ATTACHMENTS

Ordinary Council Meeting

10 December 2024

Part 1 – 7.2.2, 10.1.1, 10.1.3, 10.3.2, 10.3.4, 10.3.5, 10.3.6 and 10.3.7

City of South Perth

ATTACHMENTS TO AGENDA ITEMS

Ordinary Council Meeting - 10 December 2024

Contents

NOTES

Council Agenda Briefing

Meeting Date & Time: 6.00pm, Tuesday 3 December 2024
Meeting Location Council Chamber

1. DECLARATION OF OPENING

The Presiding Member opened the Briefing at 6.01pm and welcomed everyone in attendance.

ITEMS FOR COUNCIL

The Presiding Member informed the meeting that Agenda Items 2, 3, 6, 7, 8.1, 8.2, 9, 11, 13 and 14 will be dealt with at the Ordinary Council Meeting to be held 10 December 2024.

4. ATTENDANCE

Presiding Member	Mayor Greg Milner

Councillors

Como Ward	Councillor Bronwyn Waugh
Manning Ward	Councillor André Brender-A-Brandis
Mill Point Ward	Councillor Mary Choy
Mill Point Ward	Councillor Nic Coveney
Moresby Ward	Councillor Jennifer Nevard
Moresby Ward	Councillor Hayley Prendiville

Officers

Chief Executive Officer	Mr Mike Bradford
Director Corporate Services	Mr Garry Adams
Director Development and Community Services	Ms Donna Shaw
Director Infrastructure Services	Ms Anita Amprimo
Manager Development Services	Ms Fiona Mullen
Manager Finance	Mr Abrie Lacock
Manager Governance	Ms Toni Fry
Manager Customer, Communications and Engagement	Ms Danielle Cattalini
Communications Officer	Ms Raquel de Brito
Governance Coordinator	Mr Morgan Hindle
Senior Governance Officer	Ms Christine Lovett
Governance Administration Officer	Ms Kira Digwood

Gallery

There were approximately 14 members of the public present.

4.1 Apologies

Nil.

4.2 Approved Leave of Absence

- Councillor Glenn Cridland for the period 27 November 2024 to 13 December 2024, inclusive.
- Councillor Blake D'Souza for the period 1 December 2024 to 9 December 2024, inclusive.

5. DECLARATIONS OF INTEREST

- Mayor Greg Milner - Impartiality Interest in Item 10.1.1 as 'over the years, I have developed positive working relationships with many local sporting organisations and community clubs that might potentially be affected by (or have an interest in) this Item.'
- Mayor Greg Milner – Financial and Proximity Interest in Item 10.1.3 as 'this Item potentially involves the development of land that is adjacent to (or is across the road from) properties that are owned or indirectly owned by persons who contributed to my re-election campaign in 2023. This could potentially result in a financial gain, loss, benefit or detriment for those persons.'
- Mayor Greg Milner – Financial and Proximity Interest in Item 10.3.1 as 'some of the proposed listings either include, or are adjacent to, or are across the road from, properties that are owned or indirectly owned by persons who contributed to my re-election campaign in 2023.'
- Councillor André Brender-A-Brandis – Impartiality Interest in Item 10.3.1 as 'I know someone who is not a closely associated person to me, and their property is on the heritage survey.'
- Councillor Hayley Prendiville – Impartiality Interest in Item 10.3.1 as 'I was a guest at a dinner at Wesley College a few months ago and my children attend Kensington Primary School. Locations both featured on the Heritage Survey Review.'
- Councillor Mary Choy – Impartiality Interest in Item 10.3.1 as 'some of the Heritage Places listed in the draft Local Heritage Survey for advertising are known to me by past or present association and some of the landowners, associates or residents of some of the Heritage Places listed in the draft Local Heritage Survey for advertising are or may also have been known to me. My sons also attend Wesley College and my husband is a Wesley College old boy.'
- Councillor Bronwyn Waugh – Impartiality Interest in Item 10.3.1 as 'my son attends Wesley College.'
- Councillor Hayley Prendiville – Impartiality Interest in Item 10.3.2 as 'I have a family member who is a member of the Collier Pines Ladies Golf Club.'
- Councillor Bronwyn Waugh – Impartiality Interest in Item 10.3.5 as 'I know the owners of that property, although they are not closely associated persons.'
- Councillor Mary Choy – Impartiality Interest in Item 10.3.7 as 'some landowners or residents who may have a significant view as defined in the policy may be known to me.'
- Councillor Nic Coveney – Impartiality Interest in Item 10.3.7 as 'some residents whose views may be impacted are known to me.'

City of South Perth

8. PRESENTATIONS

8.3 Deputations

1.	Ms Cecilia Brooke of South Perth who spoke **FOR** the Officer's Recommendation.	**Item 10.1.1**
2.	Ms Helen Logue of South Perth who spoke **AGAINST** the Officer's Recommendation.	**Item 10.3.1**
3.	Mr John Bassett of Como who spoke **FOR** the Officer's Recommendation.	**Item 10.3.1**
4.	Mr Frank Roach of Como who spoke **AGAINST** the Officer's Recommendation.	**Item 10.3.2**
5.	Mr Alessandro Stagno of Como who spoke **FOR** the Officer's Recommendation.	**Item 10.3.4**

10. DRAFT DECEMBER 2024 REPORTS

The Chief Executive Officer, Mr Mike Bradford gave a brief summary of the December 2024 Agenda Items to be considered by Council, as follows.

Mayor Greg Milner declared an Impartiality Interest in Item 10.1.1.

10.1.1 Major Community Recreation Infrastructure Projects – Challenger Reserve Masterplan and George Burnett Master Plan

This item was the subject of a Deputation.

This report seeks Council endorsement to progress two priority community recreation infrastructure projects. Specifically, these are investigating the development of indoor multi-sports courts at George Burnett Park and a full options assessment for Challenger Reserve.

10.1.2 RFT 11/2024 – Provision of Minor Building Works

This report considers submissions received from the advertising of Tender 11/2024 for the Provision of Minor Building Works.

This report will outline the assessment process used during evaluation of the tenders received and recommend approval of the tender that provides the best value for money and level of service to the City.

Mayor Greg Milner declared a Financial and Proximity Interest in Item 10.1.3 and accordingly left the Chamber at 6.34pm. Councillor Bronwyn Waugh assumed the Chair.

10.1.3 Response to Notice of Motion – Public Art at the South Perth Foreshore

This report presents the City's findings with respect to Councillor Nic Coveney's Notice of Motion regarding the installation of temporary and permanent artwork and/or signage to attract tourists to the South Perth foreshore and surrounding precincts.

Mayor Greg Milner declared a Financial and Proximity Interest in Item 10.1.3 and remained outside the Chamber.

Councillors André Brender-A-Brandis, Hayley Prendiville, Mary Choy and Bronwyn Waugh declared an Impartiality Interest in Item 10.3.1.

10.3.1 Local Heritage Survey Review

This item was the subject of two Deputations.

At its meeting held 28 May 2024 and 27 August 2024, Council considered a report recommending endorsement of the draft Local Heritage Survey (LHS) and proposed Place Records for advertising.

Council resolved to adjourn debate on the Item to the 10 December 2024 Ordinary Council Meeting to consider whether an independent external consultant should be engaged to assess the properties included in the LHS, particularly those with a Category of Significance 1 and 2. The matter is therefore being re-presented to Council for its consideration.

Mayor Greg Milner returned to the Chamber at 6.58pm prior to consideration of Item 10.3.2 and resumed the Chair.

Councillor Hayley Prendiville declared an Impartiality Interest in Item 10.3.2.

10.3.2 Major Land Transaction – Collier Park Golf Course Submissions

The purpose of this report is for Council to consider the submissions on the Major Land Transaction Business Plan for the development of facilities at Collier Park Golf Course pursuant to Section 3.59 of the *Local Government Act 1995,* (the Act) and for Council to consider proceeding with the transaction.

10.3.3 South Perth Activity Centre Plan – Community Benefit Contribution Framework Annual Review

That Council note the annual review of the South Perth Activity Centre Plan - Community Benefit Contribution Framework.

10.3.4 Proposed Six Multiple Dwellings – Lot 1 & 2 (No's 32A & 32B) Thelma Street, Como

This item was the subject of a Deputation.

The purpose of this report is to consider an application for development approval for Six Multiple Dwellings on Lots 1 & 2 (32A & 32B) Thelma Street, Como.

The item is referred to Council as the proposed building height falls outside the delegation to Officers. For the reasons outlined in the report, it is recommended that the application be approved subject to conditions.

Councillor Bronwyn Waugh declared an Impartiality Interest in Item 10.3.5.

10.3.5 Proposed Change of Use – Single House to Unhosted Short-Term Rental Accommodation - Lot 45, No. 197 Douglas Avenue, Kensington

The purpose of this report is to consider an application for development approval for a Change of Use from a Single House to Unhosted Short-Term Rental Accommodation on Lot 45, 197 Douglas Avenue, Kensington.

The item is referred to Council as the proposed land use falls outside of the delegation to Officers.

For the reasons outlined in this report, it is recommended that the application be approved subject to a condition.

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10.3.6 Response to Notice of Motion – Draft Payment in Lieu of Parking Payment Plan

This report presents a draft Payment in Lieu of Parking Plan for the purposes of advertising in response to a previous resolution of Council following a Notice of Motion from Councillor Bronwyn Waugh.

Councillors Mary Choy and Nic Coveney declared an Impartiality Interest in Item 10.3.7.

10.3.7 Revocation of Local Planning Policy P350.09 – Significant Views

This report proposes the revocation of local planning policy - P350.09 – Significant Views for various reasons, including modification to information requirements since the Policy was initially adopted by Council and guidance from recent State Administrative Tribunal decisions on the issue.

10.4.1 City of South Perth Annual Report

This report recommends that Council accept the 2023/24 Annual Report and endorses the Electors' General Meeting to be held Tuesday 4 February 2025.

10.4.2 Proposed City of South Perth Dogs Local Law 2025

This report considers the current provisions of the City of South Perth Dogs Local Law 2016, which was adopted in 2016 to reflect the *Dog Act 1976* and Dog Regulations 2013 at that time.

Following review, significant new inclusions are proposed; therefore, it is considered appropriate that the existing Dogs Local Law 2016 be repealed and a new Dogs Local Law be created.

The purpose of the proposed dogs local law is to make provisions about the confinement of dogs, control the number of dogs that can be kept on premises in the district, the impounding of dogs, regulate kennel establishments, and to require removal of dog excreta.

The effect of the proposed dogs local law is to extend the controls over dogs which exist under the *Dog Act 1976* and Dog Regulations 2013.

10.5.1 2023/24 Annual Financial Statements (External) Audit Information Systems Report

This report tables the 2023/24 Annual Financial Statements Final Audit Information Systems Audit report from the Office of the Auditor General (OAG), referred to as a Management Letter. Like prior years the 2023/24 Annual Financial Statements Audit included an Information Systems Audit. The Information Systems Audit Management letter includes 14 findings, risk ratings, recommendations, and management comments.

It is recommended that all the findings are accepted and added to the City's Audit Register, with commentary on progress of resolution to be reported at each Audit, Risk and Governance Committee Meeting.

10.5.2 2023/24 City of South Perth Annual Financial Report

This report tables the 2023/24 Annual Financial Report, the Independent Auditor's Report and the Office of the Auditor General Exit Brief.

10.5.3 Quarterly Activity Report

This report outlines recent activities undertaken by the City of South Perth relating to Risk Management, Business Continuity and Workplace Health and Safety and an overview of the activities planned.

City of South Perth

10.5.4 Audit Register Progress Report 1st Quarter Update

This report provides an update on the progress of actions included in the Audit Register. The Audit Register includes all open audit findings that have previously been accepted by the Audit, Risk and Governance Committee and Council.

10.5.5 Policy Review – Infrastructure Services

The Terms of Reference of the Audit, Risk and Governance Committee include responsibility for reviewing the City's policies. A number of policies are now presented for the consideration of the Committee and referral to Council for adoption.

12. MOTIONS OF WHICH PREVIOUS NOTICE HAS BEEN GIVEN

Nil.

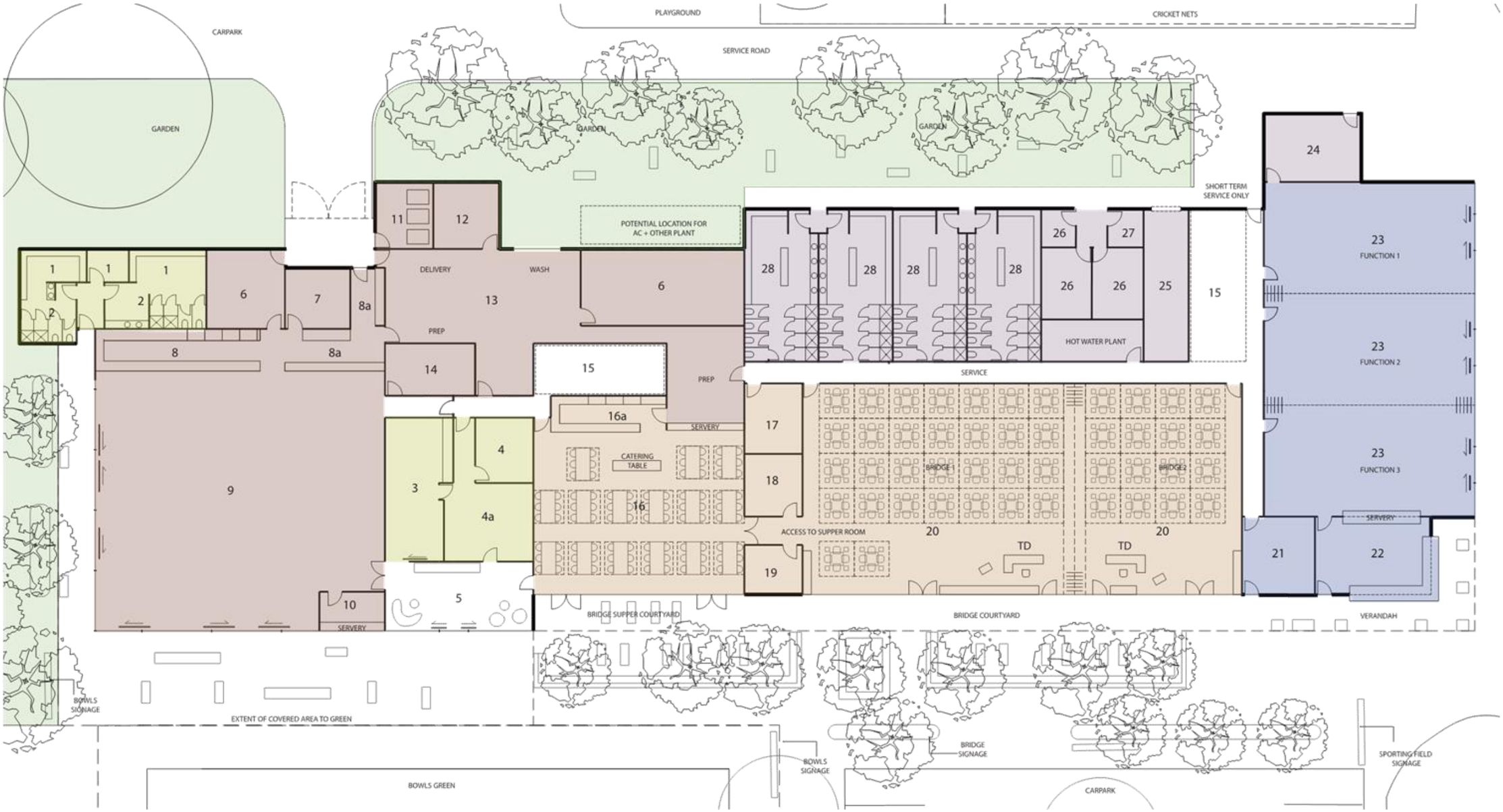
15. MEETING CLOSED TO THE PUBLIC

Nil.

16. CLOSURE

At 8.00pm the Presiding Member closed the Council Agenda Briefing and thanked everyone for their attendance.


ELDERFIELD RD
SINGLE SIDED HIT UP WALL AND HARDSTAND
FUTURE TENNIS COURTS AND HIT UP WALL/ HARDSTAND
FOOTPATH RELOCATED AWAY FROM ROAD EDGE FOR INFORMAL PARKING - APPROX 31 BAYS
NEW PATH NETWORK
PATH TO EXISTING DOUBLE GATE
EXTENSION TO UA PATH
61 CARBAYS
EXISTING PLAYGROUND
CARPARK EXTENSION AND SERVICE ENTRY
3 X CRICKET PRACTICE NETS
FENCED DOG EXERCISE AREA AND AGILITY COURSE
MULTI PURPOSE SPORTS FACILITY
5 CARBAYS
NATURE PLAY
CANOPY
CRICKET - 60M RADIUS
EXISTING CARPARK - 36 BAYS
2 EXISTING GRASS 6 RINK GREENS
2 UNDERCOVER SYNTHETIC 8 RINK GREENS
LIGHT POLES
SOCCER FIELDS- 64m x 100m
GRIFFIN CRESENT
NEW NATURE PLAYGROUND
23 NEW CARBAYS
NOTIONAL LOCATION OF 35M FLICX PITCH
GREENKEEPERS' STORE
MOBILE GRANDSTAND
18 x 5m
TOILETS
EXTENDED EXISTING CARPARK - 48 BAYS
APPROX. 18 INFORMAL CARBAYS
MOUNTABLE KERB
CHALLENGER AVE
gresleyabas
architecture environment design
Challenger Reserve - Masterplan and Concept Design
Site Masterplan
1 : 1000 @ A3
N
job number: 2012
issue date: 02/11/21
revision: H
drawing number: SK01



LEGEND

			m²
BOWLS	1	BOWLS STORE	32
	2	BOWLS CHANGE	39
	3	BOARD ROOM	43
	4	MANNING BOWLS - TREASURER	18
DINING	4a	MANNING BOWLS - ADMIN	34
	5	FOYER	49
	6	COOLROOM	89
	7	BAR MNGS OFFICE	19
DINING	8	BAR	38
	8a	SERVERY	30
	9	DINING	344
	10	TOURNAMENT OFFICE	12
	11	BINS	18.5
DINING	12	DRY STORE	21
	13	KITCHEN	145
	14	CHAIR STORE	22
	15	WC + CLEANERS	74
BRIDGE	16	SUPPER SPACE	166
	16a	BRIDGE BAR	20
	17	BRIDGE STORE	19
	18	DEALER ROOM	18
BR	19	BRIDGE ADMIN	14
	20	BRIDGE	438
FUNCTION	21	FUNCTION STORE	27
	22	KIOSK/BAR	42
	23	FUNCTION	333
SOCCER/CRICKT	24	CRICKET STORE	31
	25	SOCCER STORE	32
	26	PUBLIC WC'S	40
	27	FIRST AID/UMPIRE	7
	28	CHANGEROOM (X4)	214
		HOT WATER PLANT	20.5
		CIRCULATION + OTHER	121
		TOTAL INT. BUILDING	2570

gresleyabas
architecture environment design

Challenger Reserve - Masterplan and Concept Design

Ground Floor Plan
1 : 250 @ A3

N

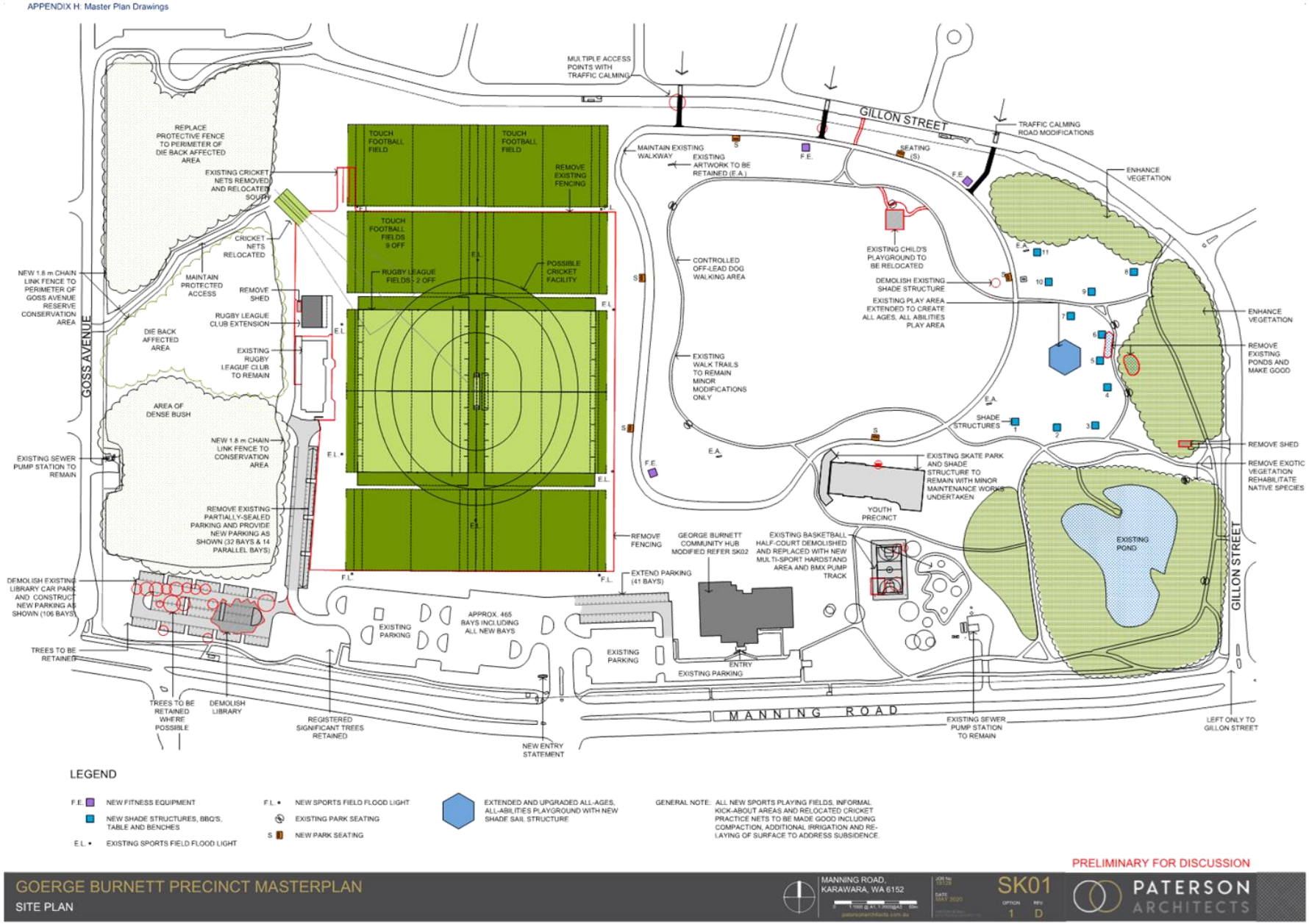
job number: 2012
issue date: 02/11/21
revision: 1
drawing number: SK02

