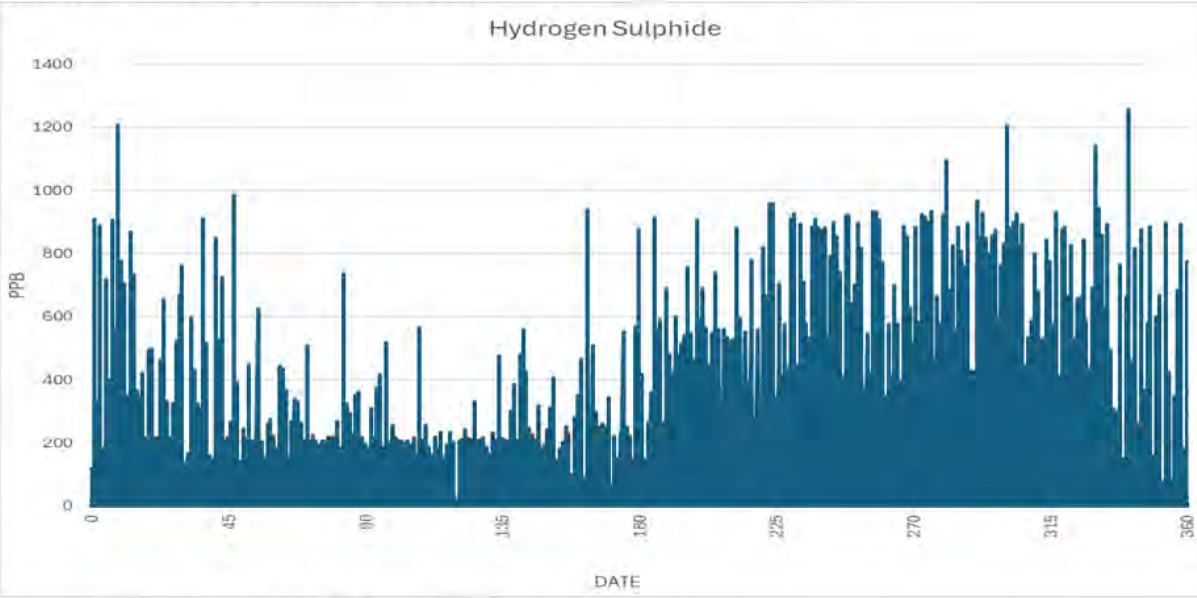
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Version: 1, Version Date: 18/12/2026
Print Date: 14 April 2026, 2:31 PM

This information is provided by the City of Cockburn

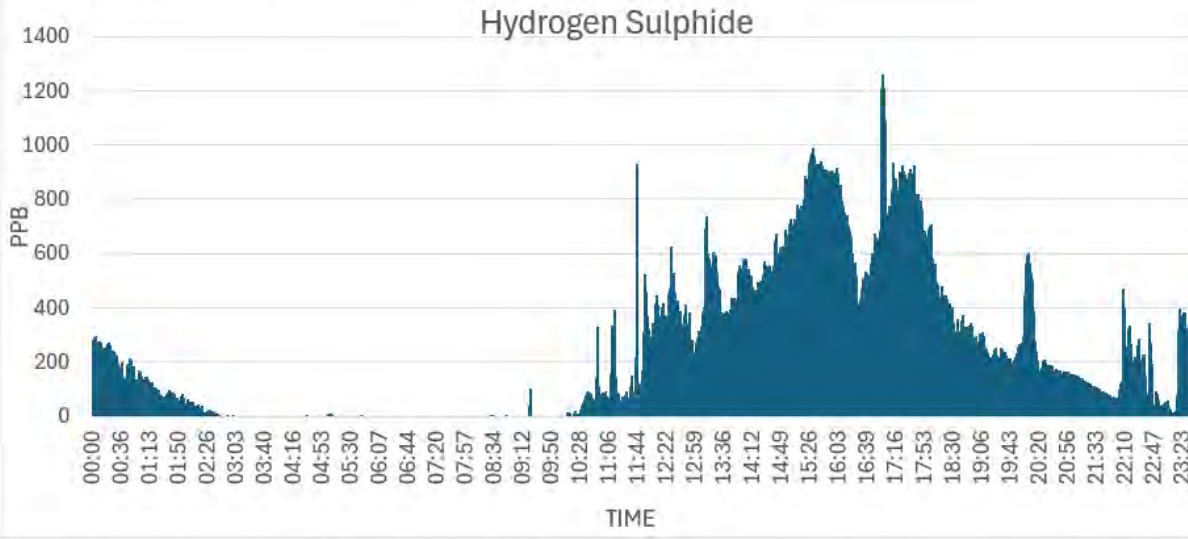
Timeline **Hydrogen Sulphide Emissions**



Data versus Compass Direction (degrees)



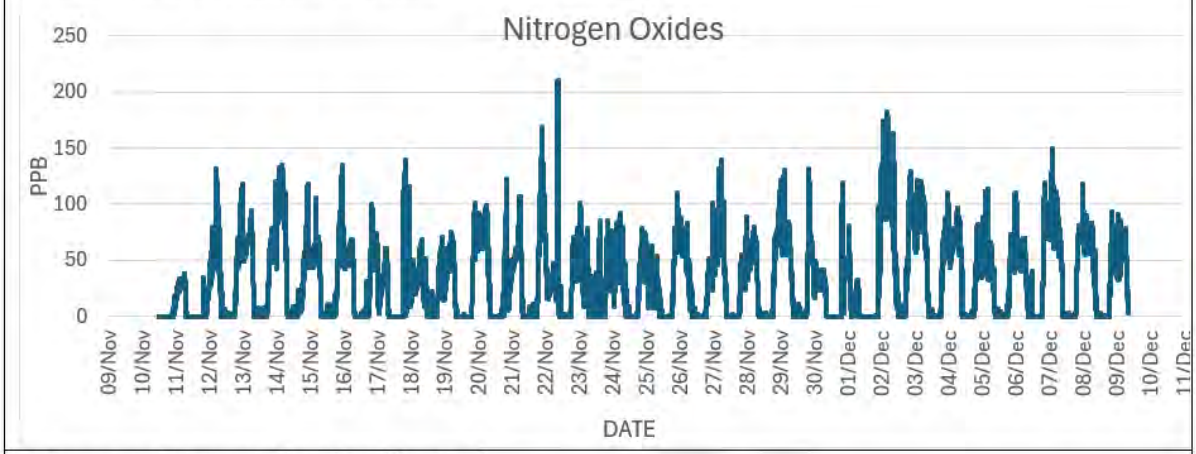
Measured Level Versus Time of Day



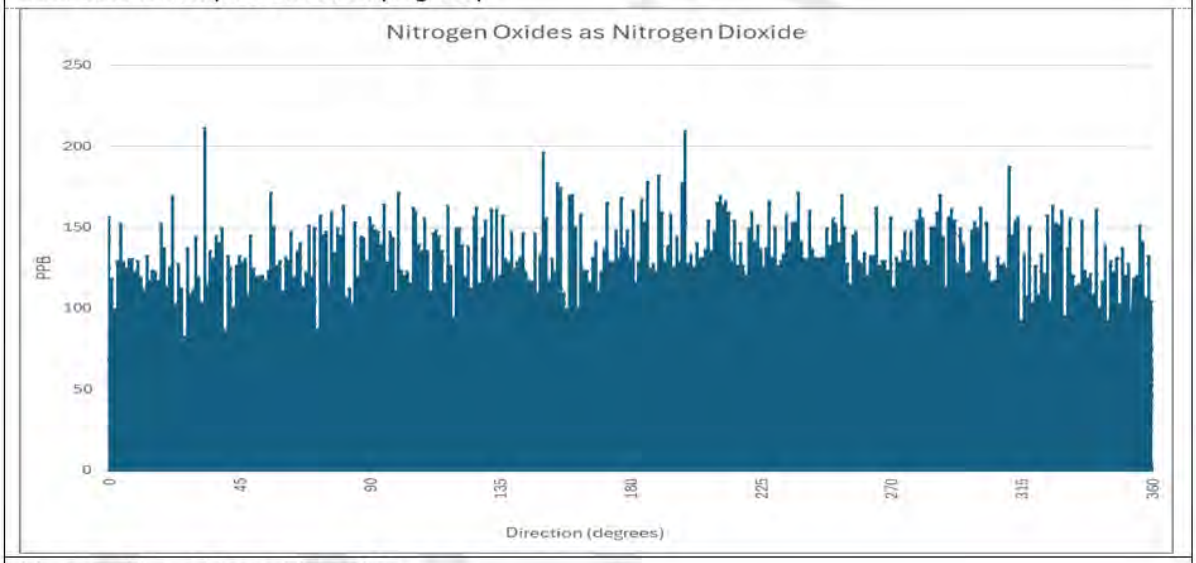
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Version: 1, Version Date: 18/12/2026
Print Date: 14 April 2026, 2:31 PM

This information is provided by the City of Cockburn

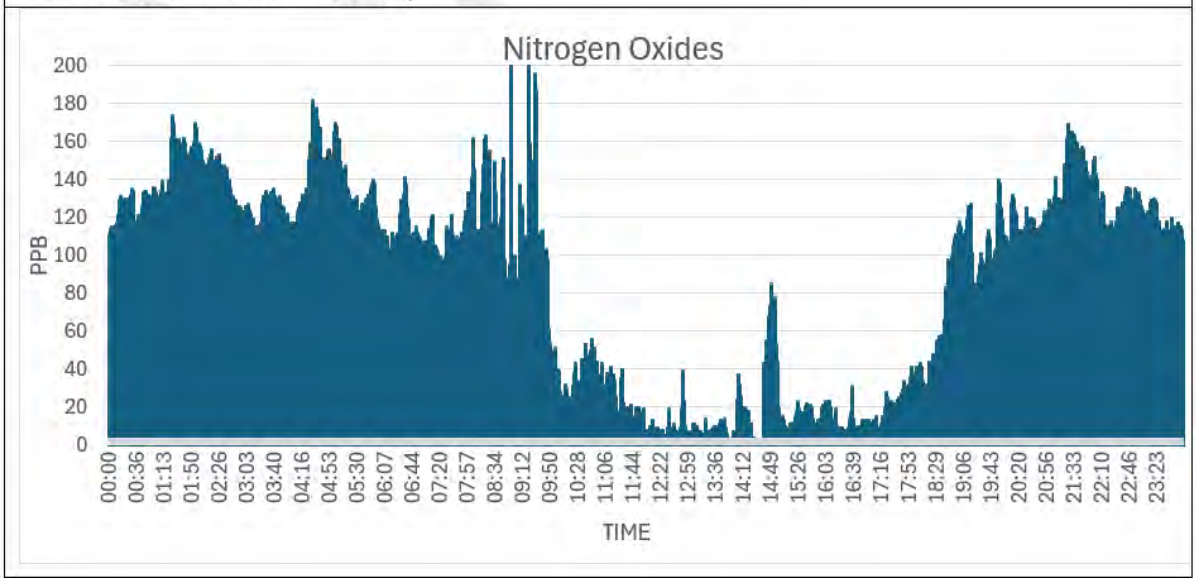
Timeline **Nitrogen Oxides (as Nitrogen Dioxide) Emissions**



Data versus Compass Direction (degrees)



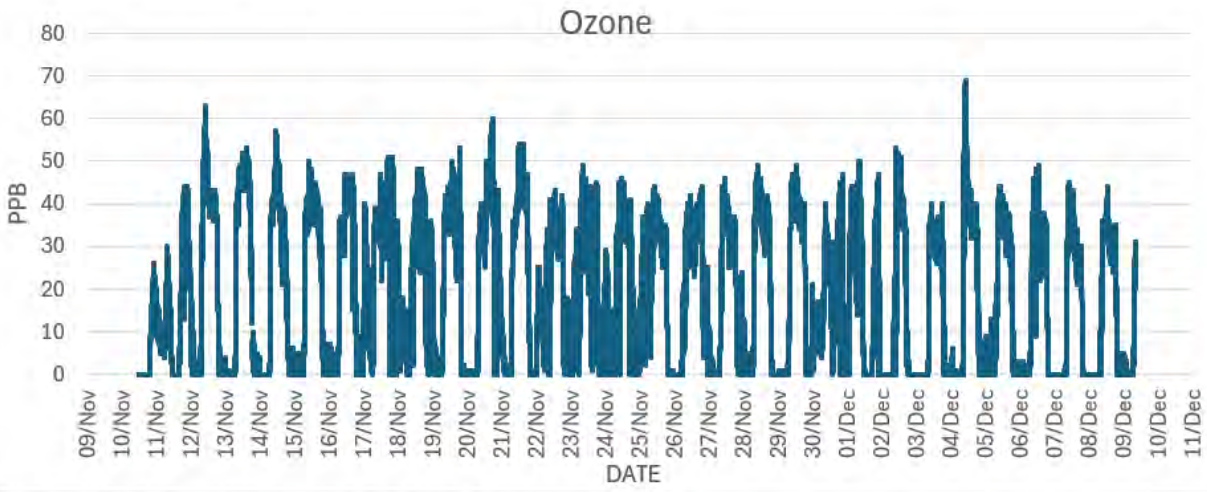
Measured Level Versus Time of Day



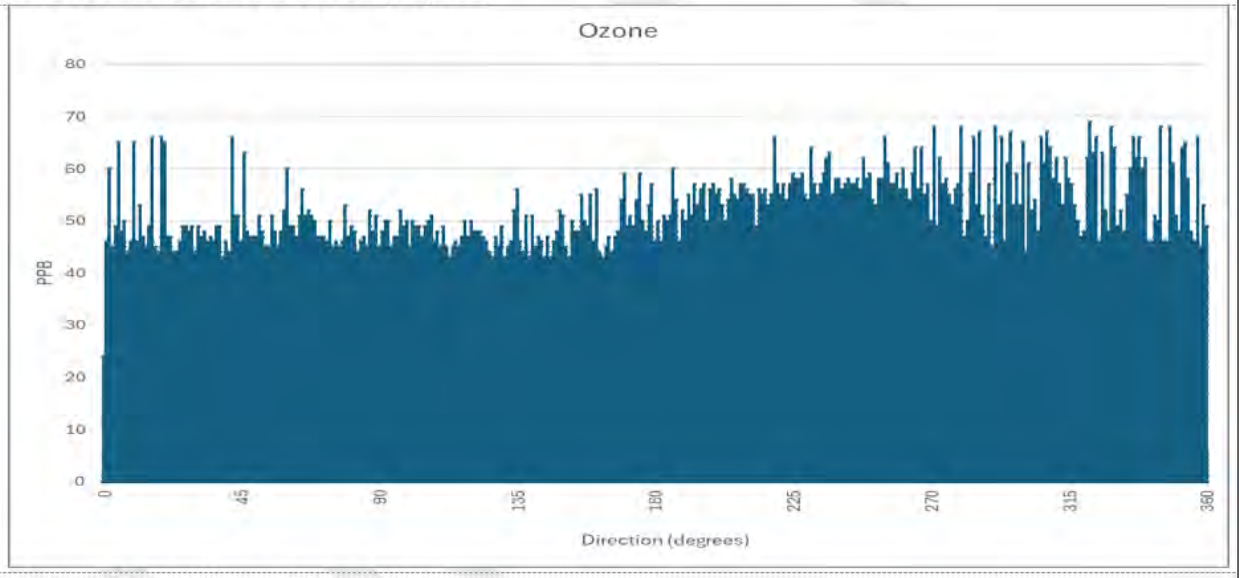
Document Set ID: 12688521
Version: 1, Version Date: 18/12/2026
Print Date: 14 April 2026, 2:31 PM

This information is provided by the City of Cockburn

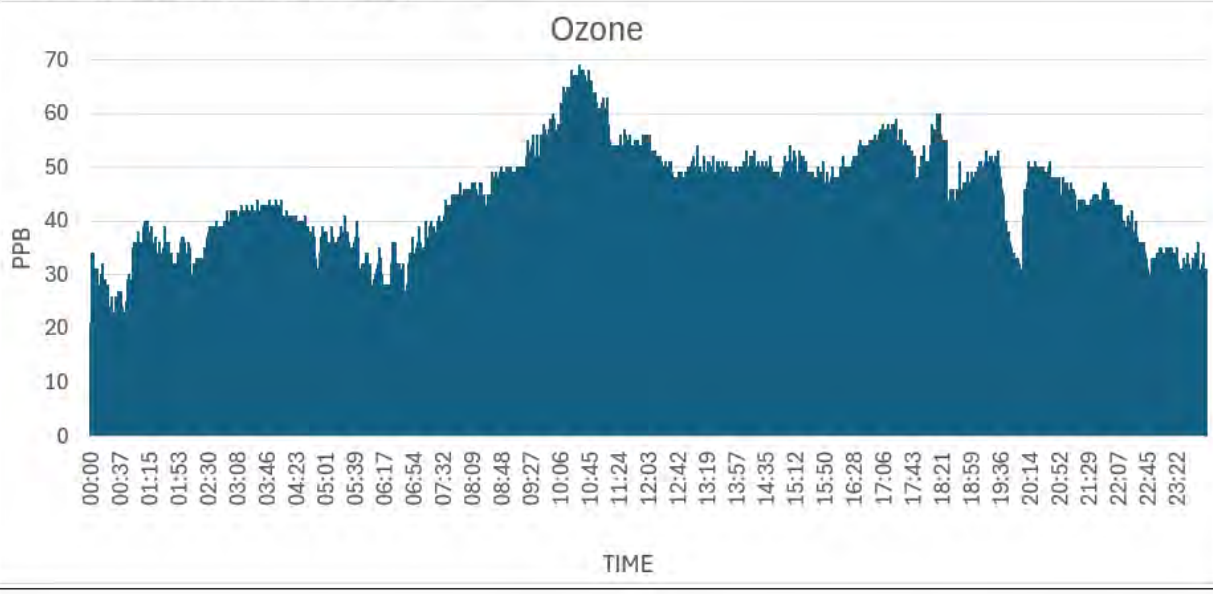
Timeline **Ozone Emissions**



Data versus Compass Direction (degrees)



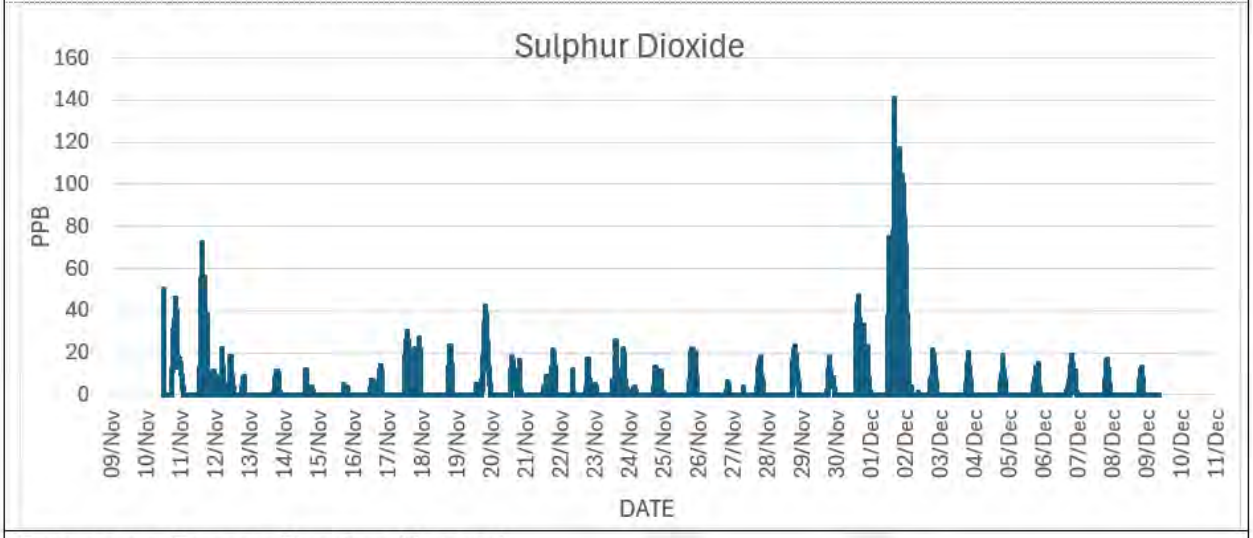
Measured Level Versus Time of Day



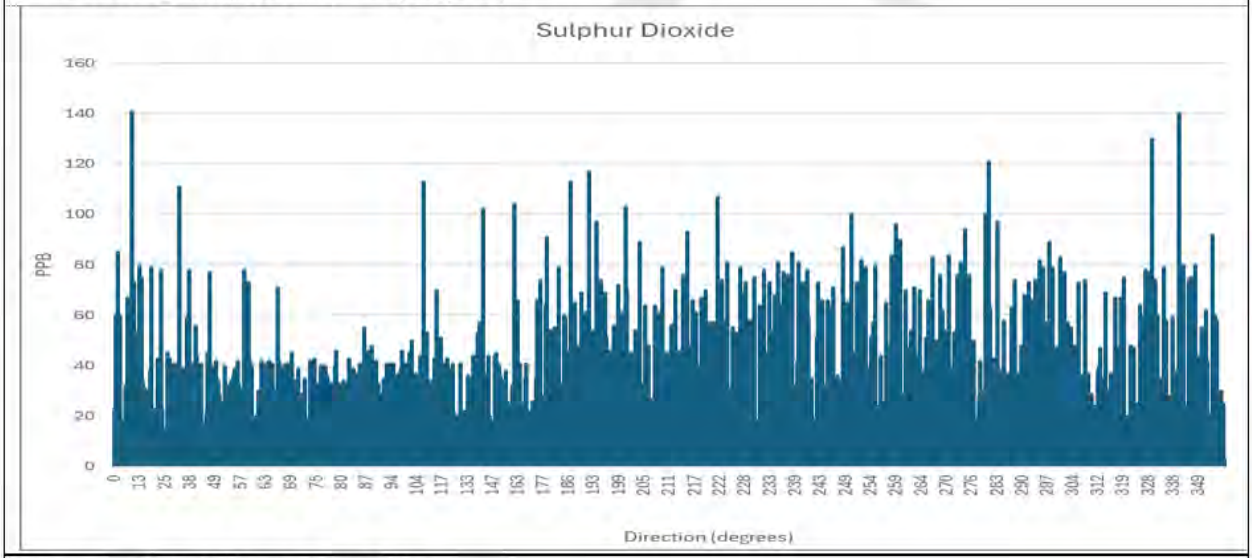
Document Set ID: 12688621
Version: 1, Version Date: 18/12/2026
Print Date: 14 April 2026, 2:31 PM

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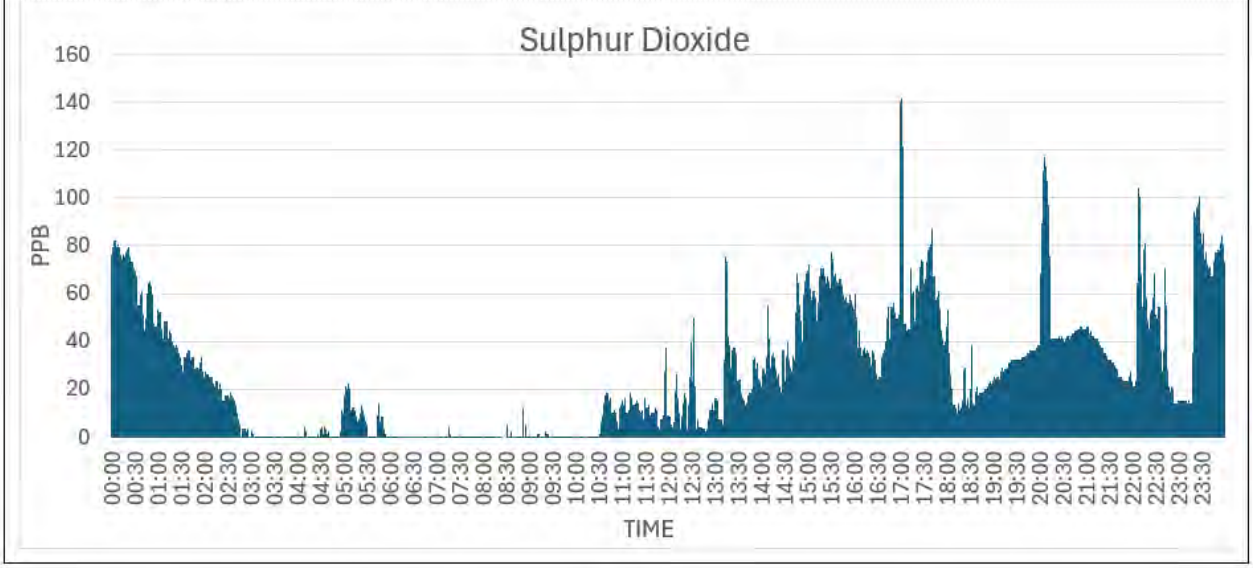
Timeline **Sulphur Dioxide Emissions**



Data versus Compass Direction (degrees)



Measured Level Versus Time of Day



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APPENDIX B: VOLATILE ORGANIC COMPOUNDS AND METALS ANALYSES

Table 6: Summary of results:

Date	Test Conducted Sample ID	Wind Direction	Volume Sampled	Summary of Results
24 Nov 2025	Airborne Metals F183949M	NE-NW	1429 Litre	All below detection limit
24 Nov 2025	Airborne VOC F183949V	NE-NW	65 Litre	All below detection limit
1 Dec 2025	Airborne Metals F184207M	NNW-WSW	1429 Litre	All below detection limit
1 Dec 2025	Airborne VOC F184207V	NNW-WSW	43 Litre	All below detection limit
1 Dec 2025	Blank F184208	n/a	--	Nil Detected

All samples were taken during the day hours to capture normal working hours in the surrounding construction businesses.

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LABORATORY RESULTS

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
ABN 53 140 099 207
7-11 Catalano Road Canning Vale WA 6155
ph +61 8 9317 2505
lab@mpl.com.au
www.mpl.com.au

Certificate of Analysis PGL0110

Client Details

Client	CETEC Pty Ltd (Perth)
Contact	Charles Bucknell
Address	Unit 7, 30 Kearns Crescent, APPLECROSS, WA, 6153

Sample Details

Your Reference	Metals and VOC analysis
Number of Samples	2 Filter, 3 SKC 226-01
Date Samples Received	02/12/2025
Date Instructions Received	02/12/2025

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for soils and on an as received basis for other matrices.

Report Details

Date Final Results Expected	10/12/2025
Date of Issue	10/12/2025

NATA Accreditation Number 2901. This document shall not be reproduced except in full.
Accredited for compliance with ISO/IEC 17025. Tests not covered by NATA are denoted with *.

Authorisation Details

Results Approved By	Travis Carey, Organics Supervisor Varsha Ho Wing, Inorganics and Metals Supervisor
Laboratory Manager	Michael Kubiak

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Certificate of Analysis PGL0110

Samples in this Report

Envirolab ID	Sample ID	Matrix	Date Sampled	Date Received
PGL0110-01	F183949M	Filter	02/12/2025	02/12/2025
PGL0110-02	F183949V	SKC 226-01	02/12/2025	02/12/2025
PGL0110-03	F184207M	Filter	02/12/2025	02/12/2025
PGL0110-04	F184207V	SKC 226-01	02/12/2025	02/12/2025
PGL0110-05	F184208	SKC 226-01	02/12/2025	02/12/2025

Sample Information

Sample ID	Filter ID	Flow Rate (L/min)	Time Sampled (min)	Air Volume (m3)
F183949M	RCT53	[NA]	[NA]	[NA]
F183949V	5782349	[NA]	[NA]	[NA]
F184207M	RCT54	[NA]	[NA]	[NA]
F184207V	343	[NA]	[NA]	[NA]
F184208	2720	[NA]	[NA]	[NA]

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Certificate of Analysis PGL0110

Acid Extractable Metals (Filter)

Envirolab ID	Units	PQL	PGL0110-01	PGL0110-03
Your Reference			F183949M	F184207M
Date Sampled			02/12/2025	02/12/2025
Aluminium	µg/sample	2.0	<2.0	<2.0
Antimony	µg/sample	10	<10	<10
Arsenic	µg/sample	0.50	<0.50	<0.50
Barium	µg/sample	0.50	<0.50	<0.50
Beryllium	µg/sample	0.010	<0.010	<0.010
Boron	µg/sample	5.0	<5.0	<5.0
Cadmium	µg/sample	0.10	<0.10	<0.10
Chromium	µg/sample	0.50	<0.50	<0.50
Cobalt	µg/sample	0.50	<0.50	<0.50
Copper	µg/sample	0.50	<0.50	<0.50
Iron	µg/sample	5.0	<5.0	<5.0
Lead	µg/sample	1.0	<1.0	<1.0
Lithium	µg/sample	0.50	<0.50	<0.50
Manganese	µg/sample	0.50	<0.50	<0.50
Mercury	µg/sample	0.20	<0.20	<0.20
Molybdenum	µg/sample	1.0	<1.0	<1.0
Nickel	µg/sample	1.0	<1.0	<1.0
Selenium	µg/sample	0.50	<0.50	<0.50
Silver	µg/sample	0.50	<0.50	<0.50
Strontium	µg/sample	0.50	<0.50	<0.50
Thallium	µg/sample	1.0	<1.0	<1.0
Tin	µg/sample	2.0	<2.0	<2.0
Titanium	µg/sample	2.0	<2.0	<2.0
Vanadium	µg/sample	0.50	<0.50	<0.50
Zinc	µg/sample	2.0	<2.0	<2.0

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Certificate of Analysis PGL0110

Organic Vapours - VOC (SKC 226-01)

Envirolab ID Your Reference Date Sampled	Units	PQL	PGL0110-02 F183949V 02/12/2025	PGL0110-04 F184207V 02/12/2025	PGL0110-05 F184208 02/12/2025
Acetone	µg/sample	20	<20	<20	<20
1,1-Dichloroethene	µg/sample	5.0	<5.0	<5.0	<5.0
Acrylonitrile	µg/sample	5.0	<5.0	<5.0	<5.0
Methyl tert butyl ether (MTBE)	µg/sample	10	<10	<10	<10
trans-1,2-Dichloroethene	µg/sample	5.0	<5.0	<5.0	<5.0
3-Methylpentane	µg/sample	5.0	<5.0	<5.0	<5.0
Hexane	µg/sample	20	<20	<20	<20
1,1-Dichloroethane	µg/sample	5.0	<5.0	<5.0	<5.0
Methyl Ethyl Ketone (MEK)	µg/sample	10	<10	<10	<10
cis-1,2-Dichloroethene	µg/sample	5.0	<5.0	<5.0	<5.0
Ethyl acetate	µg/sample	10	<10	<10	<10
2,2-Dichloropropane	µg/sample	5.0	<5.0	<5.0	<5.0
Bromochloromethane	µg/sample	5.0	<5.0	<5.0	<5.0
Chloroform	µg/sample	5.0	<5.0	<5.0	<5.0
Methylcyclopentane	µg/sample	5.0	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	µg/sample	5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	µg/sample	5.0	<5.0	<5.0	<5.0
1,1-Dichloropropene	µg/sample	5.0	<5.0	<5.0	<5.0
Benzene	µg/sample	2.0	<2.0	<2.0	<2.0
Carbon Tetrachloride	µg/sample	5.0	<5.0	<5.0	<5.0
Cyclohexane	µg/sample	5.0	<5.0	<5.0	<5.0
3-Methylhexane	µg/sample	5.0	<5.0	<5.0	<5.0
Ethyl acrylate	µg/sample	10	<10	<10	<10
Heptane	µg/sample	5.0	<5.0	<5.0	<5.0
Trichloroethene	µg/sample	5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	µg/sample	5.0	<5.0	<5.0	<5.0
1,4-Dioxane	µg/sample	5.0	<5.0	<5.0	<5.0
Bromodichloromethane	µg/sample	5.0	<5.0	<5.0	<5.0
Epichlorohydrin	µg/sample	5.0	<5.0	<5.0	<5.0
Methylcyclohexane	µg/sample	5.0	<5.0	<5.0	<5.0
Methyl isobutyl ketone (MIBK)	µg/sample	5.0	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene	µg/sample	5.0	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene	µg/sample	5.0	<5.0	<5.0	<5.0
Toluene	µg/sample	5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	µg/sample	5.0	<5.0	<5.0	<5.0
Methyl isopropyl ketone (MIPK)	µg/sample	5.0	<5.0	<5.0	<5.0
1,3-Dichloropropane	µg/sample	5.0	<5.0	<5.0	<5.0
Octane	µg/sample	5.0	<5.0	<5.0	<5.0
Dibromochloromethane	µg/sample	5.0	<5.0	<5.0	<5.0
n-Butyl acetate	µg/sample	10	<10	<10	<10
Tetrachloroethene	µg/sample	5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane	µg/sample	5.0	<5.0	<5.0	<5.0
Chlorobenzene	µg/sample	5.0	<5.0	<5.0	<5.0
1,1,1,2-Tetrachloroethane	µg/sample	5.0	<5.0	<5.0	<5.0
Ethylbenzene	µg/sample	5.0	<5.0	<5.0	<5.0
meta+para Xylene	µg/sample	10	<10	<10	<10

Your Reference: Metals and VOC analysis
Revision: R-00 Certificate of Analysis Generated: 10/12/2025 13:06

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Certificate of Analysis PGL0110

Organic Vapours - VOC (SKC 226-01)

Envirolab ID	Units	PQL	PGL0110-02	PGL0110-04	PGL0110-05
Your Reference			F183949V	F184207V	F184208
Date Sampled			02/12/2025	02/12/2025	02/12/2025
Nonane	µg/sample	5.0	<5.0	<5.0	<5.0
Cyclohexanone	µg/sample	5.0	<5.0	<5.0	<5.0
Styrene	µg/sample	5.0	<5.0	<5.0	<5.0
ortho-Xylene	µg/sample	5.0	<5.0	<5.0	<5.0
Bromoform	µg/sample	5.0	<5.0	<5.0	<5.0
Total Xylene	µg/sample	15	<15	<15	<15
1,1,2,2-Tetrachloroethane	µg/sample	5.0	<5.0	<5.0	<5.0
Isopropylbenzene	µg/sample	5.0	<5.0	<5.0	<5.0
1,2,3-Trichloropropane	µg/sample	5.0	<5.0	<5.0	<5.0
Bromobenzene	µg/sample	5.0	<5.0	<5.0	<5.0
n-Propylbenzene	µg/sample	5.0	<5.0	<5.0	<5.0
2-Chlorotoluene	µg/sample	5.0	<5.0	<5.0	<5.0
Diisobutyl Ketone (DIBK)	µg/sample	5.0	<5.0	<5.0	<5.0
4-Chlorotoluene	µg/sample	5.0	<5.0	<5.0	<5.0
1,3,5-Trimethylbenzene	µg/sample	5.0	<5.0	<5.0	<5.0
alpha-Methylstyrene	µg/sample	5.0	<5.0	<5.0	<5.0
Decane	µg/sample	5.0	<5.0	<5.0	<5.0
tert-Butylbenzene	µg/sample	5.0	<5.0	<5.0	<5.0
1,2,4-Trimethylbenzene	µg/sample	5.0	<5.0	<5.0	<5.0
s-butylbenzene	µg/sample	5.0	<5.0	<5.0	<5.0
1,3-Dichlorobenzene	µg/sample	5.0	<5.0	<5.0	<5.0
Benzyl chloride	µg/sample	5.0	<5.0	<5.0	<5.0
1,4-Dichlorobenzene	µg/sample	5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene	µg/sample	5.0	<5.0	<5.0	<5.0
1,2-Dichlorobenzene	µg/sample	5.0	<5.0	<5.0	<5.0
n-Butyl benzene	µg/sample	5.0	<5.0	<5.0	<5.0
1,2-Dibromo-3-chloropropane	µg/sample	5.0	<5.0	<5.0	<5.0
Dodecane	µg/sample	5.0	<5.0	<5.0	<5.0
1,2,4-Trichlorobenzene	µg/sample	5.0	<5.0	<5.0	<5.0
Naphthalene	µg/sample	10	<10	<10	<10
Hexachlorobutadiene	µg/sample	5.0	<5.0	<5.0	<5.0
1,2,3-Trichlorobenzene	µg/sample	5.0	<5.0	<5.0	<5.0
Surrogate Toluene-D8	%		*105*	*96.6*	*103*

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Certificate of Analysis PGL0110

Method Summary

Method ID	Methodology Summary
METALS-020	Determination of various metals by ICP-OES. Where salts (oxides, chlorides etc.) are calculated from the element concentration stoichiometrically there is no guarantee that the salt form is completely soluble in the acids used in the preparation.
METALS-020/022	Determination of various metals by ICP-OES or ICP-MS. Where salts (oxides, chlorides etc.) are calculated from the element concentration stoichiometrically there is no guarantee that the salt form is completely soluble in the acids used in the preparation.
METALS-021	Determination of Mercury by Cold Vapour AAS.
METALS-022	Determination of various metals by ICP-MS. Please note for Bromine and Iodine, any forms of these elements that are present are included together in the one result reported for each of these two elements. Where salts (oxides, chlorides etc.) are calculated from the element concentration stoichiometrically there is no guarantee that the salt form is completely soluble in the acids used in the preparation.
ORG-022_VOC_AIR	Determination of volatile organic compounds in charcoal tubes/badges/sorbents using CS2 extraction, determined by GC/GC-MS. Desorption efficiencies are not applied to results. Note where µg/m3 or mg/m3 results are supplied for SKC badges, the factors used are for 575-001, if 575-001 data is unavailable for an analyte then use 575-002 then 575-003 (exposure time must be supplied). Otherwise a sampling rate from a similar analyte is used. Analytes such as (where applicable) Iodomethane, Chloroprene, Nitrobenzene, Naphthalene and 1,2,3/1,2,4-Trichlorobenzenes are considered to be semi-quant analyses using CS2 desorption from charcoal tubes. The latter three compounds are better served by XAD-2 collection and analysis. Note - air volume measurements are not covered by Envirolab's NATA accreditation.

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Certificate of Analysis PGL0110

Result Definitions

Identifier	Description
NR	Not reported
NEPM	National Environment Protection Measure
NS	Not specified
LCS	Laboratory Control Sample
RPD	Relative Percent Difference
>	Greater than
<	Less than
PQL	Practical Quantitation Limit
INS	Insufficient sample for this test
NA	Test not required
NT	Not tested
DOL	Samples rejected due to particulate overload (air filters only)
RFD	Samples rejected due to filter damage (air filters only)
RUD	Samples rejected due to uneven deposition (air filters only)
##	Indicates a laboratory acceptance criteria outlier, for further details, see Result Comments and/or QC Comments

Quality Control Definitions

Blank

This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, and is determined by processing solvents and reagents in exactly the same manner as for samples.

Surrogate Spike

Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

LCS (Laboratory Control Sample)

This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Matrix Spike

A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

Duplicate

This is the complete duplicate analysis of a sample from the process batch. The sample selected should be one where the analyte concentration is easily measurable.

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Certificate of Analysis PGL0110

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria. Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction. Spikes for Physical and Aggregate Tests are not applicable. For VOCs in water samples, three vials are required for duplicate or spike analysis.

General Acceptance Criteria (GAC) - Analyte specific criteria applies for some analytes and is reflected in QC recovery tables.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% - see ELN-P05 QAQC tables for details (available on request); <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase. Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was typically insufficient in order to satisfy laboratory QA/QC protocols.

Miscellaneous Information

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached. We have taken the sampling date as being the date received at the laboratory.

Two significant figures are reported for the majority of tests and with a high degree of confidence, for results <10*PQL, the second significant figure may be in doubt i.e. has a relatively high degree of uncertainty and is provided for information only.

Measurement Uncertainty estimates can be downloaded from the Envirolab Resources website or obtained directly by contacting the laboratory.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS where sediment/solids are included by default.

Urine Analysis - The BEI values listed are taken from the 2022 edition of *TLVs and BEIs Threshold Limits by ACGIH.*

Air volumes are typically provided by customers (often as flow rate(s) and sampling time(s) and/or simply volume(s) sampled or exposure times (determines 'volume' passive badges are exposed to)). Hence in such circumstances the volume measurement is inevitably not covered by Envirolab's NATA accreditation. An exception may occur where Envirolab Newcastle does the sampling where accreditation exists for certain types of sampling and hence volume determination(s). Note air volumes are often used to determine concentrations for dust and/or analyses on filters, sorbents and in impingers. For canister sampling, the air volume is covered by Envirolab's NATA accreditation.

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Data Quality Assessment Summary PGL0110

Client Details

Client	CETEC Pty Ltd (Perth)
Your Reference	Metals and VOC analysis
Date Issued	10/12/2025

Recommended Holding Time Compliance

No recommended holding time exceedances

Quality Control and QC Frequency

QC Type	Compliant	Details
Blank	Yes	No Outliers
LCS	Yes	No Outliers
Duplicates	Yes	No Outliers
Matrix Spike	Yes	No Outliers
Surrogates / Extracted Internal Standards	Yes	No Outliers
QC Frequency	Yes	No Outliers

Surrogates/Extracted Internal Standards, Duplicates and/or Matrix Spikes are not always relevant/applicable to certain analyses and matrices. Therefore, said QC measures are deemed compliant in these situations by default. See Laboratory Acceptance Criteria for more information

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Data Quality Assessment Summary PGL0110

Recommended Holding Time Compliance

Analysis	Sample Number(s)	Date Sampled	Date Extracted	Date Analysed	Compliant
Metals OHS | Filter	1, 3	02/12/2025	05/12/2025	08/12/2025	Yes
Metals OHS (LL) | Filter	1, 3	02/12/2025	05/12/2025	10/12/2025	Yes
Metals OHS-Hg | Filter	1, 3	02/12/2025	05/12/2025	08/12/2025	Yes
VOC Suite 3 | SKC 226-01	2, 4-5	02/12/2025	04/12/2025	06/12/2025	Yes

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Quality Control PGL0110

METALS-020/022|Acid Extractable Metals (Filter) | Batch BGL1100

Analyte	Units	PQL	Blank	LCS %
Aluminium	µg/sample	2.0	<2.0	99.6
Antimony	µg/sample	10	<10	108
Barium	µg/sample	0.50	<0.50	99.7
Boron	µg/sample	5.0	<5.0	98.7
Cadmium	µg/sample	0.10	<0.10	102
Chromium	µg/sample	0.50	<0.50	101
Cobalt	µg/sample	0.50	<0.50	101
Copper	µg/sample	0.50	<0.50	101
Iron	µg/sample	5.0	<5.0	101
Lead	µg/sample	1.0	<1.0	97.5
Lithium	µg/sample	0.50	<0.50	107
Manganese	µg/sample	0.50	<0.50	99.8
Molybdenum	µg/sample	1.0	<1.0	100
Nickel	µg/sample	1.0	<1.0	99.2
Silver	µg/sample	0.50	<0.50	103
Strontium	µg/sample	0.50	<0.50	97.7
Tin	µg/sample	2.0	<2.0	97.8
Titanium	µg/sample	2.0	<2.0	97.4
Vanadium	µg/sample	0.50	<0.50	100
Zinc	µg/sample	2.0	<2.0	100

METALS-021|Acid Extractable Metals (Filter) | Batch BGL1101

Analyte	Units	PQL	Blank	LCS %
Mercury	µg/sample	0.20	<0.20	101

METALS-022|Acid Extractable Metals (Filter) | Batch BGL1102

Analyte	Units	PQL	Blank	LCS %
Arsenic	µg/sample	0.50	<0.50	97.3
Beryllium	µg/sample	0.010	<0.010	84.5
Selenium	µg/sample	0.50	<0.50	108
Thallium	µg/sample	1.0	<1.0	95.0

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Quality Control PGL0110

ORG-022_VOC_AIR | Organic Vapours - VOC (SKC 226-01) | Batch BGL0841

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This information is provided by the City of Cockburn

Quality Control PGL0110

ORG-022_VOC_AIR | Organic Vapours - VOC (SKC 226-01) | Batch BGL0841

Analyte	Units	PQL	Blank	LCS %
Acetone	µg/sample	20	<20	[NA]
1,1-Dichloroethene	µg/sample	5.0	<5.0	[NA]
Acrylonitrile	µg/sample	5.0	<5.0	[NA]
Methyl tert butyl ether (MTBE)	µg/sample	10	<10	[NA]
trans-1,2-Dichloroethene	µg/sample	5.0	<5.0	[NA]
3-Methylpentane	µg/sample	5.0	<5.0	[NA]
Hexane	µg/sample	20	<20	[NA]
1,1-Dichloroethane	µg/sample	5.0	<5.0	99.3
Methyl Ethyl Ketone (MEK)	µg/sample	10	<10	[NA]
cis-1,2-Dichloroethene	µg/sample	5.0	<5.0	[NA]
Ethyl acetate	µg/sample	10	<10	[NA]
2,2-Dichloropropane	µg/sample	5.0	<5.0	[NA]
Bromochloromethane	µg/sample	5.0	<5.0	[NA]
Chloroform	µg/sample	5.0	<5.0	105
Methylcyclopentane	µg/sample	5.0	<5.0	[NA]
1,1,1-Trichloroethane	µg/sample	5.0	<5.0	[NA]
1,2-Dichloroethane	µg/sample	5.0	<5.0	[NA]
1,1-Dichloropropene	µg/sample	5.0	<5.0	[NA]
Benzene	µg/sample	2.0	<2.0	110
Carbon Tetrachloride	µg/sample	5.0	<5.0	114
Cyclohexane	µg/sample	5.0	<5.0	[NA]
3-Methylhexane	µg/sample	5.0	<5.0	[NA]
Ethyl acrylate	µg/sample	10	<10	[NA]
Heptane	µg/sample	5.0	<5.0	[NA]
Trichloroethene	µg/sample	5.0	<5.0	115
1,2-Dichloropropane	µg/sample	5.0	<5.0	[NA]
1,4-Dioxane	µg/sample	5.0	<5.0	[NA]
Bromodichloromethane	µg/sample	5.0	<5.0	[NA]
Epichlorohydrin	µg/sample	5.0	<5.0	[NA]
Methylcyclohexane	µg/sample	5.0	<5.0	[NA]
Methyl isobutyl ketone (MIBK)	µg/sample	5.0	<5.0	[NA]
cis-1,3-Dichloropropene	µg/sample	5.0	<5.0	[NA]
trans-1,3-Dichloropropene	µg/sample	5.0	<5.0	[NA]
Toluene	µg/sample	5.0	<5.0	99.3
1,1,2-Trichloroethane	µg/sample	5.0	<5.0	[NA]
Methyl isopropyl ketone (MIPK)	µg/sample	5.0	<5.0	[NA]
1,3-Dichloropropane	µg/sample	5.0	<5.0	[NA]
Octane	µg/sample	5.0	<5.0	[NA]
Dibromochloromethane	µg/sample	5.0	<5.0	[NA]
n-Butyl acetate	µg/sample	10	<10	[NA]
Tetrachloroethene	µg/sample	5.0	<5.0	102
1,2-Dibromoethane	µg/sample	5.0	<5.0	[NA]
Chlorobenzene	µg/sample	5.0	<5.0	[NA]
1,1,1,2-Tetrachloroethane	µg/sample	5.0	<5.0	[NA]
Ethylbenzene	µg/sample	5.0	<5.0	103
meta+para Xylene	µg/sample	10	<10	103
Nonane	µg/sample	5.0	<5.0	[NA]
Cyclohexanone	µg/sample	5.0	<5.0	[NA]
Styrene	µg/sample	5.0	<5.0	[NA]
ortho-Xylene	µg/sample	5.0	<5.0	102
Bromoform	µg/sample	5.0	<5.0	[NA]
Total Xylene	µg/sample	15	<15	[NA]
1,1,2,2-Tetrachloroethane	µg/sample	5.0	<5.0	[NA]
Isopropylbenzene	µg/sample	5.0	<5.0	[NA]
1,2,3-Trichloropropane	µg/sample	5.0	<5.0	[NA]
Bromobenzene	µg/sample	5.0	<5.0	[NA]
n-Propylbenzene	µg/sample	5.0	<5.0	[NA]

Your Reference: Metals and VOC analysis
Revision: R-00 Certificate of Analysis Generated: 10/12/2025 13:06

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Quality Control PGL0110

ORG-022_VOC_AIR | Organic Vapours - VOC (SKC 226-01) | Batch BGL0841

Analyte	Units	PQL	Blank	LCS %
2-Chlorotoluene	µg/sample	5.0	<5.0	[NA]
Diisobutyl Ketone (DIBK)	µg/sample	5.0	<5.0	[NA]
4-Chlorotoluene	µg/sample	5.0	<5.0	[NA]
1,3,5-Trimethylbenzene	µg/sample	5.0	<5.0	[NA]
alpha-Methylstyrene	µg/sample	5.0	<5.0	[NA]
Decane	µg/sample	5.0	<5.0	[NA]
tert-Butylbenzene	µg/sample	5.0	<5.0	[NA]
1,2,4-Trimethylbenzene	µg/sample	5.0	<5.0	[NA]
s-butylbenzene	µg/sample	5.0	<5.0	[NA]
1,3-Dichlorobenzene	µg/sample	5.0	<5.0	[NA]
Benzyl chloride	µg/sample	5.0	<5.0	[NA]
1,4-Dichlorobenzene	µg/sample	5.0	<5.0	119
4-Isopropyltoluene	µg/sample	5.0	<5.0	[NA]
1,2-Dichlorobenzene	µg/sample	5.0	<5.0	[NA]
n-Butyl benzene	µg/sample	5.0	<5.0	[NA]
1,2-Dibromo-3-chloropropane	µg/sample	5.0	<5.0	[NA]
Dodecane	µg/sample	5.0	<5.0	[NA]
1,2,4-Trichlorobenzene	µg/sample	5.0	<5.0	116
Naphthalene	µg/sample	10	<10	[NA]
Hexachlorobutadiene	µg/sample	5.0	<5.0	[NA]
1,2,3-Trichlorobenzene	µg/sample	5.0	<5.0	[NA]
Surrogate Toluene-D8	%		*95.8*	*98.1*

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Air-Met Scientific Pty Ltd
PO Box 133
Nunawading VIC 3131
Australia
Phone: 1800 000 744

CERTIFICATE OF CALIBRATION

This document certifies that the instrument detailed has been calibrated to the parameters listed below

CertificateNumber : ER0325025-S-2-20251106
Calibration Date: 5/11/2025
Next Calibration Due: 5/05/2026

Customer: Air-Met Scientific (National Rental)
Address: 21 Colray Avenue , , OSBORNE PARK , 6017
Equipment No: EP022268
Unit Under Test: Air-MetER-AX PM1/2.5/4.25/10 & TSP Dust Monitor: Build 4.0
Serial No: ER0325025
Service Order No: CAL09163

Reference Equipment:

Equipment ID	Description	Expiry Date	Reference Certificate Number
ME1311	NO2 10ppm, N2 Bal	23/07/2026	11668
ME1320	Isobutylene 100ppm, O2 20.9% vol, N2 Bal	6/08/2030	11717
ME1284	CH4 2.5%, SO2 10 ppm, H2S 25ppm, CO 100ppm, O2 20.9%, N2 bal	11/02/2027	11244
AIRCAL 1000	Aircal 1000	11/02/2026	140915-052
OZONE GENERATOR			

Results:

Sensor	Units	Applied Value	Results		Pass/ Fail	Comments
			As Found	As Left		
CO	ppb	1000	1000	1000	Pass	100ppm diluted to 1000ppb
VOC'S	ppb	1000	1000	1000	Pass	100ppm diluted to 1000ppb
NO2	ppb	100	100	100	Pass	10ppm diluted to 100ppb
SO2	ppb	100	100	100	Pass	10ppm diluted to 100ppb
H2S	ppb	250	250	250	Pass	25ppm diluted to 250ppb
O3	ppb	500	500	500	Pass	

Note:

Certified System
Quality
ISO 9001
SAI GLOBAL

Document Set ID: 12682521
Version: 1, Version Date: 14/04/2026
Print Date: 14 April 2026, 2:31 PM

Calibrated By: EDWIN.CARONONGAN

AirMet Scientific P/L

Calibration Certificate

This document certifies that the instrument detailed has been calibrated to the parameters

Certificate Print Date: 4-Apr-2025
Calibration Date: 31-Mar-2025
Next Calibration Due: 31-Mar-2026

Call ID / Order No: 1655
Job No / Pack No:

Customer: AMS VIC Rental-ID 399981 **Serial No:** DS0325025

Description: Air-MetER AX 5 FRACTION (PM1, 2.5, 4.25, 10 & TSP)
DUST MODULE WITH INLET

Calibration Summary

Frequency: Yearly **Temp:** 22°C **As Found:** In Tolerance **Result:** Pass
Humidity: 45% **Certificate:**

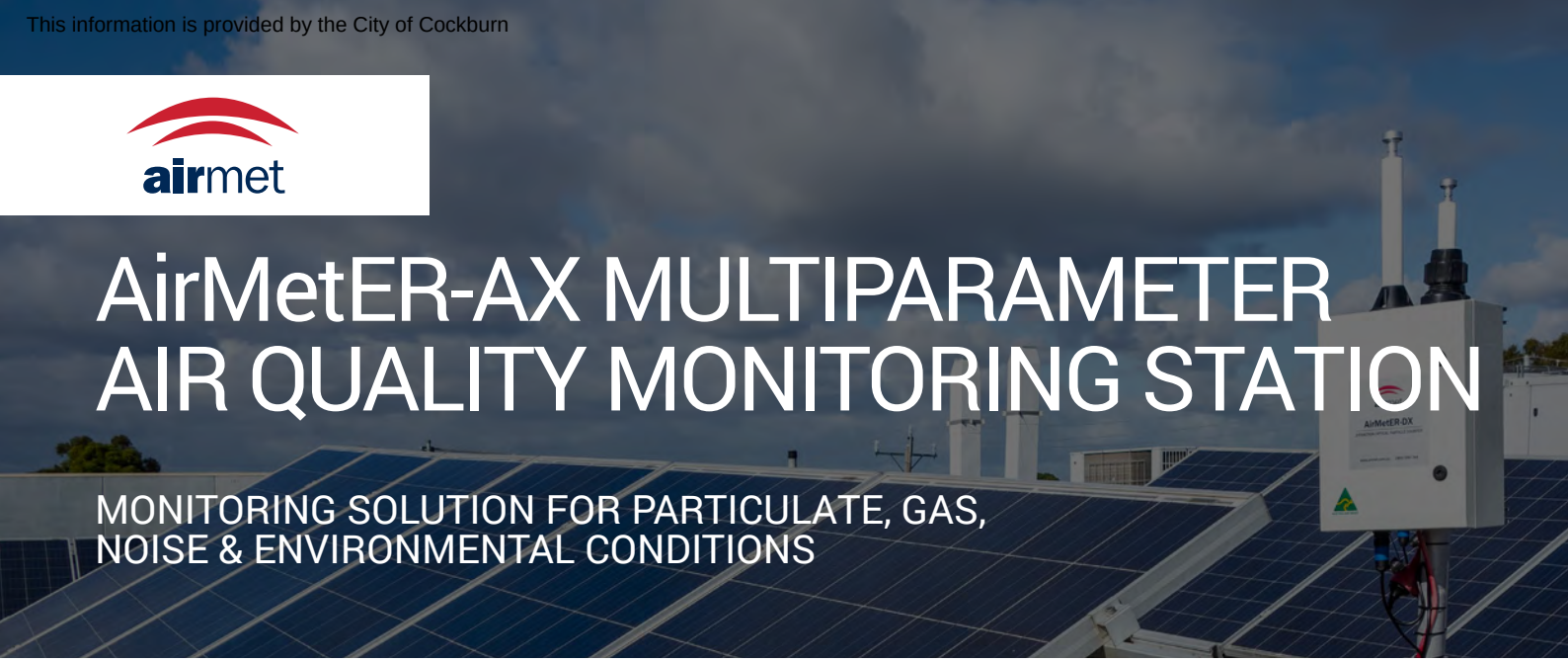
Desc	As Found Actual	As Found Result	As Left (Cal Status) Actual	As Left (Cal Status) Result
Average Reading (65.84µg/m3)	65.8	Pass	65.8	Pass

Standard Used Equip ID	Description	Valid Until	Cert
ISO TEST DUST	ISO 12103-1 A1 Ultrafine	26/04/2035	

Completed By: Gabriel Apostoli **Signed:**

Document Set ID: 12682521
Version: 1, Version Date: 14/04/2026
Print Date: 14 April 2026, 2:31 PM

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AirMetER-AX MULTIPARAMETER AIR QUALITY MONITORING STATION

MONITORING SOLUTION FOR PARTICULATE, GAS, NOISE & ENVIRONMENTAL CONDITIONS

Australian Made and locally supported, the AirMetER-AX is a compact and easy to install air quality station. The AirMetER-AX supports 1-8 gas sensors, multi-fraction particulate matter, general weather and noise monitoring.

Designed to withstand various weather conditions, the AirMetER-AX is housed in a weather resistant enclosure ideal for round the clock continuous outdoor monitoring. The AirMetER-AX has datalogging capacity at a minimum of 365 days at one-minute intervals with built-in log and forward capability to locally store the data in the event of a network disruption.

Integrating seamlessly with Air-Met Scientific's web-based portal for remote data access, this secure data portal enables users to access monitoring logs, set customisable alerts, manage monitoring reports and more. The web-service application is accessible on both desktop PC and mobile smart devices.

AirMetER-AX | Proudly Australian Made

FEATURES & OPTIONS

- Simultaneous $PM_{2.5}$ and PM_{10} measurement
- Optional PM_1, $PM_{4.25}$ and TSP
- Simultaneously monitor 1-8 different gases
  Available gases – CO, CO_2, VOC, SO_2, H_2S, O_2, O_3, NO and NO_2
- Weather and vibration monitoring
- Noise measurements
- Heated inlet
- Easy to use and low maintenance
- Locally serviced and supported by Air-Met Scientific
- Supports integration of external fixed sensors e.g. Fixed Gas Transmitters, Soil Moisture Probes.
- Supports integration to local SCADA / External Networks



DATA MONITORING

- Cellular telemetry through Air-Met Scientific's secure data portal. Requires minimum 12-month subscription to Air-Met's data portal.
- 1 minute datalogging interval with FTP transfer to Air-Met Scientific's secure web service.
- Customisable rolling averages upon request
- Data downloads, user management, threshold alert management (SMS and/or email) and auto-report generation all managed via Air-Met Scientific's data portal.



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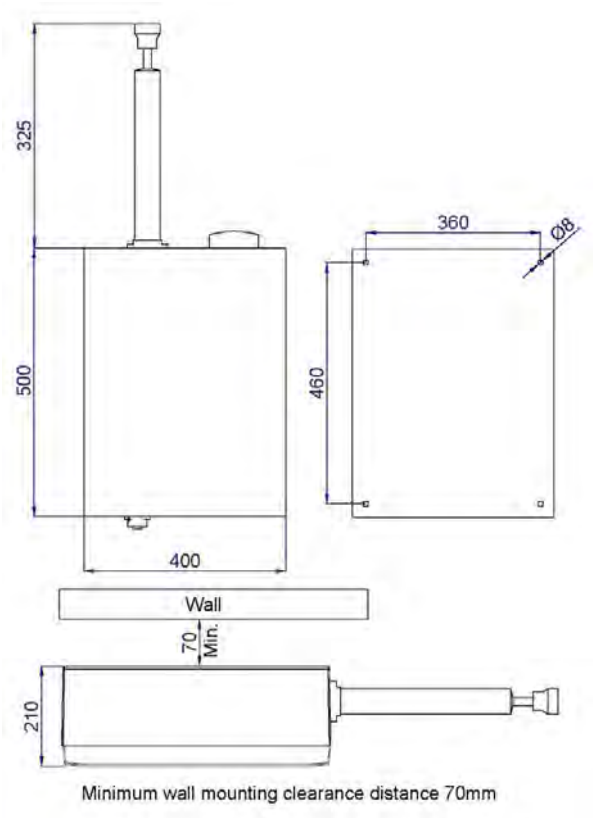
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TECHNICAL SPECIFICATIONS

GENERAL	
Power Requirement	12VDC
Rated Power	43W
Operating Temperature	0 to 50 °C
Operating Humidity	0 to 95% non-condensing
Operating Pressure	860 to 1100 hPa
Particulate Sensor Operating Life	2 years (when operating below 40 °C)
Datalogging	3 years of logs onboard with unique file name creation every 24 hours
Alarm Indicator (optional)	Onboard dedicated alarm relay for all installed sensors

ENCLOSURE	
Material	Polycarbonate
Dimensions	500mm (H) x 400mm (W) x 210mm (D)
Instrument Weight	15kg
Mounting Options	Pole-mount kit supplied (recommended installation method) Wall-mount: ~70 mm offset required for dust inlet clearance

COMMUNICATION	
PLC or SCADA Integration	Serial RS485, Modbus TCP/IP (AX-IV only)
FTP Upload	Cellular, Ethernet or WiFi



Minimum wall mounting clearance distance 70mm

PARTICULATE MEASUREMENTS

	AirMetER-AXII ($PM_{2.5}$ & PM_{10})	AirMetER-AXIV (PM_1, $PM_{2.5}$, $PM_{4.25}$, PM_{10} and TSP)		
Range	0–999.9µg/m³	0-30,000µg/m³		
Resolution	0.1µg/m³	1µg/m³		
Relative Error	Max of ±15% and ±10µg/m³	PM_1/$PM_{2.5}$/$PM_{4.25}$ PM_{10} TSP	± 10% of reading ± 15% of reading ± 20% of reading	Up to 1000µg/m³

GAS MEASUREMENTS (specifications are based on 20°C and 800-1200 hPa conditions)

Type	Range	Resolution	Min. Repeatable Detectable Level
CO (low range)	0-10ppm	1ppb	20ppb
CO (high range)	0-300ppm	1ppm	N/A
CO_2	0-5000ppm	1ppm	15ppm
VOC (low range)	0-20ppm	1ppb	15ppb
VOC (high range)	0-200ppm	0.1ppm	N/A
SO_2	0-10ppm	1ppb	20ppb
H_2S (low range)	0-2ppm	1ppb	20ppb
H_2S (high range)	0-100ppm	0.1ppm	N/A
NO_2 (low range)	0-1ppm	1ppb	20ppb
NO_2 (high range)	0-20ppm	0.1ppm	N/A
O_3	0-1ppm	1ppb	20ppb
O_2	0-25%VOL	0.1%VOL	N/A
NO	0-5ppm	1ppb	20ppb

Additional gases are available on request. Contact your local Air-Met Scientific office for more information.

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WEATHER SENSOR Integrated climate sensor for weather monitoring	
Wind Speed	0 to 60.0 m/s
Wind Direction	0° to 360.0°
Air Temperature	-40.0 to +60.0°C
Relative Humidity	0 to 100.0%
Barometric Air Pressure	800.0 to 1060.0 hPa
Precipitation	0.00 to 100.00 mm/h

NOISE Integratged noise monitor using TA120	
Range	35.0 to 120.0 dB
Resolution	0.1 dB
Accuracy	According to IEC 61672-1 Class 1

SPARE PARTS & ACCESSORIES

PART NO.	DESCRIPTION
TF-TRI-AL	1.2m Tripod
AMS/250S/120B/15M/9C	120 Ah Lithium Solar Battery Kit
AMS-LPF-60-12	Power Supply (100-240VAC Input)
SF-OPC6303-15-QN	Dust Filter for AX-IV Module
9933-05-CQ	Dust Filter for AX-II Module
17576-K-EACH	Gas Filter
AMS-ALARM	Built in audible and visual alarm
AMS-HMI	Integrated local display
For all additional sensors, please contact Air-Met Scientific.	

WANT TO LEARN MORE? CONTACT US TODAY!

For more information about the AirMetER-AX or additional sensors, contact your local Air-Met Scientific office on 1800 000 744 or contact our team via email at engineeredsolutions@airmet.com.au.

Alternatively, scan the QR code to find your nearest Air-Met Scientific office.

V0424

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HENDERSON DEVELOPMENT HUB
81 QUILL WAY
HENDERSON

DEVELOPMENT APPLICATION
ACOUSTIC REPORT

DECEMBER 2025

OUR REFERENCE: 35696-1-25308

Rochdale Holdings Pty Ltd A.B.N. 85 009 049 067 trading as:
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DA ACOUSTIC REPORT

81 QUILL WAY, HENDERSON

Job No: 25308

Document Reference: 35696-1-25308

FOR

SCOPE PROPERTY GROUP

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APPENDICES

A Site Plan

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1.0 INTRODUCTION

Herring Storer Acoustics was commissioned by Scope Property Group to conduct a preliminary review of the proposed Henderson Development Hub, located at 81 Quill Way, Henderson for the Development Application.

This report has been based on the Development Application drawings provided.

2.0 PROPOSED DEVELOPMENT

The proposed development site is located at 81 Quill Way, Henderson, being on the south east corner of Quill Way and Redemptora Road.

The development comprises:

- Hotel.
- Social Hub.
- Commercial Office / medical spaces.
- Retail / Food and Beverage tenancies.

For information, we note that site is located to the east of the Henderson ship building facility, as shown on the following aerial (Figure 01) of the site and the surrounds.



FIGURE 1 – SITE LOCATION

For information, a site plan is attached in Appendix A.

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3.0 CRITERIA

3.1 ENVIRONMENTAL PROTECTION (NOISE) REGULATIONS 1997

The *Environmental Protection (Noise) Regulations 1997* stipulate the allowable noise levels at any noise sensitive premises from other premises. For this development, the surrounding premises are zoned Industry. It is noted that the site is within the Kwinana Industrial Area. Thus, the assigned noise levels for the neighbouring premises would be as listed in Table 3.1.

TABLE 3.1 – ASSIGNED NOISE LEVELS

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		$L_{A\ 10}$	$L_{A\ 1}$	$L_{A\ max}$
Industrial and utility premises in the Kwinana Industrial Area	All hours	75	85	90

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 3.2 – ADJUSTMENTS FOR ANNOYING CHARACTERISTICS

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

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3.2 NCC PROVISIONS

Under the NCC, the hotel would be classed as Class 2 or 3. For Class 2 or 3 buildings, Part F7 "Sound transmission and insulation" of the National Construction Code (NCC), outlines the minimum acoustic isolation of apartments. The following summarises the acoustic criteria:

TABLE 3.3– 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
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 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.

The development will be designed to comply with the requirements of Part F7 of the BCA.

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4.0 NOISE FROM DEVELOPMENT

The main source of noise from the proposed development will be from mechanical services consisting of a ventilation systems and air-conditioning condenser units. Noise received at neighbouring premises from these items need to comply with the assigned noise levels as determined under the *Environmental Protection (Noise) Regulations 1997*.

4.1 MECHANICAL SERVICES

The main source of noise from the proposed development will be from mechanical services consisting of a ventilation systems and air-conditioning plant and condenser units. Noise received at neighbouring from these items need to comply with the assigned noise levels as determined under the *Environmental Protection (Noise) Regulations 1997*.

For this development, the mechanical services could operate at any time of the day or night, however, for the neighbouring premises, the assigned L_{A10} noise level would be 75 dB(A) at any time. Potentially, noise emissions from mechanical services could be tonal, in which case an +5 dB(A) penalty for a tonal component could be applied to the resultant noise levels. Even so, noise received at the neighbouring premises would easily comply with the assigned noise level.

4.2 TAVERN / FOOD AND DEVERAGE

Noise levels associated with operations of the food and beverage tenancies on the ground floor will need to comply with the requirements of the Environmental Protection (Noise) Regulations 1997.

Noise received at the neighbouring premises from the tavern / Food and beverage tenancies would also need to comply with the assigned L_{A10} noise level would be 75 dB(A) at any time. Potentially, noise emissions from the uses could contain music and thus a +10 dB(A) penalty may be applicable depending on the volume. Even so, noise received at the neighbouring premises would easily comply with the assigned noise level.

5.0 NCC REQUIRMENTS

The proposed development will be constructed to comply with the requirements of Part F5 of the NCC.

6.0 NOISE INGRESS

We understand that concerns have been raised with regards to the noise received at the hotel and consequently within the hotel rooms from noise emissions from the ship building facility and neighbouring industry. Thus, we provide the following preliminary assessment of noise received at the hotel.

6.1 CRITERIA

With regards to internal noise levels within the hotel rooms, the acoustic criteria would be based on the recommended “satisfactory” background noise levels provided in Table 1 of AS/NZS 2107:2016 - “*Acoustics – Recommended design sound levels and reverberation times for building interiors*”. Given the location of the hotel, the background noise level within the rooms for “hotels and motels in inner city area or entertainment districts or near

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major roads" of 35 to 40 dB(A). Thus, it is recommended that the internal design noise level be 35 dB(A).

6.2 NOISE LEVEL MEASUREMENTS

As part of the preliminary review, noise level measurements of noise received at the development site, near the corner of Quill Way and Redemptora Road, being the location on site for the proposed hotel. As the ship building facility, across Quill Way, is down a large embankment, noise level measurements were recorded at height (approximately 11 metres above the ground level) using a mast arrangement, as shown on Figure 2.



FIGURE 2 – PHOTO OF MAST ARANGEMENT

Based on the noise level measurements recorded, noise received at the site was determined to be 63 dB(A). We note that this noise level was associated with all noise sources, including industry noise and road traffic.

6.3 PRELIMINARY ASSESSMENT

To quantify the noise received at the site from the ship building facility, noise modelling was undertaken using "SoundPlan". Based on the following sound power level, being for loudest equipment that would be used within the shipbuilding facility, noise received at the façade of the hotel was determined to be 60 dB(A).

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Generator (without acoustic enclosure)	108 dB(A)
Angle Grinder	104 dB(A)

The above resultant noise level was the combined noise level with a generator and grinder both operating with both items of equipment located on the deck of the closest ship, at height to ensure direct line of site between the noise sources and the hotel. We believe that this would be a conservative assessment, given that it is unlikely the generator would not be attenuated and given the nature of the other neighbouring industries, would be considered the worst case scenario.

The above calculated noise level correlates with the measured noise level. However, to be conservative, the assessment of the façade glazing required to achieve internal noise levels that comply with the proposed acoustic criteria would be based on the measured noise level of 63 dB(A).

Based on the resultant noise level of 63 dB(A) received at the hotel, the acoustic performance of the façade to achieve acceptable internal noise levels would be 28 dB(A). This noise reduction would be achieved using standard 10mm float glass. However, we understand that the façade glazing, to satisfy other requirements, would either be a laminated single glazing or a double glazed unit, which would result in even lower internal noise levels within the hotel rooms.

Noise received within the hotel rooms from the surrounding industry would be acceptable. However, as part of design development, a full analysis of would be undertaken to ensure compliance with the appropriate internal noise level would be achieved.

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APPENDIX A

SITE PLAN

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HERRING STORER ACOUSTICS

EMAIL TRANSMITTAL

REF:	36117-1-25308
TO:	SLR CONSULTING
ATTENTION:	Callum Thatcher
EMAIL:	Callum.thatcher@slrconsulting.com
FROM:	Tim Reynolds
DATE:	11 March 2026
SUBJECT:	**HOTEL / COMMERICAL DEVELOPMENT: 81 QUILL WAY, HENDERSON** **ADDITIONAL INFORMATON**

Callum,

We understand that council have requested further information regarding the noise that would be received at the hotel.

We also understand that they have raised a query about the EPA's separation distance guidance.

We understand the councils concerns, however, this development is fully aware of the noise that would be received at this site and is going to incorporate the acoustic requirements in the design. We are trying to improve that situation with regards to the noise that can be received at this site, compared to the current situation.

LOCALITY

The site is located to the east of the Henderson ship building facility, as shown on the following aerial (Figure 01) of the site and the surrounds.



FIGURE 01 – AERIAL

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EPA SEPARATION DISTANCES

We believe that this is not valid, as the guideline is generally only used to determine the distance at which a noise study is not required. We believe there would be numerous examples were the buffer distances have noise been used.

We also note that the distance listed are "generic" and the guidance states that:

> *A sound site-specific technical analysis is generally found to provide the most appropriate guide to the separation distance that should be maintained between an industry or industrial estate and sensitive land use.*

Thus, for this development, this is the case that the hotel will be designed to account for the higher noise level.

For boat building, the buffer distance with regard to noise would be 200 – 500 metres. However, we note that this is based on an Influencing Factor of 0 dB(A) and the assigned noise levels are the base noise levels. In this case the Influencing factor would be 11 dB(A). Additionally, the increased noise level by reducing the distance from 500 m to 100 m is around 14dB(A). Thus, using the buffer, with the assigned noise level being 56 dB(A) (using the day period to be conservative) the noise at the hotel would be 59 dB(A), which is approximately the level

INTERNAL CRITERIA - ACCEPTABLE NOISE LEVEL

With regards to internal noise levels within the hotel rooms, the acoustic criteria would be based on the recommended "satisfactory" background noise levels provided in Table 1 of AS/NZS 2107:2000 - "*Acoustics – Recommended design sound levels and reverberation times for building interiors*". Given the location of the hotel, the background noise level within the rooms for "hotels and motels in inner city area or entertainment districts or near major roads" of 35 to 40 dB(A).

Thus, it is recommended that the internal design noise level be 40 dB(A) for the living space and 35 dB(A) for the bed area.

REVISED MODELLING

To determine the noise received at the façade of the hotel and consequently to determine the façade construction, model modelling using "Soundplan" was undertaken.

We have revised the noise modelling to determine the future noise level that would be received at the development site. From the above aerial there could be 3 vessels being built at the same time. Even though their construction would be staged, we have undertaken noise modelling with the following:

12 Generators (without enclosures) at 108 dB(A) each (i.e. 4 for each vessel).

12 Angle grinders @ 104 dB(A) each (i.e. 4 for each vessel).

We believe that this would be the maximum noise emissions from the site. Additionally, the generators would be within enclosures which would reduce noise emission by around 10 – 15 dB(A). However, these have been modelled without enclosures to be conservative.

Based on the above, noise received at the hotel was calculated at 67 dB(A). For information the noise contour is shown below in Figure 02.

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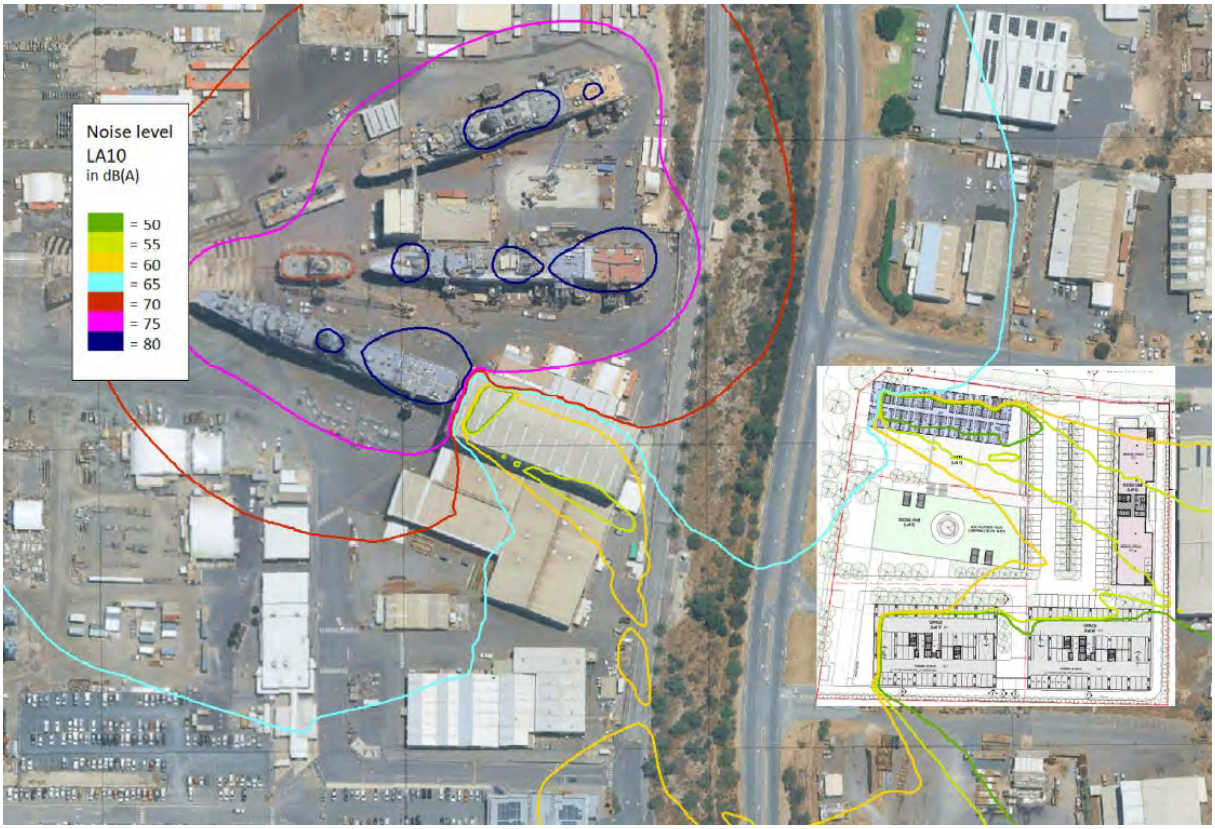


FIGURE 02 – NOISE CONTOUR PLOT

ANALYSIS

From the DA drawings we note, as shown below on Figure 03, that the hotel rooms have the living areas adjacent toe the windows, with the beds away from the window.

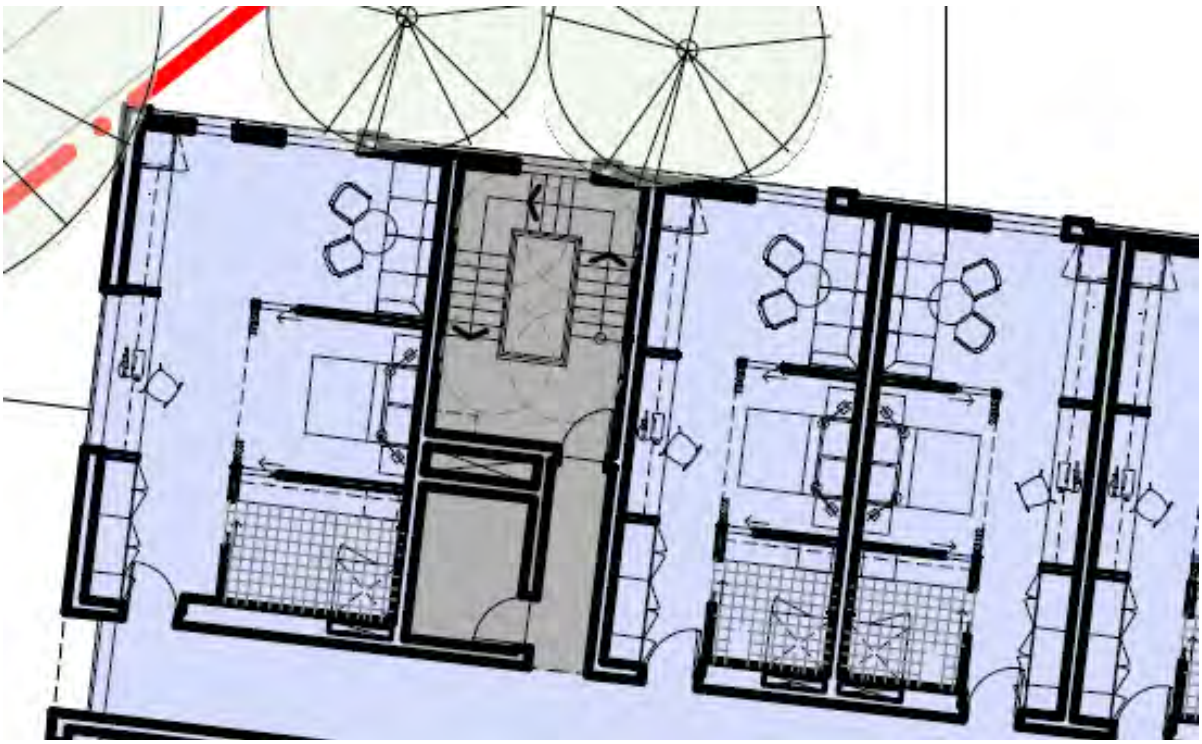


FIGURE 03 – HOTEL ROOM LAYOUTS

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We also note that the size of the glazing is relatively small compared to the area of façade to each room.

Based on the resultant noise level of 67 dB(A) received at the hotel, the acoustic performance of the façade to achieve acceptable internal noise levels within the living space the R_w rating of the glazing would be 26 dB. However, ignoring that and using the 35 dB(A) as the criteria, the R_w rating of the glazing would need to be 31 dB, which is easily achievable.

Even if there was a desire to be ultra conservative and increase the external noise level to 70 dB(A), the R_w rating of the glazing would be 34 dB, which would be achieved with 10mm laminated glass.

Additionally, to the above, we understand that the façade glazing, to satisfy other parameters, would be a double glazed unit, which would have an R_w rating higher than 34 dB, resulting in even lower internal noise levels within the hotel rooms.

EXISTING SITUATION

We note that the development site is zoned commercial and currently contains noise sensitive uses. Thus, the owner of this site could insist that the noise received at this site from other site comply with the Regulatory criteria of 60 dB(A). However, what the developer is actually trying to do, is develop the site so noise received at the site would basically be unrestricted and managed by the development.

CONCLUSSION

The design of the hotel would ensure that the internal noise levels are acceptable.

We would also welcome any input the DevWA would provide with regards to noise emissions and usage of the AMC.

Finally, the developer wishes to develop this site with the future neighbouring industry in mind and basically future proof the development. Thus, we believe that a condition of an acoustic report should be provided with building permit would be appropriate.

Yours faithfully,
for **HERRING STORER ACOUSTICS**

Tim Reynolds

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PTG/02935

Stormwater Management Plan
81 Quill Way, Henderson

09/12/2025

Prepared for Scope Property Group



www.ptgconsulting.com.au

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Project Number	PTG/02935
Document ID	Rev0
Client	Scope Property Group
Client Email	robert@scopepropertygroup.com.au

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1.3 Groundwater 3
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FIGURES

(Appended at the rear of the report)

Figure 1. Topography and predevelopment catchments
Figure 2. Depth to Maximum Groundwater (DWER 2019) and WA Soil Type
Figure 3. Surface Geology
Figure 4. Preliminary Post Development Stormwater Catchments and Soak Well Locations
Figure 5. Preliminary Post Development Soak Well Sizing

APPENDICES

(Appended at the rear of the report)

Appendix A Master Plan (Pennock Architects 2025)
Appendix B On-Site Drainage Requirements (City of Cockburn 2019)
Appendix C Soak Well Sizing Calculations

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INTRODUCTION

This Stormwater Management Plan (SMP) has been prepared by PTG Consulting on behalf of Scope Property Group to support planning approval for the development of 81 Quill Way, Henderson (herein referred to as the site).

The site is approximately 18.6 ha in size, located within the Shire of within the City of Cockburn (CoC) and approximately 35 km south of the Perth central business district. The existing land use within the site is car parking, a hotel, and some other commercial buildings.

The site is bounded by Quill Way to the west, Redemptora Road to the north and strategic industrial land use to the south and east.

The proposed Masterplan for the site is a primarily is mixed development which consists of retail offices, gym, tavern, car parking, a hotel and other mixed-use (Appendix A).

This SMP demonstrates that runoff generated within the site will be suitably managed post development consistent with the stormwater *On-site Drainage Requirements (Industrial and Commercial Lots)* guidelines (CoC 2019) (Appendix B).