Challenger Masterplan

Indicative Implementation Plan			
Anticipated Essential Works	**Discretionary Staged Works**	**Order**	**Year**
Sports field lighting upgrade (completed)		1	2022
	Dog exercise area and agility course	2	2023
New cricket practice nets		3	2024
	Upgrade existing tennis playground	4	2025
New footpath along Elderfield Road and Griffin Crescent		5	2026
New hit-up wall		6	2027
Car parking and pathways - Elderfield Road and Griffin Crescent		7	2028
New multi-purpose sports facility		8	2029
2 x new synthetic bowling greens		9	2032
	Covered synthetic bowls arena	10	2032
Duplicate main carparking off Challenger Avenue - 75 new bays		11	2033
Allowance for soft landscaping and reticulation around site		12	2033
	Adventure/nature playground	13	2035
Internal pathways with seating and lighting		14	2036
Paths and parking along Challenger Avenue		15	2037
Future tennis courts		16	2038
Convert natural grass greens to synthetic		17	2039
	Clubhouse secure playground	18	2040

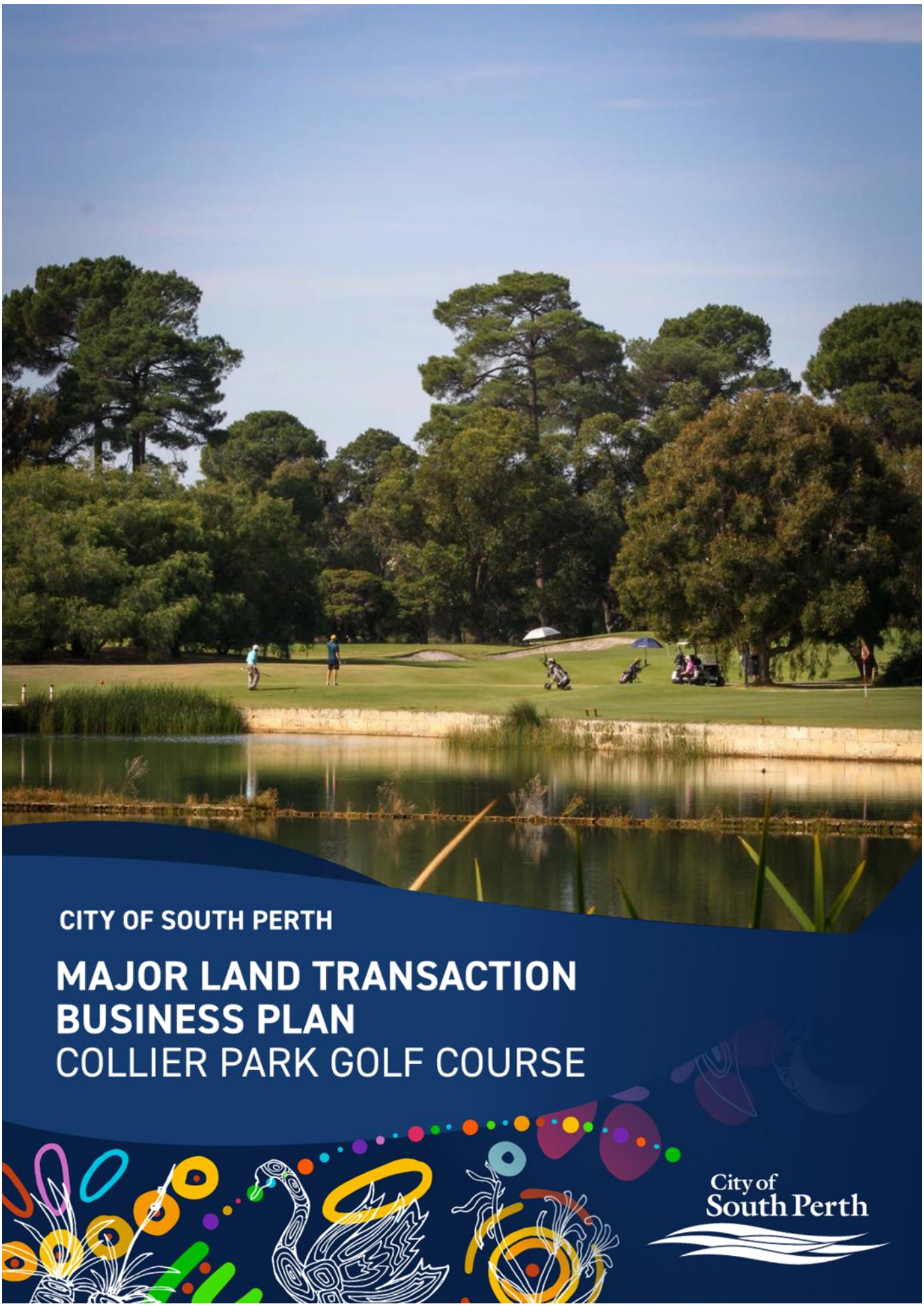
City of South Perth

APPENDIX H: Master Plan Drawings




COACHELLA
Veuve Clicquot


DENVER ART MUSEUM
DENVER ART MUSEUM


CITY OF SOUTH PERTH
MAJOR LAND TRANSACTION
BUSINESS PLAN
COLLIER PARK GOLF COURSE
City of
South Perth


A city of active places and beautiful spaces
Kaartdjinin Nidja Nyungar Whadjuk Boodjar Koora Nidja Djining Noonakoort kaartdijin wangkiny, maam, gnarnk and boordier Nidja Whadjul kura kura.
We acknowledge and pay our respects to the traditional custodians of this land, the Whadjuk people of the Noongar nation and their Elders past, present and future.

CONTENTS

1.0 INTRODUCTION & BACKGROUND

Collier Park Golf Course is located off Hayman Road, Como in the City of South Perth (the City). The golf course was developed by the City of South Perth as a public golf course in 1984. Today, the golf course is one of the most popular courses in the Perth metropolitan area with its picturesque grounds and variety of local wildlife.

It is currently operated on the City's behalf by a third-party golf operator (Controller), with the current lease and controller agreement in place since 2018.

The course has demonstrated an increase in the popularity of both golf rounds and driving range patronage over the past three years reaching over 120,000 rounds of golf in the 2023/24 financial year. In 2021, the City invested $2 million in a new mini golf facility which has been profitable and grown in popularity since opening.

Whilst the course itself has been maintained to a high standard, the built assets, including the existing clubhouse, pro-shop, function room, café, kitchen and driving range are not of a contemporary standard and require replacement. These assets were scheduled to be replaced as part of the City's ($80 million) Recreational and Aquatic Facility (RAF) project, which was cancelled in May 2023 due to escalating costs and a lack of funding.

Given that the Collier Park Golf Course is a significant revenue source for the City and the existing facilities do not meet the expectations of golf patrons nor, do they provide for community amenity outside of golfing patrons, the City identified the facility upgrades as a priority. Without these upgrades, future revenue from golf course operations would be likely to decline due to increased competition and an inability to meet community expectations.

2.0 OBJECTIVES

1. To develop an enhanced and contemporary recreation and golfing experience and attract a wider, diverse audience to enhance the golf course as a place for community recreation, engagement and socialisation.
2. To optimise, diversify and ensure the long-term revenue streams generated from the golf course to the benefit of the residents of the City of South Perth.
3. To ensure the long-term financial viability of the golf course so that operations and future capital expenditure requirements do not place a financial burden on ratepayers of the City.

3.0 LEGISLATIVE REQUIREMENTS

3.1 Major Land Transaction Business Plan

In accordance with the *Local Government Act 1995*, a local government is required to develop and advertise a business plan if a proposed disposal of property is considered a major land transaction under the act.

A disposal of property is considered as a major land transaction if the consideration under the transaction, together with anything done by the local government for achieving the purpose of the transaction, is more than either:

i. $10,000,000; or

ii. 10% of the operating expenditure incurred by the local government from its municipal fund in the last completed financial year, which in the case of the City for the 2023/24 financial year is an amount of $6,822,000 (based on interim results).

Before entering into a Major Land Transaction, Council must first prepare a Business Plan, advertise the availability of the Business Plan for comment and then consider any submissions received in relation to the proposed transaction.

The requirement to prepare a Major Land Transaction Plan, is met by the proposed development expenditure being in the order of $18 million of which $10 million will be committed by the City.

The City is borrowing the full $18 million from the Western Australian Treasury Corporation of which $8 million plus interest will be repaid by Clublinks Management Pty Ltd to the City under a separate agreement between the City and Clublinks Management Pty Ltd (see section 6.3 for further details).

3.2 Business Plan Advertising

At the Ordinary Council Meeting on 27 August 2024 (Item 10.1.1 Collier Park Golf Course Business Plan), Council resolved, in accordance with section 3.59(4) of the *Local Government Act 1995*, to authorise the Chief Executive Officer to provide statewide public notice of the proposed major land transaction for Collier Park Golf Course.

The City now invites public submissions on the Major Land Transaction Business Plan, which proposes to jointly develop the facilities at the golf course as outlined in the plan with the chosen operator Clublinks Management Pty Ltd.

In accordance with section 3.59 of the *Local Government Act 1995* (the Act), the City is required to prepare a Business Plan for the transaction and give statewide public notice of the proposal.

Community members may make submissions in relation to the transaction via the following methods:

By Post: Cnr Sandgate St and South Tce, South Perth WA 6151

By Email: enquiries@southperth.wa.gov.au

In Person: South Perth Civic Centre, Cnr Sandgate St and South Tce, South Perth

Any submissions received will assist Council in making a decision on whether to proceed with the advertised transaction.

Copies of the Plan are available from:

- The City's website
- The City of South Perth Civic Centre
- The South Perth Library and the Manning Library

Closing date for submissions:
Friday, 11 October 2024 at 4.00pm.

Mike Bradford
Chief Executive Officer

Submissions will be treated as public documents unless explicitly requested otherwise. If you do not consent to your submissions being treated as a public document, you should mark it as confidential or specifically identify the confidential information and include an explanation.

4.0 OVERVIEW

4.1 Background

This proposal has been developed in accordance with the City's Strategic Community Plan 2021-2031 (SCP), with the vision of achieving "a City of active places and beautiful spaces."

In 2023, the City advertised a public tender (RFT 8/2023) for the Redevelopment and Management of Collier Park Golf Course in accordance with section 3.57 of the *Local Government Act 1995*. Council awarded the Tender to Clublinks Management Pty Ltd (Clublinks), facilitating a Course Controller Agreement and a Development Agreement.

4.2 Site Details

The land is described as Collier Park Golf Course and is shown on the photograph (below). The land has an approximate area of 90 hectres, and is located on Hayman Rd, Como within the local government area of the City of South Perth.

Collier Park Golf Course sits across two parcels of Crown Reserve know as Reserve 38794 and Reserve 36435. Both Reserves are vested in the City with the power to lease for a period not exceeding 21 years.

Reserve 38794 comprises Lot 3858 on Deposited Plan 218457 being the whole of the land in Qualified Certificate of Crown Land Title Volume LR3102 Folio 500.

Reserve 36435 comprises Lot 500 on Deposited Plan 416118 being the whole of the land in Qualified Certificate of Crown Land Title Volume LR3170 Folio 620.

The land is zoned Parks and Recreation under the MRS.

4.3 Tender Process

A Request for Tender (RFT) 8/2023 for the Provision of Golf Course Management Services including facility redevelopment and improvement for golf course was advertised in The West Australian newspaper on Saturday 9 September 2023 and Wednesday 13 September 2023 with a closing date of Tuesday 24 October 2023.

All tenders were initially reviewed against the compliance criteria before being reviewed by an evaluation panel and assessed according to the weighted assessment criteria outlined in Table A below.

The assessment of the financial elements being the fee/lease proposal and the capital contribution was a complex process that was assisted by financial modelling including cashflows associated with all proposals across the proposed contract term (21 years).

It is noted that the RFT made it clear that the City would continue to be responsible for the maintenance of the golf course in accordance with current practice.

WEIGHTED ASSESSMENT CRITERIA		WEIGHTING
Criteria 1 (25%)	**Fee/Lease Proposal Offer**	25%
Criteria 2 (5%)	**Corporate & Social Responsibility**	5%
Criteria 3 (30%) Organisational Structural & Operational Experience: Demonstrated experience of tenderer and personnel performing the services.	**Company/organisational profile**	5%
	Golf Course Performance	5%
	Management Systems	5%
	Head Office Support	5%
	On-course Operating Structure	10%
Criteria 4 (40%) Business Plan, Innovation and Capital Upgrades: Value add and methodology to deliver the services, including transition planning, business plan(s) and facility upgrades.	**Business Plan and Forecasts and Business case/Feasibility**	10%
	Proposed Facility and Course Improvements and Redevelopment	10%
	Capital Contribution	15%
	Golf Course Strategic Plan	2.5%
	Facility Maintenance	2.5%

Table A - Weighted Assessment Criteria

Based on comprehensive assessment of all submissions received, the offer from Clublinks Management Pty Ltd was determined to represent the best long-term value and outcome for the City and its residents.

The Clublinks proposal includes a proposed rental amount for the existing pro shop/kiosk/function area together with a revenue sharing arrangement for a range of revenue streams. The proposal also includes concept plans for the redevelopment of existing facilities including a two-story driving range, retail area, food and beverage facilities, function centre, office area and playground. A padel tennis facility is also proposed.

As per the tender request, the proposed upgrades to facilities do not require any change to the layout of any of the three nine-hole courses.

The proposed funding arrangements require both a commitment from the City and from the proponent and will be subject to further decisions of Council once the contract negotiations have been undertaken. The development is scheduled to take place in year two and three of the agreement.

At the December 2023 Ordinary Council Meeting it was resolved that Council:

1. Approves Clublinks Management Pty Ltd as the preferred Tenderer in accordance with Tender Number RFT 8/2023.

2. Authorises the Chief Executive Officer to negotiate with Clublinks Management Pty Ltd to finalise the Course Controller Agreement and Lease agreement.

3. Before the City enters into the Course Controller Agreement and Lease, authorises the Chief Executive Officer:

   a. if, and when required, to prepare and advertise a business plan in accordance with section 3.59 of the *Local Government Act 1995* in relation to any major land transaction and/or major trading undertaking contemplated by the Course Controller Agreement and Lease; and

   b. to advertise the Lease in accordance with section 3.58 of the *Local Government Act 1995*.

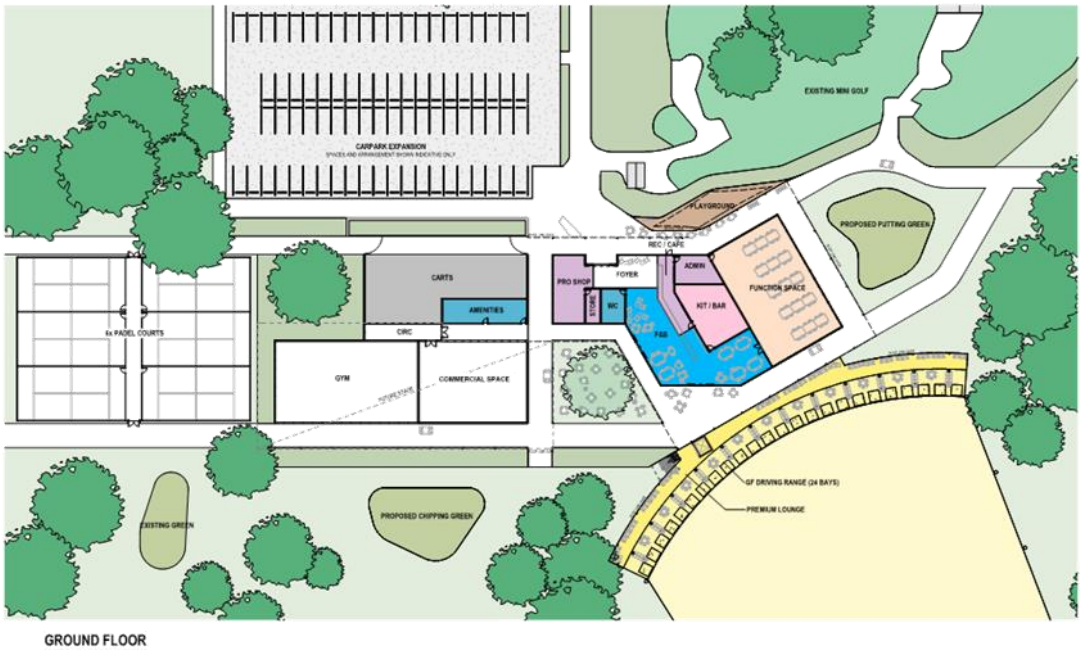
5.0 DETAILS OF MAJOR LAND TRANSACTION

It is intended that the City enter into three agreements with Clublinks Management Pty Ltd being:

1. A course controller agreement which provides for the operation and management of the golf course facilities (whether existing or future facilities) and an agreed share of revenue for the different revenue sources available from current and future golf course facilities.
2. A 21 year lease agreement that covers an area that accommodates the development site required for the new facilities.
3. A development agreement which provides for a contribution of capital to fund the development of new facilities from both Clublinks and the City of up to $8 million and $10 million respectively.

The proposed development consists of:

- Two story driving range
- Relocated practice putting greens
- Administration areas
- Food/beverage/kitchen areas
- Retail area
- Playground area
- Padel courts
- Amenities
- Provision for office/gym and or community space.



GROUND FLOOR

Indicative Layout of Proposed Development.

Images above show concepts only. Detailed design phase is yet to take place.

6.0 ASSESSMENT OF MAJOR LAND TRANSACTION

6.1 Effect on the provision of facilities and services by the City

The City currently places 50% of the net operating profit received by the City from the golf course operations into the Collier Park Golf Course Reserve Fund. This fund is used to provide for ongoing upgrades to the course and associated infrastructure. As outlined in Section 6.3 below, under the proposed agreement, the course is projected to make a net profit over the next 21 years. 50% of the City's share of the net profit derived from the golf course operations will continue to be placed in reserve to ensure that the operations of the golf course do not place a financial burden on ratepayers.

The other 50% of the City's share of the net profits derived from the golf course operations will form part of the City's overall revenue base to fund other services to the community such as park maintenance and tree planting, i.e. resulting in lower rates to the benefit of the City's ratepayers.

6.2 Effect on golf operators in the district

There are no other public golf course operators within the district of South Perth, however, the City of Canning and the City of Melville both operate golf courses nearby, with the City of Canning recently announcing significant capital investment into upgrades to its golfing facilities. Similar investments are being made at Hammersley Golf Course (City of Stirling) and Fremantle, with Wembley Golf Course (Town of Cambridge) already having undergone major capital investment.

Investment in the City's Golf Course is vital in ensuring that it maintains its competitive standing amongst nearby alternative public golfing venues and can attract non-golf playing visitors to ensure revenue streams remain strong into the future.

6.3 Expected financial effect on the City

The proposed investment into the golf course is considered necessary to create a contemporary, thriving and financially viable community asset for future generations. Without investment, it is unlikely that the golf course will remain competitive in the market and asset failures will see revenue decrease whilst maintenance costs continue to increase.

The proposal requires Clublinks Management Pty Ltd to commit capital funding to the redevelopment of up to $8 million. The City's Capital contribution is approximately $10 million.

The City will borrow the entire $18 million for the redevelopment works from WA Treasury Corp (WATC) at a fixed rate. It is proposed that Clublinks' share (being $8 million) plus applicable interest will be repaid over a 10 year period via a capital contribution fee that will be calculated using an interest rate premium over and above what the City is charged by WATC. This provides an additional revenue stream to the City and negates the need for third party financing on behalf of the proponent.

The required loan is identified in the City's 2024/25 budget as a WATC Loan Facility and includes the estimated amount required for construction of the proposed facilities together with the capitalised interest over the construction period. Given that the loan repayment is entirely funded by the rent and fees payable by operator to the City and the City's share of any profits derived from the golf course operations, there is no impact on the City's ability to borrow for other projects should it be required to do so.

The total revenue generated from all revenue streams over the 21 year term of the lease and course controller agreement is calculated to be $356 million, with the City's net return from all sources (inclusive of rent), forecast to be $109 million.

The City is projected to receive a positive net present value of all cash flows of $27.1 million over the lease term. This includes all projected income streams and expenses and the repayment of capital and interest, with the proponent's proportion of capital repaid after 10 years.

It should be noted that in assessing the tender responses a significant amount of financial modelling was undertaken by an independent financial analyst to determine the net present value outcomes of all cash flows and identify the most favourable proposal for the City. This included sensitivity analysis and modelling of different financing assumptions. This analysis was made available to Council as part of the decision-making process for the award of the tender in December 2023.

6.4 Effect on matters referred to in the City's Strategic Community Plan

The City's Strategic Community Plan 2021-2031 was reviewed in 2024. The proposed redevelopment of golf course assets aligns with the following strategies as outlined in the plan:

1.2.2: Develop, manage, maintain and optimise the use of the City's properties, assets and facilities.

1.2.3: Plan for and promote the development of recreation facilities to service the City of South Perth needs.

4.3.2: Diversify and optimise non-rate income.

4.3.3: Maintain a culture of fiscal efficiency.

6.5 Ability of City to manage the transaction

This project is to be jointly managed with the proponent Clublinks Management Pty Ltd through an established project governance framework that includes a project steering group and a project management group. These groups will incorporate expertise from within the City and Clublinks Management Pty Ltd but also external organisations with design expertise, project management expertise and construction expertise.


COLLIER PARK GOLF COURSE | MAJOR LAND TRANSACTION BUSINESS PLAN
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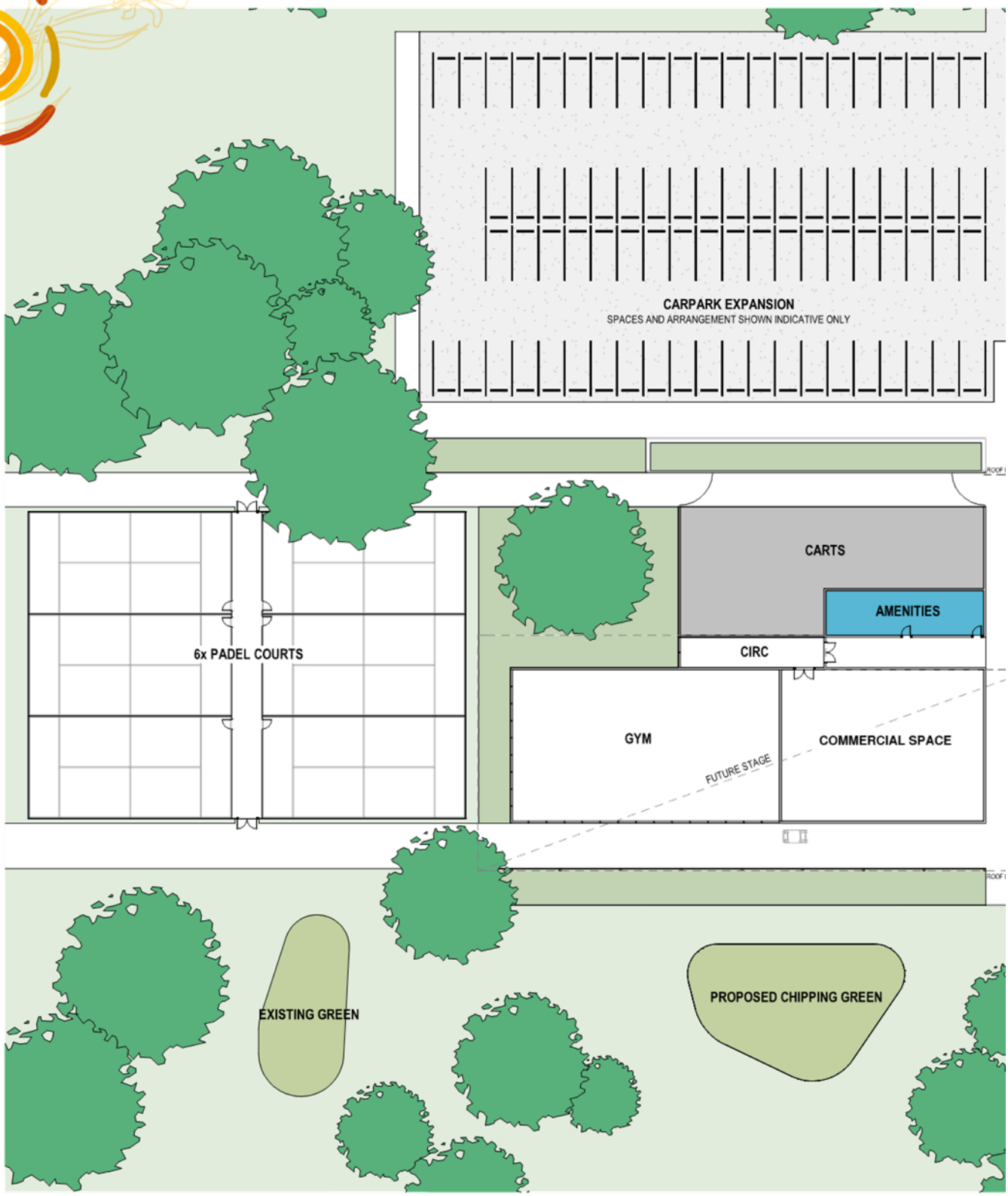
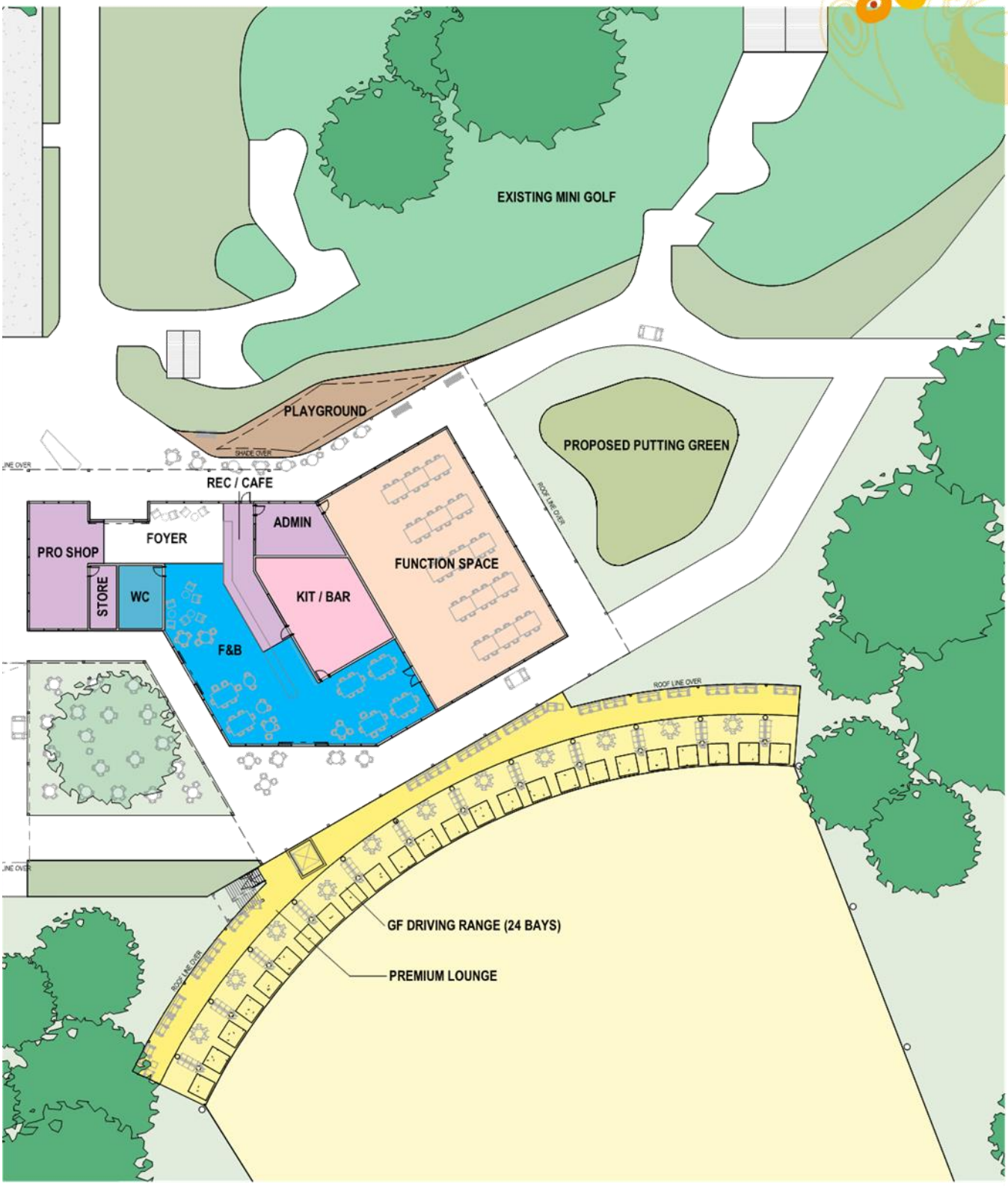


GROUND FLOOR

Indicative Layout of Proposed Development.


EXISTING MINI GOLF
PLAYGROUND
SHADE OVER
PROPOSED PUTTING GREEN
REC / CAFE
ADMIN
FOYER
PRO SHOP
STORE
WC
KIT / BAR
FUNCTION SPACE
F&B
ROOF LINE OVER
GF DRIVING RANGE (24 BAYS)
PREMIUM LOUNGE

USEFUL CONTACTS

Civic Centre
9474 0777
Cnr Sandgate St & South Tce,
South Perth WA 6151
Fax 9474 2425
southperth.wa.gov.au

Recycling Centre
9474 0970
Hayman Rd & Thelma St, Como
enquiries@southperth.wa.gov.au

Animal Care Facility
9474 0777
199 Thelma St, Como

Ferry Tram
9474 0777
Windsor Park, Cnr Mends St &
Mill Point Rd, South Perth

George Burnett Leisure Centre
9474 0855
Manning Rd, Karawara
leisurecentre@southperth.wa.gov.au

South Perth Library
9474 0800
Cnr Sandgate St & South Tce,
South Perth
southperthlib@southperth.wa.gov.au

Manning Library
9474 0822
2 Conochie Cres, Manning
manninglib@southperth.wa.gov.au

Old Mill
9367 5788
Melville Pl, South Perth
oldmill@southperth.wa.gov.au

South Perth Senior Citizens
9367 9880
53 Coode St, South Perth
spsc@bigpond.com

Manning Senior Citizens
9450 6273
3 Downey Dr (off Ley St),
Manning
manningseniors@bigpond.com

Graffiti Hotline
1800 007 774

Collier Park Golf Course
9484 1666
Hayman Rd, Como
collierparkgolf.com.au

9474 0777
#discoversouthperth | southperth.wa.gov.au

City of South Perth

Collier Park Golf Course Business Plan Schedule of Feedback and City Response			
	Name/Contact Details	**Feedback**	**City Response**
1.	Bisnath, Drevek [redacted]	Great to see a redevelopment going ahead. My key points from playing at various public courses: A. Maximise driving range – This will underpin the financials of the golf course B. Double storey(s) building essential – land is too essential – invest for the next 50 years C. Not sure about paddle tennis – flow through activities like minigolf that cater for more are better suited to such an active facility D. Dual integrated restaurant with café/bar facility E. Mini kiosk focusing on coffee/ drinks and quick foods also very handy to not clog up D F. At least one back-up smaller toilet facility for those repair moments G. Plenty of office space + a mini health room (adhoc physio etc) H. Wind shutters for outdoor eating area for those afternoon south westers	A. The proposal aims to maximise driving range revenue by having a fully covered and netted driving range with 42 bays with access to food and beverage options. B. The proposed building is double storey. C. The facility already has minigolf from which revenue continues to grow. Padel tennis is one of the fastest growing sports in the world and the projected returns compared to investment is strong. There are limited Padel facilities in Perth and this will add another reason for people to attend Collier Park Golf Course. D. The restaurant and bar facilities will be integrated to provide for operational efficiency and ensure that customer needs can be met. E. A kiosk facility/cafe is proposed in close proximity to the proposed playground. F. There will be toilet facilities in the main building as well as out on the course. G. Contemporary office facilities are proposed. H. The final design of the outdoor seating area is currently being worked through and will take into account the needs of all potential users.
2.	Kamangira, Tinashe [redacted]	After reviewing the Collier Park Golf Course Major Land Transaction Business Plan, I have several concerns that highlight missed opportunities for enhancing both the immediate appeal and future adaptability of this project. While the focus on golf is clear and acknowledges the course's historical significance and popularity, the current proposal appears to be limited in scope, failing to	1. The proposed facilities focus on increasing the appeal beyond simply golf and include: • All abilities playground • Bar/Tavern facility • Function area for 250 people • Padel courts

		consider the broader community's needs and the potential for diversification. There are a few key areas where the current plan falls short: **1. Limited Vision Beyond Golf** The proposal heavily centres on enhancing golfing facilities, such as the driving range, retail areas, and clubhouse upgrades. While these are necessary improvements, the document lacks forward-thinking initiatives that could diversify the course's use beyond golf, making it more of a community hub. For instance, facilities like the Melville Play Centre integrate indoor play areas for all sports, children's play spaces, and community cafés. These elements appeal to a broader audience, encouraging community engagement and increasing non-golf-related revenue streams. The current plan does not contemplate creating multi-purpose spaces that could support various sports and leisure activities, which could attract a more diverse range of users. **2. Missed Opportunities for Community Services** Additionally, similar to the integrated services seen at the Manning Community Hub, there is a significant opportunity here to centralise various community services at the Collier Park site. This could include health services, fitness centres, or co-working spaces, which would complement the leisure facilities and enhance the community's connection to the space. This kind of forward-thinking planning would ensure that the Collier Park facility becomes a more versatile community asset that can serve multiple needs and reduce the risk of being solely dependent on golf revenues. **3. Failure to Future-Proof the Site** The business plan, while detailed, does not consider the long-term adaptability of the space. For example, although the Recreation and Aquatic Facility (RAF) was cancelled, there is no indication in the document that future provisions could be made for such a facility or similar infrastructure. A more dynamic plan would at least contemplate how the site could be adapted for other potential uses, such as aquatics, children's centres, or unforeseen recreational needs that may arise in the future. **4. Lack of Inclusive and Flexible Design**	• Undercover two story driving range with technology to enable a game experience • Provision for office/gym and or community space 2. Community spaces are being considered and there is opportunity for spaces such as the function room to be hired by community groups. The operator is also keen on holding some community events at the course such as movies, small music events, group exercises, nature based experiences, children's activations and holiday programs. 3. The RAF was deemed not to be financially feasible, however, there is potential for further additions to be made to the proposed facilities at a later date. Such considerations have included a gym, wellness centre and further community spaces. The location of the proposed facilities will mean that these additions are possible at a later date. 4. Spaces will be designed as flexible as possible to broaden the potential uses. Community consultation is currently taking place to inform the design. 5. The current business plan proposes facilities that will improve current revenue streams and create new ones. The function centre and bar/tavern development will create revenue streams that are currently limited or non-existent (eg weddings, birthdays and corporate events). Similarly Padel tennis will create a return from use of the courts but also flow-on revenue streams from food and beverage sales. The current facilities limit food and beverage options and hinder the development of revenue from mini-golf as corporate events and children's birthdays can only be catered for on a limited basis. It is important to note that very little investment has taken place at Collier Park Golf Course since its establishment. This

		The proposed upgrades seem overly fixed on existing needs, with no flexibility to accommodate activities or community services that we may not currently foresee. For a development of this scale, it is critical that we plan for future adaptability. Flexible spaces that can be repurposed as community needs evolve should be a fundamental consideration to ensure the longevity and sustainability of the project. **5. Need for Expanded Revenue Streams** The plan does acknowledge the need for revenue generation beyond golf, but the current suggestions—such as food and beverage facilities, a playground, and padel tennis courts—seem limited in scope. Expanding the offerings to include broader recreation and community services would not only diversify revenue streams but would also make the facility more resilient to changes in market demand or fluctuations in golf participation. **Conclusion and Recommendations** I strongly recommend revisiting this business plan with an expanded focus on inclusivity and flexibility. We should aim to create a community hub that provides broader recreational, social, and service-based functions, ensuring that the Collier Park Golf Course can evolve with the community's needs. This vision would better align with the City of South Perth's strategic goals of fostering active places and beautiful spaces, as well as creating long-term value for residents. I look forward to discussing how we can better future-proof this project and explore the potential for integrating these broader community needs into the final proposal.	development is primarily aimed at ensuring the City continues to receive a return from its operations so that ratepayers do not subsidise the course operations in anyway into the future, whilst being mindful of activating it as a space to give the community multiple reasons to visit. So in this sense, these developments are very much about future-proofing Collier Park Golf Course. It does not preclude further development taking place in the future if deemed financially feasible at the time.
	Roach, Frank	I have read this Business Plan & believe it mispresents & doesn't address or identify the risks the City is taking with this transaction. 1. The statement on page 6 that the City's will only be committed $10m isn't correct. The City is taking the total risk for the entire $18m not $10m. That it is proposed to have an arrangement with the proponent to repay $8m of the debt has no bearing on who Treasury is lending to & who has to repay the total debt. If the proponent doesn't meet its obligations, it will have no impact on the City's repayment obligation to repay the full $18m Treasury.	1. The City is borrowing the entire amount, however, it is not lending any money to the operator. These funds will be utilised for the construction of the improved facilities. The City retains ownership of the facilities, which are on Crown land. The operator's share will be paid back via a capital contribution fee at a premium. It is essentially a higher revenue share taken by the City until the operator's share of the

		2. It appears the original intention was for the proponent to contribute their $8m up front but this has now changed to the City contributing the entire $18m with the proponent then repaying the City $8m plus interest over 10 years. The reasons given for this change (page13) are to provide extra revenue for the City (the interest the City will receive on the $8m loan) & negating the need for a third-party financing on behalf of the proponent. I can't see that this latter reason provides any advantage to the City & exposes it significant additional risk which won't be justified by the interest earned. The proponent now has no risk capital in the deal & the City is taking all the risk. The whole idea of the proponent contributing their funds upfront is to ensure the risk is spread & the proponent has a need to protect their investment. It also would have recognised that Collier golf course is a substantial well established business & any entity managing should make substantial profits & the City should obtain some goodwill component for allowing them to lease the business. 3. The plan states in a number of places that the proponent is contributing capital of $8m. This isn't correct the City is contributing all the capital. The proponent is not contributing any Risk Capital. Risk Capital is defined as funds contributed up front which was the original intention. 4. The plan doesn't detail if any risk analysis has been done on the proponent when the City is proposing to lend them $8m. It would be negligent of the City to lend money to anyone without undertaking a comprehensive analysis of their financial position & repayment capacity. The repayments on the loan over 10 years should be in excess $1m p/a which is a significant amount. 5. The plan doesn't detail if any security will be taken from the proponent but states that a separate agreement detailing the repayment arrangements will be obtained (Page 6) What happens if they don't make the loan repayments? Will they be in default of both the Lease & Controller Agreement so these cancel & revert back to the City for no cost? The Lease & Course Controller Agreement should include cross default clauses, co-dependency clauses & a negative pledge on pledging these assets to anyone. The City should also take specific registered security over these assets so they have total control of them in the event of default. If there are any current charges registered against the proponent they should also	capital is fully repaid. Therefore, there is very little risk of the operator not meeting their obligations and very little risk to the City. 2. The City went to the market seeking proposals from potential operators. The selected operator did provide different funding options, however, the City's analysis showed that the chosen approach was most beneficial for the City and provided the greatest return to the City over the term of the agreement. It also eliminated the risk of a third party having any claim on the built assets. The City evaluated all proposals and the proposal accepted represented the best overall financial outcome across the term of the lease. 3. The proponent is contributing capital as it will be making additional repayments over the first ten years that will equate to its' share plus interest and an additional premium. The purpose of the tender was to seek proposals from the market and select the one that presented the best overall outcome for the City and its ratepayers. 4. The City is not lending any money to the operator and retains ownership of all assets during the term of the agreement, refer to 1 above. The selected operator provided the required financial information in accordance with the conditions of the tender documents. 5. No security is required because the City is not lending any money to the proponent. If the required payments are not made, then the operator will be in breach of the Controller Agreement and the Lease which includes remedy clauses. 6. Yes, the costs will be managed through a project steering group which includes senior members of the City's staff. Any significant budget variations will

		exempt the Lease & Controller Agreement .As the proponent is a private company directors guarantees should also be part of the security taken. 6. What happens if there are cost overruns. Does the proponent have the capacity to fund their share? Has the City considered this? 7. I assume there will be a fit out of the leased premises required. This is normally the lessee's responsibility. Do they have then capacity to fund this & complete the fit out to a standard commiserate with the development the City is undertaking? Has the City investigated how this will be funded? (if they are going to borrow these funds also it will be a very highly geared transaction for them (100% financed)). 8. Will the proposed lease include any performance guarantees in the City's favor. It would be normal to include a Bank Guarantee for at least six months rent & outgoings with it increased annually as the rent increases. 9. Will the proposed lease include a turn over rent component to recognise the term of the lease & that turn over should increase substantially as a result of the $18m being expended. 10. I question if it's within the City's charter to borrow money from Treasury & on lend it to private t parties? I don't believe it's within any Local Governments remit to be a lender to the public in any circumstances. They are Local Governments not Lenders. 10. I'm not opposed to some funds being spent on the golf course facilities but it appears to me the proponent is getting free ride is this transaction & not putting any risk money into the deal. They should be putting their $8m in on upfront & funding it from their own resources as was the original intention. It's irresponsible to use the City's borrowing capacity from Treasury to borrow to lend to third parties without any security or analysis of repayment ability. It demonstrates ignorance to then champion the difference in rates charged and that the proponent will won't have to obtain finance from a third party as an vantage to the City. The amount we will obtain in the arbitrage of rates won't compensate us for the risk taken & the fact the proponent isn't putting any risk funds in the transaction. If they can't put their funds in up front we should finance to whole amount & renegotiate the profit share to recognise this or put the management rights up for tender again. The risk on this transaction to the City is increased dramatically by the proponent not contributing the equity up	require the approval of Council. However, it is proposed that the agreement makes provision for sharing any capital cost overruns. 7. The fit out of the facilities will be the responsibility of the operator and they have the capacity to do this. They have allocated an amount equivalent to a percentage of the build costs for fit out. 8. The lease provides for a bank guarantee as per normal terms. 9. The total revenue generated from this arrangement consists of a revenue sharing arrangement for all other revenue streams, a rent component for the lease and a capital contribution fee for the first 10 years to repay the operator's proportion of the capital cost plus the interest and premium. As previously indicated, the City is not a lender in this instance. 10. All options were carefully considered and modelled. The proponent did put forward an option to fund their capital contribution as did all the other proponents. The City did a detailed discounted cash flow analysis over the proposed terms of all submissions and the option selected provided the best overall outcome for the City. It also de-risks the project as it does not require third party funds and therefore does not require security over the resulting assets. The City retains full ownership of the assets. The City's analysis shows a positive Net Present Value of all cash flows over the life of the agreements of $27.1 million. This is considered a conservative forecast.