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1 EXISTING ENVIRONMENT

1.1 Topography

The site grades from approximately 24 mAHD in the northeast to 16 mAHD in the southwest (Figure 1). The average grade across the site is 4%.

1.2 Surface Water

There are no waterways, wetlands or flood storage areas located within the site. The site is an isolated surface water catchment that drains west via overland flow.

In large storm events some runoff generated within the site may discharge via overland flow into Quill Way road reserve which drains in a southerly direction (Figure 1).

1.3 Groundwater

The Gnangara Jandakot Depth to Groundwater 2019 Minimum (DWER-097) minimum depth to groundwater is presented in Figure 2 (DWER 2019). The groundwater generally grades west towards the Indian Ocean, and ranges from 24 m in the northeast to 16 m in the southwest of the site.

1.4 Surface Geology

The Soil Landscape Mapping Western Australia attributed by WA Soil Group 2019 (DPIRD-076) characterises the site as having pale deep sands (DPIRD 2019) (Figure 3).

The site is categorised as being degraded surface of Eolian origin, Spearwood Dunes based on the surface 1:50,000 Geological Series Map – Fremantle (2033 IV) (DMPE 2025) (Figure 4).

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2 POST DEVELOPMENT STORMWATER MANAGEMENT

Post development runoff will be infiltrated via soak wells consistent with the *On-site Drainage Requirements (Industrial and Commercial Lots)* guidelines (CoC 2019) (Appendix B). The soak wells will be sized to manage up to the 24 hour 1% Annual Exceedance Probability (AEP) (100 year) storm event. Infiltration of runoff within the site via soak wells is considered suitable given the presence of sandy soils and relatively high clearance to groundwater.

The road and roof soak well catchments are presented in Figure 4. The soak wells required for each catchment is presented in Figure 5. The soak well sizing calculations are presented in Appendix C, and are based on the volume to area served by different-sized soak wells detailed in the *On-site Drainage Requirements (Industrial and Commercial Lots)* guidelines (CoC 2019).

In the instance where the catchment boundaries are amended, the soak wells will be resized to manage the 24 hour 1% AEP event.

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3 REFERENCES

City of Cockburn (CoC). (2019). *On-site Drainage Requirements (Industrial and Commercial Lots) guidelines.*

Department of Watern and Environmental Regulation (DWER). (2019). *The Gnangara Jandakot Depth to Groundwater 2019 Minimum (DWER-097) minimum depth to groundwater.*

Department of Primary Industries and Regional Development. (DPIRD 2019). *Soil Landscape Mapping Western Australia attributed by WA Soil Group 2019 (DPIRD-076).*

State Government of Western Australia Department of Mines, Petroleum and Exploration, (DMPE). (2025). *1:50,000 Geological Series Map – Fremantle (2033 IV).*

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Scale at A3: **1:1,800**

0 25 50 m

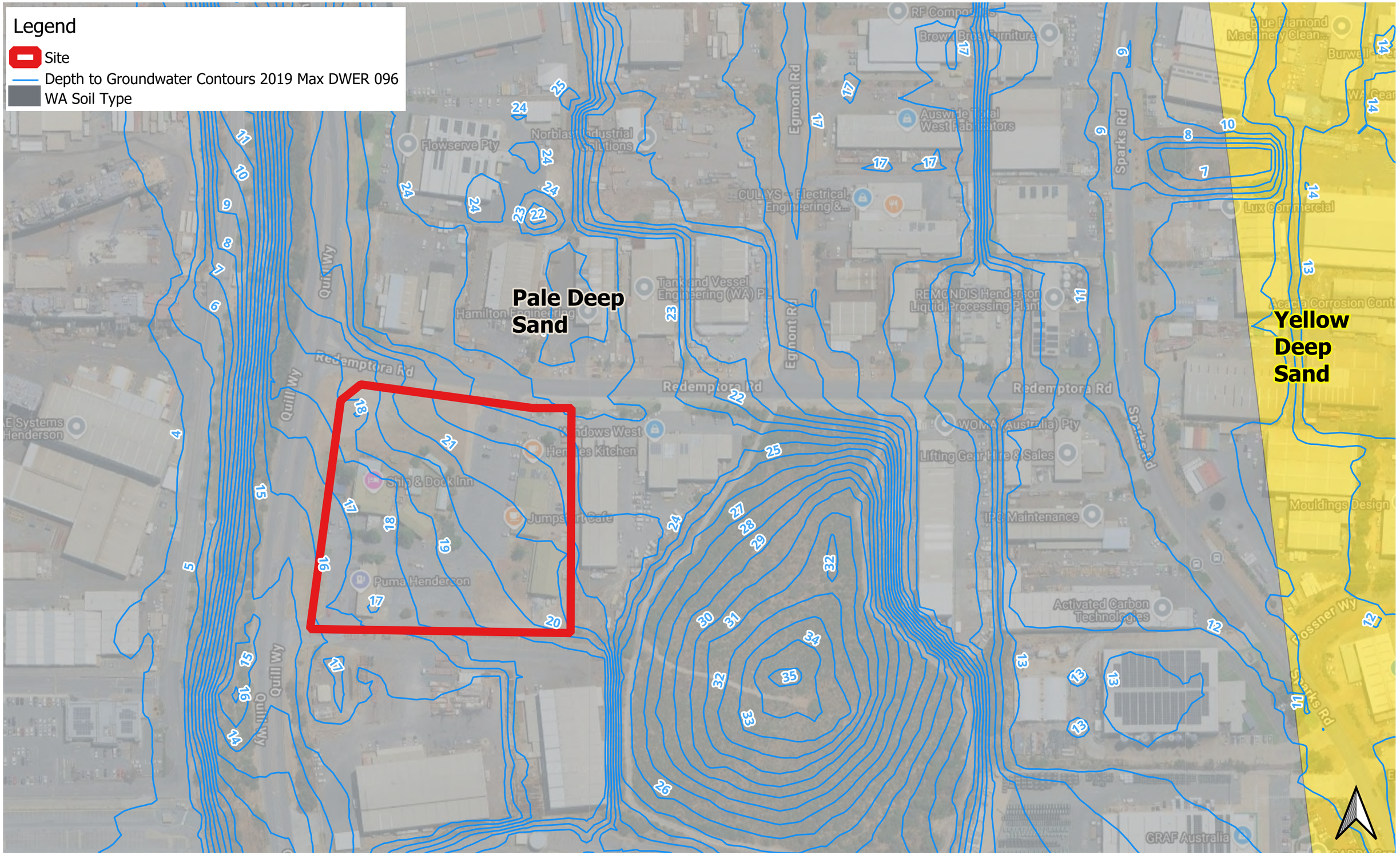
Henderson Business Hub. 81 Quill Way, Henderson.

Figure 1. Topography and predevelopment catchments

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Scale at A3: **1:2,000**

0 25 50 m

Henderson Business Hub. 81 Quill Way, Henderson.

Figure 2. Depth to Maximum Groundwater (DWER 2019) and WA Soil Type

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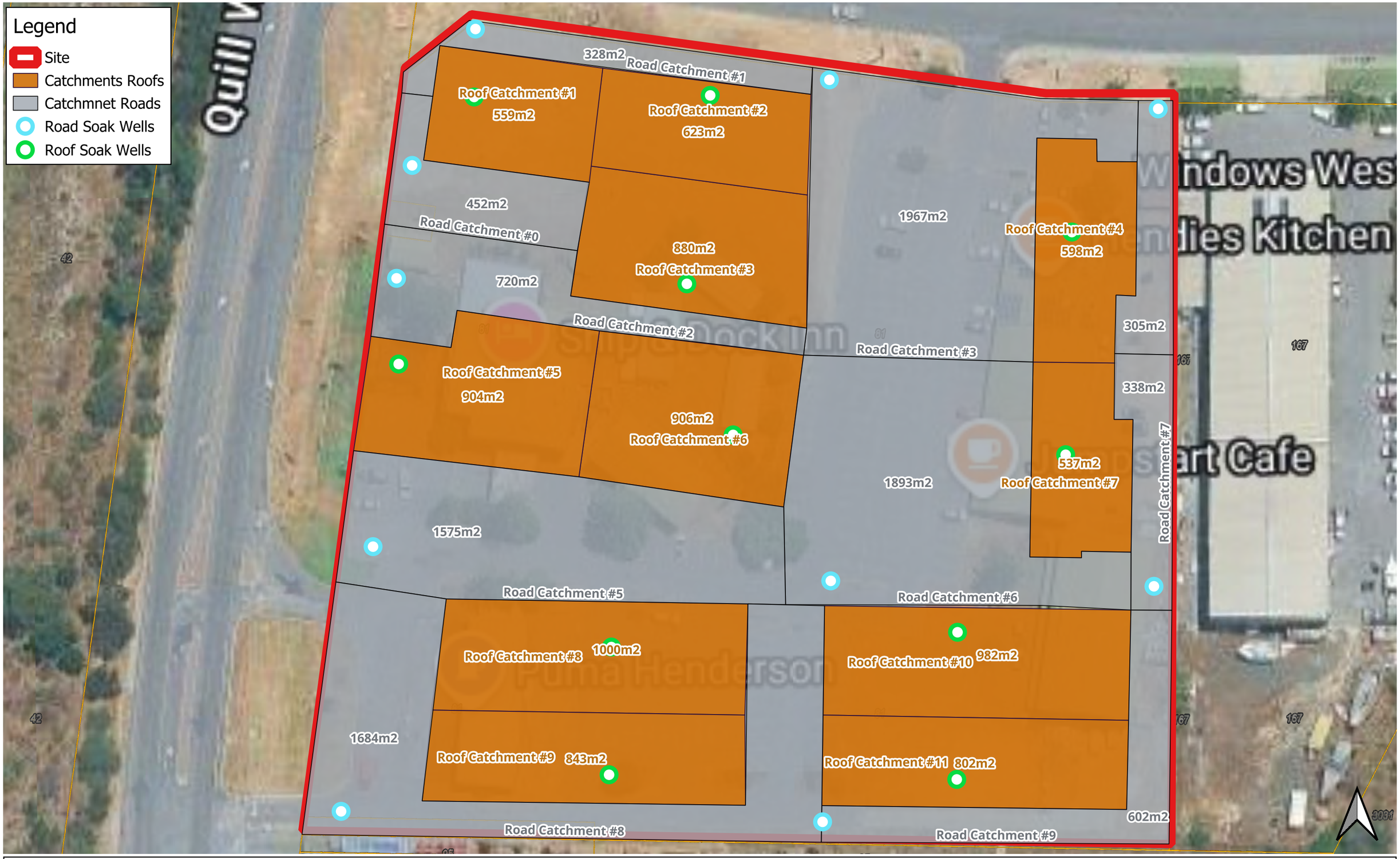
0 25 50 m

Henderson Business Hub. 81 Quill Way, Henderson.

Figure 3. Surface Geology

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Scale at A3: **1:600**

0 10 20 m

Henderson Business Hub. 81 Quill Way, Henderson.

Figure 4. Preliminary Post Development Stormwater Catchments and Soak Well Locations

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Date: 1/12/2025

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Legend
- Site
- Roof Soak Wells
- Road Soak Wells
- Catchmnet Roads
- Catchments Roofs

One 2.4 m diameter x 2.4 m deep.
One 1.8 m diameter x 2.4 m deep.
Road Catchment #1
Nine 2.4 m diameter x 2.4 m deep.
Two 2.4 m diameter x 2.4 m deep.
Roof Catchment #1
Three 2.4 m diameter x 2.4 m deep.
Roof Catchment #2
One 2.4 m diameter x 2.4 m deep.
One 1.5 m diameter x 2.4 m deep.
Two 2.4 m diameter x 2.4 m deep.
One 1.5 m diameter x 2.4 m deep.
Road Catchment #0
Roof Catchment #3
Two 2.4 m diameter x 2.4 m deep.
One 0.9 m diameter x 0.9 m deep.
Roof Catchment #4
Three 2.4 m diameter x 2.4 m deep.
Three 2.4 m diameter x 2.4 m deep.
One 1.8 m diameter x 2.4 m deep.
Road Catchment #2
Road Catchment #3
Four 2.4 m diameter x 2.4 m deep.
One 0.9 m diameter x 0.9 m deep.
Roof Catchment #5
Roof Catchment #6
Two 2.4 m diameter x 2.4 m deep.
One 1.5 m diameter x 1.5 m deep.
Two 2.4 m diameter x 2.4 m deep.
Two 2.4 m diameter x 2.4 m deep.
One 0.6 m diameter x 0.6 m deep.
Roof Catchment #7
Road Catchment #7
Eleven 2.4 m diameter x 2.4 m deep.
One 0.9 m diameter x 1.2 m deep.
Eight 2.4 m diameter x 2.4 m deep.
Road Catchment #5
Road Catchment #6
Three 2.4 m diameter x 2.4 m deep.
One 1.8 m diameter x 1.8 m deep.
Roof Catchment #8
Four 2.4 m diameter x 2.4 m deep.
Roof Catchment #10
Three 2.4 m diameter x 2.4 m deep.
One 1.5 m diameter x 1.5 m deep.
Roof Catchment #9
Roof Catchment #11
Six 2.4 m diameter x 2.4 m deep.
One 1.8 m diameter x 2.4 m deep.
Four 2.4 m diameter x 2.4 m deep.
Three 2.4 m diameter x 2.4 m deep.
One 1.2 m diameter x 1.5 m deep.
Road Catchment #8
Road Catchment #9

Scale at A3: **1:600**

0 10 20 m

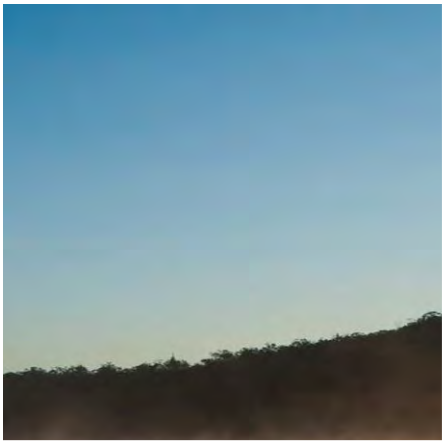
Henderson Business Hub. 81 Quill Way, Henderson.

Figure 5. Preliminary Post Development Soak Well Sizing

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Appendix A
Master Plan (Pennock Architects 2025)





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0 2 5 10m

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5. THE INTERNAL LAYOUT IS SHOWN INDICATIVELY AND IS SUBJECT TO FURTHER DESIGN DEVELOPMENT. PROPOSED WAITING AREA SUBJECT TO CHANGE DEPENDANT ON TENANT REQUIREMENTS.
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7. THE LOCATION OF DOORS ON THE FACADES ADJOINING A TENANCY ARE SUBJECT TO CHANGE DEPENDING ON THE FINAL TENANCY DIVISIONS

LEGEND

- LOT BOUNDARY
- POTENTIAL FUTURE BOUNDARY
- NATURAL GROUND LEVEL
- SOFT LANDSCAPING
- HARD LANDSCAPING
- HARD LANDSCAPING
- HARD LANDSCAPING
- HARD LANDSCAPING
- EXISTING TREES
- PROPOSED TREE
- * QUANTITY OF WC'S SUBJECT TO USE

BUILDING USE :

- OFFICE/ CONFERENCE
- TAVERN
- HOTEL
- MEDICAL/ OFFICE
- RETAIL/ F&B
- FITNESS CENTRE
- SERVICES, CORE & BOH
- PARKING

REV	DATE	DESCRIPTION	BY
2	12.11.25	DRP 2	PA
1	20.09.25	DRP 1	PA

DEVELOPMENT APPLICATION

PENNOCK ARCHITECTS

PROJECT TITLE / ADDRESS
HENDERSON BUSINESS HUB
81 QUILL WAY, HENDERSON

DRAWING TITLE
SITE PLAN - LEVEL D

SCALE	DATE
1:250@A1 / 1:500@A3	12.11.25

DRAWING No.	PROJECT No.	REVISION
A2.04	240615	2

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Appendix B
On-Site Drainage Requirements (City of Cockburn 2019)





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CITY OF COCKBURN

ON- SITE DRAINAGE REQUIREMENTS (INDUSTRIAL AND COMMERCIAL LOTS)

The requirement of the City for stormwater disposal is that all stormwater falling within the lot boundaries is contained within the lot, either through soakwells, drainage sumps or other approved methods.

Property owners also have a statutory obligation under common law precedents and section 3.25 (1) of the Local Government Act 1995 to confine stormwater within their boundaries.

The City requires the on-site storage capacity be designed to contain the 1 in 100 year storm of a 24 hour duration. The below calculation is based on the Australian Rainfall and Runoff standards.

The resulting formula for calculating the storage volume required is –

Storage Volume = 1460 x E I A (ha) m^3

Where EIA = Equivalent Impervious Area in hectares (10,000 square metres)

Example, for a lot with an impervious area of 700 m^2, the equation would be –

Storage volume required = 1460 x 700/10000
= 102.2 m^3
(in simplified terms, area (m^2) x 0.146)

This information sheet is a guide only. At time of preparation it was deemed to be correct but may be updated without notice.

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The enclosed chart illustrates the storage volume provided and the area served by different-sized soakwells. Please note that the chart is based on a soakage area 1.0m radius around the soakwells for infiltration over 24 hours.

SOAKWELL VOLUMES AND SURFACE AREAS					
DIAMETER	**DEPTH**	**VOLUME**	**SOAKAGE AREA (BASE AND SIDES)**	**VOL + SOAK AREA (m^3)**	**AREA SERVED FOR 100 YEAR 24 HOUR STORM (m^2)**
0.6	0.6	0.17	1.41	1.58	10.89
0.6	0.9	0.25	1.98	2.23	15.27
0.6	1.2	0.34	2.55	2.88	19.73
0.9	0.9	0.57	3.18	3.75	25.68
0.9	1.2	0.76	4.03	4.79	32.81
1.2	0.6	0.68	3.39	4.07	27.88
1.2	0.9	1.02	4.52	5.54	37.94
1.2	1.2	1.36	5.66	7.01	48.01
1.2	1.5	1.70	6.79	8.48	58.08
1.2	1.8	2.04	7.92	9.95	68.15
1.5	1.2	2.12	7.42	9.54	65.34
1.5	1.5	2.65	8.84	11.49	78.70
1.5	1.8	3.18	10.25	13.43	91.99
1.5	2.4	4.24	13.08	17.32	118.63
1.5	3	5.30	15.91	21.21	145.27
1.8	1.2	3.05	9.33	12.39	84.86
1.8	1.5	3.82	11.03	14.85	101.71
1.8	1.8	4.58	12.73	17.31	118.56
1.8	2.4	6.11	16.12	22.23	152.26
1.8	2.7	6.87	17.82	24.69	169.10
2.4	1.5	6.79	15.84	22.62	154.93
2.4	1.8	8.14	18.10	26.24	179.73
2.4	2.4	10.86	22.62	33.48	229.31

This information sheet is a guide only. At time of preparation it was deemed to be correct but may be updated without notice.

Although details are not required by Council for Development Approval, thought should be given to the method of stormwater disposal at an early stage.

Calculations need to be submitted with the Building License application. An example of a simple calculation sheet to contain stormwater for a 100 year 24 hour duration storm is as follows:

Site area	= 1000 m^2
Landscaped area	= 90 m^2
Impervious area to be sealed	= 910 m^2
Size of soakwells used	= 1800mm dia x 1500 mm deep
Each soakwell caters for	= 101.71 m^2
Number of soakwells used	= 9
Total area catered for	= 9 x 101.71 m^2
	= 915.39 m^2

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Appendix C
Soak Well Sizing Calculations





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Soak Well Sizing, 81 Quill Wa, Henderson.

Catchment	Catchment area (m2)*	Proposed soakwell size (Diameter x depth) (m)	Individual soakwell catchment area served for 100 year 24 hour (m2)**	Number of soakwells	Total catchment area served for 100 year 24 hour (m2)	Proposed additional soakwell size (Diameter x depth) (m)	Individual soakwell catchment area served for 100 year 24 hour (m2)**	Number of soakwells	Total catchment area served for 100 year 24 hour (m2)	Total area serviced by all soakwells (m2)	Surplus additional area serviced (m2)
Road catchment 0	452	2.4x2.4	229.31	2	458.62	NA	0	0	0	458.62	6.62
Road catchment 1	328	2.4x2.4	229.31	1	229.31	1.5x2.4	118.63	1	118.63	347.94	19.94
Road catchment 2	720	2.4x2.4	229.31	3	687.93	1.2x1.5	58.08	1	58.08	746.01	26.01
Road catchment 3	1967	2.4x2.4	229.31	8	1834.48	1.8x2.4	152.26	1	152.26	1986.74	19.74
Road catchment 4	305	2.4x2.4	229.31	1	229.31	1.5x1.5	78.7	1	78.7	308.01	3.01
Road catchment 5	1575	2.4x2.4	229.31	7	1605.17	NA	0	0	0	1605.17	30.17
Road catchment 6	1893	2.4x2.4	229.31	8	1834.48	1.5x1.5	78.7	1	78.7	1913.18	20.18
Road catchment 7	338	2.4x2.4	229.31	1	229.31	1.5x2.4	118.63	1	118.63	347.94	9.94
Road catchment 8	1684	2.4x2.4	229.31	7	1605.17	1.2x1.5	58.08	2	116.16	1721.33	37.33
Road catchment 9	602	2.4x2.4	229.31	2	458.62	1.5x1.5	78.7	2	157.4	616.02	14.02
Roof catchment 1	559	2.4x2.4	229.31	2	458.62	1.8x2.4	152.26	1	152.26	610.88	51.88
Roof catchment 2	623	2.4x2.4	229.31	2	458.62	1.8x1.5	101.71	2	203.42	662.04	39.04
Roof catchment 3	880	2.4x2.4	229.31	4	917.24	NA	0	0	0	917.24	37.24
Roof catchment 4	598	2.4x2.4	229.31	2	458.62	1.8x2.4	152.26	1	152.26	610.88	12.88
Roof catchment 5	904	2.4x2.4	229.31	4	917.24	NA	0	0	0	917.24	13.24
Roof catchment 6	906	2.4x2.4	229.31	4	917.24	NA	0	0	0	917.24	11.24
Roof catchment 7	537	2.4x2.4	229.31	2	458.62	1.5x1.5	78.7	1	78.7	537.32	0.32
Roof catchment 8	1000	2.4x2.4	229.31	4	917.24	1.5x2.4	118.63	1	118.63	1035.87	35.87
Roof catchment 9	843	2.4x2.4	229.31	3	687.93	1.8x1.5	101.71	2	203.42	891.35	48.35
Roof catchment 10	982	2.4x2.4	229.31	4	917.24	1.5x1.5	78.7	1	78.7	995.94	13.94
Roof catchment 11	802	2.4x2.4	229.31	3	687.93	1.5x2.4	118.63	1	118.63	806.56	4.56

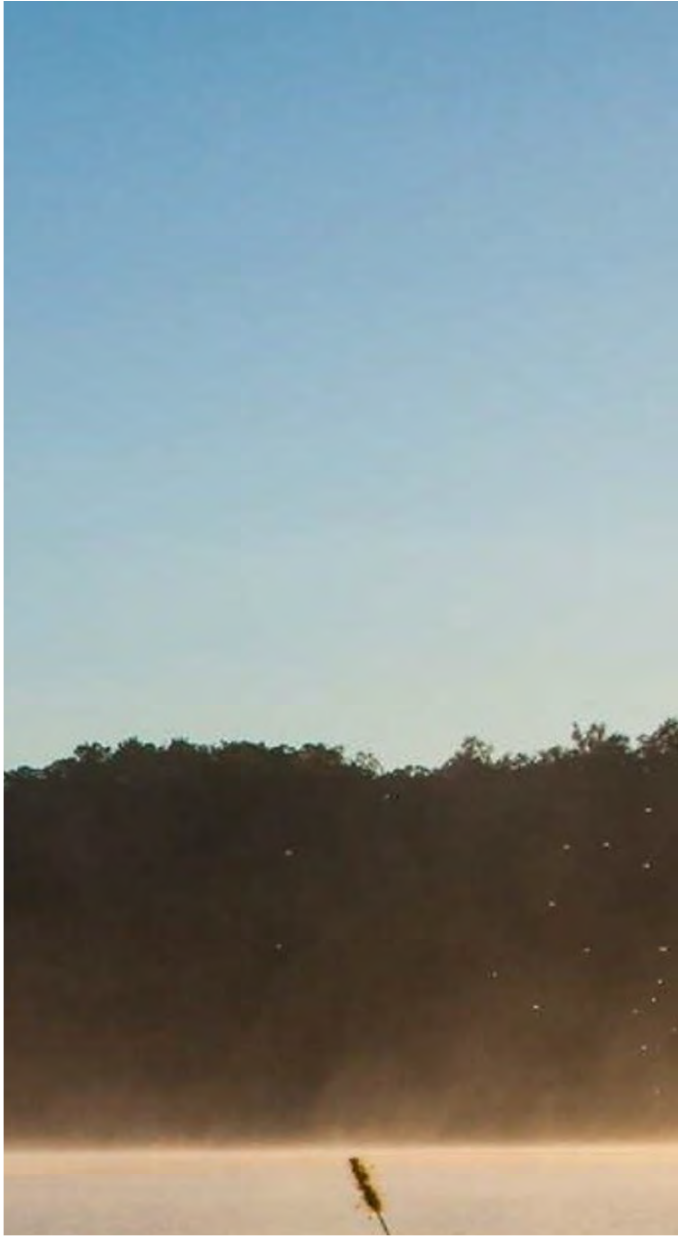
*Assumes catchment areas are 100% impervious

**Volume to area served by different-sized soak wells based on recommendations in the CoC On-site Drainage Requirements (Industrial and Commercial Lots) 2019 guidelines.

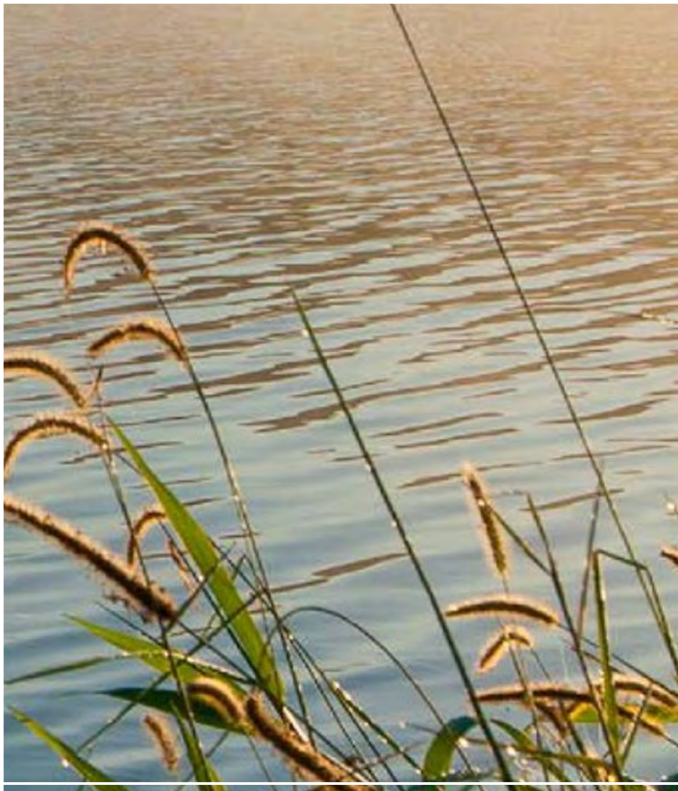
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PTGT/01516

Waste Management Plan
81 Quill Way, Henderson Business Hub

16th December 2025 | Revision B

Prepared for The Trustee for Quill Way Unit Trust



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REPORT DETAILS

Unique Document Identification

Document Title	Waste Management Plan – 81 Quill Way, Henderson Business Hub
Project Number	PTG/01516
Document ID	TR – R002 -A
Client	The Trustee for Quill Way Unit Trust

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Revision Details

Revision No.	Date	Comments	Prepared By	Approved By
A	01/12/2025	For Issue	LL	AW
B	16/12/2025	For Issue	LL	AW

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1 INTRODUCTION

1.1 Background

PTG Consulting Pty Ltd (PTG) has been commissioned by The Trustee for Quill Way Unit Trust ('the Client') to prepare a Waste Management Plan (WMP) in support of a proposed mixed-use development comprising of hotel and commercial tenancies located at 81 Quill Way, Henderson ('the Site').

The scope of this WMP is limited to the estimation of general waste and recycling volumes generated by the development and includes recommendations for the appropriate collection, storage, handling and transportation of waste and recycling, in accordance with the requirements outlined in the City of Cockburn Waste Management Policy LPP 1.14, City of Vincent Waste Guidelines for new developments, WALGA's Multi Dwelling Waste Management Plan Guidelines and WALGA's Commercial and Industrial Waste Management Plan Guidelines.

Estimations of generated volumes of liquid and bulk rubbish are not provided. However, two bulk waste and green waste collections per year are available to the residents. Specialist contractors will need to be commissioned by the commercial tenants for the collection and disposal of liquid waste and bulk rubbish, as necessary.

1.2 Existing Situation

The Site, shown in **Figure 1**, is located at 81 Quill Way, Henderson within the City of Cockburn.

Figure 1 Site Location



Source: Metromap

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1.3 Proposed Land Uses

The proposal is for a mixed-use development comprising of hotel, retail, tavern, office, gym/fitness and medical centre. The specific land uses and its corresponding yield is detailed in **Table 1**.

The layout of the proposed hotel development and the commercial building at the Site is shown below in **Figure 2** with the complete set of plans provided in Appendix A.

Table 1 Land Uses

Lots	Land Use	Yield
Lot 1 (Hotel)	Hotel	161 rooms
	Retail / F&B	557 sqm NLA
Lot 2 (Social Hub)	Tavern	1,035 sqm NLA
	Gym/Fitness	836 sqm NLA
	Conference Room	453 sqm NLA
	Retail / F&B	635 sqm NLA
Lot 3 (Office)	Office	10,073 sqm NLA
	Retail / F&B	674 sqm NLA
Lot 4 (Mixed Use)	Medical	1,155 sqm NLA
	Office	1,125 sqm NLA
	Retail / F&B	635 sqm NLA
Lot 4 (Office)	Office	10,333 sqm NLA
	Retail / F&B	536 sqm NLA

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Figure 2 Site Plan



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2 WASTE SERVICES AND SPECIFICATIONS

2.1 Waste and Recycling Collection Services

The proposed development will engage a private waste contractor to manage the waste collection as it will require more larger bin sizes and more frequent collection as indicated in **Figure 1**.

The collection of general and recycling waste is to be arranged to occur during off-peak hours to minimise disruption to traffic operations as well as minimise any impacts to tenants.

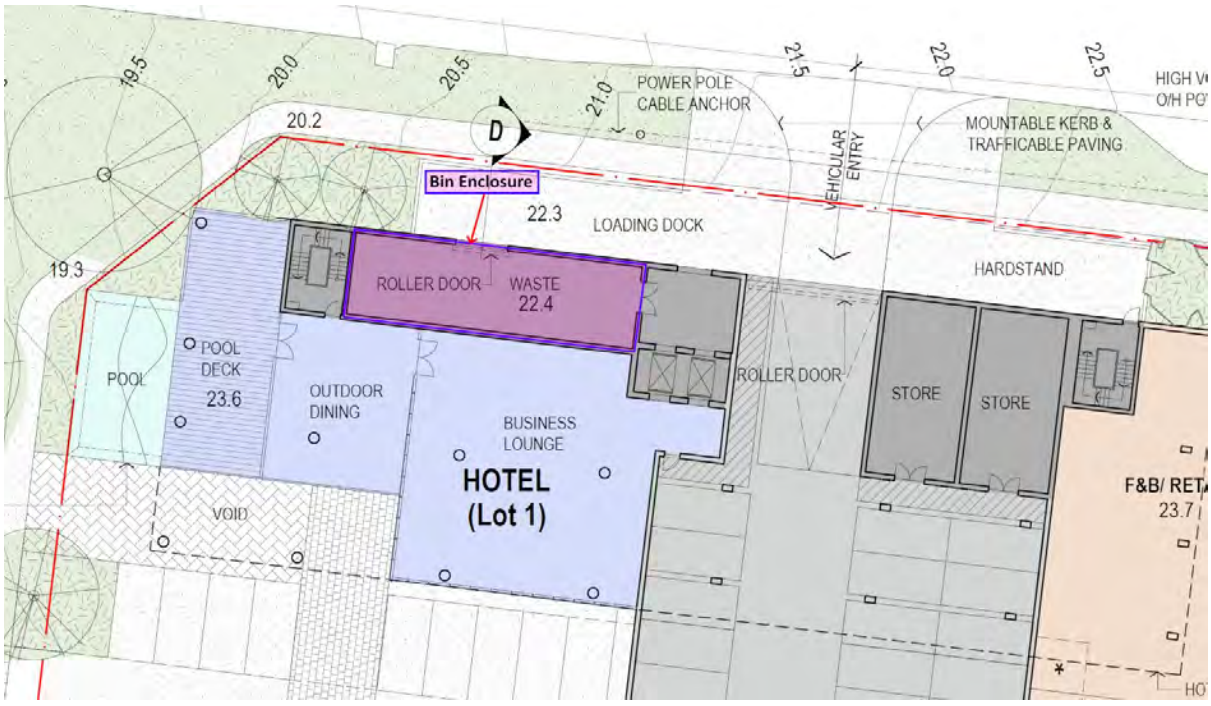
Table 2 Waste Collection Schedule - Residential

Lots	Waste Stream (Bin Size)	Frequency
Lot 1 (Hotel) Lot 2 (Social Hub) & Lot 4 (Mixed Use)	General Waste (1700L Bins)	weekly
	Recycling (1700L Bins)	twice weekly
Lot 3 (Office) Lot 4 (Office)	General Waste (1700L Bins)	weekly
	Recycling (1700L Bins)	weekly

2.2 Bin Enclosure

The Mobile Garbage Bin (MGB) storage for the commercial wastes will be in a bin enclosure located in each lots as illustrated in **Figure 3** to **Figure 6**.

Figure 3 Bin Storage Area - Lot 1



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Figure 4 Bin Storage Area - Lot 2

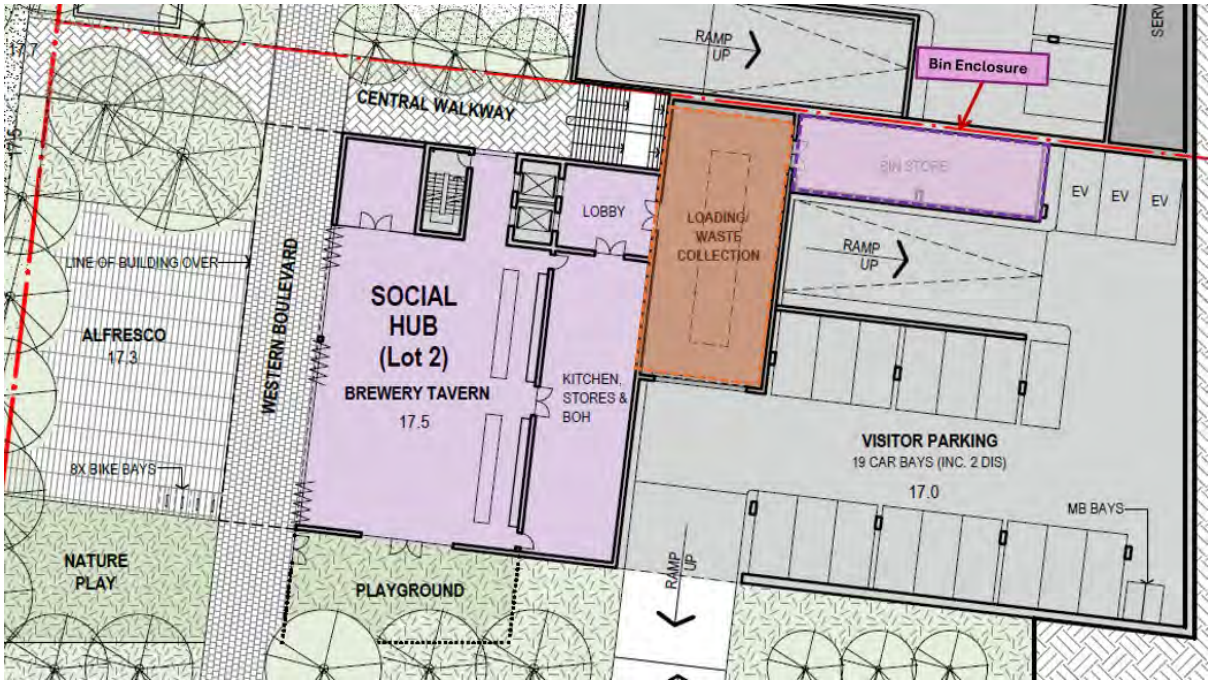


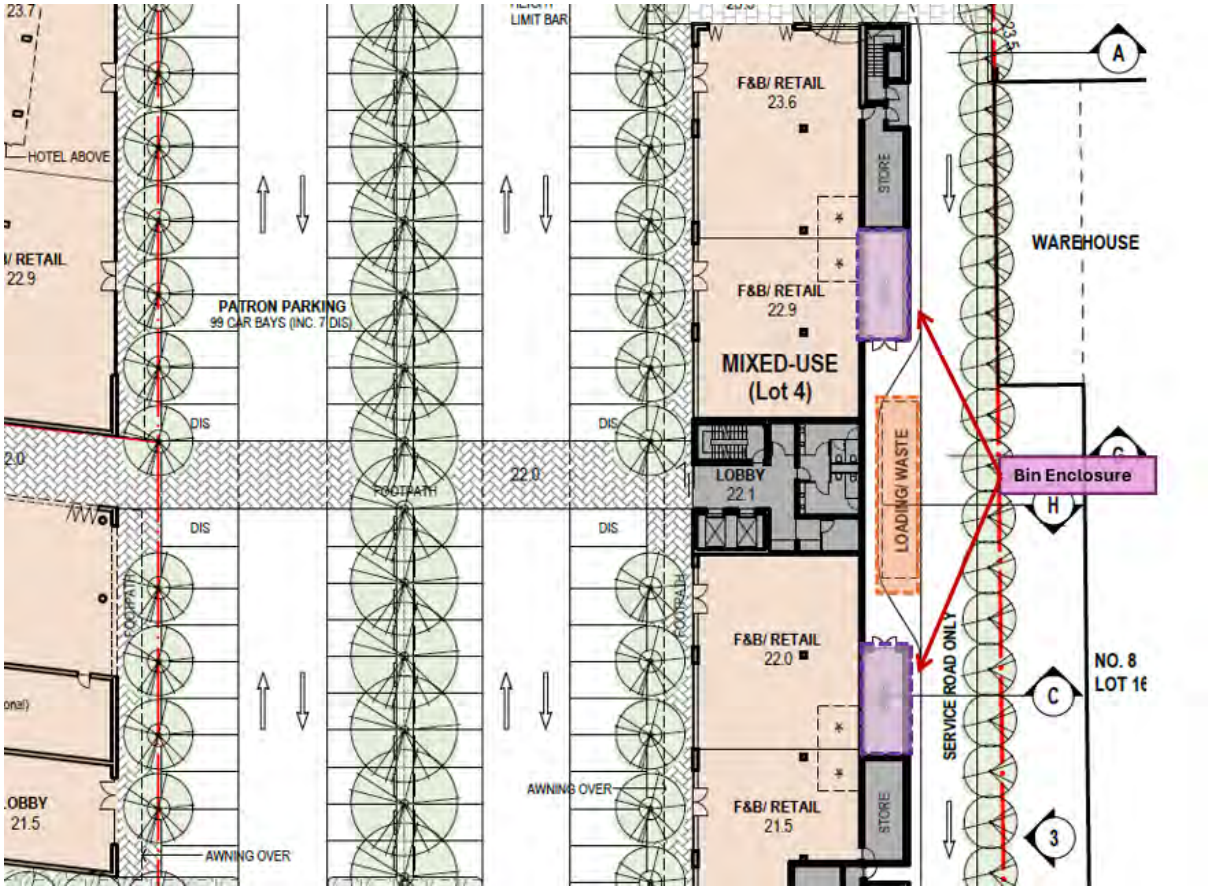
Figure 5 Bin Storage Area - Lot 3 & 4



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Figure 6 Bin Storage Area - Lot 4



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2.2.1 Bin Enclosure Construction Considerations

The design of the bin enclosure should be functional to allow all bins to be easily moved and cleaned and should be located in a position that is convenient for both users and collection staff.

The bin enclosure for the development will be designed with the following considerations:

- The bin store area will have concrete slab floor with a graded floor to a waste drain that is connected to sewer. Floors to be even and flat for safe storage of bins;
- Access doors will be self-closing to prevent access to vermin;
- Adequate aisle width for easy manoeuvring of bins;
- No double stacking of rows of bins;
- All wall joins will be sealed to a height of 150 mm for ease of washing;
- Walls are to be painted with washable paint;
- A hose cock will also be included to facilitate washout of bins and washout of the area.
- Drainage of wastewater from washing facilities will drain to main sewers;
- Sufficient lighting for the bin enclosures should be provided by motion detected automatic artificial lighting in order to facilitate access to the bin enclosure;
- Adequate ventilation will be provided in the bin enclosures to ensure sufficient turnover of the air mass to prevent odour nuisance;
- Appropriate signage to be provided;
- To be designed to not permit stormwater to enter into the drain;
- Bins not to be visible from the property boundary or areas trafficable by the public;
- Any external bin store greater than 20m is to be roofed as per Water Authority requirement; and bins are reasonably secured from theft and vandalism.

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3 WASTE GENERATION AND MANAGEMENT

To ensure that the commercial waste from the development is properly managed, it was necessary to estimate the volume of waste that is likely to be generated on the premises.

3.1 General and Recycling Streams

Types of waste likely to be generated by development are:

- **General Waste** – General waste includes non-recyclable plastics, food waste, recyclable packaging which is contaminated with food waste and other non-recyclable materials, as well as recyclables which have not been placed in the correct bin.
- **Recyclables** – Co-mingled Recycling, which includes clean aluminium foil and trays, glass bottles and jars, long-life milk and juice cartons, cardboard, plastic containers, tins and cans Workers frequently consume beverages packaged in recyclable containers, such as aluminium cans and polyethylene terephthalate (PET) bottles and milk is often provided by organisations in liquid paperboard or high-density polyethylene (HDPE) containers.

3.2 Other Streams

Storage, handling, and collection of liquid wastes are not covered in this WMP. Adequate space may be allocated for placement of cabinets/containers for collection and storage of speciality wastes that are unable to be disposed of within the bins in the bin storage area such as batteries, cooking oil, cleaning chemicals and commercial light globes. These materials will be removed from the site once sufficient volumes have been accumulated to warrant disposal.

It should be noted that the City provides two scheduled bulk waste verge collection services for bulk goods such as mattress, steel and e-waste and bulk organics for residents.

3.3 Waste Streams Estimates

As the City of Cockburn does not have specific waste generation rates for commercial developments, the City of Vincent Waste Guidelines for New Developments has been adopted as a reference for the estimation of wastes for the retail, tavern, gym, conference room and medical centre rates and WALGA's Commercial and Industrial Waste Management Plan Guidelines was used to estimate the wastes generated by the hotel and office.

Using the general and recycling waste generation rates outlined in **Table 3**, a broad estimation of the daily waste to be generated by the proposed development has been calculated.

Table 3 Waste Generation Rates

Type of Premises	Source	General Waste (L)	Co-mingled Recycling (L)
Hotel	WALGA	5 L/bed/day	5 L/bed/day
Retail	City of Vincent	300 L/100sqm/ day	200 L/100sqm/ day
Tavern	City of Vincent	400 L/100sqm/ day	300 L/100sqm/ day
Gym	City of Vincent	10 L/100sqm/day	10 L/100sqm/day
Office	WALGA	10 L/100sqm/day	10 L/100sqm/day
Conference Room	City of Vincent	200 L/100sqm/ day	200 L/100sqm/ day
Medical	City of Vincent	15 L/100sqm/day	15 L/100sqm/day

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A summary of the estimated weekly waste generated for each waste stream is provided in **Table 4**. The waste volumes presented are estimates only and are representative of the design drawings of the development provided in November 2025.

Table 4 Weekly Waste

Lots	Type of Premises	General Waste (L)	Co-mingled Recycling (L)
Lot 1 (Hotel)	Hotel	5,635	5,635
	Retail (F & B)	11,697	7,798
Lot 1 Total		**17,332**	**13,433**
Lot 2 (Social Hub)	Tavern	28,900	21,735
	Conference Room	1,812	1,812
	Retail (F & B)	585	585
	Gym	13,335	8,890
Lot 2 Total		**44,712**	**33,022**
Lot 3 (Office)	Office	5,036	5,035
	Retail (F & B)	19,719	13,146
Lot 3 Total		**24,755**	**18,182**
Lot 4 (Mixed Use Bldg)	Retail (F & B)	13,335	8,890
	Office	563	563
	Medical	866	866
Lot 4 (Mixed Use) Total		**14,764**	**10,319**
Lot 4 (Office)	Retail (F & B)	11,256	**7,504**
	Office	5,166	5,166
Lot 4 (Office) Total		**16,422**	**12,671**

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3.4 Bin Requirements

A summary of the breakdown of the anticipated MGB requirements for the commercial component of the proposed development, the proposed bin sizes and the proposed collection frequencies are provided in **Table 5**.

Table 5 Bin Requirements for Proposed Site

Type of Premises	Type of Waste	Size (L)	Collection	Number of Bins
Lot 1	General Waste	1700	weekly	11
	Recyclables	1700	weekly	8
	19 x 1700L			
Lot 2	General Waste	1700	twice weekly	14
	Recyclables	1700	twice weekly	10
	24 x 1700 L			
Lot 3	General Waste	1700	weekly	15
	Recyclables	1700	weekly	11
	26 x 1700 L			
Lot 4 (Mixed Use)	General Waste	1700	Twice weekly	5
	Recyclables	1700	Twice weekly	4
	11 x 1700 L			
Lot 4 (Office)	General Waste	1700	weekly	10
	Recyclables	1700	weekly	8
	18 x 1700 L			

The anticipated bin layouts for the various lots are illustrated in **Figure 7** to **Figure 10** and confirm that the required number of bins can be accommodated within the defined bin store areas for each of the Lots.

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Figure 7 Proposed Bin Layout – Lot 1

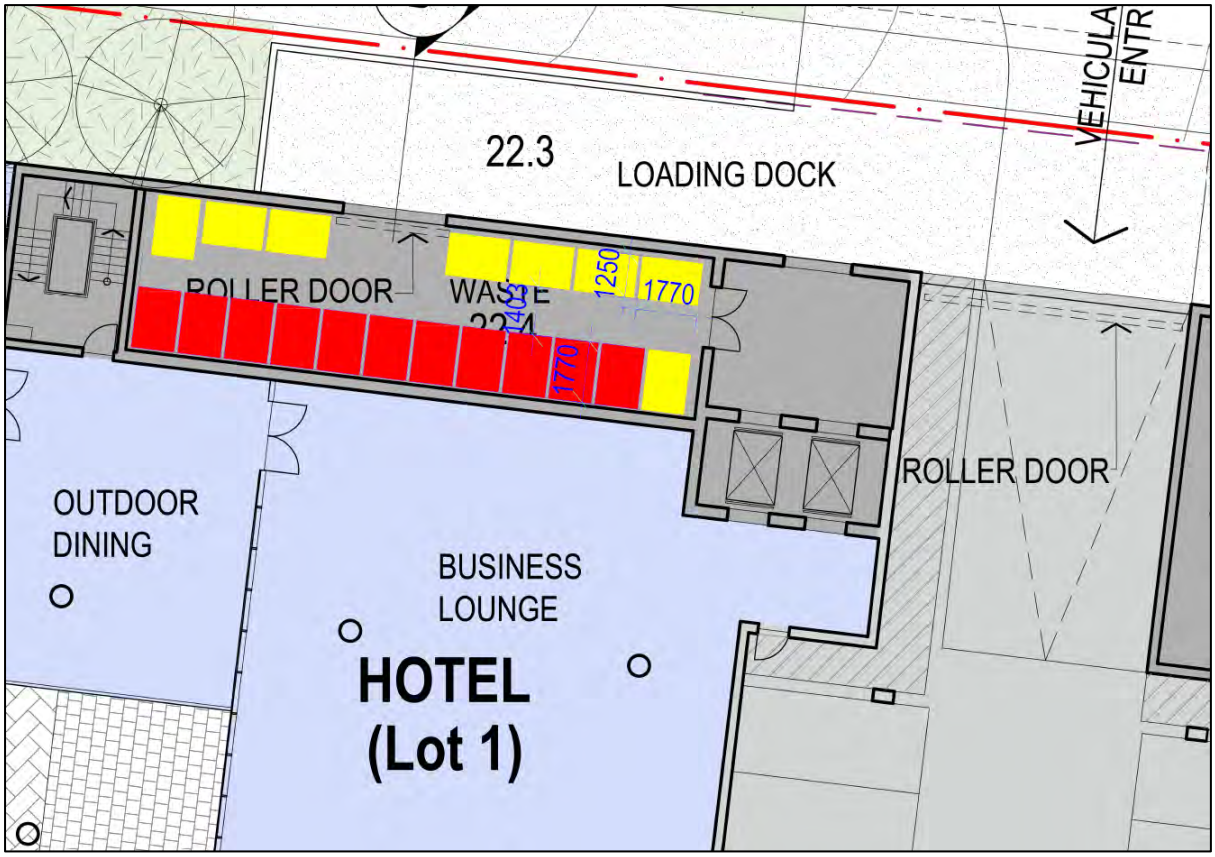
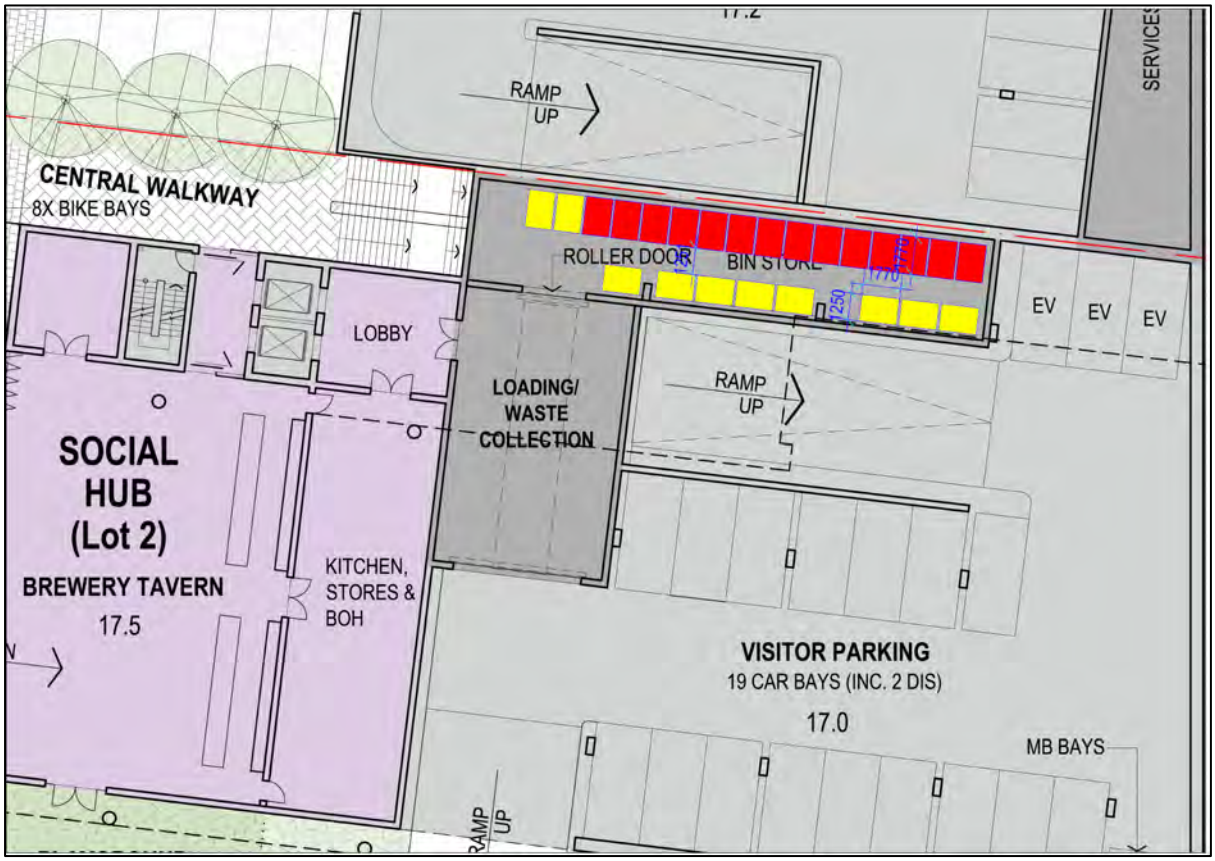


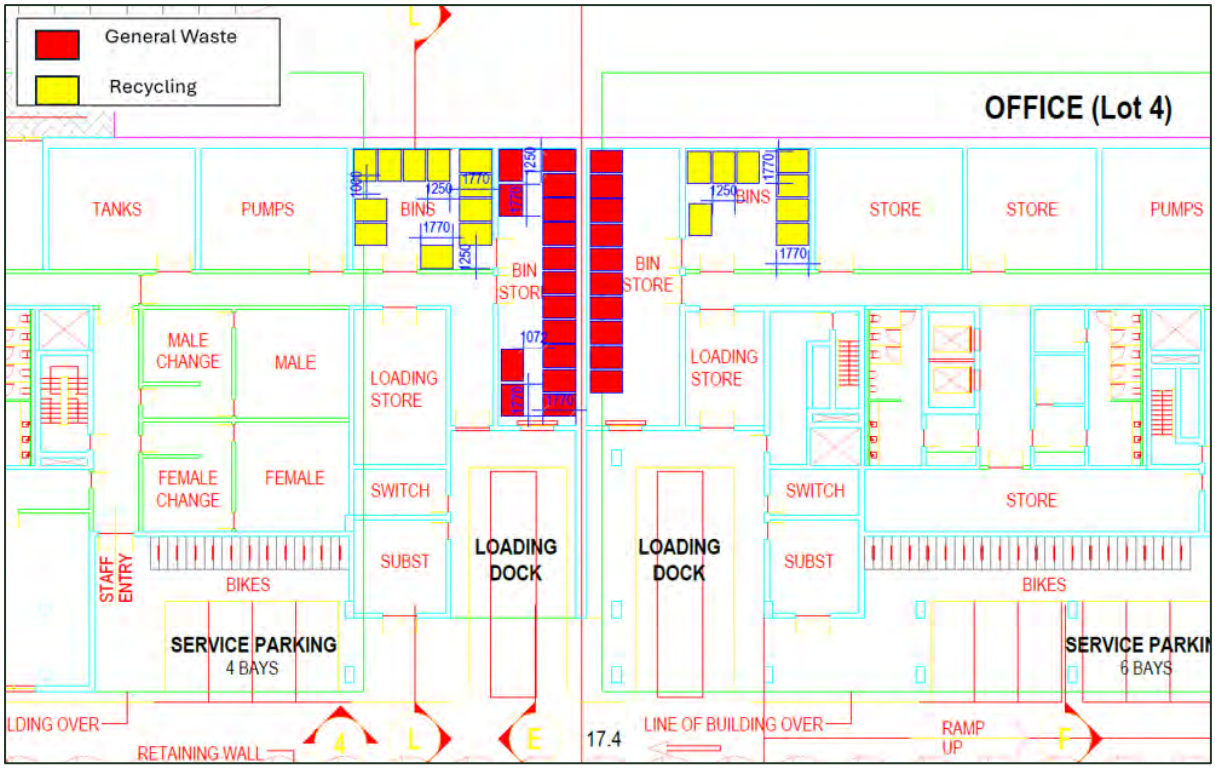
Figure 8 Proposed Bin Layout – Lot 2



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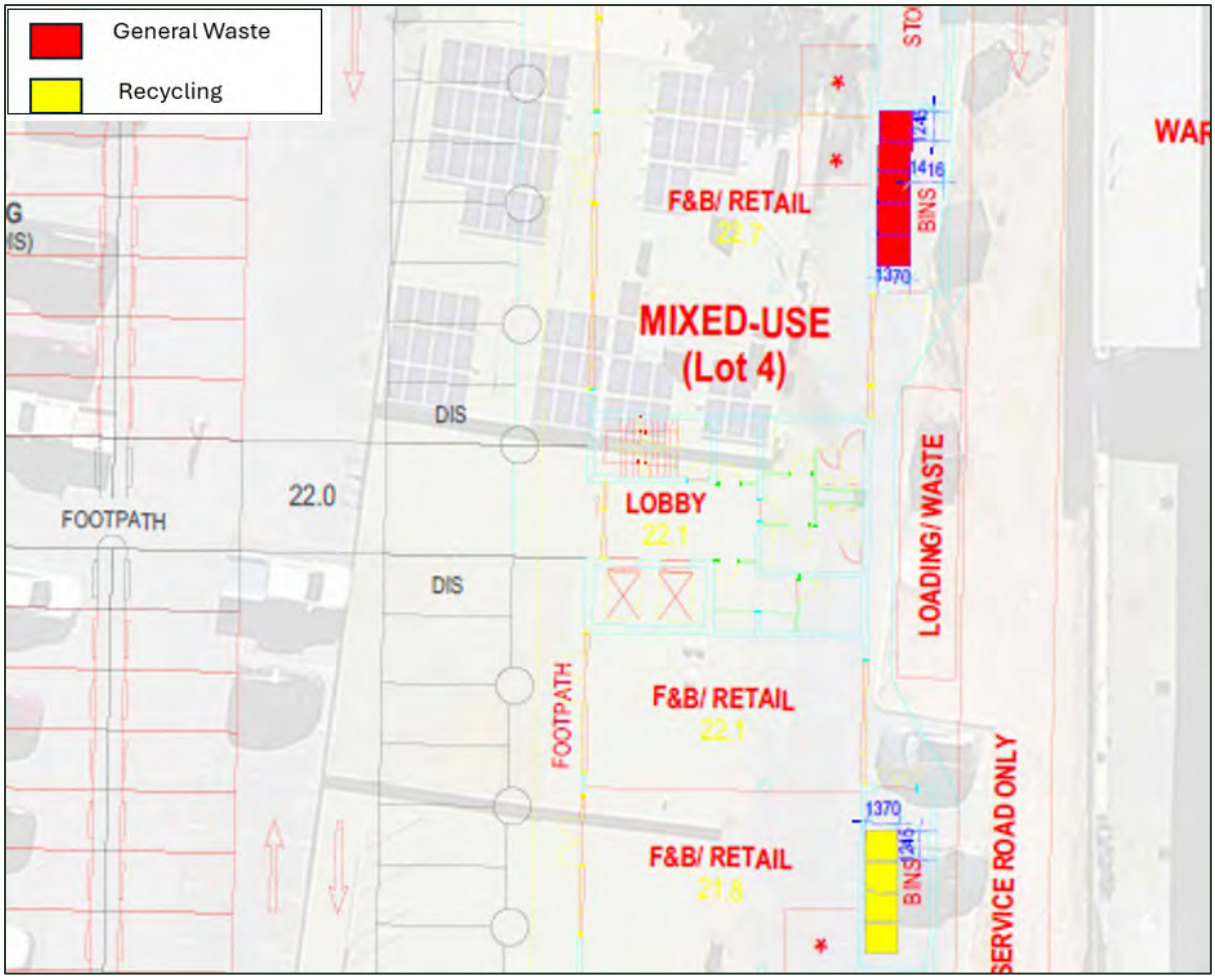
Figure 9 Proposed Bin Layout – Lot 3 & Lot 4(Office)



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Figure 10 Proposed Bin Layout – Lot 4 (Mixed Use)



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4 TRANSFER OF WASTE AND RECYCLING

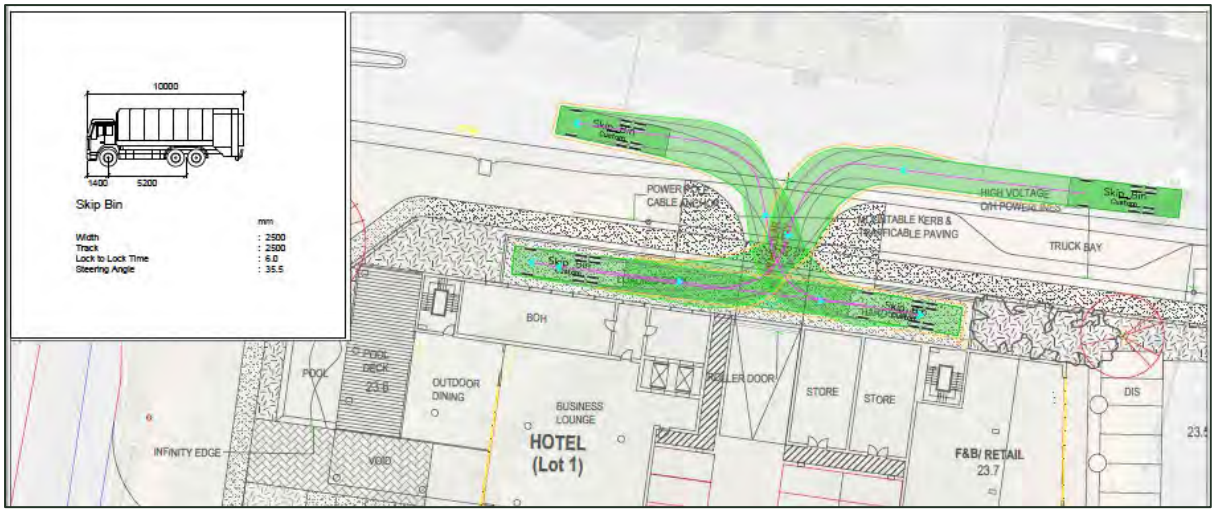
4.1 Collection of Wastes

It is anticipated that the waste will be collected by a private contractor as per the collection frequencies indicated in **Table 2**. Waste collection is proposed to be undertaken from the designated loading areas with a rear lift truck.

4.1.1 Provision of Service Vehicle

Swept path analysis with a 10m waste collection vehicle was undertaken for Lot 1, Lot2 & Lot 4 (Mixed Use) developments whereas for Lot 3 & 4 (Office Bldg) with an 8.8m Vehicle. **Figure 10** to **Figure 13** illustrate the waste truck swept paths around the designated waste loading areas for each lot. The analysis demonstrates that the waste vehicle can access the site, collect the waste, and exit in forward gear without difficulties.

Figure 11 Waste Truck Swept Path – 10m (Lot 1- Hotel)



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Figure 12 Waste Truck Swept Path – 10m (Lot 2- Social Hub)



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Figure 13 Waste Truck Swept Path – 10m (Lot 3 & 4- Office)

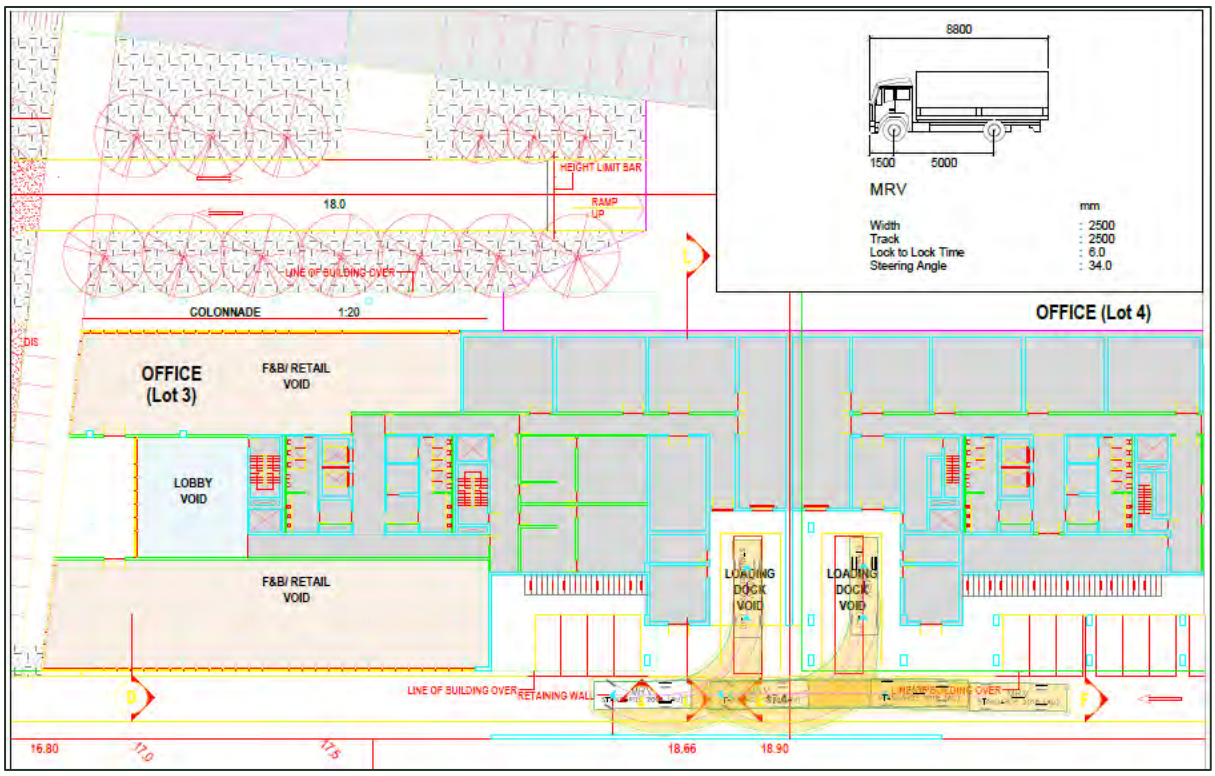
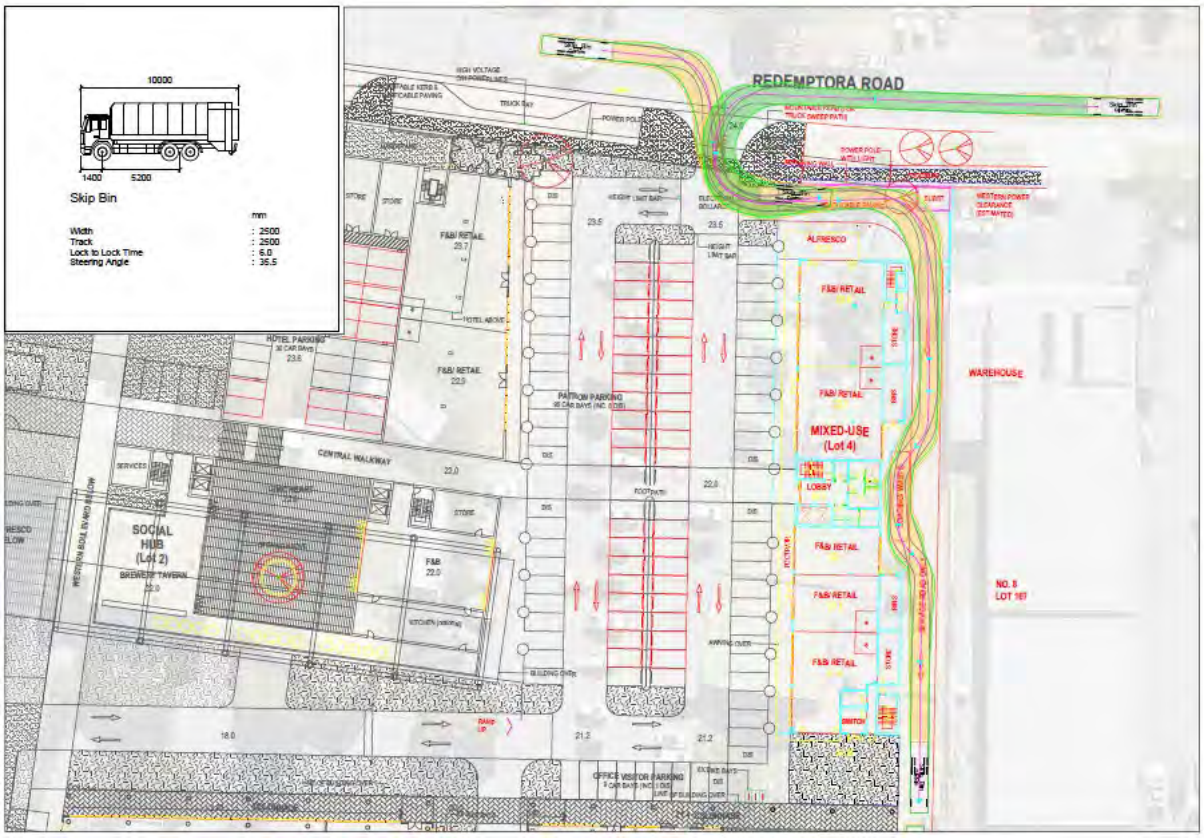


Figure 14 Waste Truck Swept Path – 10m (Lot 4- Mixed Use)



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5 WASTE REDUCTION AND MANAGEMENT STRATEGY

The waste reduction and management strategy has been developed with a strategic approach to reducing waste. The waste hierarchy is a widely accepted framework used to guide waste reduction and management strategies. According to WALGA, the waste hierarchy is described as:

- **Reduce/avoid** double-sided printing, electronic filing, provision of reusable cups, provision of electronic hand-driers
- **Reuse**: reuse one-sided prints for internal printouts, reuse manila folders and ring-binders, donate unwanted items to local schools or charities, return packaging to suppliers for reuse
- **Recycling**: providing locked bins for shredding and recycling of sensitive documents, having specific bins for materials that require separate recycling
- **Recovery**: composting of organic material and waste to energy options
- **Disposal**: for some materials, disposal at a suitably licensed landfill is the only option (e.g. asbestos).

5.1 Provision of Information

The dissemination of guidelines, best practices, and educational materials highlights the importance of providing clear and accessible information to ensure effective waste reduction and management. Clear signage is essential, as it guides users on the proper use of the waste management system. According to WALGA, the key aspects of signage to consider are:

- Waste recycling and organics bins must be clearly and correctly labelled at all times;
- Waste storage areas must have clear signage instructing cleaners and tenants how to correctly separate waste, recycling and organic materials. Pictorial guides and community languages should be used if appropriate;
- The location of, and directions to, waste storage areas must be well signposted, with directional signs, arrows or lines on the floor indicating the most direct routes for cleaners and tenants;
- All hazards or potential dangers associated with the waste facilities should be clearly identified, especially those linked to compaction or other waste handling equipment;
- Emergency contact information should be displayed in case there are any issues with the waste and recycling systems/services in the building.

5.2 Engagement

A regular and on-going engagement between all the stakeholders of the development should take place in order to remind the residents the proper and best practices of waste reduction and management. The engagement should include:

- Demonstration of waste management systems pertinent to an individual's role; and
- An explanation of the benefits of practicing waste hierarchy.

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6 CONCLUSION

This Waste Management Plan demonstrates that the proposed mixed-use development provides sufficient provision for general waste and recyclables based on the estimated waste generation.

The above is achieved using the following for various lots:

Lot 1 (Hotel)

- Six (6) 1700L general waste bins collected once twice weekly; and
- Four (4) 1700L general waste bins collected once twice weekly

Lot 2 (Social Hub)

- Fourteen (14) 1700L general waste bins collected once twice weekly; and
- Ten(10) 1700L general waste bins collected once twice weekly

Lot 3 (Office)

- Fifteen (15) 1700L general waste bins collected once weekly; and
- Eleven (11) 1700L general waste bins collected once weekly

Lot 4 (Mixed Use)

- Five (5) 1700L general waste bins collected once twice weekly; and
- Four (4) 1700L general waste bins collected once twice weekly

Lot 4 (Office)

- Ten (10) 1700L general waste bins collected once weekly; and
- Eight (8) 1700L general waste bins collected once weekly

Waste collection will be undertaken by a private contractor and will be arranged to occur during off peak hours to minimise disruption to traffic operations as well as minimise any impacts to staff and visitors. The waste collection vehicles are anticipated to collect the general and recycling bins on site. The housekeeping staff will move the bins to the waste collection areas on the days of collection and return the empty MGBs back to the respective bin store areas.

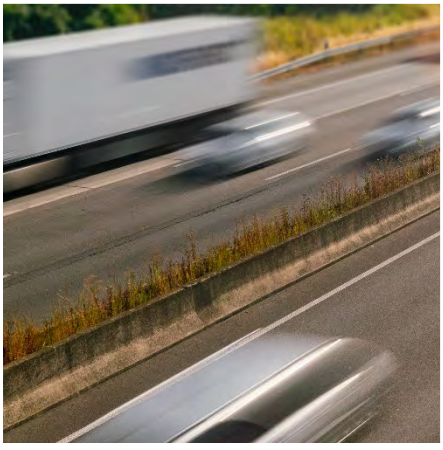
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Appendix A

Site Plans





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SUMMATION

Henderson Business Hub

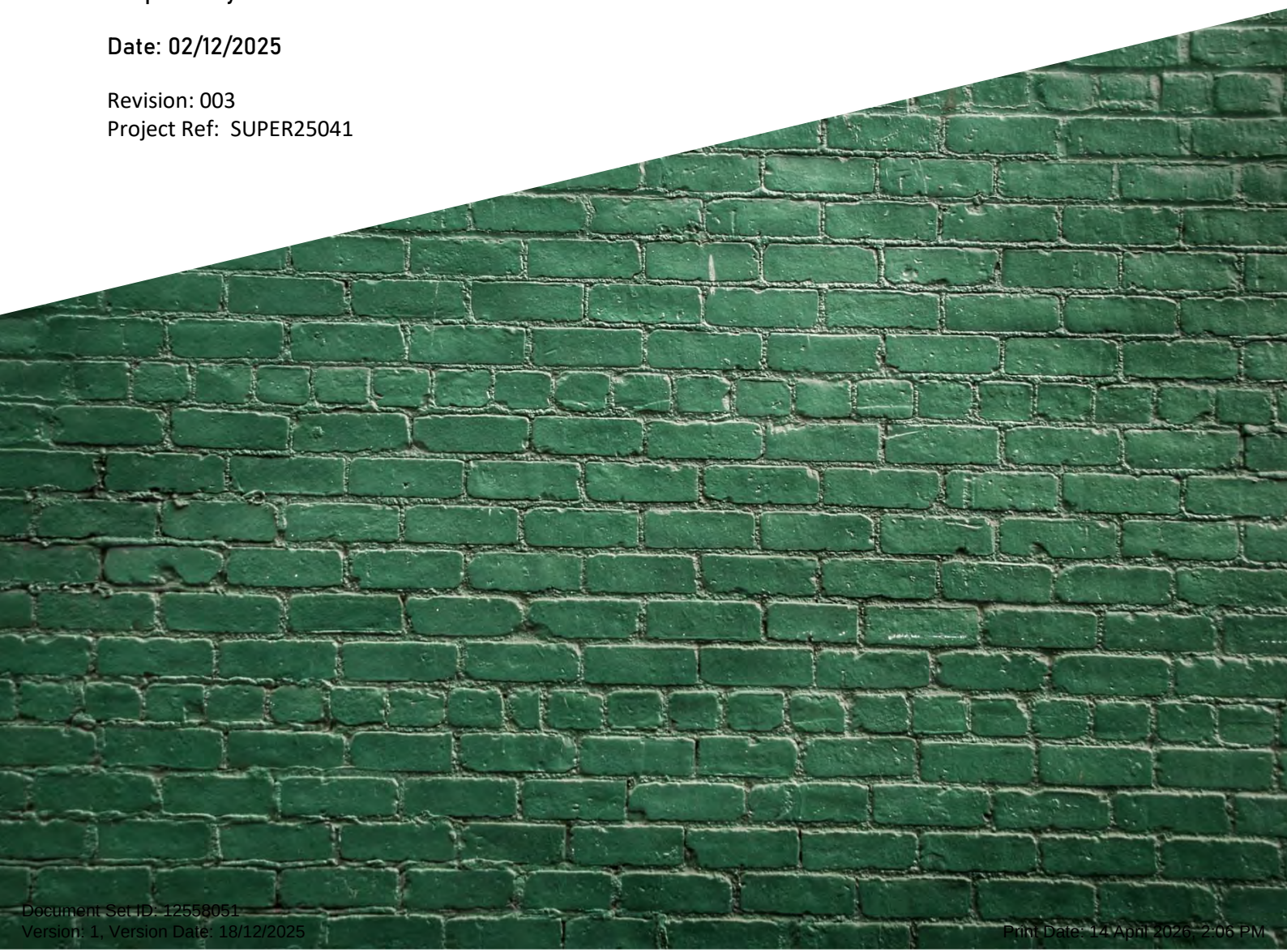
Sustainable Design Assessment Report

Prepared for: Pennock Architects

Prepared by: Prasanna Suraweera

Date: 02/12/2025

Revision: 003
Project Ref: SUPER25041



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Executive Summary

This document has been prepared to outline the sustainability initiatives that are being considered for inclusion in the Henderson Business Park Project located at 81 Quill Way, Henderson, WA.

The following guidelines are acknowledged as applicable to the site and this strategy addresses Principal 5 – Sustainability of the Design Quality Evaluation requirements:

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

"Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes."

It is acknowledged there are no other sustainability specific requirements applicable for this site.

Summation Pty Ltd has been engaged as the sustainability consultants for the project and will be responsible for the delivery of the sustainability objectives. The sustainability team for this project will be led by Prasanna Suraweera, who is a Director with Summation and a Green Star Accredited Professional with over 21 years of experience in delivery of sustainable developments. It is confirmed that Summation has been engaged prior to concept planning stage and will be involved in and contribute until project completion.

The project has made a commitment to the following sustainability initiatives as outlined below:

- ESD Professional engaged to lead delivery – Prasanna Suraweera (GSAP) from Summation.
- Passive Design & Efficiency Features
- Future Provision for EV Charging infrastructure – to enable installation based on demand
- Native and water wise landscaping species selection
- Water efficient fittings and fixtures
- Construction Waste Recycling
- Waste Management Plan
- Energy and Water Metering and Monitoring
- Effective Stormwater Management
- Indoor Environmental Quality

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Abbreviations/Glossary

Abbreviation	Description
ESD	Environmentally Sustainable Design
GBCA	Green Building Council of Australia
GSAP	Green Star Accredited Professional
KPI	Key Performance Indicators
EOT	End of Trip
NCC	National Construction Code
BMS	Building Management System

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1 Introduction

1.1 Project Background

The proposed Henderson Business Hub project is located 81 Quill Way, Henderson, WA. The site location is shown in Figure 1 below.



Figure 1 – Site Location and Context

The project consists of several uses across multiple lots. Summary of the expected project uses are as below:

- Lot 1 – Hotel
- Lot 2 – Social Hub
- Lot 3 – Office
- Lot 4 – Office
- Lot 4 – Mixed Use Medical/Office

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1.2 Disclaimer

This report provides high level guidance regarding the sustainability commitments targeted for this project and the preliminary strategies and initiatives to be adopted therein.

The purpose of this report is to articulate the sustainability initiatives being committed by the project. Due care has been taken to ensure the initiatives are coordinated and achievable for the project, however, note that the specific strategies mentioned in this report are indicative and may evolve throughout the futures stages of design.

1.3 Deliverables

The specific deliverables/commitments for each milestone are confirmed below:

- **Development Application Deliverables:**
  - Sustainable Design Assessment Report – This report
- **Working Drawing (Building Permit) Phase Deliverables:**
  - Updated Sustainable Design Assessment Report.

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2 Proposed Initiatives

2.1 Summary of Initiatives

A summary and discussion of the key initiatives proposed are outlined below:

- Passive Design & Efficiency Features
- Future Provision for EV Charging infrastructure – to enable installation based on demand
- Native and water wise landscaping species selection
- Water efficient fittings and fixtures
- Construction Waste Recycling
- Waste Management Plan
- Energy and Water Metering and Monitoring
- Effective Stormwater Management
- Indoor Environmental Quality

2.2 Passive Design and Energy Efficiency

Passive design features provide the ideal mechanism for improving the sustainability performance of projects. This is due to the low-cost nature of adopting these initiatives. Whilst ideal lot orientation cannot often be achieved, of primary importance is minimising the extent of glazing to minimise reliance on active heating and cooling.

Key passive design outcomes achieved for this project include:

- Window-to-wall ratios to exceed NCC Section J Requirements
- High performance envelope including high-performance double-glazing systems.
- Electric instantaneous hot water systems which eliminate storage and pipe losses
- LED lighting throughout for light quality and efficiency
- High efficiency HVAC (VRV or better) systems throughout.

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2.3 Water Sensitive Design

Water efficiency will be targeted through the selection of suitable fittings and fixtures. The following initiatives will be targeted:

- Waterwise landscaping to minimise dependence on potable water.
- High efficiency fittings and fixtures – High Water Efficiency Labelling and Standards (WELS) rated fittings:
    - Taps – 5 Star
    - Toilets – 4 Star rated dual flush
    - Urinals – 5 Star
    - Showers – 3 Star (7.5 l/min)

2.4 Large Scale Solar PV

Provision of renewables is critical to the sustainability performance of buildings. It is a key initiative for reducing carbon emissions and will also provide operating cost benefits to the tenants.

The project commitment includes for the following:

- All buildings with the exception of Lot 2 Social Hub have considered the inclusion of Solar PV on roof level, refer to the architectural plans for the maximum system sizes and roof allocations.
    - A minimum commitment for a total 99kW Solar PV system for the Commercial Office buildings has been made for the project. This represents an approximate total of 700sqm of roof area which is expected to yield ~150,000kWh/annum with an expected carbon savings of 76,500 kgCO2e/annum.

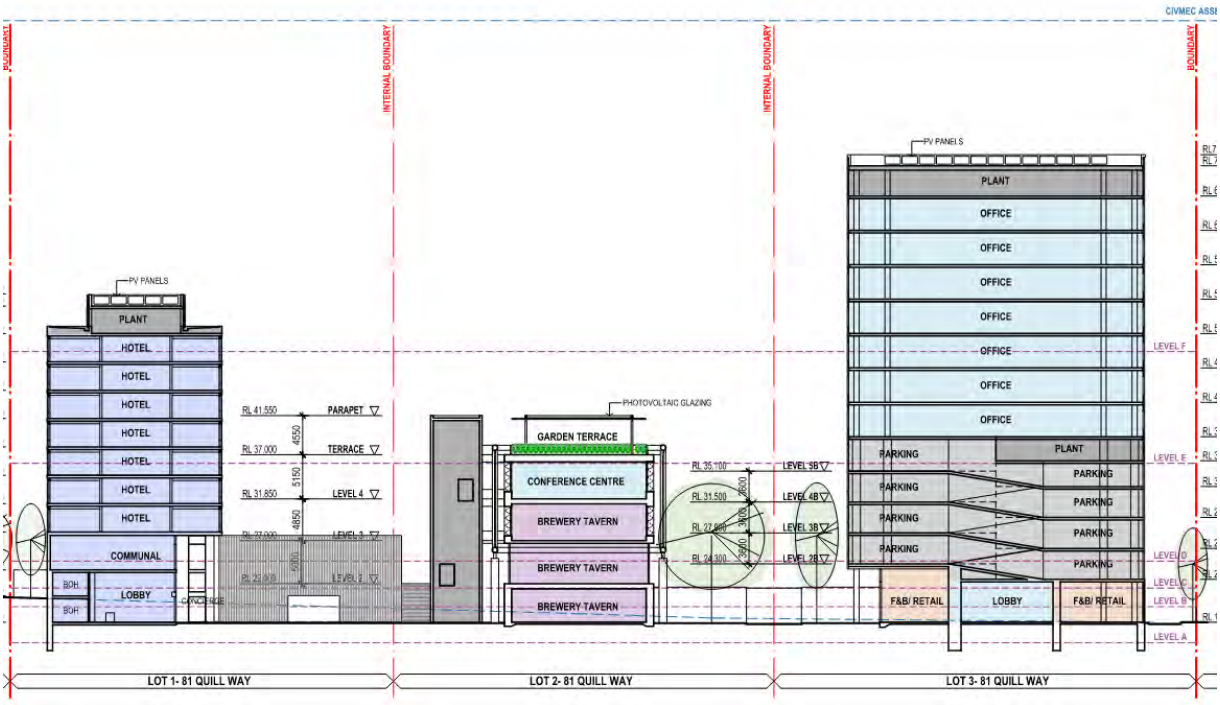


Figure 2: Solar PV Provision across multiple lots

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2.5 Electrification – Hot Water, Space Heating and Cooking

Electrification is a key strategy for ongoing emissions improvement as the electricity grid continues to improve its carbon intensity. This is due to the ongoing 'greening' of the grid as the additional renewable's capacity is realised. As an example, over the past 15 years, the grid emissions have improved by approximately 40% to 50% on the South-West Interconnected System (SWIS). This trend is expected to continue with further investment into renewable projects planned for the SWIS.