		front from their own resources. Conversely the City financing their share makes it an extremely lucrative deal for them. If the City wants to do this, they should be charging 30% to 35% per annum. (this is what any investor would be chasing on a deal like this). This high rate also reflects the high risk. I doubt if the proponent could borrow these funds easily. I think they would have limited assets only the cash flow from the assets they manage from third parties. I look forward to your comments & am happy to discuss any of the matters I have raised with you.	
4.	The City of South Perth Residents Association Incorporated	1. The City of South Perth Residents Association Inc. has several concerns in relation to the City's proposed plan to develop the Collier Park Golf Course. 2. Part of the exercise seems to be based on the assumption that, unless "the City keeps up with the Jones" with the other Golf Courses, Collier Golf Course is going to become less popular and consequently demand and revenue will drop off: there is no evidence provided in the document to support this statement. Given the facts that Perth's current public golf courses are operating at capacity, the population of Perth is growing and here is no likelihood of any additional golf courses coming online in the foreseeable future, this assumption would appear to be false. It is more likely that, provided the Collier course grounds are maintained to the current high standard, it will continue to attract excellent patronage well into the future. 3. Secondly, while it is said that it should have no impact on other capital projects as the repayments on the loan are self-funding, I assume it must of course reduce the amount that could be borrowed for these projects. The 50% of the City's share that is said to also flow from the exercise is unlikely to reduce rates and is not to be taken seriously. 4. Thirdly, if there were no other projects that had a higher priority, there may be some merit in maximising the potential of the Collier Golf Course. However, while the RAF exercise proved to be a financial misadventure, it identified the need for the expansion of the City's existing community recreational facilities. George Burnett Leisure Centre being one of these. Providing more opportunities for the youth of the city to exercise and become involved in team sports should be a far greater priority at this time	1. Noted 2. The building facilities at the course require renewal and replacement within the next few years, as some of them are no longer fit for purpose. These facilities are limiting service options at the course and hindering increased patronage and community activation (outside of golf) at the course. When the City went to tender, internal estimates showed that approximately $15 million was needed to replace the existing assets within the next 5 years. It should be noted that whilst golf has enjoyed a resurgence in popularity since COVID, prior to that, the number of rounds being played at public golf courses was in decline. Diversifying the revenue streams and the reasons for people to attend Collier Park Golf Course improves long term viability, especially if golf experiences a decline in the future. Having contemporary facilities, in addition to a well maintained course, is important to maintain competitiveness. 3. Given that the loan repayment is entirely funded by the rent and fees payable by operator to the City and the City's share of any profits derived from the golf course operations, there is no impact on the City's ability to borrow for other projects should it be

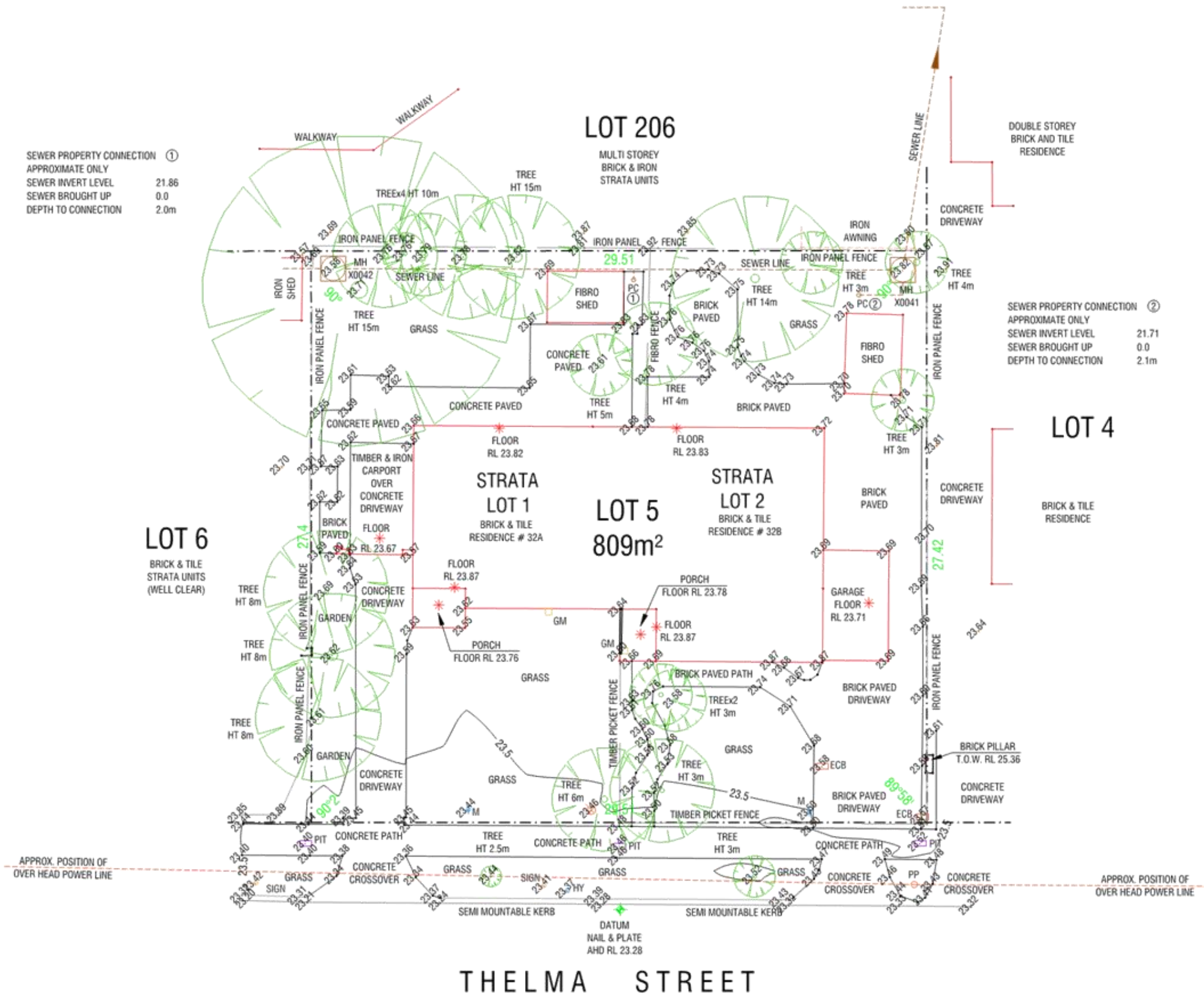
		than that of another demographic that is adequately provided for in the current facility and is not crying out for a proposal of the type that is envisaged. 5. The Business Plan that has been prepared for Council's consideration, seeking approval for advertising appears to be short on the detail that would normally be expected for such a long-term financial commitment. There is no detail supporting the assumptions on projected revenue and expenses. If a market analysis has been conducted it should appear in the document and face public scrutiny. Such a large investment outlay should be based on rigorous research as to the likelihood of achieving a commercial rate of return. 6. There is no detailed risk analysis contained in the Business Plan. Clearly there are risks associated with any building project being undertaken in the construction crisis currently being experienced in Perth. There is no timeline shown in the Business Plan. A 21-year commitment to a private company comes with commercial and legal risks that are not considered in this plan. The Ratepayers of the City deserve to know that these factors have been identified and mitigated to ensure the City is not exposed to potential failure of this commercial venture. In summary this document is light on financial data and lacks the detail that should be presented for Councilors to be able to make an informed decision on whether it is wise to invest $18 million of ratepayer's funds. Councilors should ask themselves if they would invest this amount of their own money based on the case that has been presented for public comment.	required to do so. The City has limited revenue sources. Its main revenue source is rates, the development of alternative revenue sources means there are revenues that are utilised for community benefit (including asset renewal), that does not need to be derived from rates. 4. The Collier Park Golf Course is (as previously identified) a source of revenue for the City. The Course provides a service to City residents however 80% of golfers are from outside the City. As previously stated, the facilities at the Course have reached full capacity and are nearing the end of their useful life. The City is dealing with the Collier Park Golf Course in a timely manner to ensure compliance with the legislative framework and policy requirements and prevent the Golf Course from becoming a burden on ratepayers. The RAF considered the expansion of community facilities, which now need to be accommodated elsewhere. The two primary locations being considered for additional facilities are George Burnett Park and Challenger Reserve. Council will be asked to make decisions on these sites soon. The Golf Course developments will not have any financial impact on these projects proceeding. 5. The business plan has been prepared in accordance with section 3.59 of the Local Government Act and the Local Government (Functions and General) Regulations 1996 (the Regulations) and provides the required level of detail. A significant amount of time has been spent in analysing the financial effect of all proposals as part of the initial tender evaluation process. Financial modelling was undertaken comparing and ranking each Tenderer's proposal and its impact on the City's finances. These included

			cashflow, net present value considerations, capital expenditure and City of South Peth (CoSP) commission income. On the 28 November 2023 the tender submissions and results of the extensive evaluation were presented to Council at a workshop. Council decided to accept the tender proposal at the December 2023 OCM. 6. Risks are managed through the legal instruments being the Controllers Agreement, Lease and Development Agreement. Project risks are also identified and managed through specific project risk workshops held with the Project Steering Group.
5.	LK Advisory [redacted]	We refer to the City's recently advertised Business Plan for the Collier Park Golf Course and provide this submission on behalf of our Clients, Mr S. Lee and Mr M. Lee who are both residents and ratepayers of the City of South Perth and Directors of TenGolf Group Pty Ltd. Our Clients object to the City proceeding with the advertised Business Plan for the reasons set out below: 1. The Business Plan is described as fulfilling the requirements of s. 3.59 of the Local Government Act 1995 (the Act), however we contend this is not the case as the Business Plan fails to provide adequate or appropriate: a. "details of the whole undertaking or transaction" as required by regulation 10(1)(a) of the Local Government (Functions and General) Regulations 1996 (the Regulations); or b. "details of anything to which the local government may become liable under or as a result of the joint venture" as required by regulation 10(1)(b)(iv) of the Regulations. 2. According to Section 4.3 of the Business Plan - "The assessment of the financial elements [of Tender 8/2023] being the fee/lease proposal and the capital contribution was a complex process that was assisted by financial modelling including cashflows associated with all proposals across the proposed contract term (21 years)". We cannot ascertain if this is true	Ten Golf Group Pty Ltd (Ten Golf) is owned 70% Energy Resource Investments PTE LTD (Singapore), 20% Tuck Kwong Low (Indonesia) and 10% BB Lee Pty Ltd (South Perth). The directors are Mr Mike Lee (South Perth), Mr Sam Lee (South Perth) and Ms Elaine Low (Singapore). Ten Golf was a proponent for Tender (RFT 8/2023) and their submission was extensively evaluated as part of the tender evaluation process. Further, as part of the Tender process Ten Golf was provided with feedback on their proposal at a meeting with the Tender Evaluation Panel on 4 January 2024. At this meeting, they were advised as to the deficiencies in their proposal, including the financial proposal. The advertising of the Business Plan is not an invitation to revisit the Tender process which was determined by Council at its December 2023 meeting. The Major Land transaction business case is a statutory process regarding the land transaction itself not the tender assessment process. 1. Regulation 10 of the Regulations imposes obligations on local governments who prepare a business plan in

		because the Officer Report to Council on 12December 2024 relating to Tender 8/2023 (Agenda Item 10.4.4) did not include any meaningful assessment of the tenders received nor analysis of the preferred tenderer's financial offering. This information should be included in the Business Plan. 3. We are concerned with the generality of the Business Plan's financial commentary surrounding this proposal and the complete absence of any cashflow analysis, financial breakdown, or transparent comparison with the RFT submission on which the Business Plan is based. Not providing this critical information represents a fatal shortcoming in the Business Plan, in turn understating the significance of this proposal and diminishing the opportunity for informed community consideration of this matter. 4. Section 4.3 of the Business Plan also states that the preferred tenderer's offer includes: a. A proposed rental amount for the existing pro shop/kiosk/function area; b. A revenue sharing arrangement for a range of revenue streams; and c. Concept plans for the redevelopment of existing facilities. Evidently, these elements of the preferred tenderer's proposal form the basis for the Business Plan, yet the Business Plan is completely absent such detail. This is concerning because it denies any meaningful public scrutiny of the financial risks, costs and benefits of this proposal. 5. The City's RFT document for Tender 8/2023 required respondents to nominate their own capital investment in the Collier Park Golf Course for up to 21 years; however, no information has been provided in either the report to Council in December 2023 or the Business Plan to disclose the preferred tenderer's own capital investment in this project. 6. The City's proposition to borrow $18 million in treasury funds to deliver the intended facility redevelopment and recover $8 million of that borrowing plus its own costs and charges does not constitute the preferred tenderer's "own capital investment". Relative to this, we question what if any consideration has been given to the following concerns, given the Business Plan is entirely silent on these matters:	relation to a major trading undertaking or a major land transaction that they propose to enter into jointly with another person. The major land transaction that is the subject of the City's business plan is the lease between the City and Clublinks Management Pty Ltd (Clublinks) and the Development Services Agreement between the City and Clublinks. The City's business plan deals with the whole undertaking because it also details the course controller agreement and funding arrangements. 2. The City has followed the tender process under section 3.57 of the Local Government Act 1995 (the Act) and Part 4 of the Regulations in relation to its selection of Clublinks to provide these services. There is no obligation on the City to disclose its tender assessment process when describing an overall assessment of the proposed redevelopment of the Golf Course and the proposed lease. The tender assessment was presented to Council in December 2023 for decision and all relevant information was supplied to Council for it to make that decision. 3. The City has disclosed the expected financial effect on the City of the proposed major land transaction, namely: the anticipated expenditure by the City on the redevelopment of the Golf Course facility; and the net present value of rent and other revenue to be received by the City under the Lease and/or Course Controller Agreement; There is no obligation on the City to disclose more detailed financial information or a comparison with Clublinks' tender submission under section 3.59 of the Act. The City will provide more information as to the consideration it is to receive under the Lease

		a. What independent probity assessment has been undertaken for the proposed transaction? b. What experience does the City have in effectively performing the role of 'banker' for such a substantial transaction? c. Has WA Treasury Corporation endorsed the proposal for the City to effectively profit from the loan by imposing its own costs on the preferred tenderer's proportionate repayment of that loan? d. Why have the City's proposed loan on-costs not been disclosed in the Business Plan when these form a critical justification for the transaction? e. Why would the City not require the preferred tenderer to contribute their own capital (whether debt funded or not) to the redevelopment project? f. What analysis has the City undertaken on the preferred tenderer's serviceability for the $8 million loan, particularly in the context of the Golf Course's ordinary operating costs, the mandatory lease of City equipment (estimated in the RFT document as $14,000 per month), and the stated loan repayment term of only 10 years for the $8 million principal, plus interest, plus undisclosed City costs? g. What are the estimated whole-of-life asset management costs for both parties to this transaction and how will these be met by the City? h. Why does the Business Plan not reconcile with the loan breakdown in Note 6(d) of the City's 2024/25 Budget, which references an approved loan facility of $18.5 million over a two-year term, with a drawn-down/used amount of $4.55 million, leaving an unspent balance of only $13.95 million? i. Why does the Business Plan not include any risk assessment of this proposal in accordance with Council's adopted Risk Management Framework, inclusive of scenario modelling to account for factors such as: • Construction delays and cost escalations; • Increased interest charges beyond the two-year 5.35% interest rate specified for this loan in Note 6(d) of the City's Budget; and	(including a market value of the proposed disposition by Lease ascertained not more than 6 months before the proposed disposition) when it advertises a local public notice of the proposed disposition under section 3.58(3) of the Act at a later date. 4. The City has followed the tender process under section 3.57 of the Act and Part 4 of the Regulations in relation to its selection of Clublinks to provide these services. There is no obligation on the City to disclose its tender assessment process when describing an overall assessment of the proposed redevelopment of the Golf Course and the proposed lease. 5. Section 6.3 of the Business Plan details the preferred tenderer's proposed capital contribution.. 6. This statement represents a misunderstanding of the proposed transaction, ClubLinks is making a capital contribution to the redevelopment but this amount plus an agreed rate of interest will be paid to the City over 10 years. The entire amount of redevelopment will be funded by the City through a loan from the Western Australia Treasury Corporation. The City is borrowing the entire amount however, it is not lending any money to the operator. These funds will be used for the construction of the improved facilities. The City retains ownership of the facilities. All revenue streams, the net return from all sources and the net present value have been included in the business plan. As previously stated, a detailed financial analysis has been undertaken by the City taking into account all financial considerations. The budget considered an initial short term construction facility with the ability to capitalise initial borrowing costs. As previously stated risks are managed through the legal instruments being the Controllers

		• The risk and consequence of financial default by either party within the preferred tenderer's 10-year loan repayment period? 7. In accordance with Item 3 of Council's resolution from December 2023, the City cannot finalise the award of this tender through execution of the Course Controller Agreement and Lease until and unless a Business Plan has been advertised and determined in accordance with s. 3.59 of the Act and a lease has been advertised and subsequently authorised by the Minister for Lands under s. 3.58 of the Act. Noting this, and the fact that the current Lease and Course Controller Agreement expired on 31 March 2024, we question what management arrangements and holding over provisions have been exercised in the meantime with the preferred tenderer, given nothing of this nature has been reported to Council since Council considered the tender in December 2023. For the preceding reasons, we respectfully assert that the Business Plan is gravely deficient, does not provide transparent or meaningful detail in respect of this complex and significant proposal, does not allow informed community consideration of the proposal, and therefore should not be relied upon by Council to proceed with this transaction. We trust the City will notify us in advance of this matter being reported to Council .	Agreement, Lease and Development Agreement. The business plan adheres to legislative requirements. 7. The relevant agreements that comprise the major land transaction are the Development Services Agreement and the Lease (as these documents deal with the development of land and the disposal of the City's interest in land). The City will not enter into the Development Services Agreement prior to it completing the business plan process under section 3.59 of the Act and Council resolving to proceed with the redevelopment of the Golf Course Facility. The Course Controller Agreement is an agreement to provide services and does not grant any interest in land or provide for the development of land. The City has completed the public tender process for the selection of a service provider to operate and manage the Collier Park Golf Course Facilities in accordance with section 3.57 of the Act and Part 4 of the Regulations. The City will not enter into the Lease with Clublinks unless and until it has completed the advertising of the Lease in accordance with section 3.58(3) of the Act. In the interim, the City and Clublinks are holding over under the existing lease and course controller agreement pending the completion of the business plan and disposal process under the Act and the finalisation of the new Course Controller Agreement and Lease.