The project will ensure all services such as hot water, cooking and space heating is provided by electricity-based systems.

By having all services and energy demands electrified, this project is well placed to achieve ongoing savings in carbon emissions alongside the grid.

2.6 Effective Stormwater Management

Storm water management has been consideration for reducing water and pollution runoff from the development. All major stormwater events will be collected and infiltrated on site to minimise pollution run off.

2.7 Construction Waste Recycling

A minimum 80% of all construction waste will be diverted from landfill including ongoing monthly reporting. This will be specified in the Head Contractor obligations and in line with current industry best practice.

2.8 Waste Minimisation

A Waste Management Plan will be developed with intention to maximise operational waste recycling. Appropriate waste sorting area has been determined based on the expected throughput of each waste streams, these have been located on the ground floor with safe efficient access by occupants and waste vehicles. Specific waste streams targeted include the following:

- General
- Comingled Recycling

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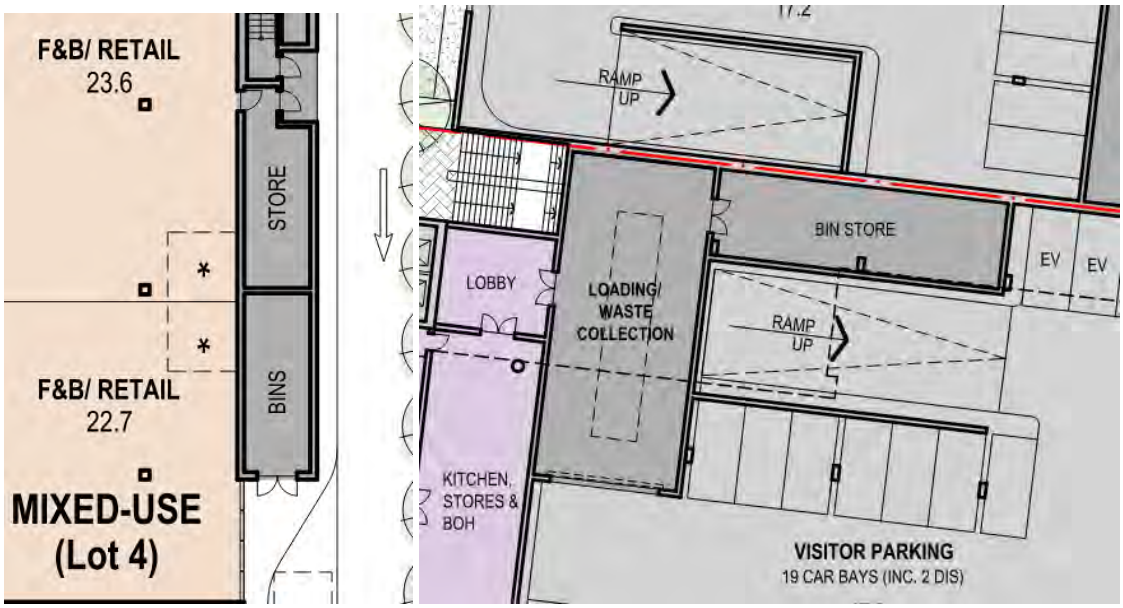


Figure 3: Examples of Bin Store allocation within the multiple lots

2.9 Sustainable Landscaping

The site has minimal external landscaping in keeping with the surrounding topology. Nevertheless, all landscaping provided will be sustainable through the use of native and waterwise species selection.

The project is also in close proximity to local conversation area, which provides reasonable access to some nature scape for users.

2.10 Promoting EV Transition – Future EV Charging Infrastructure

The Electric Vehicle transition is a key strategy for reducing global emissions. Facilitating the EV transition for projects such as the Henderson Business Hub project involve provision of nominated charging bays to ensure occupants have easy access to charging infrastructure should they wish to adopt EV.

The project commitment includes for the following:

- Future provision for 100% all bays to be converted in future (i.e. switchboard spatial allowance and wiring routes).
- Chargers to be installed based on occupant demand, including loan management software.
- The following EV bays have been allocated (as shown in Rev 2 of architectural drawings):
    - Lot 1 – 3 bays as shown on Level B
    - Lot 2 – 3 bays as shown on Level B
    - Lot 3 – 6 bays as shown on Level E
    - Lot 4 – 6 bays as shown on Level E

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Figure 4: EV charging bays on Level B

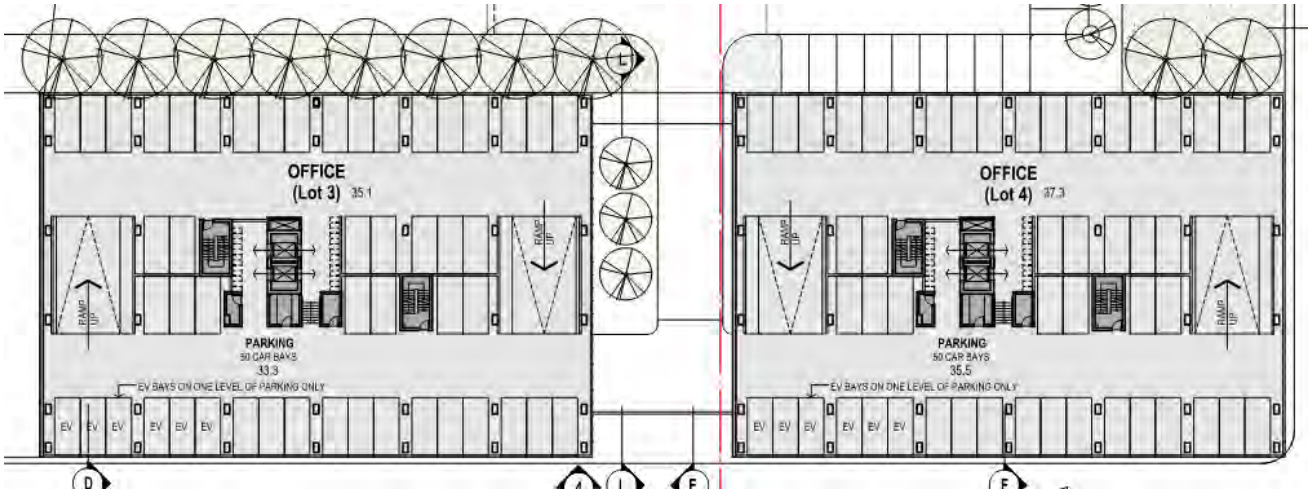


Figure 5: EV charging bays on Level E

2.11 Low Embodied Emission Materials

Upfront carbon impacts from construction materials will be minimised through consideration of low embodied emissions materials. Key aspirations include:

- Cement substitutions for footings, foundations, and ground slabs.
- Exploration of recycled road base for any cut and fill.

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2.12 Energy and Water Metering and Monitoring

Effective metering and monitoring are essential criteria to ensure the facility performance is optimised during the operations phase. To enable this, extensive metering and monitoring systems will be provided for all major end uses of energy and water consumption. This data collected from the metering system will be made available for the residents. This will facilitate tracking of performance, identification of anomalies as well as assist in fault finding and tuning.

This is in keeping with the requirements of the NCC Section J requirements.

2.13 Indoor Environmental Quality

The following initiatives will be targeted to improve the indoor environment quality for the occupants:

- Lighting selections with consideration for visual comfort
- Maximise access to daylight through glazing with visual light transmittance (VLT) > 0.5
- Material selections with credible sustainability certifications and limits on toxins (volatile organic compounds and formaldehyde)

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Henderson Retail Advice

Scope Property Group

c/- Element Advisory

December 2025

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Document Control				
Document Version	Description	Prepared By	Approved By	Date Approved
v1.0	Draft Retail Advice	Jason Cook	Michael Chappell	9th December

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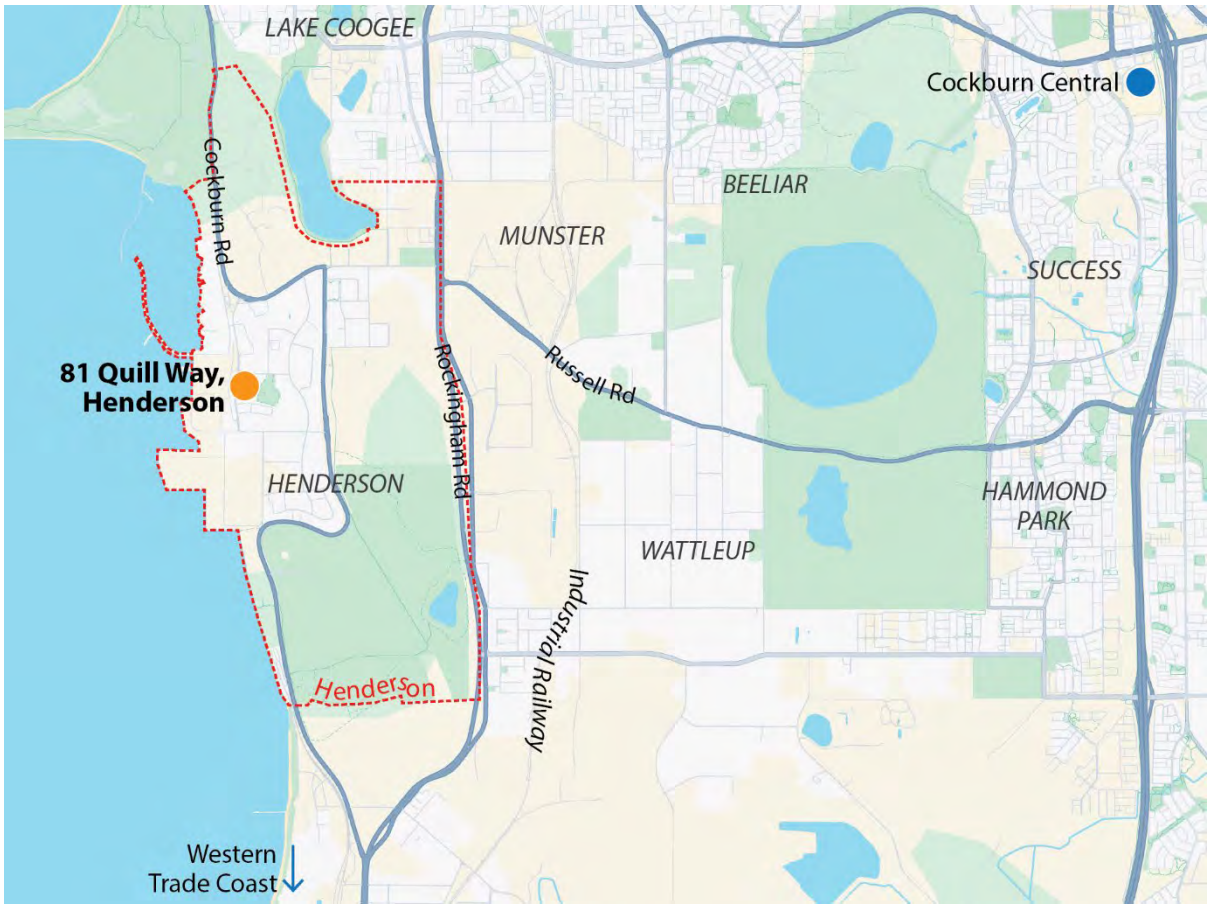
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1 INTRODUCTION

Pracsys has completed the following short Retail Advice paper to provide evidence-based support for Scope Property Group's (the Client) redevelopment of 81 Quill Way, Henderson (the Local Centre). Despite proposing to provide Shop/Retail floorspace above the major development threshold for a local centre according to State Planning Policy 4.2 – Activity Centres and Implementation Guidelines (SPP4.2), the City of Cockburn (the City) has indicated that there is no need for a Net Benefit Test at this stage. As a result, the project team, inclusive of Element Advisory, have engaged Pracsys to undertake this Retail Advice paper to summarise the extent of demand, benefit and impact of the proposed redevelopment.

The Local Centre is currently zoned 'Local Centre' according to City of Cockburn Town Planning Scheme No. 3 (TPS3). The Local Centre primarily serves workers in the Henderson Defence Precinct and is separated from major residential areas by industrial areas to the north and south, and major roads and railways to the east (Figure 1).

Figure 1. Local Centre Context Map



Source: Pracsys

The Local Centre is expected to play a greater role in servicing local workers as neighbouring industrial developments along the Western Trade Coast, such as Latitude 32, Henderson and Westport, continue to expand.

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2 RETAIL ANALYSIS

SPP4.2 outlines the role, purpose and characteristics of each level of activity centre. These factors are important in the consideration of the redevelopment of the Local Centre. The role of a local activity centre such as the Local Centre in Henderson is to provide for the convenience and incidental needs of the local community, playing an important role in the provision of walkable access to key services.[1] Local activity centres typically have a catchment or trade area of less than five kilometres; a trade area or catchment is the primary area in which commercial land uses attract customers. Activity centres split the pool of demand where their trade area overlaps with the trade area of another activity centre.

The following analysis considers the impact, need and benefit of the proposed expansion to the retail offerings at the Local Centre in the context of SPP4.2. This is undertaken through the following analysis sections:

- Barriers to Access
- Primary User Group
- Worker Expenditure
- Retail Turnover
- Impact Distribution
- Community Benefits

Section 3, Summary, provides a concise summary of the analysis.

[1] Department of Planning, Lands and Heritage, 2023, State Planning Policy 4.2 Activity Centres, Link

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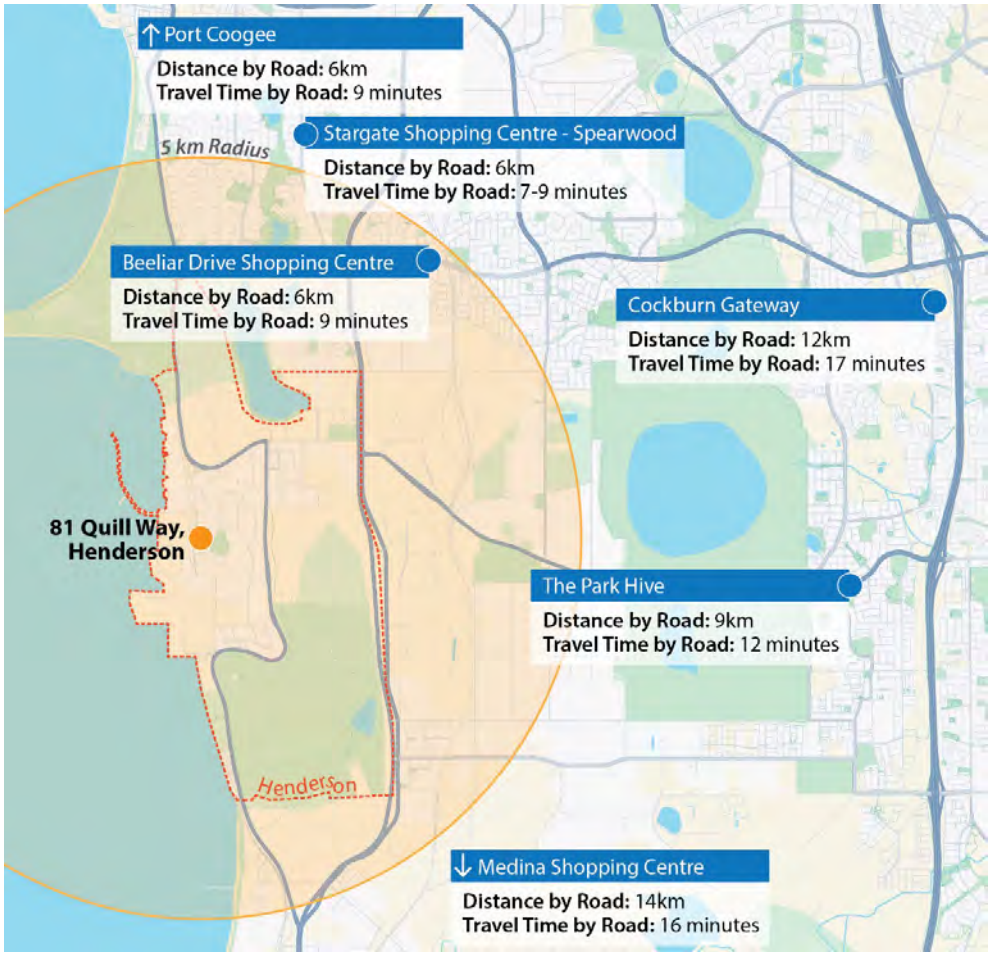
2.1 Barriers to Access

The size of a commercial centre's trade area is affected by natural and built barriers such as rivers or major roads. Built barriers separate the Local Centre from the nearest residential areas, reducing the extent to which the Local Centre draws from the same demand pool as other activity centres.

Potential residential customers in the east and northeast in Beeliar must cross a significant quantum of land zoned rural, strategic industrial and resource, Rockingham Rd, and the freight railway line to access the Local Centre. Significant strategic industrial and resource land and Cockburn Rd act as built barriers to Coogee, the nearest residential area to the north. South of the Local Centre and Henderson is the remainder of the Western Trade Coast, comprised of more strategic industrial land.

The barriers to accessing the Local Centre reduce the extent to which the Local Centre and other activity centres compete for demand. Other nearby activity centres offer a greater level and diversity of commercial offerings in closer proximity to residential areas. The Local Centre is approximately 12 kilometres and 17 minutes by road from Cockburn Gateway and six kilometres and nine minutes from the nearest shopping centre in North Coogee and Beeliar (Figure 2). The expansion of retail uses will not have a substantial impact on the extent of residential demand drawn to the Local Centre because of the significant barriers to access.

Figure 2. Distance to Closest Activity Centres



Source: Pracsys 2025, Google Maps 2025

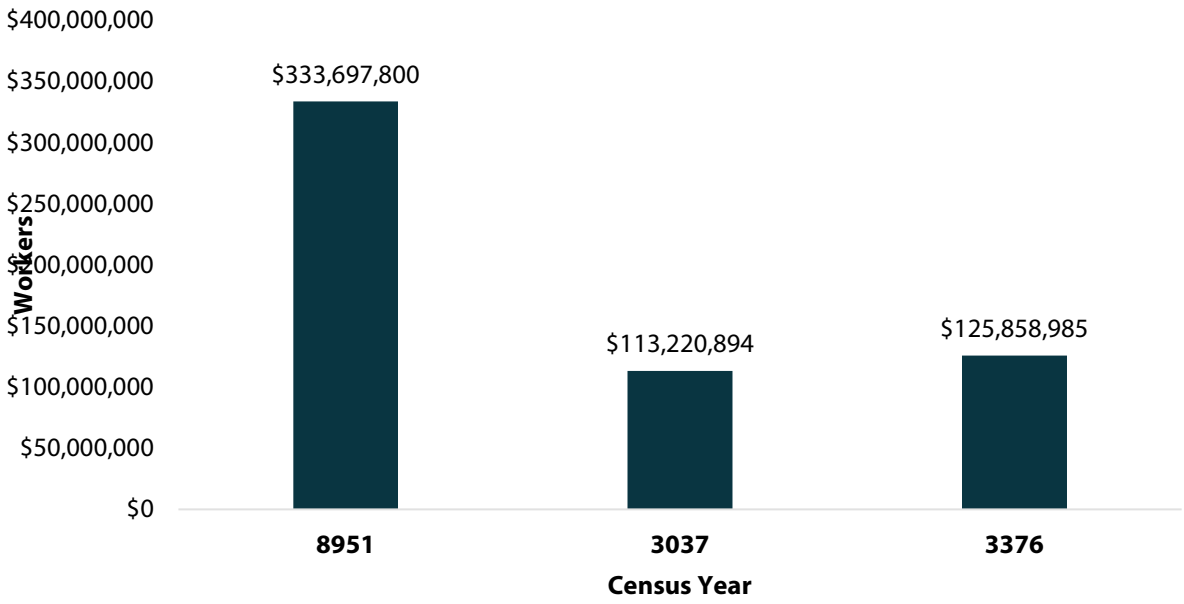
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2.2 Primary User Group

The primary user group of activity centres is typically the local residential population however, the Henderson suburb is home to just ten usual residents.[2] Demand for retail uses at the Local Centre is not limited despite the low local residential population and barriers to access for surrounding residential areas because the primary users of the existing and proposed retail uses in Henderson are workers. The quantum of workers in the Hendersen suburb has grown from approximately 3,500 in 2011 to 6,500 in 2021 (Figure 3).[3]

Figure 3. Worker Growth in Henderson 2011, 2016 and 2021



Source: ABS Census 2011, 2016 & 2021

The size of the local workforce is sufficient to support retail uses such as the Local Centre in Henderson; SPP4.2 indicates that neighbourhood-level activity centres have a trade area of between 2,000 and 15,000 persons.

The size of the primary user group indicates that the Local Centre and surrounding activity centres do not share the same pool of demand. The retail expenditure absorbed by the expansion of uses at the Local Centre is unlikely to impact surrounding activity centres as the Local Centre largely caters to the Henderson workforce as opposed to the local residential population.

[2] ABS Census 2021
[3] IBID.

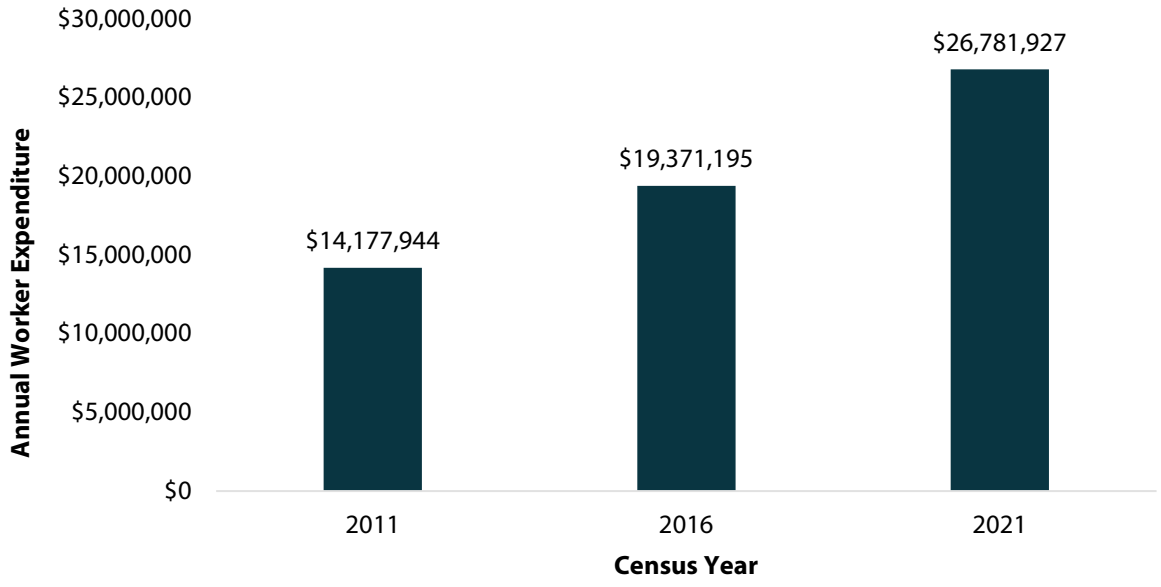
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2.3 Worker Expenditure

Workers can spend up to $11,000 per annum (2014 dollars) on retail before, during or after work.[4] 84% of workers spend $76 per week (2014 dollars) on food and beverages alone. Worker expenditure in Hendersen is expected to increase in line with growth in the workforce and may equate to approximately $27 million in food and beverage spending (Figure 4). It is likely that actual expenditure is less than the estimated expenditure however, the estimated expenditure represents the expenditure that would be achieved if the provision of retail uses in Henderson was closer to an 'standard' level such as in residential suburb or commercial area.

Figure 4. Worker Expenditure on Food and Beverage Goods in Henderson 2011, 2016 and 2021



Source: ABS Census 2021, Property Council 2014, Pracsys 2025

Note: Expenditure figures have been revised to account for inflation. The calculation undertaken is conservative as it assumes 16% of the workforce do not spend any money while the study referenced suggests that only 3% spend nothing. The remaining 13% spend more or less than $76 a week.

The demand from workers is expected to grow as major projects along the Western Trade Coast such as AUKUS and Westport continue to develop. The transition of port uses from Fremantle to Westport is expected to generate thousands of jobs annually during construction and during operation.[5] The Albanese Government recently committed an additional $12 billion towards Henderson's Defence Precinct.[6] Shipbuilding and AUKUS in Henderson will directly support 10,000 jobs over the next 20 years. The growth of the Western Trade Coast, and particularly the intensification of industrial uses at Henderson, will increase the demand for retail uses such as those proposed at the Local Centre. This is exacerbated by the distance to other activity centres (see Figure 2 for more detail).

[4] Property Council of Australia, 2014, Office workers ensure retail success, Link
[5] Westport, 2024, Securing Our Future Westport Business Case Summary, Government of Western Australia, Link
[6] Australia Government, 2025, Additional Defence funding to deliver the Henderson Defence Precinct, Link

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2.4 Retail Turnover

This expenditure generated by the local workforce has been distributed among food and beverage uses to estimate the level of turnover at a high level (Figure 5). The calculation assumes the primary determinant of consumer preference in Henderson is the extent of commercial offerings that is, a commercial use with greater floorspace attracts greater expenditure.

Figure 5. Turnover at Food and Beverage Uses in Henderson

F&B Uses	Estimated Floorspace (m^2)	Turnover ($)
Egmont Road Lunch Bar	64	$600,365
Four Seasons Patisserie & Café	155	$1,449,320
Hendies Kitchen	155	$1,449,320
Jumpstart Cafe	130	$1,219,492
Kreativ Kitchen	102	$956,832
Ship and Dock Inn	100	$938,071
Expansion to the Local Centre	2,150	$20,168,527
Total	**2,855**	**$26,781,927**

Source: Pracsys 2025, Google Maps 2025

The calculations assume that the redevelopment of the Local Centre leads to 2,150m^2 of additional retail floorspace, and that the existing uses in the Local Centre (Jumpstart Café and Hendies Kitchen) and the surrounding area remain unchanged. The estimates can be considered conservative because the size of the local workforce has grown in the four years since the 2021 Census.

The analysis indicates that the floorspace productivity ($/$m^2$) of food and beverage uses in Henderson is approximately 9,381 $/$m^2$. This estimate is above the industry benchmark for Dine Out Food retail uses of 8,500 $/$m^2$ despite the addition of new floorspace at the Local Centre (Figure 6), reflecting the significant extent of demand and need for retail uses in Henderson generated by workers.

Figure 6. Floorspace Productivity Benchmarks

Retail Category	Viable Productivity Benchmark ($/$m^2$)
Take Home Food	$13,078
Take Home Liquor	$11,770
Dine Out Food	$8,500
Convenience Retail	$9,154
Comparison Retail	$6,539

Source: Colliers 2017 escalated to 2025 dollars

The additional retail floorspace at the Local Centre would have to be greater than 2,500m^2 to cause the productivity of all food and beverage uses to fall below the benchmark productivity level. With this being said, the identified uses are not activity centres and would not be considered in an impact test according to SPP4.2.

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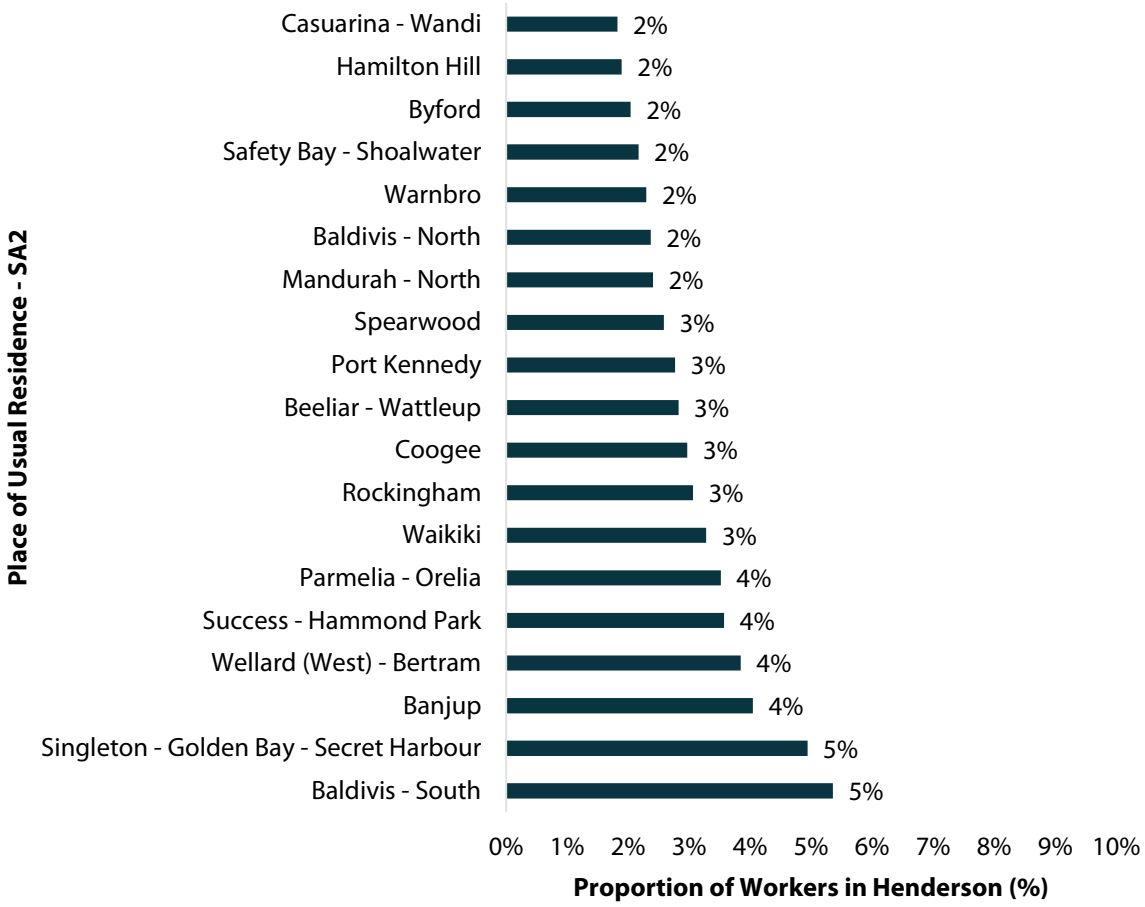
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2.5 Impact Distribution

Activity centres in the closest proximity to an expanding or new development are often the most impacted because they share the demand in the immediate area and consumer preference is based on offerings and accessibility. Differently, activity centres in close proximity to the Local Centre will not be uniquely impacted by the proposed retail floorspace because the Local Centre's the primary user group do not predominately come from immediate area.

The local workforce in Henderson reside in a range of suburbs across Rockingham, Cockburn and Kwinana (Figure 7). The 15 suburbs that house 50% of the Henderson workforce support a range of activity centres from the strategic to local level. There is approximately 329,971m^2 of Shop/Retail floorspace across 80 commercial complexes in the 15 identified suburbs. The proportion of the workforce's expenditure that will no longer be spent at these activity centres as a result of the Local Centre expansion will be distributed across the activity centres relatively uniformly.

Figure 7. Place of Usual Residence for Workers in Henderson



Source: ABS Census 2021

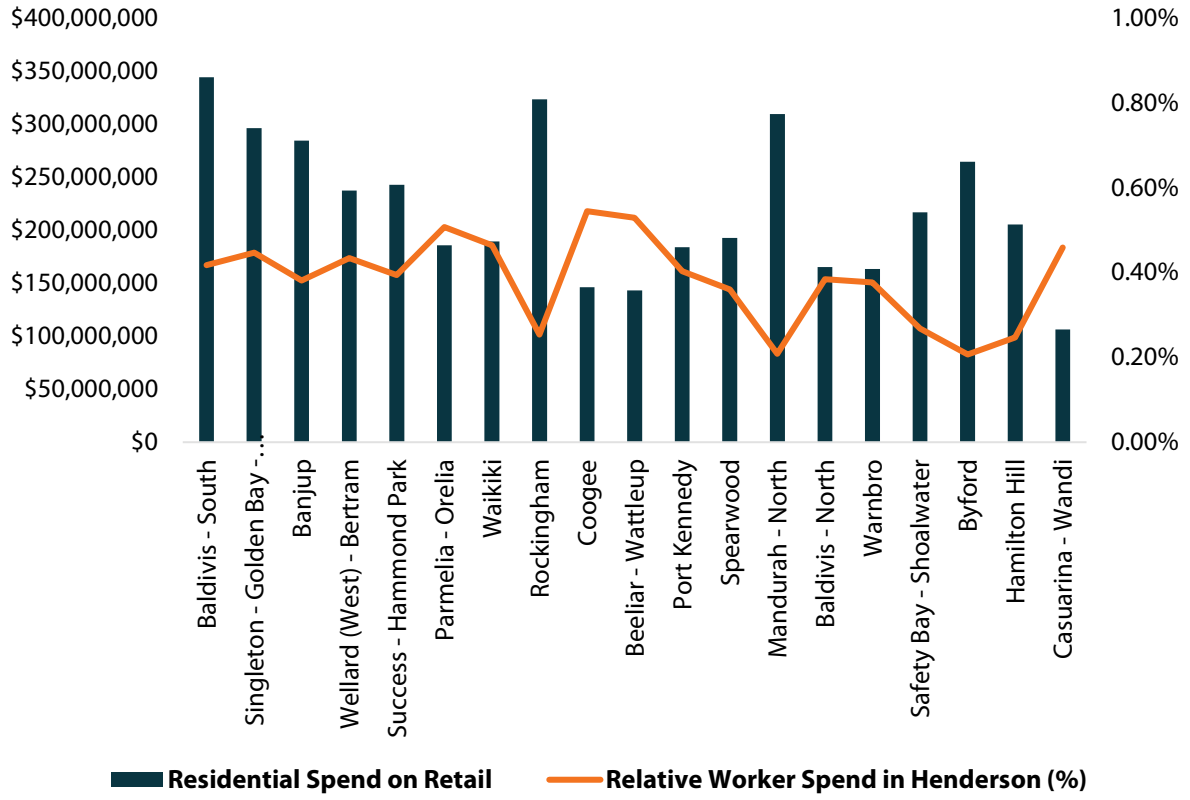
Note: Excludes SA2s that account for 1% or less of workers in Henderson's place of usual residence

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Worker expenditure in Henderson has been compared to local residential expenditure in their suburb of residence (Figure 8). Worker expenditure in Henderson as a proportion of total residential spend in a suburb reflects the level of expenditure potentially lost to activity centres in those suburbs.

Figure 8. Worker Spend as a Proportion of Spend in their Suburb of Residence



Activity centres in Coogee experience the greatest potential impact because of worker expenditure in Henderson however, the expenditure lost is an insignificant proportion (0.54%) of total retail demand in Coogee itself. This potential impact in other suburbs is smaller. The impact estimates consider the total quantum of expenditure in Henderson; the potential impact of just the expenditure attracted by additional floorspace planned at the Local Centre will be lower.

The impact on surrounding activity centres will be further mitigated by the type of proposed retail uses at the Local Centre. The Local Centre will cater to convenience goods and services and is unlikely to subtract from the daily and weekly shopping spend, largely comprised of household groceries, undertaken at other activity centres.

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2.6 Community Benefits

The community benefits associated with the proposed development were developed in line with the assessment template provided in SPP4.2 Implementation Guidelines (2023). The proposed redevelopment of the Local Centre will deliver positive benefits to the local workforce and address SPP4.2 objectives.

Strategic Alignment

State and Local planning frameworks and other contextual documentation have been reviewed to identify relevant overarching goals and actions. The following table summarises the key relevant planning and contextual documents and identifies crucial aspects relevant to the Local Centre in Henderson (Figure 9).

Figure 9. Strategic Alignment

Documentation	Summary	Development Alignment
Perth and Peel @ 3.5million **Department of Planning, Lands and Heritage (2018)** 	Perth and Peel is a land use planning and infrastructure framework for Western Australia at a population of 3.5 million. A core aim of the framework is to promote local employment opportunities to increase the number of people who live and work within the same region. This includes a focus on attracting strategic economic and employment land uses within the strategic metropolitan centres and key industrial centres, while maximising use of existing and proposed infrastructure.	The expansion of the Local Centre will: • Strengthen employment nodes to support future industry and commerce because of Local Centre's location in Henderson • Maximise existing infrastructure by utilising the existing land zoned for a local centre • Maintain and enhance employment self-sufficiency to reduce long and costly commutes and increase the economic sustainability of the City of Cockburn and southwest region of metropolitan Perth • Leverage the opportunity to provide a mix of retail and commercial uses to improve access to goods and services for the local workforce
State Planning Policy 4.2 Activity Centres **Department of Planning, Lands and Heritage (2023)** 	Activity centres are multi-functional community focal points that vary in size and function. SPP4.2 aims to develop activity centres which meet different levels of community need and enable employment, goods and services to be accessed equitably and efficiently by the community. Development within activity centres aims to be well-designed, cohesive and functional and capitalises on the use of existing and planned infrastructure. Walking, cycling and public transport, to and between activity centres, should be maximised while private vehicle trips and dependence on parking is reduced.	The expansion of the Local Centre will: • Further align with the main role and attributes of a local-level activity centre because of high level of accessibility and walkability for workers in Henderson • Provide commercial goods in an underprovided area, increasing the extent of efficient and equitable access to goods and services • Support reduced vehicle trips by increasing retail offerings in the Henderson precinct, and reducing the need to travel to surrounding activity centres

Source: Pracsys 2025

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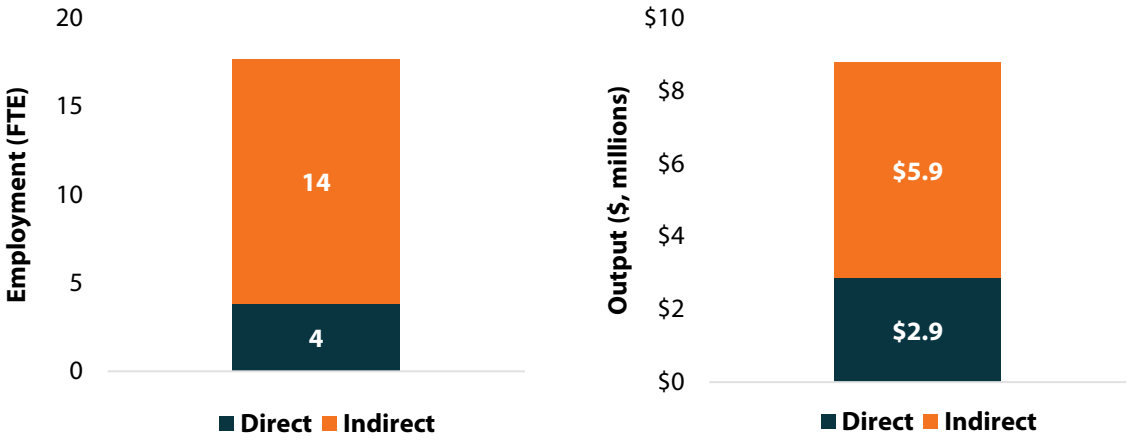
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Actions and policies relevant to the Henderson and the Local Centre are limited. However, the proposed expansion of the Local Centre aligns with core objectives outlined in Perth and Peel @ 3.5 million and SPP4.2. The redevelopment of the Local Centre will be necessary to support the growing local workforce as the Local, State and Federal governments progress plans to intensify industry in the area.

Productivity

The additional retail floorspace at the Local Centre will provide ongoing quantitative benefits through employment and economic output. Input-output modelling has been used to estimate the construction impact of an additional 2,150m^2 of retail floorspace. With an estimated construction cost of $3 million, the indirect impact on the surrounding economy is approximately $6 million. This economic impact is expected to be even greater with the inclusion of other complementary commercial uses in the redevelopment. It is estimated the construction of the retail floorspace will directly support 4 Full Time Equivalent (FTE) jobs and 14 indirect FTE jobs (Figure 10).

Figure 10. Construction Employment and Output Impact



Source: ABS I-O 2022, Pracsys 2025

Some of this employment will be a transfer from within the trade area while some will reflect new employment opportunities for locals, contributing to sub-regional planning framework objectives such as improved employment self-sufficiency.

An aggregate City of Cockburn benchmark was utilised to determine the number of FTE jobs that could be supported by the additional floorspace at the Local Centre. The 'Retail Trade' Input-Output Industry Group (IOIG) was applied to the proposed floorspace to calculate the operational impact on the broader economy.

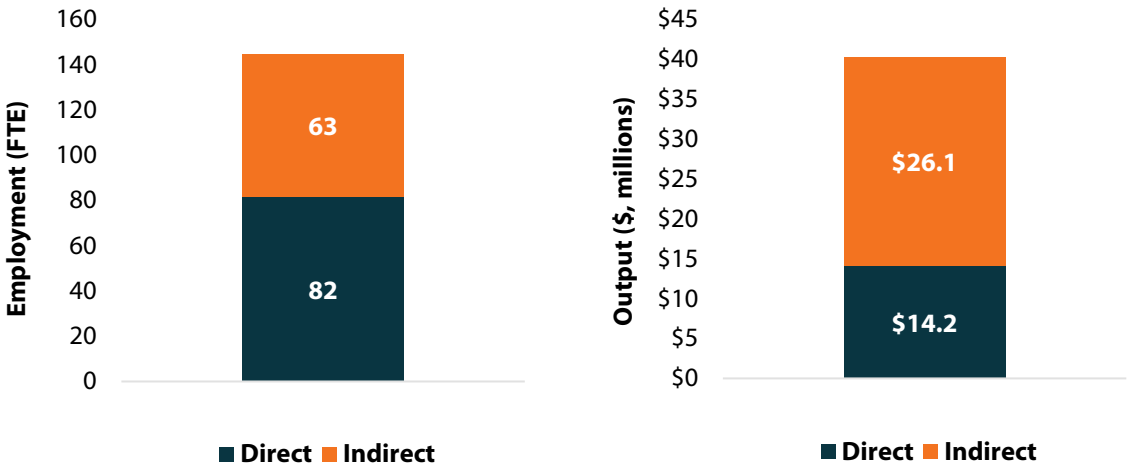
The ongoing operation of the 2,150m^2 of retail floorspace will directly support approximately 82 FTE jobs and indirectly support 63 FTE jobs in the broader economy (Figure 11). This impact is expected to be even greater with the inclusion of other commercial uses at the Local Centre. Total operational output based on the estimated level of employment is estimated to be in the order of $40.3 million across the broader economy.

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Figure 11. Operational Employment and Output Impact



Source: ABS I-O 2022, Pracsys 2025

Quality of Life

The Local Centre is in the Henderson industrial precinct which is characterised by large-lot industrial and marine-related uses, functional building forms. The area has a vehicular-focused public realm with limited active frontages and amenities and a high quantity of vacant land. The public realm and built form reflect the level of low level of consideration to vibrancy commonly found in industrial areas. Existing amenity is largely focused on accommodating freight and worker access rather than offering a range of essential services and retail opportunities for the wider workforce. The Local Centre primarily delivers amenity to the local workforce through the two cafes and the Ship and Dock Inn. There is an opportunity to improve the level of amenity provided at the Local Centre by maximising the underutilised land.

The proposed redevelopment will introduced increased provision of retail and new office space and worker accommodation with other supporting uses. The redevelopment will ensure that the Local Centre will be compatible with, and complementary to, the industrial context of Henderson. Rather than displacing or impacting highly demanded industrial land, the proposal underpins it by providing services that directly support the local workforce. The improved built form, active tenancies and accommodation uses will extend periods of activity, improve passive surveillance and create opportunities for a more legible and attractive built environment. General upgrades to landscaping and building presentation are expected to improve the overall level of vibrancy.

At present, the Local Centre does not meet SPP4.2 standards for mixed use developments. The proposed redevelopment does not result in the loss of any existing commercial or community uses instead, the greater mix of retail and commercial floorspace creates the opportunity for small-scale fitness or community service providers to establish near the workforce. The expanded Local Centre has the potential to improve access to everyday services for local workers and businesses, contributing positively to quality-of-life outcomes envisaged under SPP4.2.

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Vehicle Trips

The existing development pattern at the Local Centre and within the wider Henderson industrial precinct is highly car dependent. The local workforce accesses the area by private vehicle and travel off-site for major retail and commercial needs. As a result, existing vehicle trip volumes and trip lengths are relatively high, compounded by the limited provision alternate transport methods and routes. Redevelopment of the Local Centre to provide retail, office and accommodation uses may increase the absolute number of trips to and from the Local Centre however, by co-locating a greater mix of commercial land uses, the redevelopment has the potential to shorten average trip distances and reduce the need for trips out of the Henderson suburb. The additional retail uses will increase the diversity of goods and services provided in the precinct, reducing the need for the workforce to travel up to 6km to 12km to the nearest activity centre. The redevelopment of the Local Centre will likely deliver a net reduction in car-based distance travelled for local workers.

Infrastructure and Services

The Henderson industrial precinct supports a wide range of government supported manufacturing and industrial uses. State and local governments have supported major road links, service infrastructure and the Australian Marine Complex. The redevelopment of the Local Centre will contribute to this network rather than compete with it. By developing a greater extent and diversity of retail, office space and worker accommodation, the Local centre will assist in the function of the industrial estate and the AMC. Workers will gain better access to day-to-day services in the precinct. This will strengthen the use and viability of existing infrastructure and support further public and private investment by ensuring Henderson provides all land uses necessary for a strategic industrial precinct.

Equity and Social Inclusion

The Henderson industrial precinct has a large workforce but very few local services. Workers may need to leave the area to access a greater diversity of food and convenience goods however, those without the time to journey to the nearest activity centre are excluded from access to essential goods and services. A stronger mix of retail uses will bring everyday goods and services into the heart of the industrial area. By placing these opportunities within walking distance of major workplaces, the redevelopment reduces the gap between those who have the capacity to travel to distant shopping centres and those who cannot. The Local Centre will also create a wider range of local jobs in retail and services; often suit young people and migrants. The redevelopment of the Local Centre ensures that the benefits of the accessing day-to-day services and working in the Henderson industrial precinct are more evenly distributed across the workforce, including minority and vulnerable groups, while supporting access for the primary workforce.

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3 SUMMARY

The following table summarises the qualitative and quantitative analysis undertaken. The summary considers the impact, need and benefit of the proposed expansion of retail floorspace at the Local Centre (Figure 12).

Figure 12. Analysis Summary for 81 Quill Way, Henderson

Key Consideration	Category	Analysis
Impact on Surrounding Activity Centres	Barriers to Access	The Local Centre is separated from residential demand by significant built barriers and distance. As a result, it is likely that only a small portion of local residents visit the centre. The expanded retail floorspace will have a minimal impact on other activity centres because it does not draw demand from the nearby residential areas.
	Primary User Group	The redevelopment of the Local Centre intends to support the extensive and growing local workforce in Henderson (6,534 people) and not the surrounding residential population. The primary user group being the local workforce further differentiates the portion of demand shared by the Local Centre and surrounding activity centres, mitigating any potential impact.
	Impact Distribution	The primary user group of the Local Centre reside in a multitude of different suburbs across Rockingham, Cockburn and Kwinana. As a result, the impact of any expenditure that may be absorbed by the expansion of the Local Centre will be relatively well-distributed among a multitude of activity centres in the suburbs of residence. Any expenditure that is subtracted from other activity centres is relatively insignificant as worker spend in Henderson accounts for a minimal proportion of retail expenditure in the relevant suburbs of residence.
Need and Demand	Primary User Group	A neighbourhood-level activity centre typically services an area comprised of 2,000 and 15,000 people according to SPP4.2. The current and growing size of the workforce in Henderson is sufficient to support the additional floorspace planned for the Local Centre.
	Worker Expenditure	Worker expenditure on retail has increased from $19 million to $27 million in line with workforce growth between 2016 and 2021. This expenditure is expected to grow with the thousands of additional jobs generated over the next 20 years from the State and Federal Governments investment into shipbuilding and AUKUS in the Henderson Defence Precinct. This level of demand is more than enough to justify the need for additional retail floorspace and improved access to essential services.
	Retail Turnover	The analysis indicates that the additional retail floorspace proposed at the Local Centre generates a productivity of approximately 12,000 $/m^2. There is significant demand for additional retail uses as this level of productivity is well above the industry standard benchmark of viability for Dine Out Food of $8,500 $/m^2.

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Key Consideration	Category	Analysis
Community Benefits	Strategic Alignment	The proposed expansion of the Local Centre aligns with core objectives of Perth and Peel @ 3.5 million and SPP4.2. The redevelopment will be necessary to support the growing workforce as the Local, State and Federal governments progress plans to intensify industry.
	Productivity	With an estimated construction cost of $3 million, the indirect value generated for the surrounding economy is approximately $6 million. It is estimated the construction of the additional retail uses will directly support four FTE jobs and 14 FTE indirect jobs. The operation of the additional retail uses will directly support up to 82 FTE jobs and indirectly support 63 FTE jobs, generating a direct and indirect output of over $40.3 million across the broader economy.
	Quality of Life	The existing public realm and provision of amenity is characterised by the industrial focus of Henderson inclusive of vacant land and limited convenience retail. The proposed redevelopment involves increased retail, new office and worker accommodation with associated supporting uses, providing improved access to everyday services for local workers and businesses. This will contribute positively to quality-of-life outcomes envisaged under SPP4.2.
	Vehicle Trips	The redevelopment of the Local Centre may increase the absolute number of trips however, by co-locating a greater mix of commercial land uses, the redevelopment has the potential to shorten average trip distances and reduce the need for trips out of Henderson. The additional retail uses will increase the diversity of goods and services provided in the precinct, reducing the need for the workforce to travel up to 6km to 12km to the nearest activity centre.
	Infrastructure and Services	By developing a greater extent and diversity of commercial uses, the Local centre will support the function of the industrial precinct and the AMC. Workers will gain better access to day-to-day services in the precinct. This will strengthen the use and viability of existing infrastructure and support further public and private investment by ensuring Henderson provides all complementary services necessary for a strategic industrial precinct.
	Equity and Social Inclusion	The Local Centre will create a range of local jobs in retail and services. These roles often suit young people and migrants. By placing these opportunities within walking distance of major workplaces, the redevelopment reduces the gap between those who have the capacity to travel to distant shopping centres and those who cannot. This ensures that access to key services is more evenly shared across the workforce, including minority and vulnerable groups.

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ART+

LOCATIONS PROPOSED

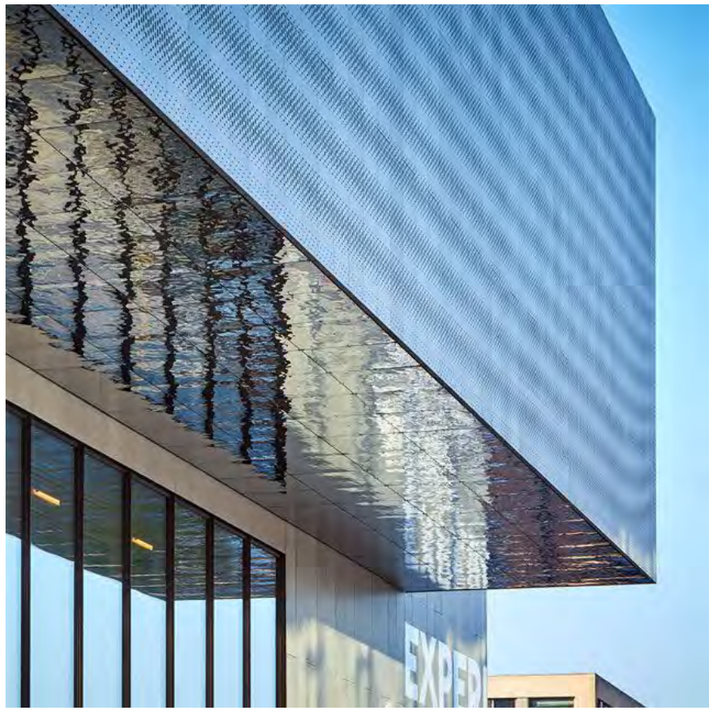


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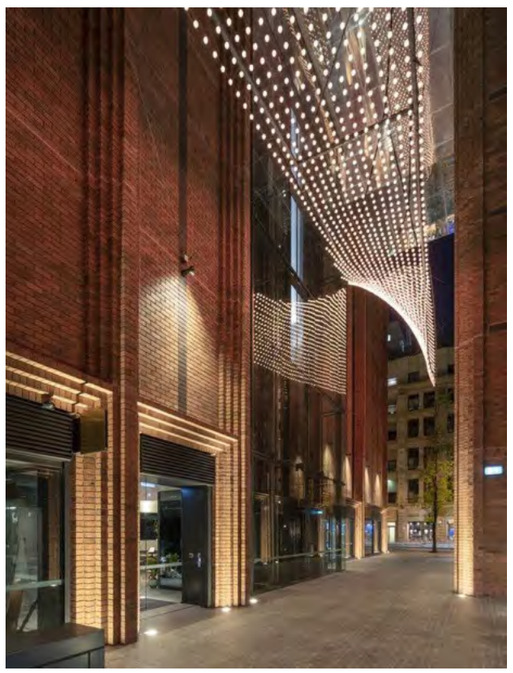
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OPPORTUNITY 1 - SOFFITS









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OPPORTUNITY 2- PUBLIC FURNTURE









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Design Review Report

Henderson Business Hub
81 Quill Way
Henderson WA 6166

City of Cockburn

September 2025

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Design Review Report		
Subject	**Henderson Business Hub - 81 Quill Way HENDERSON WA**	
Date	24/9/2025	
Time	3:30PM – 4:30PM	
Location	City of Cockburn	
Design Reviewers	Simon Venturi Brett Wood-Gush Annelise Safstrom	Panel Chair Panel Member Panel Member
Proponent	Callum Thatcher	Element Advisory SLR
Project Team	Stephen Pennock Julian Croudace Shaun Quinlan Robert Engelhard Undisclosed	Pennock Architects Propagule Consulting Scope Property Group Scope Property Group Summation
Planning Authority	City of Cockburn	
City of Cockburn	Lorenzo Santoriello Lucia Dunstan Gayle O'Leary Lachlan Compton Jak Hottes Riley Awa Morgan Adshead	Group Manager Development and Safety Service Manager Development Services Planning Officer Planning Officer A/Senior 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 is of a type and scale that will potentially make a significant contribution to the area and surrounding community. The proposal is currently in the early stages of its development. Due to early engagement with the DRP limited information has been provided in relation to some aspects of the proposal and some Principles are accordingly assigned a white colour. The Panel have provided high level feedback relating to the overall organisation of built form on the site to inform the proposal's design development moving forward and look forward to subsequent presentations providing greater detail in some areas.

Design quality evaluation

		Supported
		Pending further attention
		Not supported
		Insufficient information provided by applicant to assess
Strengths of the Proposal		• The applicant has engaged with the DRP at an early stage which is appreciated • A comprehensive presentation was provided including contextual analysis and information relating to the technical considerations informing the proposal • The diversity of uses on the site is supported • The hotel as the most sensitive land use is located on the corner which is logical from an acoustics perspective • A Landscape Architect has been engaged and provided a Landscape Plan • The landscaping incorporates native planting species • New landscaping is proposed on the verges • A swale strategy in carpark areas is positive to capture water for landscaping • An ESD professional has been engaged and developed a high level ESD framework for the site • The development will be all-electric (no gas) • Delivery vehicle movement and loading zones have been separated from customer parking areas for the majority of the buildings • A generous 5m floor to floor height to the rear F&B tenancies will accommodate kitchen services etc. • A 4m floor to floor height is indicated in the office building which is generous • The hotel communal corridors have windows at both ends providing natural light into these spaces
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 site layout and built form currently presents as a collection of individual elements within a car park with minimal relationship to each other or the surrounding context b) The verges currently have large areas devoted to truck parking c) The Hotel streetscape interface currently displays a limited level of activation and interactivity with its loading dock and service areas located on the streetscape sides d) Considering the size of the site large areas of parking are currently highly visible from surrounding streetscapes and dominate users 'experience' of the site once they enter the site

Recommendations		**1. Develop a more cohesive site response that optimises site assets such as the Norfolk pines, enhances streetscape activation and applies an end user experience lens to cluster and link related uses.** **2. Remove truck parking from the verges** **3. Relocate the Hotel main entrance to the streetscape interface with the hotel loading dock / service areas positioned internally on the site to increase streetscape interactivity and better address the corner of the site** **4. Sleeve / conceal or screen parking from the streetscape interfaces** **5. Establish a distinctive character and sense of 'place' that relates to its coastal marine setting and the high tech nature of the wider precinct**
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) New landscaping is proposed for the verge which is supported however limited landscaping is currently provided on the site. The extent of on-grade parking is currently limiting landscaping on the site b) There are a number of existing mature Norfolk Island Pines in a central location on the site which are proposed for removal c) Opportunities exist for a series of smaller informal public spaces or pocket parks dispersed throughout the site d) Hard landscaping elements on the site can also play a role in establishing a unique sense of 'place' for the site. Use of local coastal materials such as limestone is encouraged to reinforce local identity
Recommendations		**1. Look for all opportunities to reduce hardscape, increase deep soil area, soft planting and canopy coverage on the site. Include larger / tall trees to ameliorate the height and bulk of buildings and enhance shading** **2. Investigate re-arranging built form to retain the existing Norfolk Island Pine trees which can be utilised to play a role in generating a unique sense of 'place' for the development** **3. Introduce smaller pocket park public spaces dispersed throughout the site** **4. Provide further information in relation to the hard landscaping elements on the site such as paving materials, retaining walls, public space infrastructure, bicycle racks etc.**
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) Built form on the site generally doesn't relate to each cohesively generating a series of awkward spaces and spatial relationships between the buildings b) Retaining the existing low scale tavern in the centre of the site is playing a strong role in informing the general arrangement of built form on the remainder of the site. The scale of the tavern appears inconsistent with the remainder of the development, the internal layout does not assist in generating a social heart in the centre of the development (which should be a key objective of the proposal) and the rear loading / service area for the tavern appears visible from large portions of the site c) The amount of parking provided on the site is significant and impacting on the general organisation and built form. In particular the Office parking requirement is onerous and has resulted in an additional 6 storeys of height, resulting in a bulky form to the building d) The future green title subdivision strategy for the site also plays a significant role in informing the general arrangement of built form on the site, increases the number of crossovers and encouraging dispersed parking throughout the site. The Panel considers this to be a limiting factor in achieving a high quality pedestrian orientated active and social outcome including providing generous public spaces and landscaping which are currently lacking e) The Office building is located in close proximity to the southern boundary. Given the adjacent site could be developed with a nil-setback and significant

		height envelope this would potentially provide limited separation to the Office building in the future. The Panel would typically expect to see the bulk of the development in the centre of the site and on the corner. The hotel height addresses the corner however the Office is currently wedged up hard against the southern boundary and the centre of the site is dominated by a low scale tavern as well as F&B building with its service / loading visible in the site f) The Office and Hotel are tall and long buildings that dominate the site and surrounding context. Strategies to reduce the visual bulk and scale of each building are encouraged
Recommendations		**1. The existing tavern generates a social use on the site however its scale and internal configuration do not currently relate positively to the remainder of the development. Consider demolishing the existing tavern and building a new tavern that is more cohesive with the remainder of the development. Alternatively provide a Masterplan that illustrates how this portion of the site could be developed in the future to better integrate with and contribute to the development** **2. Investigate the removal of the Quill Way vehicle access to the Hotel carpark as well as the car park between the Hotel and Tavern. This would allow for improved built form connection and pedestrian links between the two uses. There is scope for the buildings to provide an activated street frontage to both streets that serves as a key part of the social heart of the Business Hub** **3. The applicant is encouraged to discuss the parking requirements for the site with the City and reduce parking provisions if possible** **4. Consider the site more as a cohesive precinct rather than a series of subdividable lots each with individual parking. Given the slope on the site consider concealing parking in an amalgamated under-croft carpark to free up the ground plane in order to establish a more active, pedestrian orientated environment with generous public spaces and landscaping** **5. Review the extent and arrangement of parking for the Office to significantly reduce building height / bulk and achieve an improved relationship between buildings on the site as well as the surrounding context** **6. Increase the setback of the office building to the south boundary to generate greater separation if the adjoining site is developed in accordance with its allowable setbacks and heights in the future** **7. Introduce recesses and further articulation in the long Hotel facade and investigate an alternative built form arrangement for the Office building to reduce the height, break down the visual bulk and improve spatial relationships between buildings** **8. Consider the addition of balconies, terraces and roof decks in the Hotel and Office buildings to further articulate these buildings**
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) A harsh coastal setting will require hard wearing durable materials that are low maintenance and appropriate to the setting b) Given the surrounding context a detailed Acoustics Report will be important in supporting the overall built form arrangement as well as the proposal's detailed design elements c) Given the size and complexity of the site a detailed Waste Management Plan should also accompany the proposal d) HVAC service locations are not currently shown on the drawings e) Bicycle parking is shown in the under-croft under the F&B tenancy in the centre of the site however on a large site additional bicycle parking dispersed throughout the site is encouraged

Recommendations		**1. Ensure robust low maintenance but attractive external materials are utilised in a harsh coastal environment** **2. Include an Acoustics Report with the proposal** **3. Provide a Waste Management Plan for the site** **4. Illustrate where all HVAC services for each building will be located and ensure these will be concealed from view from the public realm** **5. Introduce additional bicycle racks in public spaces throughout the site**
Principle 5 **Sustainability**		*Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.*
		a) The ESD strategy establishes a high level framework for the site b) For a development of this scale the applicant is encouraged to strengthen the ESD strategy by providing commitments relating to the active ESD initiatives that will be integrated into each building on the site c) The Hotel and Office buildings are of the scale that a Greenstar rating tool and certified outcome should be considered d) Some initiatives such as EV charging are currently noted as a future install rather than an up-front commitment e) The Panel encourages PV solar systems to be installed on each building on the site
Recommendations		**1. Further develop the ESD strategy to include commitments in relation to active ESD initiatives that will be integrated into each building upfront including EV charging, PV solar systems etc.** **2. Consider use of a recognised ESD tool such as a Greenstar and a certified Greenstar outcome for the Hotel and Office**
Principle 6 **Amenity**		*Good design optimises internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and healthy.*
		a) For a mixed use development of this type and scale the project currently lacks a social heart in the form of a generous public space with integrated landscaping for use by workers, visitors and the surrounding community. The site's open space is currently dominated by parking b) Almost all hotel bedrooms are positioned internally with no windows c) The hotel pool deck doesn't currently appear to capture significant views d) The internal separation between the two Office building blocks is minimal limiting amenity in some areas of those buildings e) The fitness centre in the Office is positive but it is currently tucked away in the rear corner of the site
Recommendations		**1. Establish a significant public space with integrated landscaping on the site in a central or highly accessible location** **2. Use a place making approach to develop a unique sense of character / 'place' for the development. Cluster activities that draw people to the site and benefit from proximity. Once the built form is positioned appropriately on the site focus on the pedestrian pathway networks and public spaces between the building by drawings these at a larger scale to illustrate how people can navigate, use and enjoy these spaces** **3. Look to provide windows to the bedrooms in the Hotel. Mirror the rooms on the ends of the hotel floorplans so bedrooms have windows providing natural light and potentially natural ventilation** **4. Relocate the pool deck to better capture views from this space** **5. Consider an upper level roof top use in the Hotel such as an outdoor bar or conference venue** **6. Increase the distance between the two office building blocks** **7. Relocate the fitness centre to maximise outlook from this space**
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) The pedestrian pathway network through the site is not currently continuous and legible. The pedestrian movement diagram also shows many pedestrian pathways crossing internal roads on the site b) The hotel entrance faces internally on the site to a carpark c) The tavern pedestrian entrance is accessed from an internal pathway on the site d) The office lobby currently faces a carpark on the west side of the building
Recommendations		**1. Ensure the pedestrian pathway network through the site is generous, continuous and legible taking priority over internal roads on the site. Consider raising pedestrian movement pathways over roads with continuous fine grain paving so pedestrian movement is the priority over vehicle movement** **2. Relocate the main Hotel entrance to the streetscape interface or a corner of the building in close proximity to the streetscape interface** **3. Ensure the Tavern has a pedestrian entrance legible and directly accessed off the streetscape** **4. Consider relocating the Office lobby so it's accessed from the north off what could be a generous pedestrian axis / promenade with a row of trees on the north side of the Office**
Principle 8 **Safety**		*Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.*
		a) There are blank walls, inactive building edges and back of house service areas that limit passive surveillance of the streets as well as carpark areas within the site. The area behind the tavern is a particular concern b) As noted above in the Legibility Principle ensure pedestrian movement on the site is the priority over vehicle movement c) The sloping site will be required to facilitate compliant DDA movement and access to all buildings
Recommendations		**1. Review the site layout and building edges to provide active frontages to streets as well as pedestrian movement paths within the site to increase passive surveillance** **2. Illustrate compliant DDA pathways will be achieved throughout the site and that DDA access will be achieved to all buildings**
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) Split level parking slabs in the Office building don't accommodate future flexible adaptive re-use of these spaces b) Given the type and size development the applicant is encouraged to develop a Public Art Strategy for the site at an early stage to identify the forms and locations of public art that will meaningfully contribute to the site's sense of 'place' by reflecting the surrounding community or landscape
Recommendations		**1. Consider the potential for the adaptive re-use of the parking levels in the Office building** **2. Develop a Public Art Strategy for the site**
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) Due to the early stage of the proposal limited information has currently been provided in relation to built form and landscaping's architectural language and materiality b) Signage will play a role in the overall user experience of the development and the proposal's architectural language
Recommendations		**1. Provide further information in relation to the proposal's architectural language and external materiality. The surrounding context offers an opportunity to develop a high tech coastal / marine orientated**

		architectural language which will play a role in establishing a strong sense of 'place' **2. Develop a Signage Strategy for the site**

Concluding Remarks

The mix of uses on the site is supported however the Panel has concerns in relation to the general organisation of built form on the site, the lack of streetscape interactivity, amount as well as dominance of parking and a lack of landscaping on the site. A development of this type and scale requires a central social heart or generous public space anchoring the surrounding buildings.

The retention of the existing tavern, future green title subdivision strategy and parking provisions are considered to be limiting factors in achieving a high quality, active, pedestrian orientated development. The applicant is encouraged to view the site using a place making approach to establish a unique sense of 'place' and consider it as an integrated precinct rather than a series of subdivided sites each possessing their own parking.

Due to the early stage of the proposal the applicant is also encouraged to provide further information in relation to the Functionality & Build Quality, Sustainability and Aesthetics Principles in order for the Panel to assess and provide commentary on those aspects.

The project will be required to return to the DRP to address the above commentary and 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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Design Review Report

Henderson Business Hub
81 Quill Way, Henderson WA 6166

City of Cockburn

November 2025

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Design Review Report		
Subject	**Henderson Business Hub - 81 Quill Way, Henderson WA**	
Date	26/11/2025	
Time	2:30PM – 4:00PM	
Location	City of Cockburn	
Design Reviewers	Simon Venturi Brett Wood-Gush David Barr	Panel Chair Panel Member Panel Member
Proponent	Callum Thatcher	Element Advisory SLR
Project Team	Stephen Pennock Julian Croudace Shaun Quinlan Robert Engelhard Prasanna Suraweera	Pennock Architects Propagule Consulting Scope Property Group Scope Property Group Summation
Planning Authority	City of Cockburn	
City of Cockburn	Lucia Dunstan Riley Brown Gayle O'Leary Lachlan Compton Jak Hottes	Service Manager Development Services Co-ordinator Development Services Planning Officer Planning Officer A/Senior Planning Officer
Declarations	None	
Design Review Report Endorsement		
Chair Signature		

Document Set ID: 12589634
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Introductory Comments

The Panel thanks the applicant for presenting the updated proposal which represents a precinct scale mixed use typology that would make an exciting and positive contribution to the surrounding context and community. The Panel provides further commentary and recommendations 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 (based on changes)		• Positioning the hotel on the of the corner is logical from both a massing and acoustics perspective • Including the tavern site within the development is supported. The new tavern and social hub in the centre of the site is a significant improvement from the previous version • Relocating uses such as the fitness centre into the social hub and the grouping of social uses is supported • The amount of communal and social space on the site has increased • Social hub floor to floor heights are generous • Pedestrian movement pathways through the site in both directions are stronger and more legible • Some existing mature Norfolk Pine trees have been retained • Landscaping on the site generally appears to have increased • Generous landscaping is proposed on the verge • A number of Parklet style public spaces have been introduced on the site • The hotel rooms on the ends are mirrored so bedrooms now have windows • The separation distance between the two office buildings has increased • The ring road around the east and south sides of the site facilitate rear servicing for a high number of buildings / tenancies • Floor to floor heights in the office parking levels have increased to accommodate future adaptive re-use of those spaces • A number of active ESD initiatives have been included as commitments including a 99kW PV solar system on the office building, an all-electric development and energy monitoring • The hotel, mixed use and social hub buildings display a level of articulation and diversity materiality
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 verges have large areas devoted to truck parking which is not supported. b) The hotel streetscape interfaces currently display minimal levels of activation and interactivity with the loading dock located on the streetscape interface in a prominent corner location and the main entrance to the hotel facing inwards to a carpark. The applicant is encouraged to adjust the hotel entrance so it's closer to the streetscape so it interacts with both the streetscape as well as the internal carpark interfaces. Investigate if the area under the pool can accommodate this or relocate the pool to preference ground level streetscape interactivity.
Recommendations		**1. Remove truck parking from the verges.**

		2. Relocate the hotel entrance to the corner so it interacts with the streetscape interface as well as the carpark to generate a higher level of streetscape interactivity. **3. Consider relocating the hotel loading dock to an internal interface on the site in order to increase streetscape interactivity as well as the general presentation of the streetscape interface on the corner of the site.**
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) A series of smaller Parklet style public spaces have been dispersed throughout the site which are important social spaces and supported. These are clearly shown on the Landscape Plan but not clearly shown on the architectural drawings. b) Hard landscaping elements can play a role in establishing a unique sense of 'place' for the site. The use of local coastal materials such as limestone is encouraged to reinforce the site's sense of local identity. c) The south side of the social hub appears as an opportunity for additional Parklet style public spaces to encourage social use. The grade of this area of the site is acknowledged however terraced Parklet spaces would assist the social hub blurring out into and interacting with surrounding areas of the site.
Recommendations		**1. Co-ordinate landscape and architectural drawings especially in relation to the Parklet style public spaces on the site.** **2. Provide further information in relation to hard landscaping elements and materiality such as paving materials, retaining walls, public space infrastructure, bicycle racks etc.** **3. Consider introducing additional Parklet style public spaces on the south side of the social hub.**
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 office building is located in close proximity to the southern boundary appearing as an un-neighbourly response. Given the adjacent site could be developed with a nil-setback and a significant height envelope this would potentially provide limited separation to the office building. The Panel would typically encourage the bulk of the development in the centre of the site and on the corner. The hotel height addresses the corner however the office is currently positioned up hard against the southern boundary. b) Given the above comment the office also appears as a bulky, boxy, long and tall building that dominates the site and surrounding context. Strategies to reduce the visual bulk and scale perception of the office building are encouraged.
Recommendations		**1. Increase the setback of the office building to the south boundary or relocate the office bulk office closer to the centre of the site.** **2. Introduce articulation in the form of recesses or further diversity of façade materiality on the office building facades to break down the visual bulk and scale of the building.**
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 applicant has provided high level input from an Acoustics consultant however given the surrounding context and proposed uses a detailed Acoustics Report will be important in supporting the proposal. b) Given the size and complexity of the proposal a detailed Waste Management Plan should also accompany the proposal. c) The applicant indicated each area of the site will be developed in a staged approach based on demand / leasing pre-commitments. Given this a Staging Plan will be important in understanding what facilities, public spaces and landscaping will be provided for users in each stage of construction. This may

		also play a role in the design of the certain elements on the site especially on the interfaces between different sites.
Recommendations		**1. Include an Acoustics Report in the package presented to the Panel.** **2. Provide a Waste Management Plan in the package presented to the Panel.** **3. Include a Staging Plan in the package presented to the Panel.**
Principle 5 **Sustainability**		*Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.*
		a) Given the scale of the development the applicant is encouraged to include a detailed and comprehensive ESD Report for the Panel to review rather than this being provided at Development Approval submission stage. b) EV charging is currently noted as a future install based on demand, rather than an up-front commitment. The applicant is encouraged to consider some communal EV charging on the site to encourage access by EV users from day one. c) The Panel supports the significant PV solar system committed to on the office building and encourages the inclusion of PV solar systems on the remaining buildings on the site. a) The hotel and office buildings are of a scale that a Greenstar rating tool and certified outcome should be considered.
Recommendations		**1. Include a detailed ESD report in the package presented to the Panel.** **2. Consider use of a recognised ESD tool such as Greenstar and a certified Greenstar outcome for the Hotel and Office buildings.** **3. Include PV solar systems on the remaining buildings on the site and communal EV charging as an up-front commitment.**
Principle 6 **Amenity**		*Good design optimises internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and healthy.*
		a) The social hub establishes a range of social opportunities at the heart of the development which is supported. The organisation of the ground level of this space could be refined to maximise the interactivity of this space with surrounding areas on the site. The kitchen positioned in the south east corner of the footprint could be relocated to generate increased interactivity. The store in the north east corner could also be relocated internally to achieve the same objective allowing the space to open out to the east west pedestrian link through the site so it reads more as an active laneway like space. b) The central east west walkway feels a little canyon like in the centre of the site with blank walls on both sides. The north side of this walkway has a Food & Beverage tenancy which could open out with shopfront glazing and alfresco areas to further activate this space. The south side has the social hub F&B store which could also be relocated as noted above. c) The ground level of the mixed use building facing the carpark appears to have suitable falls on the footpath to accommodate F&B alfresco seating in the centre of the site. This would play a role in activating this interface and enlivening the central carpark area of the site.
Recommendations		**1. Relocate inactive elements on the social hub ground level such as the F&B store in the north east corner and kitchen in the south west corner so the social hub space further interacts with, activates and enlivens the surrounding areas in the centre of the site.** **2. Increase the width of the footpath and add alfresco seating to the mixed use building ground level where footpath grades allow in the centre of the site.**
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) The hotel pedestrian entrance solely faces the internal carpark on the site.

Recommendations		**1. Relocate the main Hotel entrance to the streetscape interface or the corner of the building in close proximity to the streetscape interface as noted on the Context & Character Principle above.**
Principle 8 **Safety**		*Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.*
		a) There are a number of blank walls, inactive building edges, back of house service areas on streetscape interfaces as well as truck parking on the verge as noted in other Principles that limit passive surveillance of the streetscapes, pedestrian links through the site as well as internal carpark areas on the site. b) The sloping site will require compliant DDA movement and access to all buildings.
Recommendations		**1. Review blank walls on the site, the ground level of the social hub, the location of the hotel pedestrian entrance as well as loading dock and truck parking on the verge to increase passive surveillance of both streetscapes, internal pedestrian pathways and communal areas / carparks on the site.** **2. Illustrate compliant DDA pathways will be achieved throughout the site and that DDA access will be achieved to all buildings.**
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 diversity of uses on the site are supported and will make a significant contribution to the surrounding context and community.
Recommendations		**1. None**
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 office building external facades currently display limited articulation. Given this building is of a significant height and currently presents very boxy massing the lack of articulation accentuates the visual bulk and scale of this building. The Panel encourages further articulation through building recesses or increased diversity of materiality to reduce the visual bulk and scale of the building. b) Signage will play an important role in the overall user experience of the development. The Panel encourages the applicant to consider this aspect and how it relates to the proposal's architectural language at an early stage. c) Given the typology and precinct scale of the development the applicant is encouraged to develop a detailed Public Art Strategy at an early stage to identify forms and locations of public art that will meaningfully contribute to the development as well as surrounding community in a meaningful way and also strengthen the proposal's response to the area's unique sense of 'place'.
Recommendations		**1. Introduce greater articulation to the office building facades.** **2. Include a Signage Strategy in the package presented to the Panel.** **3. Provide a detailed Public Art Strategy in the package presented to the Panel.**

Concluding Remarks

The Panel thanks the applicant for the improvements that have been undertaken to date. The applicant's presentation and response notes the surrounding industrial context as a justification for a number of proposed design outcomes such as positioning the office building bulk on the perimeter of the site, minimal articulation to the office building's facade and positioning of the hotel loading dock on a streetscape interface. Given the proposal is a precinct scale mixed use development the Panel encourages the applicant to draw from precedents of a similar scale and type, even if they are from outside the local area, rather than only drawing from precedents within the surrounding industrial context. The positioning of the office height and bulk on the site in particular, is a key concern the Panel encourages the applicant to reconsider in order to obtain further DRP support for the proposal.

In addition the applicant is encouraged to provide further information in the form of an Acoustics Report, Waste Management Plan, Signage Strategy, Public Art Strategy and Staging Plan which would potentially assist the Panel in providing support for some aspects of the proposal.

The project will be required to return to the DRP to address the above commentary and recommendations.

Design Review progress

	Supported
	Pending further attention
	Not yet supported
	Insufficient information provided by applicant to assess

	DR1 – 24/09/25	***DR2 – 26/11/25***	***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**			

This information is provided by the City of Cockburn

PS ref: 9922

23 January 2026

Chief Executive Officer
City of Cockburn
9 Coleville Crescent
Spearwood, 6163

Attention: Planning Services

Dear Sir/Madam,

LOT 168 (81) QUILL WAY, HENDERSON
SUBMISSION ON PROPOSED DEVELOPMENT

Planning Solutions acts on behalf of Hero Properties (our client), the registered proprietor of several sites in close proximity to the proposed development at Lot 168 (81) Quill Way, Henderson (**subject site**). These sites include:

- Lot 3 (1) Channel Close;
- Lots 85 and 91 Cockburn Road;
- Lot 550 (27) Quill Way;
- Lot 303 (7) and Lot 105 (74) Sparks Road; and
- Lot 92 (58) Zedora Turn.

We refer to the development application lodged with the City of Cockburn for the redevelopment of the subject site. We appreciate the opportunity to provide comment on the proposed development, which has been advertised for public comment until Friday 23 January 2026.

As a significant contributor in the industrial space, including in Henderson, our client supports the revitalisation of and investment in industrial areas, to deliver quality services, goods and employment opportunities for their respective catchments. Our client also supports the provision of supporting land uses within industrial areas, to create attractive precincts with amenity to support the local workforce.

Notwithstanding the above, we respectfully register our objection on behalf of our client to the proposed development as advertised on the following grounds:

1. The proposed development is inconsistent with the site's 'Industrial' zoning under the Metropolitan Region Scheme, and the provisions of State Planning Policy 4.1 – Industrial Interface (**MRS**).
2. The proposed development is inconsistent and incompatible with the 'Local Centre' zoning of the subject site, and the provisions of State Planning Policy 4.2 – Activity Centres for Perth and Peel.
3. The sheer scale of the proposal significantly exceeds that contemplated by the applicable regional and local planning frameworks and goes far beyond the scope of what could reasonably considered as a discretionary variation to the development standards of the City's local planning framework.
4. The proposed uses are incompatible and inappropriate within the context of the Henderson and will prejudice future industrial development of the site.
5. Future planning for the AMC should not bypass thorough reviews and amendments to the planning framework, to ensure potential risks are appropriately mitigated.

These grounds are expanded upon in the detailed submission below.

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INCONSISTENCY WITH INDUSTRIAL ZONING UNDER MRS

The Henderson locality forms part of the Australian Marine Complex (**AMC**); an area identified under the MRS for industrial purposes. The stated objective of the 'Industrial' zone under the MRS is:

"to provide for manufacturing industry, the storage and distribution of goods and associated use."

This objective establishes a clear and deliberate land-use purpose, namely the protection and prioritisation of industrial activities that support manufacturing, logistics, storage, distribution and closely related functions.

Development within this zone is intended to either directly accommodate these activities or support them in a manner that does not undermine their operation, expansion or long-term viability.

The proposed development, which comprises a large-scale hotel, multi-storey commercial office towers and extensive food and beverage and hospitality uses, does not align with this objective. These uses are not manufacturing-related, do not facilitate the storage or distribution of goods, and cannot reasonably be characterised as "associated uses" in the context of the MRS industrial objective. Rather, they represent stand-alone commercial and hospitality activities that are typically located within activity centres or urban commercial zones, not within strategic industrial precincts.

Approval of such uses would dilute the intent of the Industrial zone by introducing land uses that neither depend upon nor meaningfully support industrial activity. More concerningly, the introduction of non-industrial, high-amenity and sensitive uses within an industrial precinct increases the likelihood of land-use conflict, thereby constraining industrial operations and discouraging future industrial investment.

Given the State significance of the AMC and the finite supply of strategically located industrial land, permitting development that is inconsistent with the MRS industrial objective would undermine the orderly and proper planning of the metropolitan area and erode the integrity of the statutory planning framework.

State Planning Policy 4.1 – Industrial Interface

State Planning Policy 4.1 (**SPP4.1**) is directly relevant to the assessment of this proposal, as it is expressly concerned with managing the interface between industrial areas and incompatible or sensitive land uses in order to protect the long-term operation and viability of industrial precincts. As per SPP4.1, the policy applies to land under the LPS or MRS zoned for industrial purposes.

SPP 4.1 seeks to prevent land-use outcomes that introduce sensitive or amenity-driven uses into industrial contexts where they may be adversely affected by, or place constraints upon, lawful industrial activity. In this regard, the applicant's assertions on pages 25 and 26 of the development application report—that the proposal complies with SPP 4.1—are unconvincing in their interpretation of the policy.

On page 26 of the development application report, the applicant concludes that the proposal complies with State Planning Policy 4.1 largely on the basis that separation distances and buffers are provided and that potential impacts can be managed through design and mitigation measures. While these considerations are relevant, they do not fully address the intent or application of SPP 4.1.

SPP 4.1 is not solely concerned with meeting numerical separation distances. Rather, its primary objective is to manage land-use compatibility and to avoid the introduction of sensitive or amenity-driven uses into industrial environments where they may be adversely affected by, or place constraints upon, lawful industrial activity over time. In this context, compliance requires consideration of the nature of the proposed uses themselves, not only their physical separation from existing industry or the proposed design solution.