LOUD Design&Build

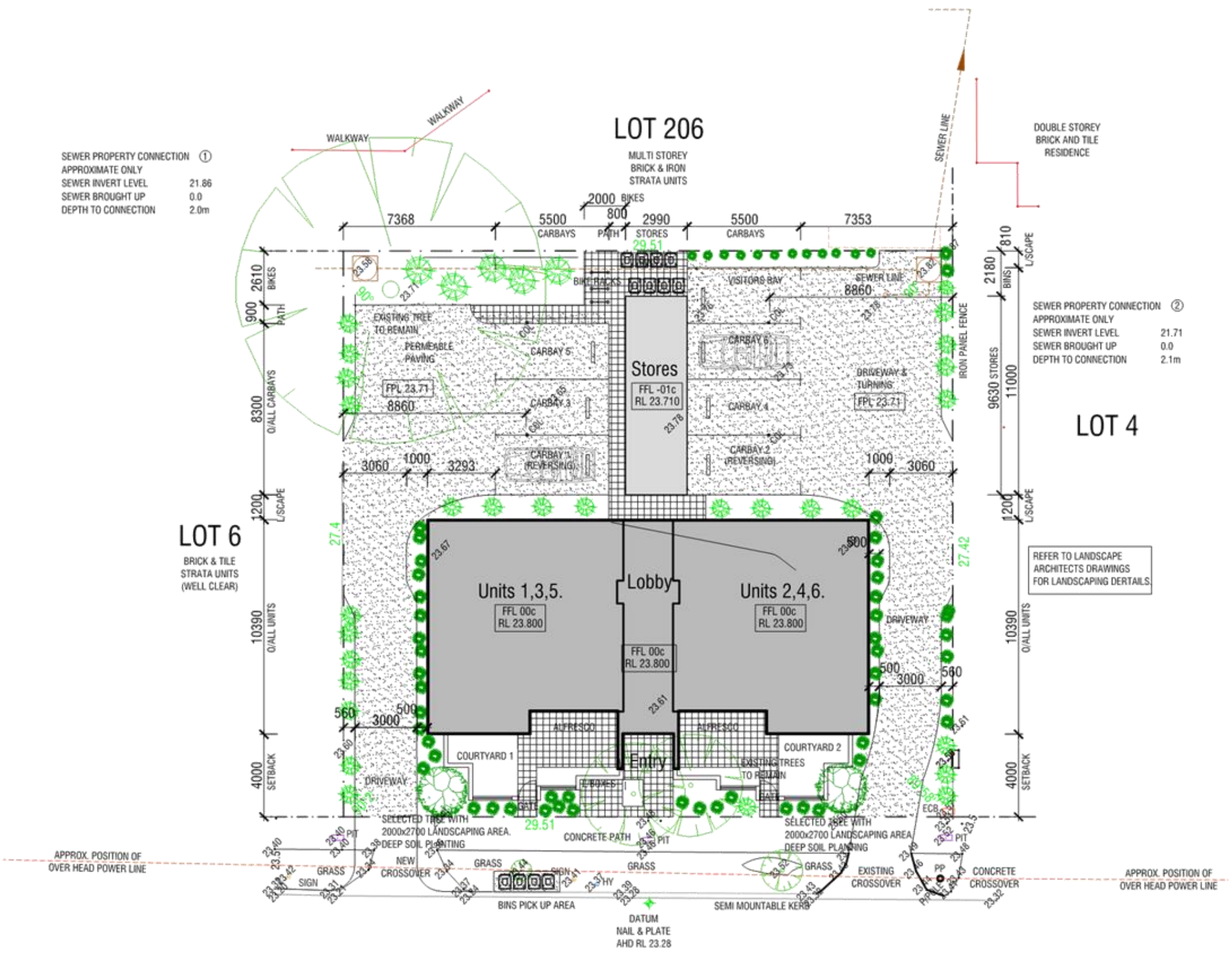
Proposed 6 multiple dwellings,
Lots 1 & 2 of Lot 5,
Thelma Street,Como
for Scutti

B	18.06.24	ISSUED FOR DA
A	17.05.24	ISSUED FOR DPR

drawing: SITE SURVEY
drawn: jp
date: April. 2024
scale: 1:200 @ A3
dwg. no: DA.01
rev: B

SITE AREA	809m²
Unit 1 - external floor area	- 93.32m²
- internal floor area	- 83.68m²
Unit 2 - external floor area	- 93.32m²
- internal floor area	- 83.68m²
Entry Lobby - floor area	-24.26m²
Stores - external floor area	- 28.80m²
- internal floor area	- 25.26m²
Total external floor area	- 239.70m²
Site coverage	- 29.62%

UNIT	LIVING	STORE	BALCONY/ COURTYARD	TOTAL
Unit 1	93.32m²	4.21m²	11.60m²	109.13m²
Unit 2	93.32m²	4.21m²	11.60m²	109.13m²
Unit 3	93.32m²	4.21m²	11.60m²	109.13m²
Unit 4	93.32m²	4.21m²	11.60m²	109.13m²
Unit 5	93.32m²	4.21m²	11.60m²	109.13m²
Unit 6	93.32m²	4.21m²	11.60m²	109.13m²
Totals	559.92m²	25.26m²	69.60m²	654.78m²

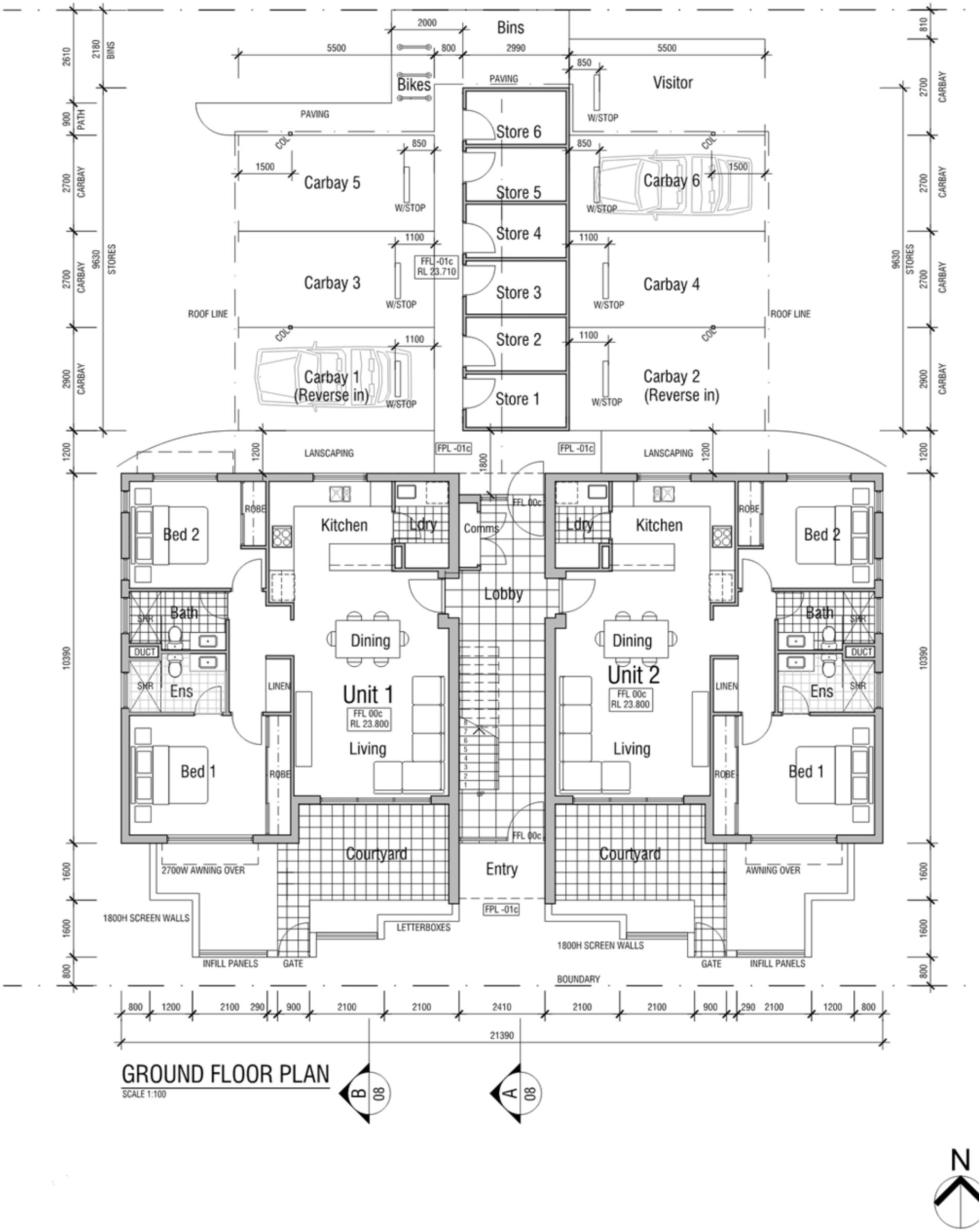


LOUD Design&Build

Proposed 6 multiple dwellings,
Lots 1 & 2 of Lot 5,
Thelma Street,Como
for Scutti

B	18.06.24	ISSUED FOR DA
A	17.05.24	ISSUED FOR DPR

drawing: SITE PLAN
drawn: jp
date: April. 2024
scale: 1:200 @ A3
dwg. no: DA.02
rev: B



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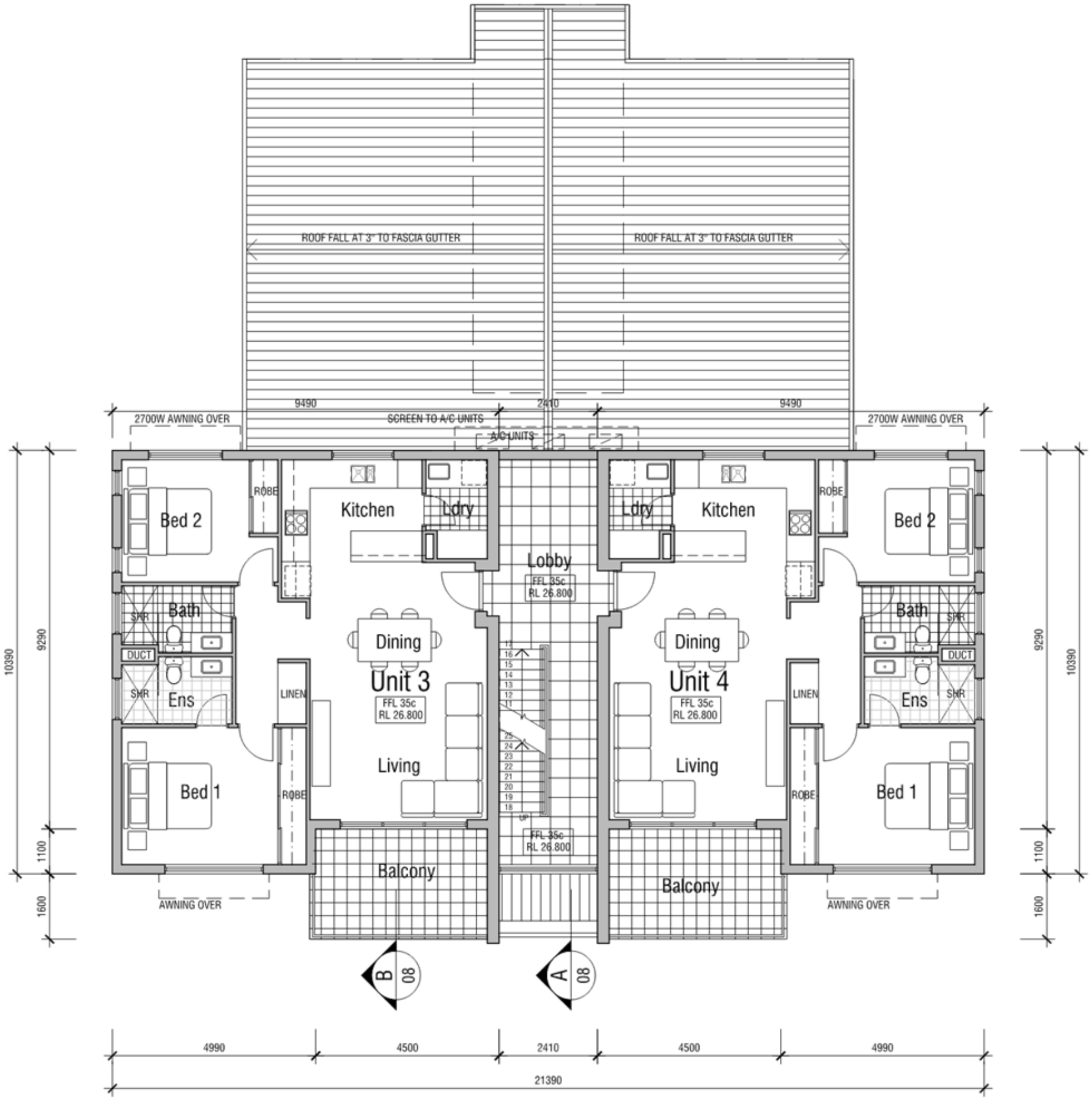
LOUD Design&Build

Proposed 6 multiple dwellings,
Lots 1 & 2 of Lot 5,
Thelma Street,Como
for Scutti

B	18.06.24	ISSUED FOR DA
A	17.05.24	ISSUED FOR DPR

drawing: GROUND FLOOR PLAN
drawn: jp
date: April. 2024
scale: 1:100 @ A3
dwg. no: DA.03
rev: B



FIRST FLOOR PLAN

SCALE 1:100

N

LOUD Design&Build

Proposed 6 multiple dwellings,
Lots 1 & 2 of Lot 5,
Thelma Street,Como
for Scutti

B	18.06.24	ISSUED FOR DA
A	17.05.24	ISSUED FOR DPR

drawing: FIRST FLOOR PLAN
drawn: jp
date: April. 2024
scale: 1:100 @ A3
dwg. no: DA.04
rev: B

SECOND FLOOR PLAN

SCALE 1:100

N

LOUD Design&Build

Proposed 6 multiple dwellings,
Lots 1 & 2 of Lot 5,
Thelma Street,Como
for Scutti

B	18.06.24	ISSUED FOR DA
A	17.05.24	ISSUED FOR DPR

drawing: SECOND FLOOR PLAN
drawn: jp
date: April. 2024
scale: 1:100 @ A3
dwg. no: DA.05
rev: B

LEGEND

TREES

EXISTING TREES TO BE RETAINED

SELECTED SMALL TREES EG. CREPE MYRTLE CANOPY: 4m

SELECTED SMALL TREES EG. LITTLE GHOST GUM CANOPY: 4m

SELECTED FRUITING TREES EG. CITRUS CANOPY: 3m

FEATURE PLANTS

SELECTED FEATURE PLANTING EG. KANGAROO PAWS

PLANTING

PLANTING TYPE 01 SHRUBS

PLANTING TYPE 02 STRAPPY/MIXED

PLANTING TYPE 03 SHADE PLANTING

SELECTED LAWN SPECIES

MISC

DEEP SOIL AREAS (DSA)

PERMEABLE PAVING EG. TRIPAVE

PLANTING IMAGES - TRees


LAGind


CITlim


CITlat


EUCvic

PLANTING IMAGES - SHRUBS AND GROUND COVERS


CONcan


DIAeme


DIAbla


DICrep


DICsil


EREblu


FICnod


GREgin


LEUbro


LIRjus


LOMtan


PITmis


MYOpar


SANtri


WESaus


ANIfla


CORdus


MURpan


PHIxan

REV	DATE	DWN	APP	DESCRIPTION
A	07.06.24	AC	KD	LANDSCAPE CONCEPT PLAN
B	19.06.24	AC	KD	LANDSCAPE CONCEPT PLAN

NOTES

1. GENERAL

1.1 DRAINAGE FROM THE RAISED PLANTER AREAS AND POTS TO BE PROVIDED BY BUILDER

1.2 ALL SCALES ARE AS NOTED AND TO SUIT A1 PAPER SIZE

1.3 THIS DRAWING SHALL NOT BE USED FOR CONSTRUCTION UNLESS REVISED '0' ISSUED FOR CONSTRUCTION AND SIGNED AND APPROVED BY PROJECT MANAGER/SUPERINTENDENT.

1.4 PLANTING SETOUT SHOULD BE CHECKED BY SUPERINTENDENT BEFORE INSTALLATION BEGINS.

2. SOIL PREPARATION

2.1 ALL AREAS ARE TO BE FINE GRADED EVENLY TO CONFORM TO KERB LEVELS AND SURROUNDING FINISHES.

2.2 SURFACES SHALL BE FREE FROM DEPRESSIONS, IRREGULARITIES AND NOTICEABLE CHANGES IN GRADE. GENERALLY, GRADES SHALL DEVIATE IN LEVEL NO GREATER THAN 20mm IN ONE LINEAR METRE.

2.3 PLANTED AREAS SHALL BE SPREAD WITH MIN. 50mm OF APPROVED STANDARD SOIL CONDITIONER THAT SHALL BE RIFFED INTO EXISTING SOIL TO A MIN. DEPTH OF 200mm.

2.4 RAISED PLANTER AREAS AND POTS SHALL BE INSTALLED WITH APPROPRIATE DRAINAGE CELL, AGGREGATE AND GEOTEXTILE MEMBRANE BELOW SOIL.

2.5 FILL SOIL TO RAISED PLANTER AREAS AND POTS TO BE APPROVED LIGHTWEIGHT LANDSCAPE MIX.

2.6 ALL SITE AND IMPORTED SOILS, POTTING MIX, SOIL CONDITIONERS AND MULCHES TO BE IN ACCORDANCE TO RELEVANT AUSTRALIAN STANDARDS.

3. PLANTING

3.1 PLANTED AREAS SHALL BE MULCHED WITH AN ORGANIC (WOODCHIP) MULCH UNLESS OTHERWISE STATED TO A MINIMUM DEPTH OF 75mm.

3.2 ADVANCED TREES SHALL BE STAKED W/ 50x50mm DIA HARDWOOD POSTS. POSTS SHALL BE PAINTED BLACK AND INSTALLED TO A MIN DEPTH OF 500mm. TREES SHALL BE SECURED TO POLES W/ RUBBER TIES IN FIGURE 8.

3.5 TREES PLANTED WITHIN 1000mm OF BOUNDARY WALLS AND/OR PAVING AREAS SHALL BE INSTALLED WITH 600mm DEPTH root BARRIER MEMBRANE. MEMBRANE SHALL BE INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS.

3.6 FINAL PLANTING SHALL BE SELECTED FROM PLANTING PALETTE SCHEDULE.

3.7 PLANTS TO BE SET OUT IN EVEN SPACING TO FILL THE DESIGNATED AREAS.

3.8 IN AREAS OF MIXED PLANTING, SPECIES TO BE SPREAD OUT AT RANDOM, IN GROUPINGS OF 2 OR 3.

3.9 PLANTS SHALL BE SUPPLIED FROM AN INDUSTRY ACCREDITED WHOLESALE NURSERY. PLANTS SHALL BE IN APPROPRIATE SIZE FOR THE LISTED POT SIZE AND IN GOOD HEALTH.

4. IRRIGATION

4.1 PLANTING TO GROUND LEVEL TO BE IRRIGATED VIA A FULLY AUTOMATIC SYSTEM FROM MAINS.

4.2 WATER PRESSURE TO HAVE A MINIMUM FLOW RATE OF 30L/pm AT 300kPA FROM THE WATER CONNECTION POINT (OR AS STIPULATED)

4.3 PLANTING TO COURTYARDS TO BE IRRIGATED VIA DIGITAL TAP TIMER (INDIVIDUAL CONNECTION POINTS TO BE PROVIDED).

4.4 CONTROLLER TO BE LOCATED IN SERVICE ROOM (OR AS SHOWN ON IRRIGATION DETAILS).

4.5 SLEEVES BENEATH PAVED SURFACES AND TO RAISED PLANTING AREAS TO BE PROVIDED BY OTHERS.

4.6 IRRIGATION TO GARDEN BEDS TO BE NETAFIM TECHLINE, SUB SURFACE IRRIGATION, INSTALLED TO MANUFACTURERS SPECIFICATION. IRRIGATION TO TURF TO BE POP UP SPRINKLERS, MP ROTATORS OR SIMILAR. IRRIGATION TO TREES TO BE BE BUBBLERS; TORO FLOOD BUBBLERS OR SIMILAR.

4.7 AS/CON DRAWINGS, MANUALS AND 12 MONTH WARRANTY SHALL BE SUPPLIED BY THE IRRIGATION CONTRACTOR TO THE CLIENT UPON PRACTICAL COMPLETION.

4.8 PLEASE REFER TO IRRIGATION DRAWING SET FOR FINAL LAYOUT AND SCHEDULE (TO FUTURE DETAIL).

PLANTING PALETTE

Symbol	Species	Common Name	Quantities	Size
Trees:				
CITlat	Citrus latifolia	Persian Lime	As Shown	100L
CITlim	Citrus limon	Eureka Lemon	As Shown	100L
EUCvic	Eucalyptus victrix	Little Ghost Gum	As Shown	100L
LAGind	Lagerstromia indica	White Crepe Myrtle	As Shown	100L
Shrubs and Groundcovers:				
CONcan	Convolvula cendicana	Grey Cottonheads	3/m2	140mm
CORrbus	Correa 'Dusky Bells'	Dusky Bells	3/m2	
DIAeme	Dianella tasmanica 'Emerald Arch'	Emerald Arch	3/m2	140mm
DIAbla	Dianella tasmanica 'Blaze'	Blaze	3/m2	140mm
DICrep	Dichondra repens	Kidney Weed	3/m2	140mm
DICsil	Dichondra 'Silver Falls'	Silver Falls	3/m2	140mm
EREblu	Eremophila 'Blue Horizon'	Blue Horizon	3/m2	140mm
FICnod	Ficinia nodosa	Knobby Club Rush	3/m2	140mm
GREgin	Grevillea 'Gin Gin Gem'	Gin Gin Gem	3/m2	140mm
LEUbro	Leucophyta brownii	Silver Cushion Bush	3/m2	140mm
LIRjus	Liriope 'Just Right'	Just Right	3/m2	140mm
LOMtan	Lomandra 'Tanika'	Tanika	3/m2	200mm
PHIxan	Philodendron xanadu	Xanadu	3/m2	
PITmis	Pittosporum tobira 'Miss Muffet'	Miss Muffet	2/m	200mm
MYOpar	Myoporum parvifolium 'Yareena'	Yareena	4/m2	140mm
MURhip	Murraya 'Hip High'	Hip High	2/m	200mm
OPHjap	ophiopogon japonicus	Mondo Grass	3/m2	140mm
SANtri	Sansevieria trifasciata laurentii	Mother-in-law's Tongue	3/m2	200mm
SYZbra	Syzigium 'Orange Twist'	Lilly Pilly	2/m	200mm
WESaus	Westringia 'Aussie Box'	Compact Coastal Rosemary	2/m	200mm
Feature Plants:				
ANIfla	Anigozanthos flavidus	Kangaroo Paw	As Shown	12L

LANDSCAPE AREA CALCULATIONS

TOTAL SITE AREA

Total Site area = 809.1m2

LANDSCAPE AREAS

Total Landscape area: (all levels) = 141.3m2 (17.5% of site)

DEEP SOIL AREAS (DSA)

Total = 86.6m2 (10.7% of site)

Note: requirement = 7% due to retention of existing trees.

CANOPY COVER

Existing Trees. Approx. (Total canopy) x 3 213.8m2

Proposed Small Trees (4m canopy) x 5 = 63

Proposed (med) Trees (3m canopy) x 2 = 54

Total Canopy Cover = 290.8m2 (35.9% of site)

kdla kelsie davies landscape architecture

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

DEVELOPMENT APPROVAL

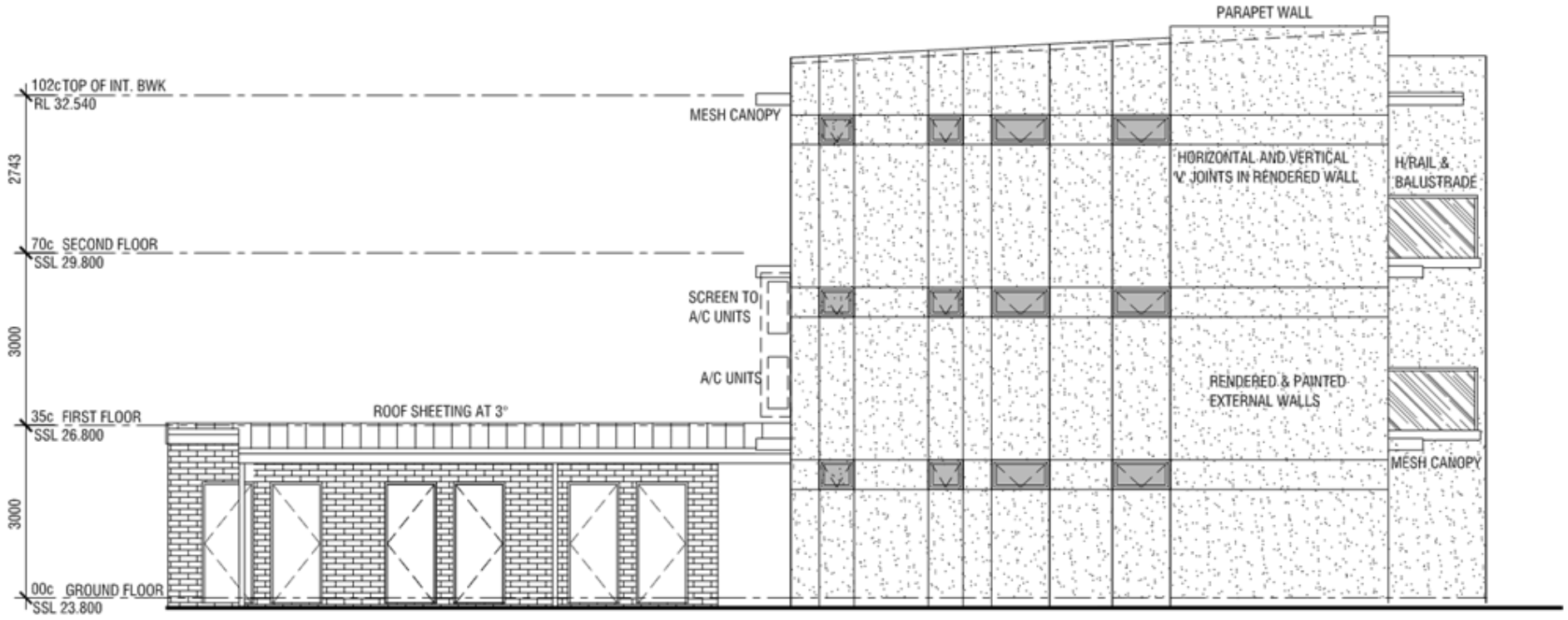
JOB No. 0435 PAGE 101 REV B

0 1 2 4 6 10m
SCALE 1:100 @A1

H:\Shared drives\KDLA Design\0435 Thelma Street Como_Apex Planning\01. CAD Design\0435-THE-LR_B.dwg
Document Set ID: 8471620
Version: 1, Version Date: 18/08/2024

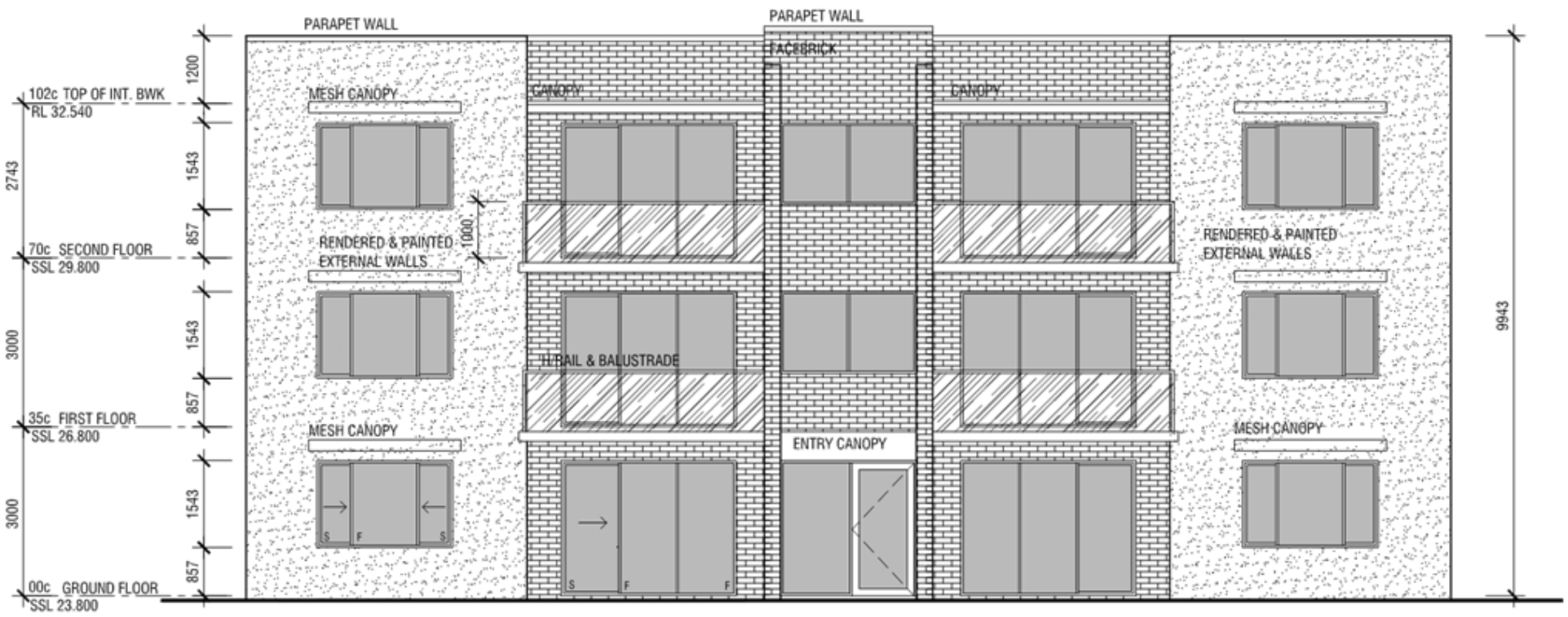
THELMA STREET MULTI RESIDENTIAL
LANDSCAPE CONCEPT PLAN

APEX PLANNING
32a + 32b THELMA STREET, COMO



WEST ELEVATION

SCALE 1:100



SOUTH (FRONT) ELEVATION

SCALE 1:100

SOUTH (FRONT WALL) ELEVATION

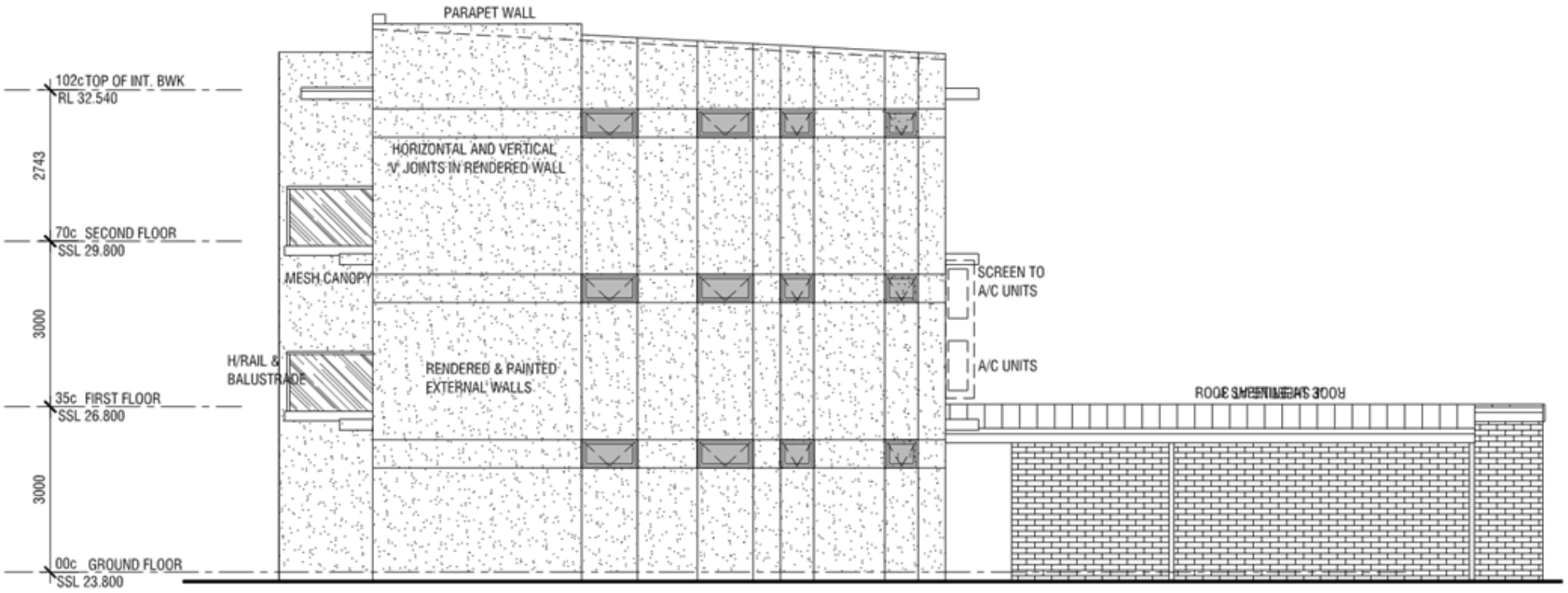
SCALE 1:100

LOUD Design&Build

Proposed 6 multiple dwellings,
Lots 1 & 2 of Lot 5,
Thelma Street,Como
for Scutti

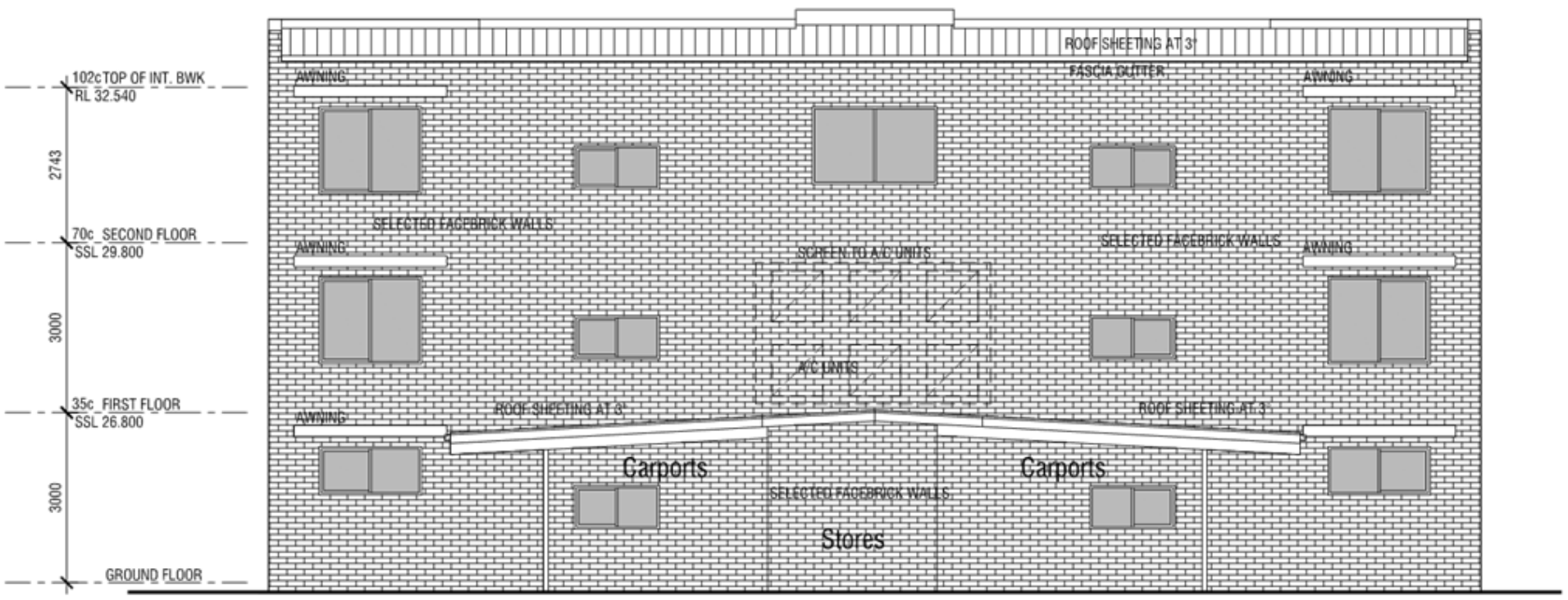
B	18.06.24	ISSUED FOR DA
A	17.05.24	ISSUED FOR DPR

drawing: ELEVATIONS
drawn: jp
date: April. 2024
scale: 1:100 @ A3
dwg. no: DA.06
rev: B



EAST ELEVATION

SCALE 1:100



NORTH ELEVATION

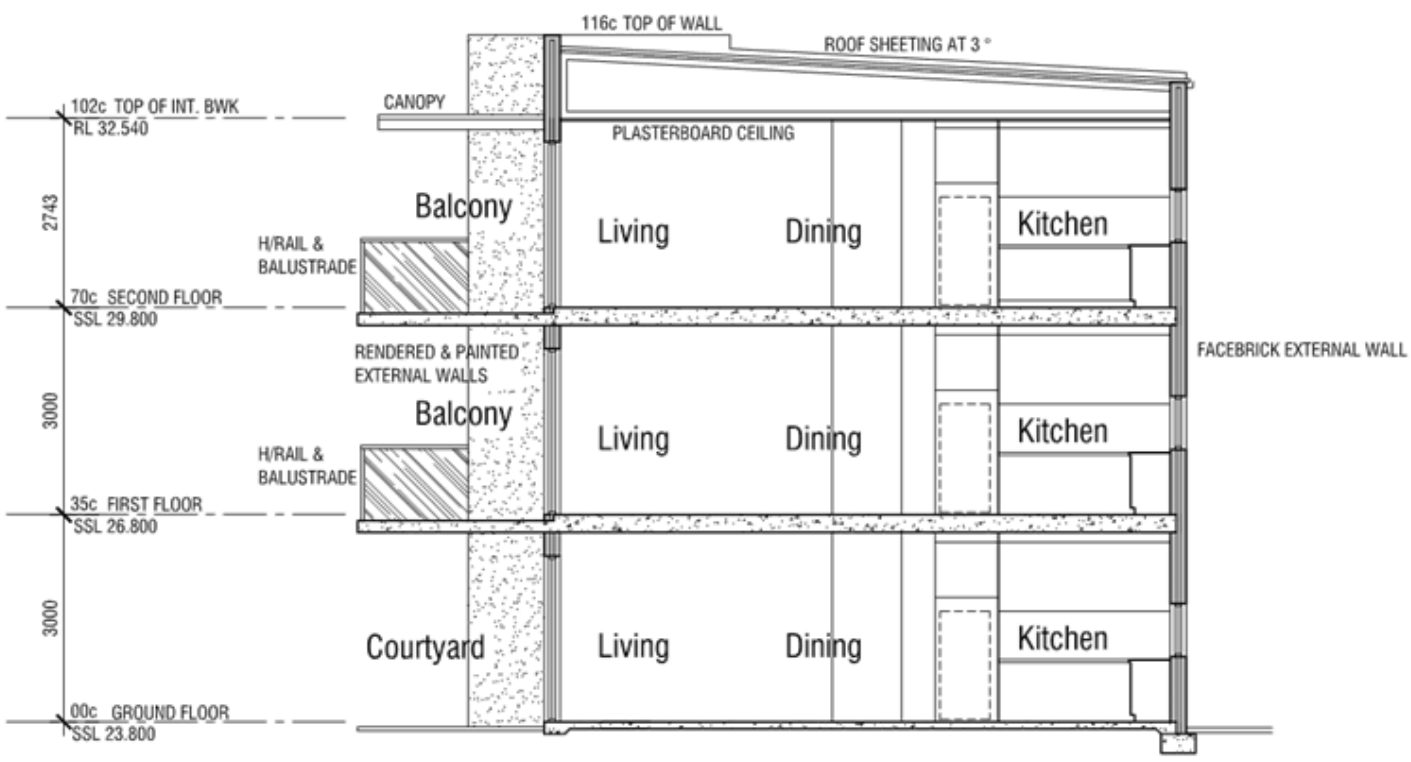
SCALE 1:100

LOUD Design&Build

Proposed 6 multiple dwellings,
Lots 1 & 2 of Lot 5,
Thelma Street,Como
for Scutti

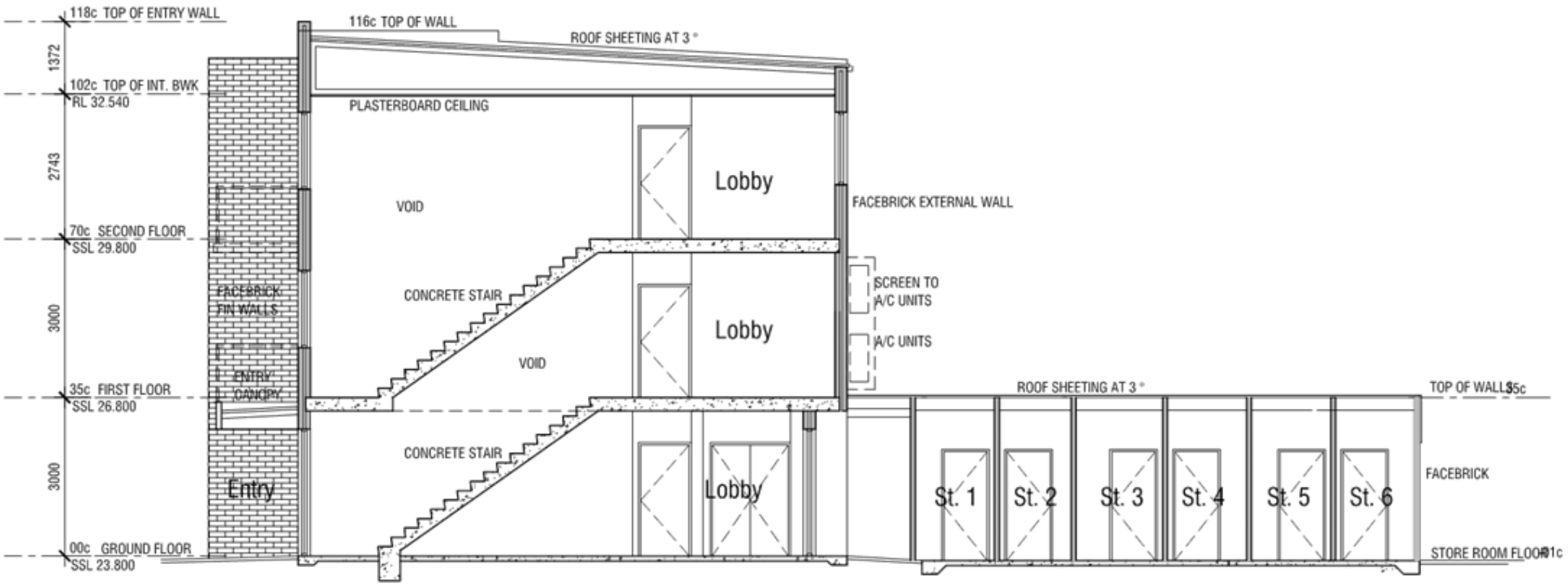
B	18.06.24	ISSUED FOR DA
A	17.05.24	ISSUED FOR DPR

drawing: ELEVATIONS
drawn: jp
date: April. 2024
scale: 1:100 @ A3
dwg. no: DA.07
rev: B



SECTION B-B

SCALE 1:100



SECTION A-A

SCALE 1:100

LOUD Design&Build

Proposed 6 multiple dwellings,
Lots 1 & 2 of Lot 5,
Thelma Street,Como
for Scutti

B	18.06.24	ISSUED FOR DA
A	17.05.24	ISSUED FOR DPR

drawing: SECTIONS
drawn: jp
date: April. 2024
scale: 1:100 @ A3
dwg. no: DA.08
rev: B

Proposed Multiple Dwellings

Application for Planning Approval

32a & 32b Thelma Street, Como

August 2024

apex
planning

apex
planning

Application for planning approval

32a & 32b Thelma Street, Como

Prepared for Dalcorp Advisory on behalf of the landowner

DOCUMENT CONTROL

DESCRIPTION	DATE
240814 24-244 DA report - Thelma Street (rev0).docx	14 August 2024

Apex Planning

Phone: 0416 672 501
Email: admin@apexplanning.com.au
Address: 3/128 Main Street, Osborne Park 6017

Document Set ID: 847042
Version: 1, Version Date: 14/08/2024

Application for planning approval
32a & 32b Thelma Street, Como

apex planning

CONTENTS

APPENDICES

1 INTRODUCTION

Apex Planning has produced this application for planning approval with regard to 32a & 32b Thelma Street, Como (hereafter referred to as the **development site**).