The proposed hotel, office and hospitality uses are inherently amenity-focused and generate expectations regarding noise, air quality, hours of operation and general environmental conditions that differ from, and may be difficult to reconcile with, the operational characteristics of the AMC. While buffers and design responses may reduce immediate impacts, they do not change the underlying sensitivity of these uses or remove the longer-term risk of land-use conflict.

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Accordingly, the conclusions reached on page 26 place significant weight on separation and mitigation measures without adequately addressing whether the proposal aligns with the broader intent of SPP 4.1, which is to protect industrial precincts from incompatible encroachment. It's also noted the mitigation measures proposed could very well be rendered ineffective as the AMC continues to evolve over time.

When considered in this broader policy context, the proposal raises concerns as to its consistency with the objectives of SPP 4.1.

INCONSISTENCY WITH LOCAL CENTRE ZONING UNDER TPS3

While the site is identified as a Local Centre under the City of Cockburn's local planning framework, the intent of this zoning in the Henderson context is to provide for low-scale, convenience-based and supporting services that meet the day-to-day needs of workers within the surrounding industrial area. Importantly, the Local Centre zoning in this location has also been applied to ensure the continued operation and viability of the existing low scale uses on the site, namely the tavern and service station, which perform a supportive role for the industrial workforce. The intent was not to facilitate a standalone commercial precinct.

This intent is reinforced by State Planning Policy 4.2 – Activity Centres for Perth and Peel (**SPP4.2**), which defines local centres as follows:

"Local centres provide for the convenience and incidental needs of local communities. These centres provide an important role in providing walkable access to services and facilities for local communities."

Consistent with this definition, SPP 4.2 identifies the typical and appropriate land uses within local centres as including convenience stores, small shops, small liquor stores, fast food outlets or lunch bars, restaurants and cafés, and small bars. These uses are inherently local in nature, modest in scale, and intended to serve immediate catchments rather than operate as destination or regional attractors.

The proposed development bears little resemblance to this planning intent. The introduction of multiple high-rise towers, a large-scale hotel, and extensive office and hospitality uses represents a substantial escalation beyond the convenience and incidental role envisaged under both the local planning framework and SPP 4.2. These uses are neither small-scale nor incidental and would function as a regional or metropolitan-level destination, fundamentally altering the role of the Local Centre, as zoned under TPS3.

SPP 4.2 also provides guidance on the expected urban form of local centres, noting that:

"Streetscapes have a landscaped character and built form patterns are defined by the overall scale of the streetscape rather than individual building height or style. New development should respond to the existing or planned scale of the area."

The proposed development is inconsistent with this guidance. The height, bulk and visual dominance of the proposed towers would overwhelm the existing and planned streetscape, which is currently defined by relatively low-rise development and industrial built form. Rather than responding to the established scale of the area, the proposal would impose a radically different and incongruous urban form that is entirely out of character with both the Local Centre and the surrounding industrial context.

Accordingly, the proposal is inconsistent with the intended function, land use expectations and urban form principles of the Local Centre zoning as articulated in SPP 4.2 and represents an unjustified and incompatible intensification of development on the site.

Supporting the AMC

The applicant contends that the proposed development directly supports the future development of the AMC. However, when assessed against the intent of the Local Centre zoning and State Planning Policy 4.2, this assertion cannot be sustained.

As outlined above, Local Centres under SPP 4.2 are expressly intended to *"provide for the convenience and incidental needs of local communities"* and to deliver access to modest, locally focused services.

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The policy identifies a clear and limited range of appropriate land uses—such as convenience stores, small shops, small liquor stores, cafés, lunch bars and small bars—which are designed to support surrounding land uses without altering the strategic role or character of the precinct.

In the Henderson context, this intent is further reinforced by the Local Centre zoning having been applied to protect and enable the continued operation of existing low-scale uses, namely the tavern and service station amongst others, which provide incidental support to the industrial workforce without introducing sensitive or dominant non-industrial activity.

Against this framework, the applicant's claim that high-rise office towers, a large-scale hotel and extensive hospitality uses are required to "support" the AMC fundamentally misconstrues the role of a Local Centre. SPP 4.2 does not envisage Local Centres as vehicles for delivering metropolitan-scale employment, workforce accommodation or destination uses within industrial precincts. Rather, it deliberately limits their function to prevent precisely this type of land-use escalation and incompatibility.

If accepted, the applicant's argument would effectively redefine the Local Centre as a mechanism for introducing major commercial and hospitality development into industrial areas under the guise of "support", contrary to both the policy intent and the centre hierarchy established by SPP 4.2. This would undermine the distinction between local, district and strategic centres and erode the policy safeguards designed to protect industrial precincts from non-industrial encroachment.

Accordingly, the applicant's reliance on future support for the AMC does not justify departure from the Local Centre zoning or SPP 4.2. On the contrary, the proposal conflicts directly with the policy mechanisms specifically designed to ensure that support services remain low-scale, incidental and compatible, and that industrial precincts are not compromised by inappropriate intensification.

INCOMPATIBILTIY OF PROPOSED SCALE

The physical scale, height and bulk of the proposed development are entirely out of proportion with both the surrounding built form and the planning framework that applies to the site.

Buildings of 10 to 15 storeys are more commonly associated with inner-city or strategic metropolitan centres that are supported by high-frequency public transport, residential catchments and established urban infrastructure. None of these contextual factors exist in Henderson, which remains a predominantly industrial precinct characterised by low-rise built form and large-format industrial development.

The proposal therefore represents an ad hoc intensification that is not supported by structure planning, centre hierarchy planning or industrial land strategies.

INCOMPATIBILITY OF PROPOSED USES AND POTENTIAL IMPACT ON THE INDUSTRIAL AREA

Perhaps most critically, the proposed development risks prejudicing the long-term viability of industrial land within the Henderson precinct.

The introduction of sensitive and high-amenity uses such as hotels, offices and hospitality venues creates the very real prospect of future land-use conflict. Issues such as noise, hours of operation, heavy vehicle movements, emissions and visual impact—normal and unavoidable aspects of industrial activity—become points of tension when non-industrial uses are introduced nearby.

Our client, as a significant landowner and operator in the area, is particularly concerned that approving this proposal will constrain existing industrial operations and discourage future industrial investment by increasing the likelihood of complaints, restrictions and regulatory pressure. Over time, this will erode the strategic purpose of the AMC and diminish its effectiveness as a protected industrial precinct.

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The cumulative impact of such developments threatens to sterilise industrial land and undermine State planning objectives that seek to protect and prioritise industrial areas for industrial purposes

FUTURE PLANNING OF AMC WITHOUT PREJUDICING INDUSTRIAL OUTCOMES

Our client acknowledges the importance of long-term and forward-looking planning for the AMC to ensure it continues to support evolving State and national economic priorities, including defence, advanced manufacturing, marine industries and associated supply chains. It is recognised that, over time, industrial precincts must adapt to changing operational requirements, workforce needs and broader economic conditions.

However, any evolution of the AMC must occur through deliberate, coordinated and strategic planning processes led by the State and local government, rather than through the incremental approval of site-specific proposals that are inconsistent with the prevailing planning framework.

The AMC is a precinct of State significance, and decisions that materially alter its land-use composition or introduce new non-industrial activities should only occur following comprehensive structure planning, industrial land strategy review or formal scheme amendment processes that assess cumulative impacts and long-term consequences.

The proposed development does not arise from, nor is it supported by, any such strategic planning exercise. Instead, it represents an ad hoc intensification of non-industrial uses that risks prejudicing future planning options for the precinct by introducing sensitive, high amenity uses that are inherently difficult to reconcile with industrial activity. Once established, these uses create land-use conflicts that can constrain existing operations and limit the ability to plan for future industrial expansion, diversification or intensification.

In this context, supporting the future of the AMC does not mean permitting development that is inconsistent with its current strategic purpose. Rather, it requires protecting industrial land from incompatible uses so that future planning decisions can be made holistically, transparently and in alignment with State objectives. Approval of the proposed development would run counter to this approach and would compromise the long-term planning integrity of the precinct.

CONCLUSION

Having regard to the matters outlined above, the proposed development remains fundamentally inconsistent with the applicable statutory and strategic planning framework.

In particular, the proposal is directly inconsistent with the Industrial objective of the MRS which seeks to provide for manufacturing industry, the storage and distribution of goods and associated uses, and does not support the introduction of large-scale commercial and hospitality development within a strategically important industrial precinct. The development is also incompatible with the Local Centre zoning and the intent of SPP4.2, which clearly envisages local centres as low-scale, walkable nodes providing convenience and incidental services, supported by modest built form that responds to the existing streetscape and surrounding context.

The scale, height and intensity of the proposal significantly exceed what is contemplated for this location and cannot be justified by reference to either the planning framework or the established role of Henderson within the broader activity centre and industrial hierarchy. As detailed above, the proposed uses and built form would fundamentally alter the function and character of the site, setting an undesirable precedent for further non-industrial encroachment into the Australian Marine Complex.

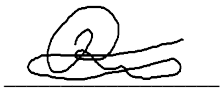
Importantly, as articulated in Section 5, while our client recognises the importance of planning for the future evolution of the AMC in support of State economic objectives, this must occur through coordinated and strategic planning processes. Approval of the current proposal would prejudice future planning for the precinct by introducing incompatible and sensitive uses that constrain industrial activity and undermine the long-term protection of industrial land.

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Given our client's significant interests within the Henderson and AMC precinct, and their direct exposure to the cumulative impacts of land-use decisions in this area, it is respectfully submitted that Development Application as lodged would result in unacceptable planning outcomes. For these reasons, the proposal should be refused or alternatively deferred pending a comprehensive strategic planning process that clearly justifies any departure from the established industrial and local centre planning framework.

Yours faithfully,



ROBERT WALKER
ASSOCIATE

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Schedule of Submissions – DAP25/005 – 81 Quill Way

Submission Type	Comment
Objection	This location is in the middle of an industrial zone and makes no sense for accommodation. Definitely offices or restaurant but to suggest a hotel is ridiculous.
Non-Objection	With increased industry planned around here, additional infrastructure will be required to assist and activate the area
Non-Objection	We are not in a position to provide considered comment and feedback as the term 'Mixed Use Commercial Development' does not detail the type and nature of business that will be able to operate from that location within the Australian marine Complex. For example: • Is an electronics surveillance business OK given its close proximity to the Henderson Defence precinct? • Is a Massage Parlour Ok We need more detail on what is and is not acceptable as part of a Commercial Precinct.

City of Cockburn Whadjuk Boodjar
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T: 08 9411 3444 | **E:** customer@cockburn.wa.gov.au | www.cockburn.wa.gov.au

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SITE
PLANNING + DESIGN

2 February 2026

Our Ref: 26-003 AMC / 260202 26-003 AMC lt CoCockburn_DAP25-005 Amended Submission_FINAL V7_SITEpd
Your Ref: DAP25/005

Chief Executive Officer
City of Cockburn
PO Box 1215
BIBRA LAKE DC WA 6965

Attention: City of Cockburn / Riley Brown
(Sent via email to: customer@cockburn.wa.gov.au / Riley.Brown@cockburn.wa.gov.au)

Dear Riley

RE: SUBMISSION ON BEHALF OF DEVELOPMENTWA
METRO OUTER JOINT DEVELOPMENT ASSESSMENT PANEL – DEVELOPMENT APPLICATION FOR A MIXED-USE COMMERCIAL DEVELOPMENT (DAP25/005)
81 (LOT 168) QUILL WAY, HENDERSON (AUSTRALIAN MARINE COMPLEX)

On behalf of **DevelopmentWA** (DWA), SITE planning + design (SITE) extends our thanks to the City of Cockburn (the City) and the Metro Outer Joint Development Assessment Panel (MOJDAP) for the opportunity to make a submission on the proposed redevelopment of **81 Quill Way Henderson** (the development site). The proposal comprises a **mixed-use commercial development incorporating five (5) individual buildings** (the proposed development).

The development site is located within a specialised maritime industrial precinct known as the **Australian Marine Complex** (AMC) and is located within immediate proximity to the **AMC Common User Facility** (CUF) situated in both the southern and northern harbours of Jervoise Bay.

DevelopmentWA (on behalf of the State of Western Australia) owns approximately 130ha of strategically significant land within the AMC's Shipbuilding and Fabrication Precincts, including the AMC CUF, and holds interests (leases and licences) in a significant area of seabed land, harbour breakwaters and waterside infrastructure (wharves, jetties and slipways). The location of the development site relative to DevelopmentWA's landholdings and interests, the Shipbuilding and Fabrication Precincts, the CUF and the broader AMC is illustrated in **Figure 1 – Australian Marine Complex Common User Facility Context Plan**, enclosed with this submission.

It is this strategic context, together with DevelopmentWA's long-term planning and operational objectives for the AMC, in conjunction with other State Agencies, such as Department of Premier and Cabinet (DPC) and Department of Energy and Economic Diversification (DEED), including that published within the AMC Strategic Infrastructure and Land Use Plan (dated August 2020) for the AMC CUF, that inform and underpin the matters raised in this submission.

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1. THE AUSTRALIAN MARINE COMPLEX

The Australian Marine Complex (AMC) at Henderson, was established to provide a nationally significant, purpose-built hub for the construction, maintenance and sustainment of complex maritime assets. Its intent is to support Australia's naval and commercial maritime capabilities by co-locating specialist infrastructure, skilled labour, and advanced engineering services in a secure, deep-water industrial precinct. The AMC enables efficient, high-quality delivery of shipbuilding, submarine sustainment and offshore vessel services that would be difficult to achieve in a dispersed or less specialised setting and without access to State Government's Common User Facility (CUF).

Since commencing operations in 2003, the AMC has gained a reputation as a world class centre for maritime-related manufacturing, fabrication, assembly, maintenance, technology and decommissioning activities that service the defence, marine, oil/gas and resource industries.

A core objective of the AMC is to strengthen Australia's sovereign maritime capability by supporting the Australian Defence Force—particularly the Royal Australian Navy—while also servicing commercial, offshore energy (oil and gas), resource and international maritime clients. The precinct is designed to facilitate long-term sustainment programs, reduce whole-of-life costs for complex vessels, and provide flexibility to respond to evolving defence and industry requirements. Through the CUF's specialised dry docks, wharves, heavy-lift facilities and security-controlled environment, the AMC supports high-risk, high-value maritime activities that are critical to national interests.

The strategic importance of the AMC extends beyond individual projects to its role in underpinning Western Australia's defence and industrial ecosystem. It supports a highly skilled workforce, sustains specialist supply chains, and enables technology transfer and capability development across the maritime sector. The concentration of expertise and infrastructure at Henderson enhances productivity, resilience and collaboration between government, leading government contractors and small-to-medium enterprises, reinforcing Australia's ability to deliver complex maritime outcomes domestically.

At a national level, the AMC is a key element of Australia's defence industrial base and a critical asset for long-term maritime and defence planning. It is one of two locations identified for shipbuilding under the Commonwealth's first Naval Shipbuilding Plan and will provide Australia's primary maintenance and sustainment hub for future conventionally-armed, nuclear-powered submarines under AUKUS, representing a major defence industrial capability for the nation and reinforcing its strategic national importance.

Its location on the Indian Ocean, proximity to key naval operations, and integration with broader defence and industry strategies position the AMC as a strategically vital facility for maintaining readiness, supporting regional security, and advancing Australia's sovereign industrial capability.

The AMC comprises 5 key precincts, being:

- **Shipbuilding Precinct** – comprises 35ha located on the Northern Harbour-front and is an integral part of Western Australia's shipbuilding, repair and maintenance industry supporting the construction and maintenance of new naval and commercial vessels, as well as a support to offshore construction. It is located immediately west of the development site.
- **Fabrication Precinct** – located on the Southern Harbour-front, it provides world-class, multi-purpose facilities for the fabrication, assembly and load-out of pre-assembled units up to 15,000 tonnes, creating an impressive range of global engineering and manufacturing options for local, national and global projects. The CUF is located within the Fabrication Precinct. It is located west and south of the development site.

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- **Support Industry Precinct** – comprises 38ha of serviced land for small to medium-sized suppliers of goods and services to the shipbuilding, defence, energy and resource industries located within the Shipbuilding and Fabrication precincts. The development site is located on the western edge of this precinct.
- **Technology Precinct** - is a leading location for driving innovative research, education and technology development for the defence, marine, energy, and resource sectors in Australia. It is located approximately 1.3km northeast of the development site.
- **Woodman Point Recreational Boat Precinct** – located at the northern end of the Northern Harbour, the precinct provides public access to eight boat ramps, jetties, a floating pontoon and vehicle/trailer parking. It is located approximately 1.8km northwest of the development site.

Refer to **Figure 1 – Australian Marine Complex Common User Facility Context Plan**, **Figure 2 - Australian Marine Complex Precinct Plan** and **Figure 3 – Australian Marine Complex Precinct Plan and Aerial Perspective**, enclosed.

The AMC's Common User Facility (CUF) and its associated waterside infrastructure operate 24 hours a day, 7 days a week, 365 days a year, as a shared, government-owned industrial asset that provides regulated access to specialist maritime and industrial infrastructure for multiple users. Its role is to make critical facilities—such as heavy-lift wharves, deep-water berths, hardstand and laydown areas, a floating dock, overland vessel transfer paths and a fabrication hall —available on an as-needed basis, enabling complex marine and engineering activities to be undertaken efficiently without duplication of capital investment by individual operators.

In functional terms, the CUF supports the delivery of major projects and operational continuity across the precinct by enabling concurrent use, flexible scheduling and scalable access to infrastructure on a permanent or temporary basis. It allows industry participants to mobilise quickly, manage peak workloads and support long-term vessel construction and sustainment programs. Through central management and shared access arrangements, the CUF improves utilisation of high-value assets and provides practical infrastructure support to defence, commercial and industrial users operating at the Australian Marine Complex.

2. THE DEVELOPMENT SITE

81 Quill Way Henderson is 1.847ha in area and is zoned 'Local Centre' under the City of Cockburn Local Planning Scheme No. 3. The objective if the zone is to *'provide for convenience retailing, local offices, health, welfare and community facilities which serve the local community, consistent with the local - serving role of the centre.'*

Consistent with the zoning of the land, the development site currently contains a mix of commercial land uses and development, comprising:

- A standalone two-storey office building.
- A standalone building comprising multiple tenancies, including retail food and beverage offerings (cafés and a bakery)
- A service station.
- The Ship and Dock Inn – comprising a two-storey building containing a tavern, restaurant, bottle shop and drive-thru, function room.
- A standalone two storey hotel building and three single storey transportable accommodation buildings.
- Car parking and other ancillary uses and structures.

The development application report lists the existing land uses as:

- Office and Unmanned Fuel Station
- Shop/Retail
- Restaurant / Lunch Bar

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- Tavern
- Workers Accommodation

The existing land uses serve an essential local centre role, delivering essential amenities and services that meet day-to-day needs and support business continuity, workforce wellbeing and the ongoing operation of the AMC. This function will be further reinforced as continued public and private investment at the AMC accelerates employment growth and intensifies demand for well-located local amenities and services.

3. PROPOSED LAND USE AND DEVELOPMENT (DAP25/005)

Referred to as the 'Henderson Business Hub' the proposed redevelopment of the site for mixed-use commercial land use and development aims to *'to provide meaningful amenities and facilities to support the rapidly expanding Australian Marine Complex'* and *'help further establish the AMC as Australia's leading defence and marine precinct.'*

The estimated cost of development is $200,000,000.00 and the applicant has elected to seek determination via the Metro Outer Joint Development Assessment Panel (MOJDAP).

The proposed mixed use commercial development seeks approval to the following land uses across a total net lettable area (NLA) of 29,014m^2:

- Hotel – including 161 rooms.
- Tavern – 668m^2 (NLA).
- Office – 21,531m^2 (NLA).
- Shop / Retail / Restaurant / Lunch Bar – 2,837m^2 (NLA).
- Medical Centre – 1,155m^2 (NLA).
- Health Studio – 836m^2 (NLA).
- Convention Centre – 800m^2 (NLA).

The proposed built form elements are summarised as:

- 10 storey Hotel building (37m in height) (Building 1).
- 5 storey Social Hub (24m in height) (Building 2).
- 13 storey Office building (56m in height) (Building 3).
- 15 storey Office building (59m in height) (Building 4).
- 5 storey Medical/Office building (22m in height) (Building 5)

The development proposes the provision of 737 car parking bays, 152 bicycle parking bays and dedicates 13.6% of the site for landscaping.

The development application package includes technical reporting and plans covering:

- Town planning development application report.
- Architectural plan set (including a site feature survey).
- Retail analysis.
- Air quality assessment.
- Traffic impact assessment.
- Wastewater management plan.
- Acoustic assessment.
- Sustainable design assessment.
- Public art strategy.
- Bushfire management plan.

Due to time limitations, the following comments are primarily based a review of the development application report and architectural plan set.

260202 26-003 AMC lt CoCockburn_DAP25-005 Amended Submission_FINAL V7_SITEpd | SITE PLANNING + DESIGN

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4. COMMENTS ON THE PROPOSED LAND USE AND DEVELOPMENT

The following section outlines DevelopmentWA's key areas of support and concern in relation to the proposed land use and development. In particular, it focuses on matters that may adversely affect:

- Or constrain, the operation and planned potential of the Australian Marine Complex (AMC), the Common User Facility (CUF), adjoining harbour-front land and waterside operations, having regard to their strategic role and alignment with State and Federal Government policy objectives and the current planning and environmental frameworks that guides their use and development.
- The success of the proposed land uses within the development site.

LAND USE

It is acknowledged that all the proposed land uses are permitted or discretionary (some requiring public advertising) within the 'Local Centre' zoning, with the exception of the 'Convention Centre' (Use Not Listed), and that several of the proposed land uses currently operate on the development site.

As outlined in the Development Application Report, the site performs an important role in supporting the broader operation of the AMC, surrounding businesses and the local workforce by providing commercial amenities and services that contribute to a functional and attractive working environment.

For these reasons, DevelopmentWA generally supports the proposed mix of land uses and considers them appropriate and desirable for the location, as they will assist in supporting ongoing investment and growth within the AMC, with the exception of the Hotel.

It is considered that further engagement with DevelopmentWA is required to gain a full understanding of the range of existing and permissible land operating within proximity to the site, including prescribed premises under the *Environmental Protection Act 1986* and *Environmental Protection Regulations 1987*, to inform an appropriate assessment of potential air quality and acoustic impacts on a 'Hotel' and other sensitive land uses, and to determine whether suitable mitigation measures — such as construction standards and/or operational management plans — could adequately address those impacts.

Air Quality Assessment

The Air Quality Assessment reporting supporting the development application outlines that certain pollutants exceed the National Construction Code (NCC) Class 3 building guidelines due to long-term exposure, and details mitigation measures to achieve compliance within internal environments. These pollutants include Nitrogen Dioxide, Sulphur Dioxide, PM2.5, Total VOC and Hydrogen Sulphide.

It is requested that the air quality consultant engage directly with DevelopmentWA and Department of Defence to discuss and confirm the full range of land uses and activities undertaken at the AMC, CUF and harbour-front properties. This is necessary to ensure the assessment accurately reflects current operations, future expansion, and the full extent of permissible industrial activities in proximity to the development site.

Acoustic Assessment

The Acoustic Assessment supporting the development application includes consideration of noise generated by surrounding industrial land uses and the potential impact on a 'Hotel' and other sensitive land uses.

The assessment concludes that the concurrent operation of a generator (without acoustic enclosure) and an angle grinder on the deck of the nearest vessel at the adjacent shipbuilding operation (BAE Systems) would generate noise levels of 104 – 108 dB(A), resulting in a predicted noise level of 60dB(A) at the façade of the hotel. It should be noted that the noise modelling undertaken may not truly represent the noise generated by BAE Systems when in full operation, as BAE Systems have significantly reduced operations at the site over the last 18 to 24 months. It is also highly likely that the BAE Systems

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site will be redeveloped in the near future for intensive maritime industrial operations.

For assessment purposes, a conservative façade noise level of 63 dB(A) was adopted to determine whether acceptable internal noise levels could be achieved. On this basis, the report concludes that standard 10mm float glass would provide sufficient attenuation to achieve a 28 dB(A) reduction to meet acceptable internal noise levels noting that more detailed analysis would be undertaken during design development.

It is requested that the acoustic consultant engage directly with DevelopmentWA and Department of Defence to discuss and agree on appropriate noise monitoring sites and modelling assumptions that reflect the ultimate development and operational intensity of the AMC and CUF. This should include consideration of the future build-out and the range of industrial activities the precinct is expressly planned and designed to accommodate, to appropriately inform subsequent stages of design development.

TRAFFIC AND PARKING

The safe and efficient movement of traffic, including light vehicles, heavy vehicles and over-size/over-mass loads), is critical to achieve operational efficiency at the AMC. Intersection performance and vehicle parking are recognised challenges within the precinct and are subject to ongoing review and management by DevelopmentWA.

It is noted that the Traffic Impact Assessment supporting the application:

- Estimates that the development will generate 552 vehicle trips in the AM peak and 948 vehicle trips in the PM peak, with intersections operating within acceptable performance thresholds.
- The development provides 737 vehicle parking bays and 152 bicycle bays/racks, representing a variation of -746 car parking bays (shortfall).

Whilst we acknowledge the rationale provided for a reduced parking provision, and we note the inclusion of 152 bicycle parking bays/racks (including 30 bays above the requirement), **a reduction of this magnitude (being a 746 parking bay shortfall) is not supported**.

All available on-street parking within proximity to the site is essential to the operation of the CUF and harbour-front businesses, both existing and future, and cannot be relied upon to offset the significant on-site shortfalls. Furthermore, the development application report acknowledges that private vehicle use is currently the dominant mode of transport, reflecting limited pedestrian connectivity and public transport services, and the quality of the cycle network. While improvements to active and public transport infrastructure may occur over time, **the proposed development must respond to current travel behaviour and ensure adequate on-site parking is provided to avoid adverse impacts on parking areas required for the exclusive use of harbour-front land uses and operations that are essential to efficient and productive CUF operations and optimising the unique and strategic potential of the land.**

BUILT FORM AND LANDSCAPING

We commend the proponent on the thoughtful design approach adopted in relation to the site layout, built form and landscaping. The proposed development is well considered and is expected to make a positive contribution to the streetscape and broader precinct.

The proposed development clearly establishes the site's role as a 'Local Centre' through contemporary architecture, human-scaled built form and a high-quality and high-amenity environment. This will benefit future business occupants, on-site staff and visitors, while enhancing the range and quality of services and amenities available to the existing and future AMC workforce.

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5. SUMMARY

DevelopmentWA generally supports the proposed land use and development, noting that it has the potential to make a positive and meaningful contribution to the Australian Marine Complex through the delivery of contemporary, high-quality and purpose-built commercial services and amenities. These uses will play an important role in supporting business operations and the local workforce within a precinct that is expected to experience significant growth, investment and intensification over the coming years.

Notwithstanding this support, the Australian Marine Complex is a highly specialised and strategically significant maritime industrial precinct that is critical to the achievement of key State and National policy objectives. Accordingly, DevelopmentWA seek to ensure the current and future operation of the AMC, in particular the AMC CUF (in both the southern and northern harbours) and waterside operations are not compromised or negatively impacted, in particular as a result of the proposed 'Hotel' component.

In this context, DevelopmentWA respectfully seeks detailed consideration of, and further engagement on, matters relating to traffic and parking, air quality and acoustic impacts. Additional investigation is required to demonstrate that the proposed land uses — particularly sensitive uses — can be accommodated in a manner that ensures ongoing compatibility with existing and future industrial operations at the AMC, without constraining the precinct's operational capacity or long-term potential.

With the announcement in October 2024 of the Commonwealth Government lead Henderson Defence Precinct being established at the AMC, it is strongly recommended that the Department of Defence be consulted in relation to this Development Application.

On behalf of DevelopmentWA, we welcome the opportunity to engage further with the City of Cockburn and the applicant's project team to discuss the matters raised in this submission and to work collaboratively toward an outcome that supports both the proposed development and the continued success of the Australian Marine Complex. Please contact the undersigned to arrange a suitable time to meet.

Should you have any queries regarding the content of this letter, please do not hesitate to contact the undersigned on 0411 103 198 or by email at kareena@sitepd.com.au.

Yours sincerely



KAREENA MAY
MANAGING DIRECTOR + PRINCIPAL TOWN PLANNER

Enc:

- Figure 1 - Australian Marine Complex Common User Facility Context Plan (SITE doc ref: 260202 25-006 AMC_AMC CUF Context Plan_RevB V1)
- Figure 2 – Australian Marine Complex Precinct Plans

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AUSTRALIAN MARINE COMPLEX COMMON USER FACILITY, HENDERSON

CLIENT	Development WA (DWA)	REVISION	B_1	DRAWN	KM		
PLAN NO.	26-003_001	DATE	2 Feb 2026	SCALE	Not to scale		

NOTE:
Boundaries are approximate only.
Base data sourced from PlanWA (aerial photo and cadastre), Landgate (land ownership) and MNG (lease boundaries from MNG Plan Ref 106535-002-C).
Areas and dimensions are subject to final survey calculations.
Any concepts presented in this plan remain the © copyright of Site Planning and Design Pty Ltd
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LEGEND

- 1 — LOT (STREET) NUMBERS AND BOUNDARIES
- DEVELOPMENTWA OWNED LAND (NORTHERN / SOUTHERN PRECINCTS)
- 1 — CUF NORTH / CUF SOUTH
- LAND LEASED BY / JETTY LICENCES HELD BY – DEVELOPMENTWA
- DEVELOPMENT SITE (DAP25/005)
- AMC SHIPBUILDING PRECINCT
- AMC FABRICATION PRECINCT
- AMC SUPPORT PRECINCT

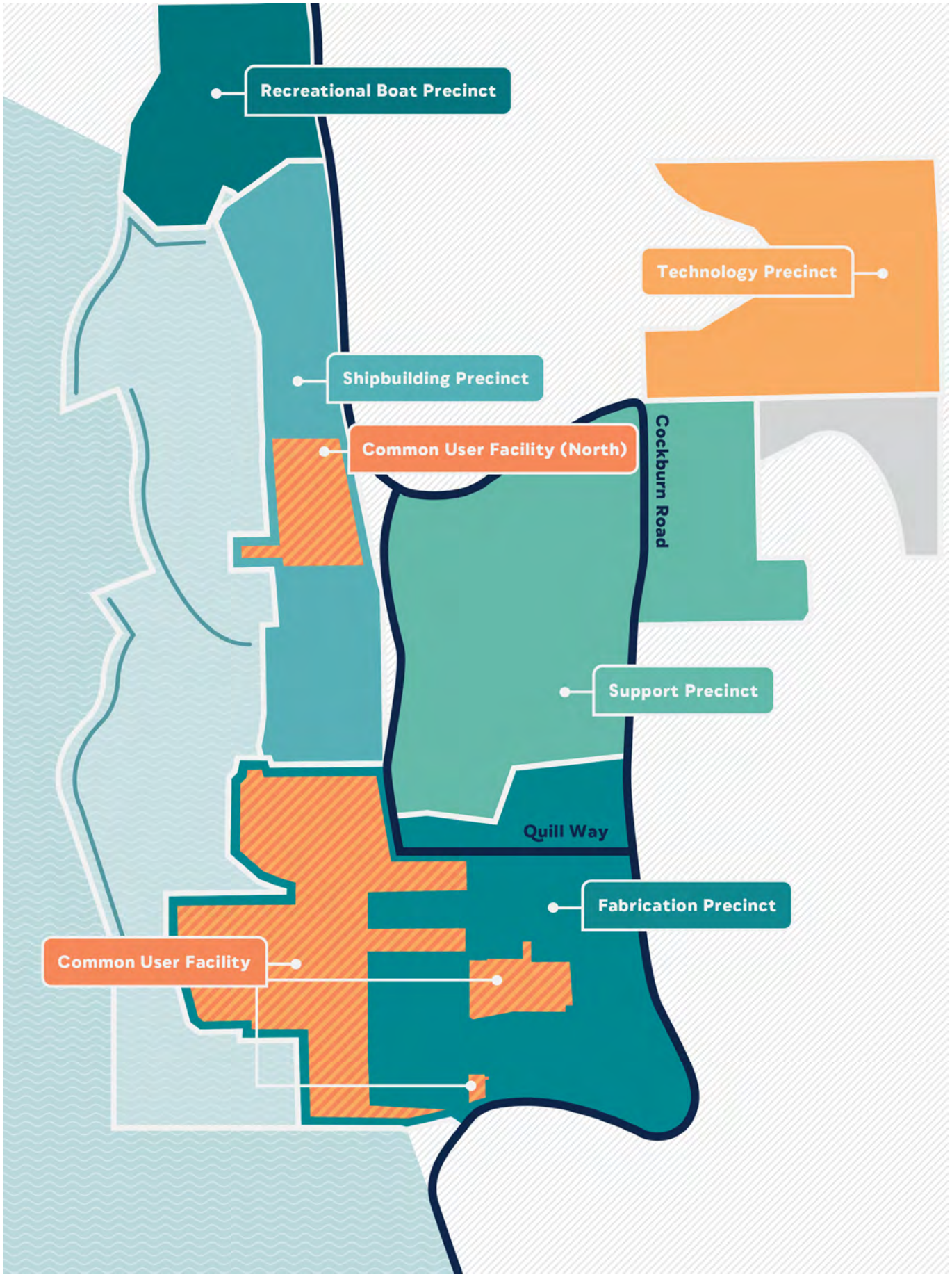
SITE PLANNING + DESIGN

CONTEXT PLAN – DWA LAND AND INTERESTS | FIGURE 1

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FIGURE 2 – AUSTRALIAN MARINE COMPLEX PRECINCT PLAN

Source: DevelopmentWA



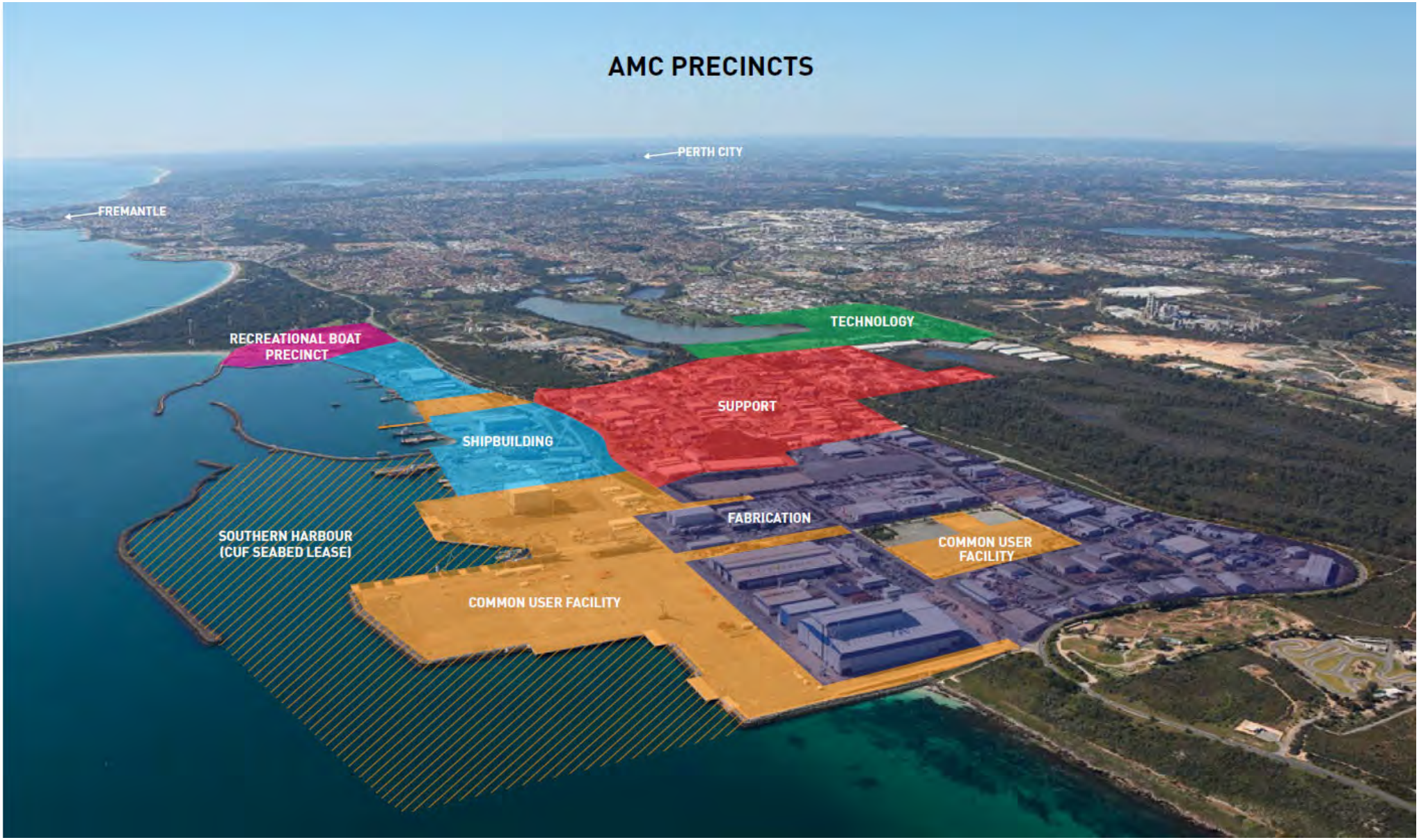
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FIGURE 3 – AUSTRALIAN MARINE COMPLEX PRECINCT PLAN AND AERIAL PERSPECTIVE

Source: DevelopmentWA



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Enquiries: Silvia Collasius-Basson on (08) 9323 5862
Our Ref: 26/51 (D26#11876)
Your Ref: DAP25/005

26 March 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,

INFORMATION REQUEST – DEVELOPMENT ASSESSMENT PANEL APPLICATION – PROPOSED MIXED USE DEVELOPMENT – LOT 168 (NO.81) QUILL WAY, HENDERSON – DAP25/005

In response to correspondence received on 9 February 2026, please be advised Main Roads has reviewed the development proposal and is unable to provide a recommendation at this point in time. The following further information is required:

Amended Transport Impact Assessment
The Transport Impact Assessment (TIA) prepared by PTG Consulting dated 6 February 2026, Revision D, as presented is unable to be supported at this point in time as the impact of the development upon the road network is uncertain.

Cockburn Road / Sparks Road Intersection
The TIA concludes that this intersection will fail once the proposed development is operational, particularly the right-turn movement out of Sparks Road. While the TIA notes the proposed Cockburn Road Extension is expected to significantly reduce traffic volumes at this location and therefore considers upgrades or mitigation measures unnecessary, it is pertinent to note that at time of writing there are no confirmed timeframes or funding for this extension.

Significant delays, particularly for vehicles exiting Sparks Road are anticipated, which may increase crash risk as drivers are compelled to accept suboptimal gaps in traffic.

Cockburn Road / Russell Road Intersection
The development is expected to have 40% of its inbound trips and 10% of its outbound trips pass the priority-controlled intersection of Cockburn Road / Russell Road. This level of traffic impact warrants assessment of the intersection.

Cockburn Road / Quill Way Intersection
It is acknowledged this intersection is fully built out with traffic signal control and therefore limits the proponent's ability to mitigate the impact of the development at this intersection.

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
138 138

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Print Date: 14 April 2026, 2:16 PM

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An amended TIA, and accompanying SIDRA Intersection files (.sip) in Version 10, is required to be submitted which addresses traffic dispersion across the aforementioned intersections, and provides rationale for the dispersion with a view to presenting a greater understanding of potential mitigation measures which can be introduced at one or more of these intersections in response to the impact of proposed development on the network.

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 not in a position to provide comments and a recommendation on the subject proposal until the above information has been received and assessed.

Please forward all emails, including the requested information relating to the development proposal to planninginfo@mainroads.wa.gov.au. If you have any further queries, please do not hesitate to contact Silvia Collasius-Basson on (08) 9323 5862.

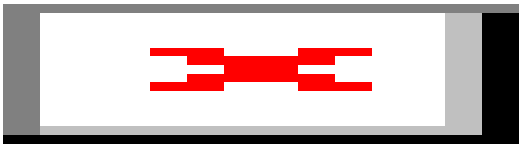
Yours sincerely

CFudge

Chris Fudge
A/Road Access and Planning Manager

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OFFICIAL

Hi Riley,

The Department of Planning, Lands and Heritage (the Department) has reviewed the TIA for the above proposal.

The Department provides the following informal observations regarding the proposal:

- It is recommended that the swept path and parking requirements be further discussed with and to the satisfaction of the City;
- The TIA reports that Cockburn Road / Sparks Road intersection will perform unsatisfactorily. However, the TIA proposed an intersection upgrade from the current T-intersection to a signalised intersection. The Department acknowledges that an intersection upgrade is required at this intersection, however recommends that further modelling be undertaken to determine the appropriate / reasonable upgrades (i.e., to cater for the queues of 583 m on the Western leg, 140 m on the eastern leg and 260 m on the southern leg). Given it is articulated in the TIA that Cockburn Road / Sparks Road intersection will not perform satisfactory at the opening year, there is an increased risk with the introduction of this proposal. Therefore, a suitable intersection upgrade is required at Cockburn Road / Sparks Road intersection.
- Based on the TIA's analysis, it appears that the intersection upgrade is required at 2028 in the absence of the development. Potentially, Cockburn Road / Sparks Road intersection may already require an upgrade at this moment (subject to further investigation). The Department acknowledges that the proposal will utilise this intersection, therefore, some contribution is required that is reasonable and proportional to the proposed volumes utilising Cockburn Road / Sparks Road intersection.
- The Department reviewed the amended TIA and the previous TIA and noted that there was a difference in trip generation numbers. This will require further investigations to determine its impacts on the surrounding road networks, particularly onto Cockburn Road / Sparks Road intersection.

Kind regards,

Liang Ming Lee
Senior Planning and Engineering Officer | Strategy and Engagement
Department of Planning, Lands and Heritage

From: "Michelle Lee" <michelle.lee@deed.wa.gov.au>
Sent: Fri, 27 Feb 2026 16:14:28 +0800
To: "Riley Brown" <Riley.Brown@cockburn.wa.gov.au>
Cc: "Planning" <planning@deed.wa.gov.au>
Subject: RE: Planning Referral - DAP25/005 - Mixed Use Commercial Development - 81 Quill Way, Henderson



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Good afternoon Riley,

Sincerest apologies for the delay in getting back to you, I hope you are well.

Planning referral DAP25/005 was reviewed by our Western Trade Coast team here at DEED. I was initially advised that the team would have comments to provide, however following their assessment, they have confirmed that they have no comments to offer at this stage.

If you have any queries, please don't hesitate to reach out to planning@deed.wa.gov.au. Enjoy your long weekend!

Michelle

DEED Planning Inbox

Please note we have changed our email to planning@deed.wa.gov.au

Department of Energy and Economic Diversification
Level 11, 1 William Street, Perth WA 6000
www.wa.gov.au/DEED

Department of
Energy and Economic Diversification
GOVERNMENT OF WESTERN AUSTRALIA

We acknowledge the traditional custodians throughout Western Australia and their continuing connection to the land, waters and community. We pay our respects to all members of the Aboriginal communities and their cultures; and to Elders both past and present.

From: pat.sowry1@defence.gov.au

Sent: Thursday, January 22, 2026 9:48 AM

To: customer@cockburn.wa.gov.au

Cc: segid.support@defence.gov.au,helen.loundes@defence.gov.au,seg.infrastructuremiiexecsupport@resources.defence.gov.au

Subject: DAP25/005 81 Quill Way [SEC=OFFICIAL]

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Defence appreciates the opportunity to provide comment.

The scale and nature of the proposal is noted by Defence and we acknowledge the emerging demand for amenities in the area such as those being proposed in this application.

Noting that the WA Government and Defence have an agreement to develop a Henderson Defence Precinct, Defence requests Council, in its planning considerations, consider this application in the context of the long-term needs of the area, specifically the siting, scale and nature of amenities. Whether in this application, or its broader land planning responsibilities, Defence seeks Council consideration of how applications support the critical mass of industrial activities proposed in the area.

Defence highlights the need to optimise the use of properties close to the waterfront to support Commonwealth and State industrial activities; ideally this would allow the

relocation of activities from high value waterfront land to proximal sites e.g. communal car parking services. In the context of DAP25/005, car parking considerations are focussed on concessions to car parking requirements (Table 10 of the Development Application Report refers). If the application's assumptions are not realised, there is the potential to exacerbate local car parking congestion if alternate developments do not address the demand shortfall.

Noting the absence of Appendix 6 – Traffic Impact Assessment in the Development Application Report, Defence notes the site will attract additional traffic, forecast at 1500 trips daily during peak periods. Defence requests appropriate consideration of these impacts on the broader local road network to inform future road upgrades, public transport and parking planning. Similar issues apply to utilities and services needing upgrades to support Henderson more broadly to meet the aggregated increase in demand.

Regards,

Pat Sowry

First Assistant Secretary Infrastructure

Infrastructure Division | Security and Estate Group

Department of Defence

Phone: 02 5109 5522 | Mobile: 0400 497 056

Email: pat.sowry1@defence.gov.au

PO Box 7925 Canberra BC ACT 2610

BP26-1-A001, 26 Brindabella Circuit, Brindabella Business Park, ACT

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Government of Western Australia
Department of Water and Environmental Regulation

Your ref: DAP25/005
Our ref: REQ-0002375
Enquiries: Mark Hingston, Ph 9550 4209

City of Cockburn
9 Colville Crescent
Spearwood WA 6163

Attention: Riley Brown

Dear Riley

DEVELOPMENT APPLICATION – LOT 168 QUILL WAY HENDERSON - MIXED USE COMMERCIAL DEVELOPMENT

Thank you for providing the development application received via email on 5 January 2026 for the Department of Water and Environmental Regulation (Department) to consider.

The Department has identified that the mixed commercial development has the potential for impact on environment values and/or 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
Air Quality

Advice
The Department understands that a commercial development, including a hotel, is planned for the site. In relation to air quality, the applicant submitted *Air Quality Measurement and Assessment – Henderson Business Hub* (CETEC, 16 December 2025) (the report). The scope of works was to conduct ambient air quality monitoring for a range of pollutants and provide preliminary building design recommendations based on the findings of the monitoring in regard to indoor air quality.

The Department does not regulate indoor air quality and is not able to provide advice on these aspects. We understand that the indoor air quality of a building used as a workplace falls under the *Work Health and Safety Act 2020* which is administered by the Department of Local Government, Industry Regulation and Safety.

Notwithstanding the above, a preliminary review of the ambient monitoring described in the report was undertaken and the following issues are noted to assist you with your assessment of the application:

Kwinana Peel Region
107 Breakwater Parade Mandurah Ocean Marina Mandurah Western Australia 6210
PO Box 332 Mandurah Western Australia 6210
Telephone: 08 9550 4222 Facsimile: 08 9581 4560
www.dwer.wa.gov.au

Document Set ID: 12625165
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- The types of monitoring equipment used or the monitoring methods applied are not specified, noting that specific methods are required depending on the guidelines adopted for assessment.
- The assessment does not indicate whether the monitoring siting was in accordance with Australian Standards, noting that adequate siting is needed to provide representative monitoring data.
- The selected monitoring period would not capture seasonal variability and consequently data may not be representative. Monitoring was conducted for one month for the majority of pollutants and for two days only in the case of volatile organic compounds.
- The comparison of monitoring data against the adopted guidelines was not appropriate, as maximum 1-minute concentrations and 16-day average measured concentrations were compared against guidelines with different averaging periods (1-hour, 8-hour, 24-hour and annual).

Where the Department has a statutory role, planning applications should be considered prior to the Department issuing any relevant permits, licences, and/or approvals.

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.

Should you require any further information on the comments, please contact the undersigned at the Mandurah office on 9550 4209.

Yours sincerely



Mark Hingston
Planning Advice
Kwinana Peel Region

23 / 02 / 2026

Document Set ID: 12625165
Version: 1, Version Date: 23/02/2026
Print Date: 14 April 2026, 2:03 PM

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From: "DOH, Chemical Hazards" <DOH.ChemicalHazards@health.wa.gov.au>
Sent: Wed, 4 Mar 2026 08:27:39 +0800
To: "Riley Brown" <Riley.Brown@cockburn.wa.gov.au>
Subject: RE: Planning Referral - DAP25/005 - Mixed Use Commercial Development - 81 Quill Way, Henderson

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OFFICIAL

Hi Riley,

Please see some comments below on the proposed development.

If you require something more formal (letter with manager or executive director sign off) or in-depth feedback, we would need more time for our toxicologist to review the air quality report. I am just aware of the time that has already lapsed and was keen to get these comments to you.

- We have done a preliminary review of the air quality assessment, and provide the following initial thoughts:
    - The air quality guidelines/references are generally appropriate.
    - The air monitoring was limited to a single monitoring location in the south-east corner of the site. Justification for this sampling location appears to be lacking in the report.
    - Sampling was limited to November and December. While the report provides a statement that this is expected to be representative of yearly conditions, no justification was provided to support this statement. Seasonal variations, weather conditions, etc. can have significant impacts on air quality, and can differ for each pollutant.
    - We were unable to confirm the monitoring devices that were used, and whether these met Australian standards, etc. The Department of Water Environment Regulation's (DWER) air quality branch may be able to provide more advice on this matter.
    - The measured data (16 day and 1min) does not allow for a direct comparison to the published guidelines (with averaging periods of 1hr, 1day, 1yr).
- We would need more time to provide more detailed comments on the air quality assessment, as we would need to ask our toxicologist to review the report.

- It is unclear as to whether the service station will be retained or demolished. Former service station use should trigger appropriate assessment of contamination status, as petrol stations are potentially contaminating land uses. Refer to DWER for advice/comment on requirements under the *Contaminated Sites Act* 2003.

- The Department of Health supports the appropriate separation from sensitive land uses and industrial land uses. The Environmental Protection Authority (2005) guideline "Separation Distances between Industrial and Sensitive Land Uses" lists hotels as a sensitive land use and provides buffer distances from certain industries and it is recommended to meet the buffer distances in the guideline.

- The Department of Health supports the retention of air quality and odour buffers from sensitive land uses and the avoidance of encroachment on buffers. It is acknowledged that the use of a hotel is different to that of a residence, childcare or school in terms of how long people spend at these places in the long term. But it is not clear from the submission as to whether the proposed hotel is predominately short stay or long term accommodation and whether workers will be staying for long term periods to take this into consideration.

If you have any queries, please let me know.

Kind regards,

Emma O'Brien | A/Senior Scientific Officer
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From: Riley Brown <Riley.Brown@cockburn.wa.gov.au>
Sent: Tuesday, 24 February 2026 6:40 PM
To: O'Brien, Emma <Emma.O'Brien@health.wa.gov.au>

This information is provided by the City of Cockburn

SLR Consulting Australia Pty Ltd
Level 1, 500 Hay Street, Subiaco WA 6008, Australia

24 March 2026

SLR Ref No.: Document2

Attention: Riley Brown – Service Lead Statutory Planning
City of Cockburn
9 Coleville Crescent
SPEARWOOD WA 6163

SLR Project No.: 675.V25226.00EA1

RE: **RESPONSE TO REQUEST FOR FURTHER INFORMATION – DAP25/005 – 81 QUILL WAY, HENDERSON**

Thank you for providing the City of Cockburn's assessment comments received on the 5 March 2026, as well as providing submissions received during the public advertisement period. In response to the comments and submissions received the following is provided. We note, these comments have been prepared in collaboration with the project team to address technical queries raised.

a) Traffic/Transport

1. **The TIA reports that Cockburn Road / Sparks Road intersection will perform unsatisfactorily. However, it recommends an intersection upgrade from the current T-intersection to a signalised intersection. Further modelling should ideally be undertaken to determine the appropriate / reasonable upgrades (i.e., to cater for the queues of 583 m on the Western leg, 140 m on the eastern leg and 260 m on the southern leg). Given it is articulated in the TIA that Cockburn Road / Sparks Road intersection will not perform satisfactory at the opening year, there is an increased risk with the introduction of this proposal. Therefore, a suitable intersection upgrade is required at Cockburn Road / Sparks Road intersection.**

   Applicant Response
   The traffic analysis undertaken demonstrates that upgrades to the Cockburn Road / Sparks Road intersection will be required regardless of the proposed development due to background traffic growth. The assessment was undertaken based on conservative parameters to demonstrate the feasibility of the option, which could be refined and improved if this mitigation measure is progressed by the City and MRWA.

   The landowner however has no obligation to contribute to the road upgrades. There is no established Development Contribution Plan or preexisting planning framework which identifies this upgrade being required. There is also no costed design for this upgrade and no clear understanding as to how, if a condition was to be imposed, this costing would be apportioned to this subject site.

   The validly of imposing such as a condition would fail to meet the standard need and nexus consideration. Further State Planning Policy 3.6 – Infrastructure Contributions (SPP 3.6) is clear that for a contribution to be taken it must be planned, costed, apportioned and transparent, of which does not exist for this upgrade.

   Whilst it is acknowledged that upgrades to the road network and broader transport infrastructure in Henderson will be required over time, particularly as development intensifies and activity associated with the AUKUS program expands, such infrastructure demand is strategic and cumulative in nature. In this context, it is neither orderly nor proper planning to impose the cost of such upgrades on a single development merely because it represents an early or significant project within the locality.

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2. **The amended TIA and previous TIA shows significant discrepancies in trip generation numbers but there hasn't really been an explanation on how these lowered generations rates were achieved.**

   Applicant Response
   The primary change in the trip generation between Revision C (previous TIA) and Revision D (most recent TIA) is due to the removal of the Conference Centre, which in Revision C was assumed to generate 150 trips in both the AM and PM peak hours. Minor corrections were applied to some of the other trip generation rates which includes the medical centre, office and health studio as per the amended plans which were submitted.

3. **Sparks Road/Redemptora Road intersection has not been included in the intersection analysis.**

   Applicant Response
   Intersection analysis was not undertaken for the Sparks Road / Redemptora Road intersection as no traffic data was available for the intersection. It is also noted that the traffic volumes through the intersection are likely to be low and considered highly unlikely to require upgrades as a result of the proposed development.

4. **A swept path assessment is to be provided for the design vehicle(s), at an appropriate resolution, to clearly demonstrate all possible vehicle movements entering and exiting the site, including left-in movements at Access 1 and left-in, left-out and right-in movements at Access 4.**

   Applicant Response
   The requested swept paths can be found in Appendix A.

5. **The removal of the proposed on-street truck bays on Quill Way is acknowledged. However, the proposed truck bay on Redemptora Road results in obstruction of the required sightlines and is not supported. It is to be removed or suitably relocated. In addition, AS 2890.2 requires the driver's eye position to be 3.0 m from the road edge (not 2.5 m).**

   Applicant Response
   Due to the widening of the driveway at Access 2, the sightline assessment has been updated accordingly and a MRV has been placed in the proposed truck parking bay on Redemptora to demonstrate that the required sightlines are achieved. Please refer to Appendix A.

6. **A Delivery Management Plan is to be provided to detail and quantify the proposed delivery and servicing arrangements, including the servicing schedule and an assessment of demand versus supply, to demonstrate that servicing demand can be adequately accommodated.**

   Applicant Response
   A Delivery Management Plan (DMP) can be conditioned. There is a clear delivery management strategy proposed which provides sufficient information at this stage. Once specific tenants are known, a DMP can be submitted prior to the issue of a building permit.

7. **In accordance with LPP 3.8, tandem car parking bays will generally not be supported unless they are provided in excess of the minimum parking requirements of TPS 3 and this Policy.**

   Applicant Response
   The tandem bays are only to be utilised by a single office tenants in Building 4. The sharing arrangement for these bays can therefore be easily managed and/or used. For example, the office building may have company vehicles which need to be parked at the building. Rather than use single bays, the tandem bays would provide a suitable alternative. The tandem bays also offer additional storage for equipment such as trailer or alternative vehicles. We also note, tandem can be managed

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by staff who generally work the same 9-5 hours. It would be expected in the worst case, the office staff simply leave together. We rather provide this as an option in the design where the space exists as opposed to not effectively utilising this space. The use of tandem bays is therefore considered to provide a more efficient outcome for this specific building.

8. **In accordance with the WAPC Guidelines, the parking layout, including the location, number, dimensions and arrangement of all car parking spaces, the design of parking aisles, circulation roadways and ramps, and the provision of adequate headroom clearance, is to be assessed and confirmed as compliant with AS 2890.1 and AS 2890.6. In particular, where the side boundary of a parking space is a wall or fence, or where obstructions such as columns restrict door opening, an additional 300 mm is required to be added to the width of the space. Any turning movement and manoeuvring issues within the internal circulation network are to be clearly identified and addressed. A swept path assessment is also required to demonstrate that the design vehicle(s) can safely and efficiently manoeuvre within the internal car park, including entry, exit, ramp transitions, turning movements, and access to parking bays, without encroachment into walls, columns, or non-trafficable areas.**

   Applicant Response
   While some checks can be undertaken at this stage, we note that car park layouts typically change as part of the detailed design process, as additional detail is added to the plans and internal components (such as columns, utilities and plant equipment) is moved. To ensure that the final design complies with AS2890 it could be conditioned that prior to submission of the relevant building permit application, a detailed parking plan shall be prepared to demonstrate that the proposed parking areas and vehicle accesses have been designed in accordance with AS2890.1 and AS2890.6.

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b) Parking

1. **The City notes the adjusted parking shortfall based on the revised plans, however there is still significant concerns around the provision of parking.**

   The AMC suffers from acute parking issues currently, and the City cannot support further development that would exacerbate these issues. All available on-street parking within proximity to the site is essential to the operation of the CUF and harbour-front businesses, both existing and future, and cannot be relied upon to offset the significant on-site shortfalls.

   Furthermore, the development application report acknowledges that private vehicle use is currently the dominant mode of transport, reflecting limited pedestrian connectivity and public transport services, and the quality of the cycle network. While improvements to active and public transport infrastructure may occur over time, the proposed development must respond to current travel behaviour and ensure adequate on-site parking is provided to avoid adverse impacts on parking areas required for the exclusive use of harbour-front land uses and operations that are essential to efficient and productive CUF operations and optimising the unique and strategic potential of the land. The extent of the deficit would be difficult to manage operationally and is unlikely to be effectively mitigated through a Parking Management Plan alone.

   Applicant Response
   We understand the importance of car parking. However, the proposed development will not be exacerbating the car parking issues. The following is provided to support this:

   - The reason car parking is an issue in the AMC, as well as many of Cockburn's industrial areas is largely due to the General and Light Industrial car parking rate is simply not high enough to accommodate the peak periods of these operations. The key issue with warehousing and general industry is there is no reciprocal car parking between land uses, all workers drive given the nature of the businesses (tools, longer-hours), there is no need or preference for alternative travel (ride share/public transport) and there is obviously no hybrid working. This all contributes to effectively 1 worker = 1 car parking space.
   - In addition to the above, whilst the floorspace of industrial uses is calculated on area, the concentration of workers particularly for fabrication and manufacturing land uses, is much higher than 1:50m2 ratio, given the volume of workers required.
   - It is also noted, often tools, equipment, sea containers etc. gets placed on hardstand areas, generally within designated staff parking areas. This forces workers to have to park elsewhere as the car park often becomes an extension of the warehouse.
   - All of these issues do not relate to the proposed development. These are industrial specific car parking issues, which impact not just Henderson but many of Cockburn's industrial areas.
   - Given this, it is felt the City is being unnecessarily harsh, on this development, because of issues created by surrounding land uses, which do not affect the proposed development.
   - Further, the car parking shortfall, is being skewed because of the age of the planning scheme and not because of a lack of car parking. Applying unreasonably high car parking rates, may make the shortfall seem high, however as we have demonstrated the reality is the only practical shortfall which exists relates to the retail and medical land uses, which are supplementary land uses to the office, hotel and broader precinct.
   - Whilst we appreciate why the City has this concern, it is unreasonable to compare an office building or hotel land use to an industrial warehouse when they are very separate land uses and operate completely differently. Furthermore, the majority of land uses in Henderson contributing to this issue are not office, they are industrial premises.

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2. **Small parking variations may be supported with high level justifications/assumptions. However, such a significant variation should be supported with more detailed surveys, justification and modelling.**

   Applicant Response
   We have demonstrated that only a small car parking variation does exist based on our assessment which relates to the retail and medical. We have demonstrated the communal car parking area provided can support the demand of these land uses, when considering peak operating periods as well as noting that guests from the hotel, and workers of the office will also consume a high proportion of demand, without contributing additional car parking.

   Furthermore, these land uses are high-turnover car parking bays. Therefore, these land uses will not consume for long periods significant parking times which forces cars to park elsewhere. This is the fundamental issue in Henderson, with staff having to find long term car parking. Small tenancies, which have high turnover and shorter dwell times, will not create the car parking issues as existing industrial land uses.

3. **The TIA itself records low-frequency public transport, noting "it is not anticipated that many staff or visitors will travel to the Site via public transport." This undermines any implied transfer of demand from private car to bus. The TIA also confirms deficient pedestrian and cycling networks within the AMC, with Quill Way's Primary Route status on the Long-Term Cycle Network presently "non-existing (inadequate)."**

   Applicant Response
   As we have noted, we don't expect public transport to serve any major role and have not assumed this within the car parking assessment. Hence the development is providing 874 car parking bays.

4. **While an on-site surplus of 30 bicycle bays is noted (152 provided vs 122 required), this is not a reasonable substitute for a car parking deficit in the hundred in a location where active and public transport are constrained.**

   Applicant Response
   Noted – we are not reliant upon cycling to substitute car parking bays.

5. **The report does not provide an assessment of the potential spillover or identify lawful off-site supply to accommodate shortfalls during events/peaks. In an industrial context with limited verges and heavy-vehicle movements, overflow parking to nearby streets (Quill Way/Redemptora Road) would raise operational and safety risks and conflict with freight access, noting the network's industrial classification and truck activity.**

   Applicant Response
   We are not anticipating nor are we reliant upon the verge of surrounding streets for car parking. All car parking will be accommodated on-site and meets the demands of the land uses.

6. **The City can accept the WAPC's Non-Residential Car Parking Rates in Perth and Peel as an acceptable justification. But even with this lower parking rate, a significant shortfall is still proposed.**

   Applicant Response
   Noted.

   The shortfall is not significant and it's important to note, conservatively we have used all of the **maximum** car parking rates outlined within Appendix A of the WAPC Non-Residential Car Parking Rates. We have used these maximums to be conservative in our assessment, whilst also noting there are other factors such as peak period considerations and reciprocal trip/parking usage within the

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development itself which will also contribute to reducing the car parking assessment. If were to use the middle-point of retail (1:30m2 ratio) and 1:3 medical practitioner ratio, it would bring the shortfall to 4 bays. It is not deemed the shortfall on-site is significant – its the fact that the scheme car parking rates are out-dated, and furthermore, even at a conservative level, the development is not proposing a significant shortfall.

7. **The City cannot accept the assumptions provided to justify the shortfall (see Table 6). For example, there is no evidence to support a blanket 20% hybrid working rate. Further, the claim that the hotel can simply manage their car intake is not supported by any kind of management arrangements or explanation as to why this can be treated as a 0 shortfall.**

Applicant Response

Office
In respect to the office 489 bays are being provided. The scheme requires 539 bays (50 bay shortfall), based on a 1:50m2 ratio, which is consistent with the maximum car parking rate outlined within Appendix A of the WAPC Non-Residential Car Parking Rates. It is noted, that this maximum is historic and has not been adjusted to align with contemporary working patterns for office workers which offer hybrid working scenarios, noting the City's scheme is dated from 2002 with this rate not being adjusted since this time. Unlike blue collar workers which are the dominant workforce in Henderson who have no other alternative than to drive, office staff can work remotely and the majority of private companies offer this as an incentive to their staff.

Assuming a 5 day work week, one day working remotely equates to 20%. Even if you were to assume half-a-day (10%) this would still result in the office development complying. We consider this to be very conservative, as this is the reality for most companies with respect allowing staff to work remotely. This percentage could also relate to staff who travel, staff that attend site visits and general absence's sick/leave etc.

It is noted; the current ratio being achieved is 1:55m^2. The minimum under the WAPC Non-Residential Car Parking Rates is 1:200m^2. The development remains at the conservative end of this parking scale, noting as well the 1:50m^2 ratio in itself is very generic, as contemporary office space has kitchens, meeting rooms, corridors, service areas which all form part of the floorspace calculation. None of this area is contributing to car parking.

Like many of the land uses within this development, there will also be reciprocal use between the hotel and office. Where a company may lease a portion of the office building, and have staff travel from over-east or over-seas to reside at the hotel and work in the office. This will likely result in 1 car parking bay (being used in the hotel) or 0 if the worker travels to the hotel via ride or share or other.

Additionally, making the office compliant with the 1:50m2 ratio is completely unreasonable. This would effectively require an additional two-decks of car parking per building to accommodate this. This would be a wasteful use of funding but also materials and labour, when there are clear, realistic and reasonable points of justification, noting that 1:50m2 in itself is an assumption to ascertain the estimated level of car parking a development should aim to provide. This ratio is not a certain calculation or exact science, and that must be understood by the City. This rate should be used as a guide only, particularly given the reasons outlined below. Given this, we are comfortable with the quantity of car parking bays being provided for the office.

Hotel
The hotel is providing 118 bays in lieu of 161 (shortfall of 43 bays).

We note the minimum under the WAPC Non-Residential Car Parking Rates for a hotel is 1 space per 2 rooms. There are 161 rooms being provided which would result in 81 bays. The hotel is in surplus to the minimums under the WA Planning Manual.

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Notwithstanding this, the car parking within the hotel is managed through the booking system. Meaning, it is very clear when someone books a room, whether there is bay available or not. If there are no bays available which we consider unlikely given a 1:1 ratio is extremely onerous, simply the occupant would need to find alternative means of travel i.e. ride share or taxi or similar. This is no different to any hotel, where you pre-book parking or travel arrangements before arriving, therefore negating any undue car parking impacts to the surrounding area.

8. **The City accepts the shortfall in delivery bays.**

Applicant Response
Noted.

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c) Landscaping

1. **Note that this is only a landscape masterplan and that a more detailed landscaping plan can be conditioned.**

   Applicant Response
   We are accepting of this as a condition.

2. **With respect to the retained trees (particularly 16 and 18), the City notes that a SRZ has been calculated. However it appears to have several major incursions with road and footpath. Road usually has pavement edge that extends further than kerb line, so we are querying whether those trees can truly be retained?**

   Applicant Response
   - Trees 16 is already growing with asphalt laid up to it trunk – the proposal seeks to carefully alleviate this with better growing conditions.
   - Tree 18 is already growing in very constrained conditions in hard limestone outcrop with a steep embankment immediately south of its trunk.
   - If either small tree does not survive, they will be replaced with the same species nearby to ensure canopy is maintained and extended in the area.
   - Trees 1A + 1B already have significant intrusions to root plates up to their trunks in places
   - This proposal seeks to alleviate this condition with the removal of retaining walls and paving.
   - Replaced with permeable and deep soil provisions to the majority of their Nominal Root Zones.
   - There will be no impacts or intrusions to their Structural Root Zones.

3. **The following trees on the planting palette may not be suitable for the limestone at the site:**
   - **Allocasuarina fraseriana**
   - **Banksia menziesii**
   - **Eucalyptus todtiana**

   Recommend substituting the following:
   - **Banksia attenuata**
   - **Eucalyptus decipiens**
   - **Eucalyptus foecunda**

   Applicant Response
   Final species can be refined at building permit stage.

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d) Air Quality Assessment

1. **The types of monitoring equipment used or the monitoring methods applied are not specified, noting that specific methods are required depending on the guidelines adopted for assessment.**

   Applicant Response
   The equipment used were calibrated instruments housed in a powered secure enclosure. (calibration certificates, issued by a certified organisation); attached in Appendix B. A description of the instrumentation is also provided. The metal samples in air were taken using a filter to capture any particulate matter, which was then analysed in a NATA certified laboratory.

2. **The assessment does not indicate whether the monitoring siting was in accordance with Australian Standards, noting that adequate siting is needed to provide representative monitoring data.**

   Applicant Response
   The equipment was sited in the only secure area available. The sources of pollutants were remote from the sampling site (in most cases by kilometres) allowing adequate mixing of the pollutant in the ambient air stream well before arriving at the site; therefore the variation in the concentration of the pollutant perpendicular to the direction of the air flow is not expected.

3. **The selected monitoring period would not capture seasonal variability and consequently data may not be representative. Monitoring was conducted for one month for the majority of pollutants and for two days only in the case of volatile organic compounds. Sampling was limited to November and December. While the report provides a statement that this is expected to be representative of yearly conditions, no justification was provided to support this statement. Seasonal variations, weather conditions, etc. can have significant impacts on air quality, and can differ for each pollutant.**

   Applicant Response
   The purpose was to identify potential pollutant risks from potential sources. These sources will operate in a consistent manner in compliance with their licences and permits. The most significant factor is expected to be the direction and wind speed as this will both carry the pollutant to site and also disperse it, lowering the concentration. It is to be noted, that the VOC levels were monitored continuously, and a secondary set of tests were done using sorbent tubes to identify if any specific air toxics could be identified. VOC is a wide group of compounds, not all of which are considered air toxics.

   In respect to the time span of the measurements; these were done over a period which encompassed a wide range of weather conditions in respect to temperature wind direction etc.

   Gases will be detected irrespective of the weather conditions unless removed by precipitation (rain). These results are indicative of the worst-case scenario.

   Particulates are suspended in the ambient air and carried by wind to the site. However, these can be removed by appropriate filtration on the building.

4. **The comparison of monitoring data against the adopted guidelines was not appropriate, as maximum 1-minute concentrations and 16-day average measured concentrations were compared against guidelines with different averaging periods (1-hour, 8-hour, 24-hour and annual as per published guidelines).**

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Applicant Response
The guidelines used were those quoted by the organisations as quoted and as such are published as presented. The equipment used measures the concentration on a finer timescale. A one minute measurement is more difficult to meet than a 16 day average. E.g. if all of the one minute concentrations are less than the 16 day average guideline concentration, then the guideline will never be exceeded.

5. **The air monitoring was limited to a single monitoring location in the south-east corner of the site. Justification for this sampling location appears to be lacking in the report.**

Applicant Response
As noted above the sources for these "air toxics" are distant from the site. Because of the distance of the source from the site, the compounds being measured will be well dispersed in the air flow to the site. E.g. every point on the site will be exposed to the same air stream passing over the source dispersing it.

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e) Noise

1. **As per the separation distances discussion above, there are significant concerns regarding the potential sterilisation of the industrial precinct as mentioned above.**

2. **The assessment concludes that the concurrent operation of a generator (without acoustic enclosure) and an angle grinder on the deck of the nearest vessel at the adjacent shipbuilding operation (BAE Systems) would generate noise levels of 104 – 108 dB(A), resulting in a predicted noise level of 60dB(A) at the façade of the hotel. It should be noted that the noise modelling undertaken may not truly represent the noise generated by BAE Systems when in full operation, as BAE Systems have significantly reduced operations at the site over the last 18 to 24 months.**

   It is also highly likely that the BAE Systems site will be redeveloped in the near future for intensive maritime industrial operations. Noise monitoring sites and modelling assumptions should reflect the ultimate development and operational intensity of the AMC and CUF. This should include consideration of the future build-out and the range of industrial activities the precinct is expressly planned and designed to accommodate, to appropriately inform subsequent stages of design development. This may need to be done in conjunction with DevWA and/or Department of Defence (as the Noise Regulations do bind the Crown).

   Applicant Response
   The acoustic assessment undertaken by Herring Storer has deliberately adopted a conservative and worst-case modelling approach to ensure the proposed hotel can accommodate both current and future industrial noise conditions within the Australian Marine Complex (AMC).

   To further assist in the response back to the City and other agencies, Herring Storer has prepared a technical note further explaining their position, which can be found in **Appendix C.**

   In respect to point 1 – the EPA Separation Distances are generic screening tools used only to determine when a noise study may not be required. They are not definitive separation requirements. The guidance itself confirms that a site-specific acoustic assessment is the most appropriate way to determine acceptable separation distances. Page 3 of the EPA Separation Distances state:

   > *A sound site specific technical analysis is generally found to provide the most appropriate guide to the separation distance that should be maintained between as industry or industrial estate and sensitive land use.*

   In this case, the hotel is designed to account for higher noise levels. While generic buffers for boat building range from 200–500 metres, these are based on base noise levels with no influencing factors applied. When the appropriate influencing factor and distance adjustments are considered, the predicted noise level at the hotel façade is approximately 59 dB(A), which aligns with the modelling outcomes.

   In respect to point 2 - modelling does not rely on recent reduced operational activity at the adjacent shipbuilding facility. Instead, it assumes simultaneous manufacturing activity across three vessels, incorporating 12 generators and 12 angle grinders operating concurrently, with generators modelled **without acoustic enclosures**, notwithstanding that such equipment would typically be enclosed in practice. This scenario represents a credible upper-bound noise case, rather than existing day-to-day operating conditions.

   While it is acknowledged that BAE Systems' recent operations may not reflect the ultimate intensity of maritime industrial activity envisaged for the AMC and Common User Facility (CUF), the modelling approach has intentionally removed reliance on current operational baselines. By modelling

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un-enclosed plant and concurrent high-intensity activities, the assessment effectively anticipates a future state in which industrial operations are more intensive than those currently observed.

Importantly, the assessment does not seek to demonstrate compliance with external noise criteria at the hotel façade. Instead, it focuses on internal amenity outcomes, consistent with the guidance that EPA separation distances are a screening tool and that site-specific technical analysis provides a more accurate basis for managing sensitive uses adjacent to industry. The modelling demonstrates that even under the adopted worst-case scenario, acceptable internal noise levels can be achieved through standard and readily achievable façade treatments, in accordance with AS/NZS 2107:2000.

The report also recognises the strategic importance of ensuring that the hotel does not constrain future industrial activity. The design approach intentionally places the responsibility for managing noise impacts on the development itself, rather than imposing limitations on surrounding industrial land.

We understand the concerns, but the noise generated seems to be overstated. The noise is largely consistent with a hotel being built on a major highway, which is common practice.

We would be pleased to liaise with both DevelopmentWA and Defence to finalise the detailed design requirements and issue a final acoustic report at building permit stage, however, building a ship is effectively the same as other such constructions and in terms of noise emissions there is nothing that would be a cause for concern. The DA assessment was to show that it is feasible and allow the DA to be approved.

We also note – regardless of this development the subject site already contains accommodation. Applying the concerns raised regarding conformance to the Noise Regulations, existing and future industrial land uses still need to conform to these Noise Regulations due to the existing accommodation. It would be assumed that the City and adjacent landowners would want a proposal being designed and built to a higher standard than what exists currently to insulate the accommodation above the standards, assuming an intensive worse-case noise scenario immediately adjacent to the subject site.

Finally, it is concerning that there is a lack of understanding of the modelling. On numerous occasions comments have been stated the modelling has been undertaken based on what is occurring on-site currently. This is incorrect. The acoustic assessment has made intensive assumptions for noise being generated adjacent to the subject where the hotel is most at-risk to noise. Still the assessment has determined the hotel can provide an acceptable internal noise environment.

Given the above, there are no concerns that the hotel use is going to negatively impact surrounding industrial operations, given the conservative modelling undertaken.

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f) Separation/Buffer Distances

1. **The Department of Health supports the appropriate separation from sensitive land uses and industrial land uses. The Environmental Protection Authority (2005) guideline "Separation Distances between Industrial and Sensitive Land Uses" lists hotels as a sensitive land use and provides buffer distances from certain industries and it is recommended to meet the buffer distances in the guideline.**

   This has not been achieved. It is acknowledged that the use of a hotel is different to that of a residence, childcare or school in terms of how long people spend at these places in the long term. But it is not clear from the submission as to whether the proposed hotel is predominately short stay or long term accommodation and whether workers will be staying for long term periods to take this into consideration.

   Applicant Response

   As outlined the EPA Separation Distances are a guide only.

   They do not replace site specific modelling which has been extensively undertaken as per the responses provided above. As outlined, this is made very clear in the document.

2. **The City has significant concerns around the introduction of a sensitive land use into a strategic industrial area. There is considerable risk associated with the sterilisation of the industrial operations within the precinct. Under the Noise Regulations, the onus would be on the operator to diminish their operations and if the City were to receive complaints from occupants of the hotel, we would be obliged to act.**

   Applicant Response

   Please see the response given in the Noise section of this response.

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g) Other

1. **Former service station use should trigger appropriate assessment of contamination status, as petrol stations are potentially contaminating land uses. There has been no detail provided as to the potential contamination of the site as it relates to the demolition of the petrol station.**

   Applicant Response

   The subject site is not a comminated site.

   The landowner has had previous reports completed to ensure the subject site does not require remediation. It also noted, it's a requirement of the operator upon termination to rectify the subject site, if required.

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h) Response to Submissions

Responses to submissions received is provided below. It is noted, where similar issues have been raised within these submissions, we have not directly addressed, given we have responded already within this letter. Only matters which have not already been flagged by the City are provided below.

Inconsistency with the MRS Zoning

- It is acknowledged the underlying MRS zone is Industrial, however the underlying TPS zone is Local Centre. This is what dictates land use and development.
- We note the definition also includes associated uses, which is undefined. Associated uses infers that land uses that are compatible to the industrial nature of the area. As we have outlined, the development is in support of industrial land uses and is providing land uses which will not preclude the existing industrial operations.
- Further, there are a number of examples of Local Centres in Industrial zones, which offer amenity for workers. There is ample precedent, that land uses such as office, shop, retail and convenience goods support the industrial function.
- It is noted – there are already office land uses with the precinct itself, and furthermore the site already contains the very land uses which are being said to be "incompatible".
- The logic that industrial areas are only to provide industrial operations is completely flawed, and small-minded particularly in the AMC when there is such a shortage on essential amenities and services needed to support the influx of investment.
- Strategic industrial precincts have a need to incorporate uses such as business accommodation and conferencing, high-quality office space for management, administration, food, beverage and short-stay facilities and amenity-based services necessary to support a skilled and mobile workforce. Such uses are widely recognised as essential to the long-term viability, productivity and investment appeal of complex industrial environments.
- As addressed in this submission the proposed hotel whilst is a sensitive land use will not preclude existing industrial operations given the assessment and measures taken. Also noting this already exists on-site.
- It is also important to note, the Local Centre zoning has been deliberately applied to this location to facilitate the provision of services and amenities that support the function and operation of the Australian Marine Complex, rather than to accommodate industrial activity itself.
- The proposed development is consistent with that intended support role and does not displace, constrain or compromise surrounding industrial uses, as demonstrated by the detailed technical assessments accompanying the application. When considered in this context, the proposal does not undermine the strategic intent of the MRS Industrial zone, rather complements it by reinforcing the operational efficiency, workforce support and long-term viability of this State/Federal-significant industrial precinct.

State Planning Policy 4.1 – Industrial Interface

- Whilst concerns have been raised regarding SPP 4.1, the submitter fails to actually identify what the amenity impacts are and/or haven't been addressed by the proposal.
- It is all well to relay what a policy states, however the landowner has provided extensive technical reports to establish there are no impact on adjacent premises. These technical reports have not been reviewed in any detail and largely have been overlooked and/or completely ignored.
- These reports demonstrated there is no adverse amenity impacts and that would rule the hotel incompatible or inappropriate to this setting.
- Furthermore, there is clear need for short-term accommodation, to service the localised area, given how isolated Henderson is from surrounding urban areas. This is a key objective outlined within with the planning scheme relating to a Local Centre.

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Inconsistency with the Local Centre Zone

- The definition of a Local Centre speaks to land uses being provided which serve the local community.
- The land uses and the associated development are doing exactly that, providing land uses which support the local community, which in this circumstance is a strategic industrial hub of Federal importance.
- It is also noted the definition is very clear that the Local Centre shall be consistent with the local-serving role of the centre. The local serving role is to provide amenities and services to the industrial hub given this its primary demographic and customer base.
- Workers have the right to access good quality amenities. They shouldn't have to drive 30 minutes from the workplace to access goods and services.
- With the respect to the hotel, whilst we understand it's a site-specific use, that a typical local centre in the middle of suburbia is not accustomed to, it doesn't mean that the land use is inappropriate when there is a clear need for short-term, good quality accommodation that will directly benefit the industrial precinct. This is a clear need, given the lack of this form of accommodation surrounding Henderson.

Scale

- Comments regarding bulk and scale are not a relevant consideration.
- Firstly, neither the scheme or a policy prescribes development controls regarding bulk and scale.
- Secondly, from a bulk and scale perspective, the development sits well within its context, given there are warehouses and industrial buildings which are as tall and, in some cases, taller than this proposal, and certainty do not have the level of architectural interest as this proposal.

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i) Request for Further Information Response

1. **Please provide an explanation/justification regarding the difference in the tragic generation rates between the two TIAs.**

   This has been provided within the response.

2. **Please provide details as to the suggested upgrades to the Cockburn Road intersection – is the applicant intending to undertake these works? Have there been any communications with MRWA and/or DPLH regarding this matter?**

   The upgrades are not the responsibility of the developer. There is no binding requirement for any such contribution to be made.

3. **Please clarify why the Redemptora/Sparks intersection has not been included in the intersection analysis.**

   Please see response provided in the traffic section.

4. **At this stage the City cannot support the significant parking shortfall. Please provide further justification and/or amend the plans to reduce the parking shortfall. Further details on how the development will manage parking constraints should be provided.**

   Please see the justification provided in the car parking section.

5. **Please provide an amended landscaping masterplan based on the above feedback (noting a more details plan can be conditioned).**

   Amendments are not required. Please see responses provided. Condition of development approval / formal landscape plan approval can respond to these matters.

6. **Please provide further justification as to why the EPA's separation distance guidance should be varied.**

   Please see response provided in noise section.

7. **Please provide further planning justification as to the potential land use conflicts/sterilisation issues associated with introducing a sensitive land use in a strategic industrial area. This is probably the City's largest concern along with the parking shortfall.**

   Both matters have been addressed above. Please also refer to technical note in Appendix D.

8. **Please provide an amended Air Quality Assessment based on the above feedback.**

   This is not required. Please see responses provided to the matters raised.

9. **Please provided an amended acoustic report based on the above feedback (I.e. it should reflected the ultimate development intensity of the AMC rather than current levels). Coordination with DevWA may be required in this sense.**

   Please see additional explanation in Appendix. Happy to meet with DevelopmentWA.

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10. **Please provide details regarding the potential contamination status of the petrol station. Has this been considered as part of the demolition proposal or has an assessment been provided?**

    Has been considered, however no action is required as the site is not contaminated.

11. **Please provide responses to the objections provided in the attachment (or advise if you don't intend to).**

    See above responses to matters which have not really been addressed.

12. **Please provide a Delivery Management Plan.**

    This should be a condition of approval.

13. **Please provide revised swept paths and updated plans based on the above feedback (under Transport/Traffic).**

    Please find in Appendix A.

Should you have any queries or require clarification on the above matter, please do not hesitate to contact the undersigned on 9289 8300.

Regards,
SLR Consulting Australia Pty Ltd



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Appendix A – Swept Path & Sightline Assessment
Appendix B – Air Quality
Appendix C – Acoustic Technical Note

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PART D – OTHER BUSINESS

1. State Administrative Tribunal Applications and Supreme Court Appeals

2. Meeting Closure