The subject application involves the demolition/removal of the existing dated duplex dwellings from the site and subsequent redevelopment with a new multiple dwellings development comprising six two bedroom apartments.

The layout, configuration, and design of the development provides a meaningful response to site-specific constraints and delivers a functional and well arranged apartment complex which addresses its street frontage, retains existing mature vegetation, and sits comfortably within its immediate context.

The site planning and architectural design approach have allowed the development to provide generous setbacks to the neighbouring properties and maximise the amount of landscaping around the site, which exceeds the minimum requirements and involves the retention and integration of existing mature trees.

The development will deliver a critically needed affordable housing product during a time of severe shortage.

The proposed development is appropriate for establishment on the site, and warrants the approval of the City of South Perth.

1.1 PRE-LODGEMENT ENGAGEMENT

Pre-lodgement engagement has occurred with the City of South Perth's planning department over the course of early to mid 2024, involving a meeting and written feedback and multiple discussions.

The commentary and feedback received from the City has informed the refinement and finalisation of the proposed application materials.

1.2 PRE-LODGEMENT DESIGN REVIEW

The proposed development was considered at a pre-lodgement Design Review Panel (**DRP**) meeting on 11th June 2024.

The development proposal was supported by the DRP, achieving 'green' for eight of the ten principles of 'good design' with some minor recommendations.

The DRP comments have been carefully considered and addressed through modifications to the plans and additional information which is outlined below:

- Principle 1 (context & character): the ground floor courtyard access has been shifted to the front (southern) side.

- Principle 2 (landscape quality): a landscape plan is included with this DA package which details planting arrangements, tree retention measures, and deep soil calculations.
- Principle 3 (built form & scale): no recommendations made.
- Principle 4 (functionality & build quality): visual screens shown for the AC condensers, central lobby widened to 2.41m, and the use of signage to indicate the location of the visitor bay. The supporting traffic assessment includes swept paths for a B99 vehicle demonstrating turnaround movements are easily accommodated, should the visitor bay be occupied.
- Principle 5 (sustainability): a sustainability report is included with this DA package which demonstrates an average NATHERS rating of 8.5 across the entire development which is well above the minimum.
- Principle 6 (amenity): the idea of flipping the units to provide a dual aspect for indoor and outdoor living areas was a good suggestion, however upon further consideration it was determined the current layout would afford better amenity to the bedrooms as they are separated from the central lobby. The suggestion of relocating entrances was also considered but this would result in an unusual apartment layout.
- Principle 7 (legibility): the ground floor courtyard access has been shifted to the front (southern) side.
- Principle 8 (safety): no recommendations made.
- Principle 9 (community): no recommendations made.
- Principle 10 (aesthetics): passive shade elements were included for the northern windows. As the eastern and western windows are all small in size, internal decorative shading (ie blinds or curtains) would be more suitable.

The supportive and constructive feedback of the DRP was helpful and assisted in improving the development proposal.

2 LAND DESCRIPTION

2.1 LOT DETAILS AND ENCUMBRANCES

The land subject of this application for planning approval is described in **Table 1** below.

Table 1: Lot details				
Lot	**Strata Plan**	**Volume**	**Folio**	**Ownership**
1	3329	1416	42	Michele Antonio Scutti Cynthia Anne Scutti
2	3329	1416	43	Pietro Paolo Scutti

The Certificates of Title are provided at **Appendix 1**.

As part of the delivery of this development, It is anticipated that the site's existing strata plan would be extinguished and a new strata plan reflecting the proposal would be created.

3 CONTEXTUAL CONSIDERATIONS

The following sub-sections describe the contextual characteristics of the site and local area. Refer to **Figure 1: Aerial Photo** on the subsequent page, which illustrates the development site and surrounds.

3.1 REGIONAL CONTEXT

In terms of regional context, the development site is within the Perth metropolitan region in the locality of Como. The site is located approximately:

- 4.5km south of the Perth CBD.
- 3km west of the Bentley/Curtin Specialised Centre.
- 850 metres north of the Canning Bridge District Centre.
- 300 metres south-east of the Preston Street Neighbourhood Centre.

The site fronts Thelma Street, which is classified a District Distributor road in the vicinity of the site. Thelma Street connects to Canning Highway approximately 300m to the east and Melville Parade approximately 500 meres to the west. Labouchere Road is located midway between Canning Highway and Melville Parade.

Canning Highway is a major transport route for the Perth metropolitan region, connecting Fremantle to Victoria Park. Labouchere Road is a transport route servicing the municipality, providing a link between South Perth and Como. Melville Parade is a local transport route which runs alongside the Kwinana Freeway providing local linkages within the Como locality.

The Canning Bridge train station is approximately 1.5km south-west of the site, located at the Canning Highway overpass with the Kwinana Freeway.

3.2 LOCAL CONTEXT

The development site is located at the northern side of Thelma Street, within the section of Thelma Street which is between Canning Highway and Labourchere Road.

The site is within an urban infill area which is allocated an R40 density coding (recently increased as part of the gazettal of the City's LPS7 in March 2024). In terms of its immediate surroundings:

- The site adjoins a grouped dwellings development to the east, interfacing with the side access leg.
- The site adjoins a three storey residential complex to the north, interfacing with its car park.
- The site adjoins a two storey grouped dwellings development to the west, interfacing with its outdoor area which includes sheds and outbuildings.
- The site is adjacent to Como Primary School at the southern side of Thelma Street.

The streetscape character of Thelma Street is varied, comprising a mixture of housing typologies, community land uses, and commercial land uses.

Thelma Street in the vicinity of the site is a boulevard style road with one lane in each direction with cycle lanes, and a painted central median.

The site has access to numerous bus routes within the 400m walkable catchment. There are two bus stops in the immediate vicinity of the site with bus routes 30, 31, 32, and 33 all within a 50m walk, which provide linkages to Elizabeth Quay Bus Station, Perth Busport, and the local area. Additional bus stops along Canning Highway provide a transit link to Fremantle and the Perth CBD.

3.3 CURRENT SITE CONDITIONS

The development site is a lot subject to a strata plan which totals 809sqm of area with a sole frontage to Thelma Street.

The lot currently contains a single building in a duplex format (two dwellings side by side) which each have independent driveways with crossovers to Thelma Street (two in total).

The site contains various trees and vegetation throughout its outdoor areas. A sewer line which runs parallel to the northern boundary is located within the site.

In terms of topography, the lot is generally flat with a gentle fall of around 30cm toward Thelma Street. The existing duplex building has a finished level of approximately 23.8 AHD.

The development site has access to the key urban utilities services and as noted earlier, an existing sewer line runs within the lot.

The site survey is provided with the DA drawings at **Appendix 2**.

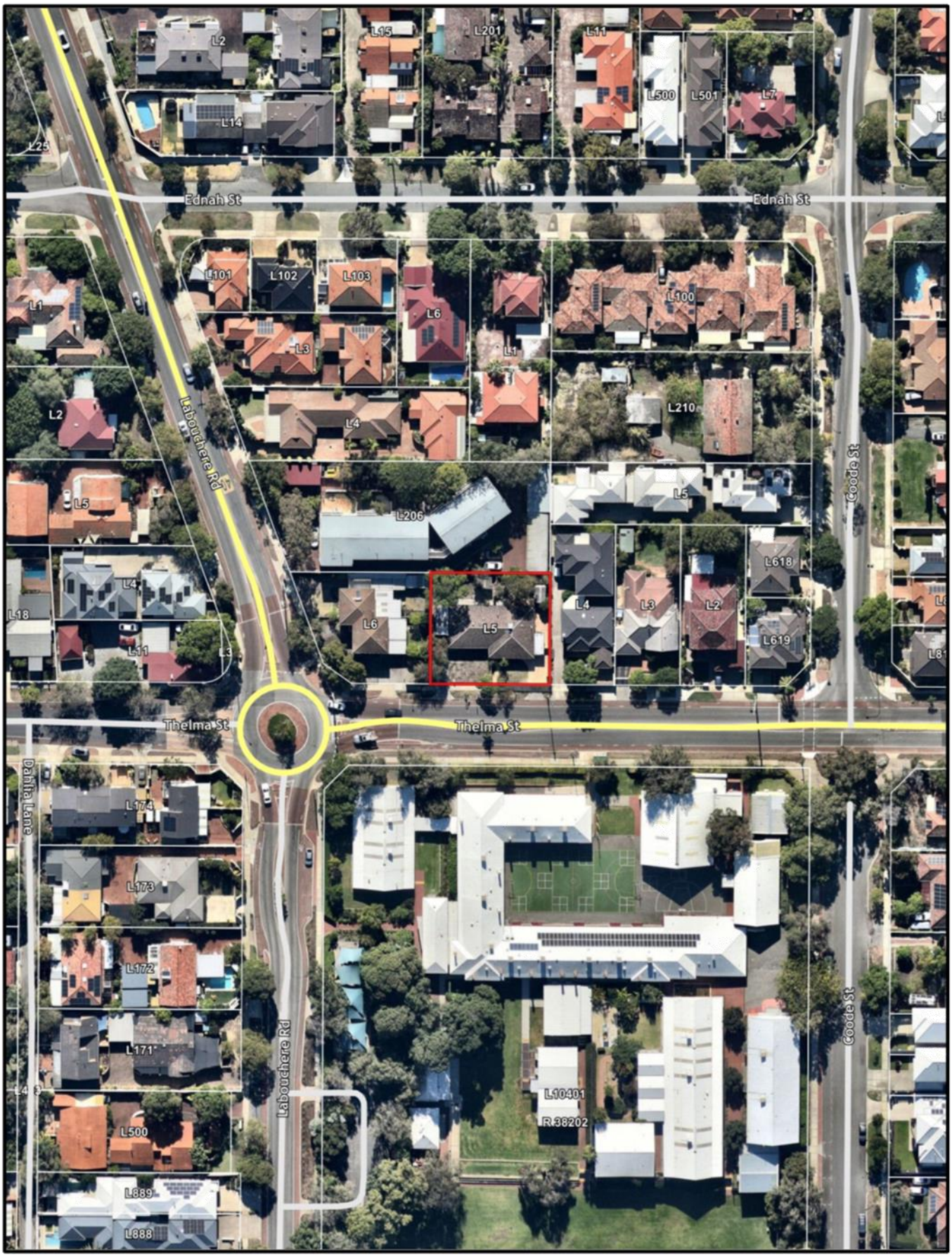


Figure 1: Aerial Photo	NORTH	Drawn: Alessandro Stagno Rev: 0
32a & 32b Thelma Street, Como Version: 1, Version Date: 14/08/2024		Source: MNG Access Date: 30 June 2024 apex planning

4 PROPOSED DEVELOPMENT

The subject application involves the demolition/removal of the existing dated duplex dwellings from the site and subsequent redevelopment with a new multiple dwellings development comprising six two bedroom apartments.

The arrangement of the proposed development is undertaken in a manner which reflects the existing development on the site, achieving a significant level of street engagement and reduced impacts to neighbouring properties through:

- The main building positioned centrally, toward Thelma Street (with its primary frontage engaging with the street).
- Car parking bays, waste, and storage located at the rear screened from view of the street.
- Generous setbacks to the adjoining residential properties at the western and eastern side through the use of dual driveways.
- Garden beds along the periphery of the site which include the retention of a large mature tree at the north-western corner.
- The use of two separate driveways / accessways, which improves the layout of the rear of the site and also increases setbacks to the adjoining properties.

The six dwellings are comfortably accommodated within an articulated and architecturally designed three storey building creating 52% of site cover (well within the 65% allowable for the R40 density), which avoids pushing bulk toward the adjoining properties and enables the maximised provision of landscaping.

The six dwellings each have 2 bedrooms and 2 bathrooms with 93.32sqm floor area and 11.6sqm of balcony or courtyard space. The configuration of the building is logical, utilising a linear central lobby with identifiable main entry and dwellings on either side. The balconies and courtyards are positioned to the southern side of the building which optimises engagement with the street and useability at all times of the day.

A fundamental component of the development proposal and its layout is the use of two separate driveways to access the rear car park. Not only does this enable a more functional layout for the rear of the site (with external stores provided within the centre of the car park), it also arguably improves the streetscape response by splitting what would be a 6m wide single crossover into two 3m wide crossovers at either end of the site's frontage to Thelma Street. This has enabled a significant amount of landscaping to be provided within the front setback area which is almost double the minimum requirement. The supporting traffic assessment demonstrates the traffic and access arrangements are workable and appropriate.

The layout of the rear car parking area is logical and provides good amenity for residents and visitors of the development by splitting it into two distinct areas accessed by separate driveways. A total of seven bays are provided, of which three resident's bays are provided at the western side, and three resident's bays plus a visitor's bay provided at the eastern side.

All resident's bays are undercover and readily accessed by a paved pedestrian pathway linking to the rear side of the lobby. The centre of the car park contains a storage area containing six lockable storage rooms, each 4.21sqm.

The articulated building is provided with variation in materials, colours, and treatments to break down bulk, with generous side and rear setbacks. The design quality of the development is demonstrated through:

- The use of familiar materials, colours, and finishes, which are based on a comprehensive context and character analysis.
- Stepped building form, feature brickwork and alternating colour palette and textures breaking down bulk by creating distinct 'sections' of the building.
- Major openings and glass balustrading facing Thelma Street for a high level of streetscape engagement.
- The configuration of openings enabling 100% cross ventilation within individual bedrooms and access to natural light within each area of each dwelling.
- Landscape integration along street frontage and site periphery which includes the retention and celebration of existing mature trees.
- The use of highlight windows at the eastern and western facades to respect the privacy of neighbours.
- Covered entry and car parking areas for a high level of user amenity.

The development proposal was supported by the City's design review panel, and represents a high quality development which will contribute toward addressing the State's housing supply shortage.

4.1 LANDSCAPING

The proposed development features a high-quality landscaping approach, informed through the expert input of Kelsie Davies Landscape Architecture. A landscape plan is provided at **Appendix 3.**

The development proposal provides 141.3sqm of soft landscaping area across the site, which represents 17.5% of site area. Deep soil area (**DSA**) is provided at 86.6sqm, representing 10.7% of site area.

Three existing trees are retained, comprising one mature jacaranda tree at the rear of the site which will provide shade to the car park and maintain a high level of amenity for the neighbours, and two frangipani trees which are within the front setback area and will improve the site's streetscape response and entry experience. In addition to the existing trees, seven 'small trees' are proposed throughout the site in selected areas.

The total canopy cover achieved by the proposal is 290.8sqm which represents 35.9% of the site. The proposed landscape arrangements are well considered and genuinely improve the design quality of the development.

4.2 TRAFFIC ASSESSMENT

The proposed development is supported by a Transport Impact Statement (**TIS**) produced by Donald Veal Consultants. The TIS is provided at **Appendix 4**.

The key outcomes of the TIS are:

- Minimal traffic generation during peak periods (some 5 trips in the peak hour), resulting in no measurable impact on the capacity of the road network.
- Compliant parking provision at a rate of 1 bay / dwelling for residents and 1 visitor bay where there are between 5-8 dwellings, as per the requirements of Part C of the R-Codes.
- Acceptable operation of the proposed access points, driveways, and rear car parking areas. It was recommended to install signage which advises visitors where the visitor bay is located, as well as signage advising motorists to give way to oncoming traffic facing the existing traffic in both car parks.
- Acceptable movements of B99 vehicles within both car parks, including confirmation that sufficient space exists for a B99 vehicle to safely and comfortably perform a turnaround movement should the visitor's bay be occupied.

Overall, the development is acceptable from a traffic and access point of view.

4.3 SUSTAINABILITY IN DESIGN

A NatHERS assessment has been undertaken for the development by Modus Compliance, which is provided at **Appendix 5**.

The NatHERS assessment demonstrates each dwelling will exceed the minimum NatHERS requirement, and that an average rating of 8.5 stars is achieved which is well above the minimum requirements.

4.4 WASTE MANAGEMENT

A waste management plan (**WMP**) is provided at **Appendix 6**, which demonstrates appropriate waste management practices for the proposed development in accordance with the City's *Guidelines for Waste Management Plans – New Multi-residential Developments*.

As per the WMP, 4x240L bins for general waste and 3x240L bins for recyclables will sufficiently cater for the needs of the development. The bins are kept at the rear of the site, along the northern boundary, which is well away from sensitive properties and screened from public view.

Strata management will arrange for weekly bin presentation at the verge for collection by the City's domestic waste service.

5 STATUTORY PLANNING ASSESSMENT

5.1 METROPOLITAN REGION SCHEME

The development site and adjoining roads are zoned Urban under the MRS. The proposal seeks approval for a small multi dwellings development, a development typology which is entirely consistent with the Urban zone.

5.2 STATE PLANNING POLICY 5.4 ROAD AND RAIL NOISE

The development site and the adjoining eastern properties are within the noise trigger area of Canning Highway, which under SPP5.4 is classified as a 'strategic freight and/or major traffic route'.

The development site measures a distance of approximately 313m from the edge of the Canning Highway road carriageway, as shown in the below measurement extract:

In accordance with the SPP5.4 guidelines, land which is 200 metres or more from a 'strategic freight and/or major traffic route' which comprises 5-6 lanes receives a forecast excess noise level of 0db or less, which means no mitigation measures are required.

The proposal is compliant with the requirements of SPP5.4.

5.3 STATE PLANNING POLICY 7.0 DESIGN OF THE BUILT ENVIRONMENT

The development has undergone a pre-lodgement design review process, involving consideration at a pre-lodgement DRP meeting where the development was assessed against the ten principles of SPP7.0. The DRP expressed support for the proposed development, subject to some minor recommendations.

A response to the comments of DRP1 is provided earlier in this report.

The proposed development is consistent with the ten design principles of SPP7.0.

5.4 CITY OF SOUTH PERTH LOCAL PLANNING SCHEME NO.7

5.4.1 ZONING AND LAND USE

The development site is zoned Residential with an applicable density coding of R40 under the City's LPS7. Refer to **Figure 2 – Zoning Map**.

Pursuant to *Table 3 – Zone objectives* of LPS7, the objectives of the Residential zone are:

- *To provide for a range of housing and a choice of residential densities to meet the needs of the community.*
- *To facilitate and encourage high quality design, built form and streetscapes throughout residential areas.*
- *To provide for a range of non-residential uses, which are compatible with and complementary to residential development.*

Multiple Dwelling is identified as a 'P' permitted use in the Residential zone of LPS7.

The proposal will improve housing choice in the local area by delivering six 2 bedroom apartments within a well-designed development. The proposed development has achieved the support of the City's DRP and was considered to *"sit comfortably and appropriately within its immediate context and site"*.

The content of this report and its appendices demonstrate consistency with the applicable town planning framework, and that the proposed development is entirely appropriate for establishment within its context.

5.4.2 ADDITIONAL SITE AND DEVELOPMENT REQUIREMENTS

Clause 32 of LPS7 sets out 'additional site and development requirements' for land within the scheme area. **Table 2** below provides an assessment against the relevant requirements.

Table 2: Additional site and development requirements	
Scheme requirement	**Response**
1. All land zoned or reserved under this Scheme. **Ground levels** (1) Development approval shall not be granted to a new building unless the finished floor level of any habitable room is at least 500 millimetres above the 1 in 100 (1%) annual exceedance probability (AEP) flood event level, inclusive of any forecast sea level rise. (2) Where a development involves a facility that must continue to function for the public benefit during a 1 in 100 (1%) AEP flood event, such as but not limited to a Hospital, the local government shall not grant development	The finished level of the proposed building is broadly consistent with the finished level of the existing building, at FFL 23.8. If the finished level is not 0.5m higher than the 1/100 flood event level, then the stormwater infrastructure for the site will be designed to cater for the 1/100 event. A stormwater management plan can be provided at detailed design stage in accordance with a condition of planning approval.

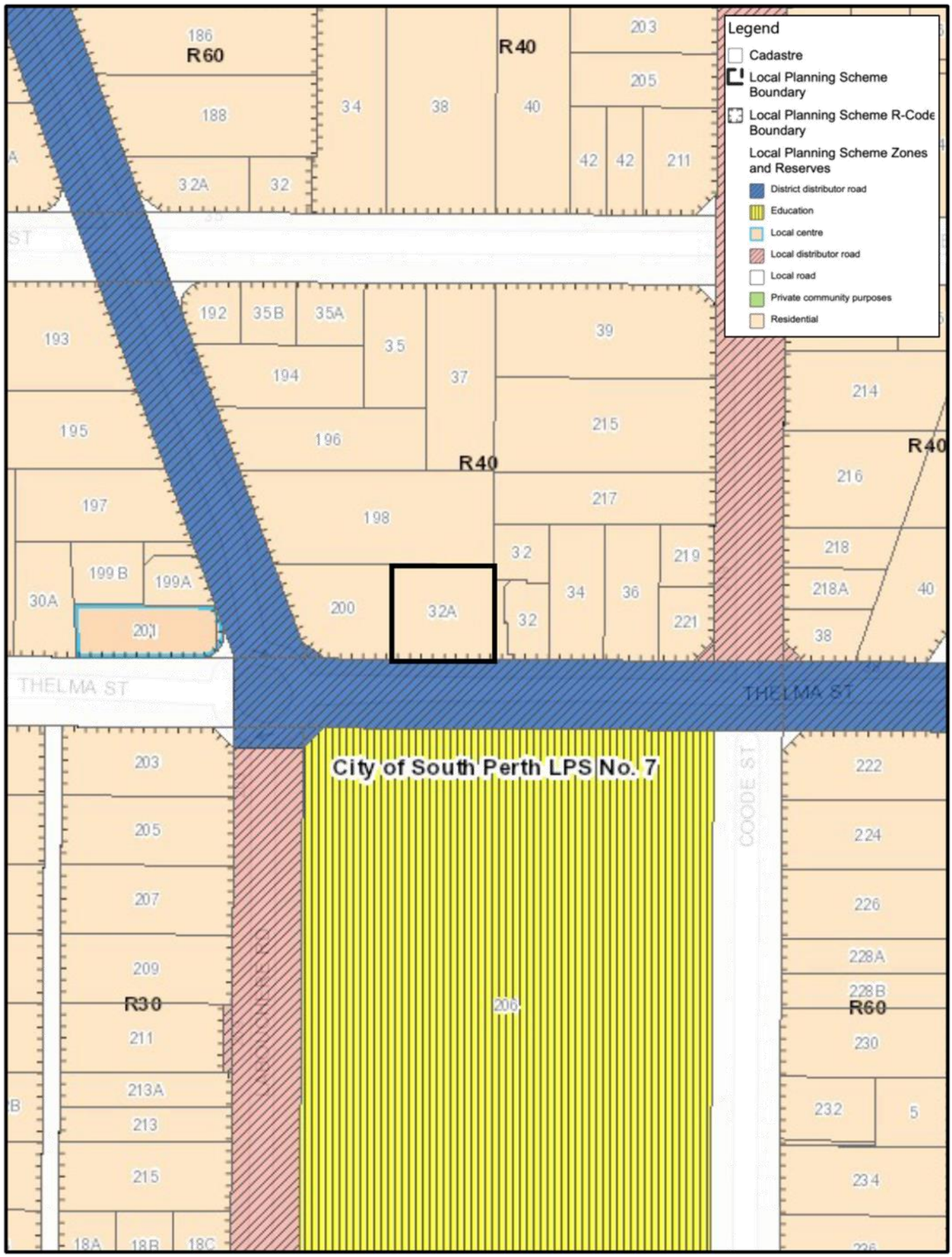


Figure 2: Zoning Map

NORTH

Drawn: Alessandro Stagno

Rev: 0

32a & 32b Thelma Street, Como

Version: 1, Version Date: 14/08/2024

Source: PlanWA

Date: 30 June 2024

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approval unless it can be demonstrated that the functionality and safety of the facility can be maintained during the flood event. (3) Notwithstanding (1), the local government may grant development approval to a building with a finished floor level lower than that prescribed in (1) where adequate protection against sub-soil water seepage and a 1 in 100 (1%) AEP flood event is provided.	

5.5 RESIDENTIAL DESIGN CODES VOLUME 1

In accordance with Clause 25 of LPS7, the R-Codes are to be read as part of the Scheme.

Being a residential development involving multiple dwellings within an area which is allocated a density coding of R40, the proposal is required to be assessed against Part C of the R-Codes Volume 1.

An assessment against the deemed-to-comply provisions and design principles of the R-Codes is provided at **Appendix 7**.

6 CONCLUSION

This application for planning approval involves the redevelopment of 32a & 32b Thelma Street, Como to establish a new multiple dwellings development which will deliver six 2 bedroom apartments.

The proposed development has been subject to consideration by the City's design review panel as part of the pre-lodgement phase, and was supported with minor recommendations. The DRP considered the layout, configuration, and design approach to be appropriate and sitting comfortably within the immediate context of the site.

The building is designed in a responsive and attractive way, utilising articulation, stepped form, and familiar materials / colours / treatments with significant landscape integration to provide a positive contribution to the local area.

The approach of adopting a three-storey height (which results in a minor variation of 1.6m-2.1m) has allowed the development to successfully reduce bulk impact to the neighbouring properties with generous setbacks whilst maximising the amount of soft landscaping, resulting in a superior outcome compared to a "compliant" scenario.

A fundamental component of the development proposal and its layout is the use of two separate driveways to access the rear car park. Not only does this enable a more functional layout for the rear of the site (with external stores provided within the centre of the car park), it also arguably improves the streetscape response by splitting what would be a 6m wide single crossover into two 3m wide crossovers at either end of the site's frontage to Thelma Street. This has enabled a significant amount of landscaping to be provided within the front setback area which is almost double the minimum requirement. The supporting traffic assessment demonstrates the traffic and access arrangements are workable and appropriate.

The proposal has been demonstrated to be entirely consistent with the applicable planning framework, including the requirements of the R-Codes Volume 1 Part C.

The proposal warrants the approval of the City of South Perth.

July 2024

Final Rev 1

Lots 1 & 2 of Lot 5 Thelma Street, Como

Prepared For:

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Transport Impact Statement Report

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DOCUMENT ISSUE AUTHORISATION

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0	0	12/06/2024	Draft Report	MG	DNV	DNV
1	0	20/06/2024	Final Report	MG	DNV	DNV
1	1	2/07/2024	Final Report - reference to R-Codes	MG	DNV	DNV

Donald Veal Consultants Pty Ltd

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1 INTRODUCTION

1.1 BACKGROUND

DALCORP Holdings Pty Ltd has commissioned Donald Veal Consultants (DVC) to prepare this Transport Impact Statement (TIS) to support a Development Application of the proposed 3-storey development of six apartments each with two bedrooms on Lots 1 & 2 of Lot 5 Thelma Street, Como within the City of South Perth.

1.2 SCOPE OF ASSESSMENT

The structure and scope of this Transport Statement are in accordance with the *Western Australian Planning Commission's (WAPC's) Transport Assessment Guidelines for Developments Volume 4 Subdivision (2016).*

2 EXISTING SITE CONDITIONS

2.1 SITE LOCATION

The site is located on Lots 1 & 2 of Lot 5 Thelma Street, Como, bounded by Thelma Street to the south, an apartment building to the north and residential houses to the east and west.

The Como Primary School is located to the south of the site.

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: Locality Plan *Source: MetroMap*

2.2 CURRENT LAND USES

The site is currently occupied by two semi-detached residential houses, as shown in **Photo 1**.

Photo 1: Residential houses on Lot 5

2.3 ROAD HIERARCHY CLASSIFICATION

The road network adjacent the site consists primarily of Thelma Street. Thelma Street lies to the south of the site and runs roughly east-west. It is constructed as a two-way single carriageway, with one lane in each direction. It is approximately 12.5m wide, kerbed on both sides with a painted and partially solid median plus on-road cycle lanes on both sides.

Thelma Street and Labouchere Road (north of Thelma Street) are classified as Distributor B Roads under Main Roads Western Australia's (MRWA's) Functional Road Hierarchy, whilst Labouchere Road (south of Thelma Street) and Coode Street is classified as Local Distributor Road as shown in **Figure 2.4**. All have default urban speed limits of 50km/h, except for Labouchere Road (north of Thelma Street), which has a posted speed limit of 60 km/h.

Figure 2.3: Road Hierarchy *Source: MRWA Road Information Mapping System*

2.4 TRAFFIC VOLUMES

The latest traffic flow data for the area was extracted from MRWA's Traffic Map. As can be seen from **Figure 2.5**, the volume along Thelma Street was recorded as 8,357 vehicles per day (vpd) with 6.2% of heavy vehicles as a weekday average in 2020/21. The AM peak was 748 vehicles per hour (vph) at 0800 hours whilst the PM peak was 719 vph at 1700 hours.

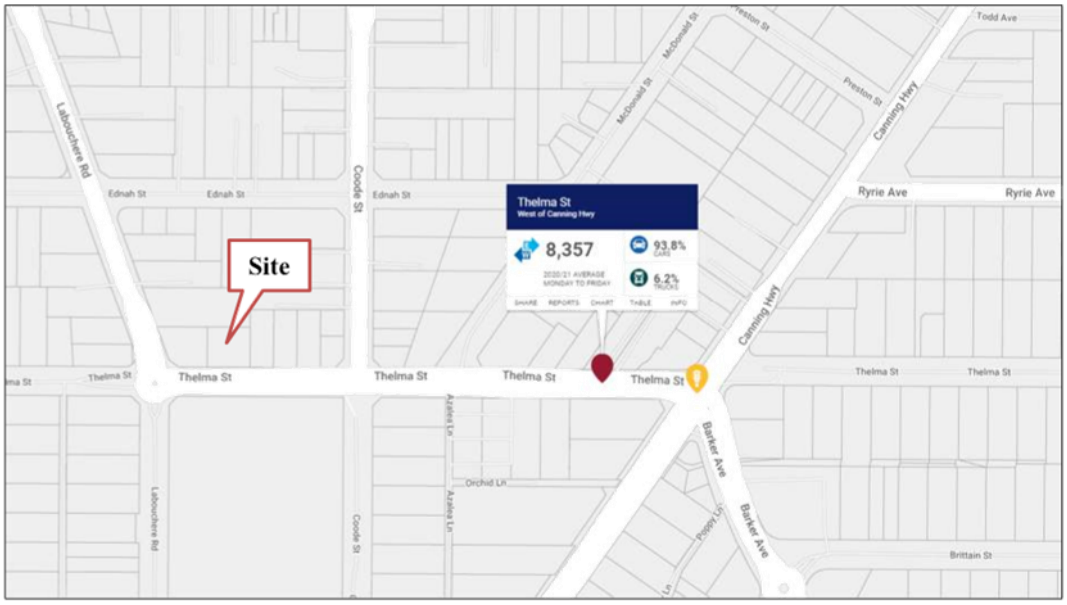

Figure 2.4: Traffic volume on Thelma Street *Source: Traffic Map*

2.5 CRASH HISTORY

The MRWA CARS database was interrogated to identify crashes that occurred along Thelma Street in the latest 5-year reporting period, 2019 – 2023.

The database returned records of four crashes within this period as shown in **Figure 2.6**. Three of these occurred at the intersection of Thelma Street with Labouchere Road and one at intersection of Thelma Street with Coode Street. None of these crashes resulted in any casualties; one incurred major property damage and the other three minor property damage only. There were no midblock crashes reported on the section of Thelma Street between Labouchere Road and Coode Street.

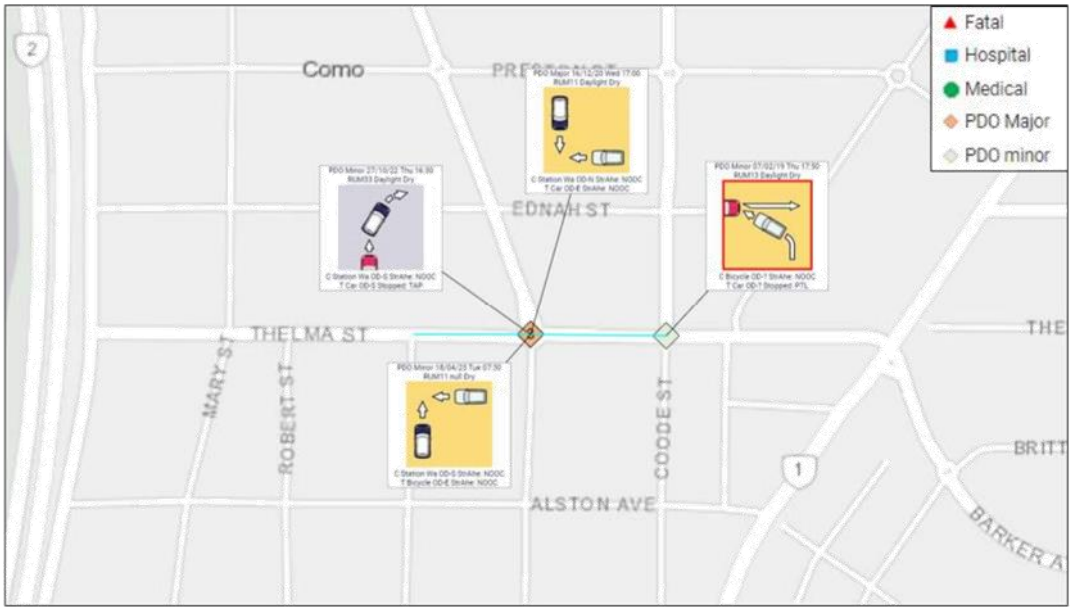

Figure 2.5: Crash Diagram *Source: MRWA Crash Map*

2.6 PLANNED CHANGES TO THE ADJACENT ROAD NETWORK

DVC is not aware of any planned road upgrades to the adjacent road network.

3 PROPOSED DEVELOPMENT

3.1 PROPOSED LAND USES

The development proposal envisages a 3-storey building providing a total of six 6 apartments each with two bedrooms as shown in **Figure 3.1** and **Appendix A**.

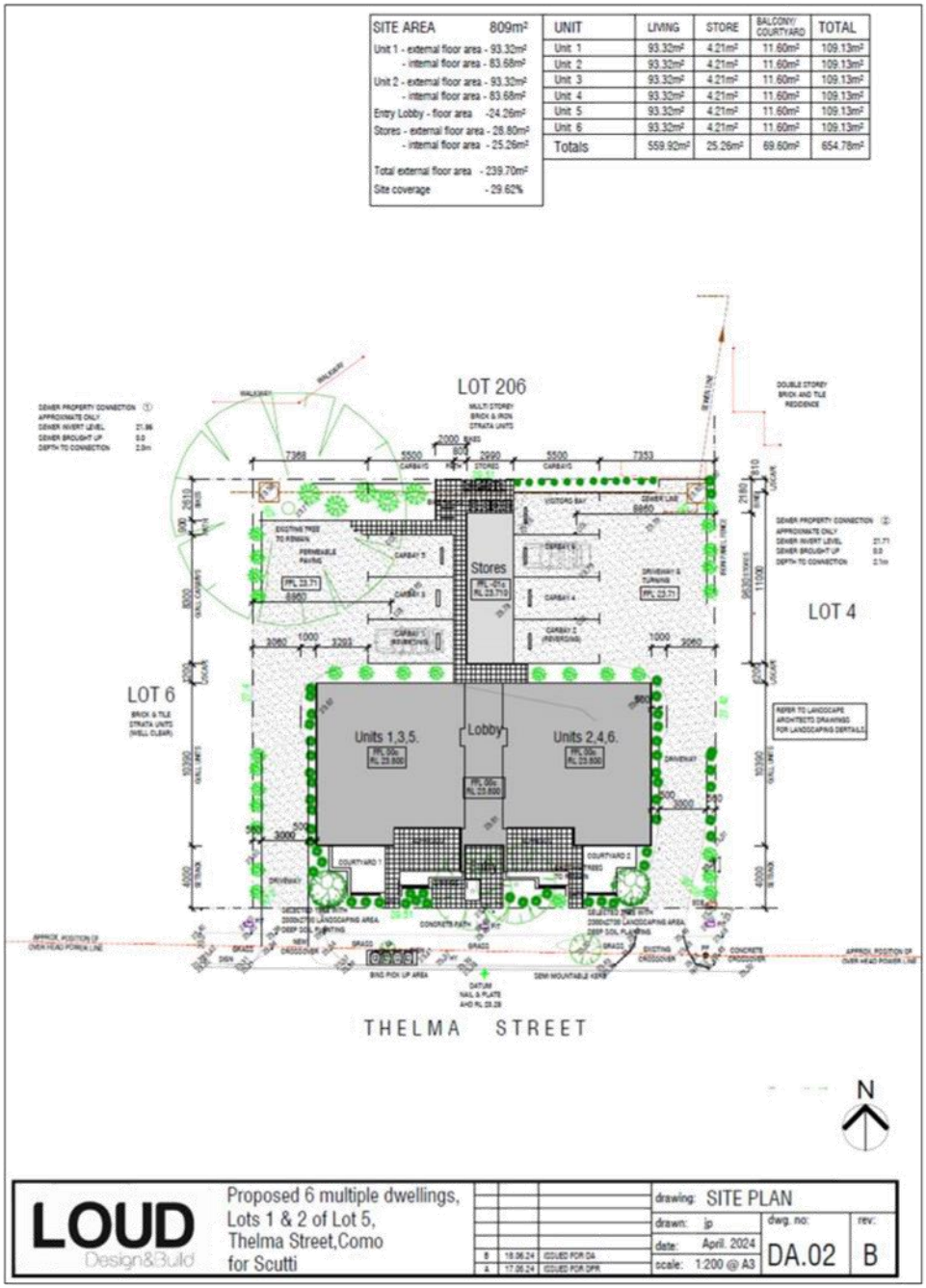

Figure 3.1: Proposed Site Development Plan *Source: Loud Design & Build*

3.2 PROPOSED DRIVEWAY ACCESS AND PARKING AREAS

Two driveway accesses to the site exist off Thelma Street and would be retained to provide separate vehicular access to Units 1, 3, 5 and to Units 2, 4, 6. These driveways measure 3.5m and 3.0m in width for the western and eastern access respectively. We understand each driveway will carry two-way traffic with the western driveway nominated for accessing car bays 1, 3, 5 and the eastern driveway for car bays 2, 4, 6 and the single visitor's bay as shown in **SK01** in **Appendix B**.

Since the visitor bay is located only in the eastern carpark, it is recommended that a post-mounted signs reading 'NO VISITOR PARKING' at the western crossover and 'VISITOR PARKING AVAILABLE' at the eastern crossover be installed. This will reduce the risk of visitors mistakenly using the western crossover in search of the visitor bay. In the event that a visitor driver enters the eastern driveway and finds that all bays are fully occupied, vehicle swept path analysis verifies that a B99 vehicle can execute a multi-point manoeuvre to exit onto Thelma Street in forward gear. See Sketch **SK02** in **Appendix B**.

While car bays 3, 4, 5, 6, and the visitor bay can be accessed through forward-in and reverse-out manoeuvres, car bays 1 and 2 can only be accessed via reverse-in and forward-out manoeuvres. Additionally, car bays 3, 4, 5, and 6 require multi-point manoeuvres for exiting due to the tight manoeuvring space. Sketches **SK03** and **SK04** in **Appendix B** illustrate the vehicle swept paths of a B99 vehicle accessing car bays 1, 2, 5, and the visitor bay.

The plan shown in **Figure 3.1** indicates that the accessway width for both the western and eastern carpark is 3.0m. As these accessways are not internally connected and since the driveway widths cannot accommodate simultaneous two-way traffic, it is recommended to install a wall mounted signage reading 'GIVE WAY TO ONCOMING TRAFFIC' facing exiting drivers from both carparks. This will ensure that vehicles entering the site from Thelma Street have priority, and any vehicles exiting from either car park will need to reverse back into the carpark to yield to incoming traffic. This eliminates the necessity for providing passing point for opposing vehicles.

The small volume of traffic, slow (walking pace) travel speeds and short length of the aisle means that this arrangement should be acceptable to residents and visitors and would not pose any road safety concern. The signage described above will eliminate any confusion as to who has right of way. These mitigation measures in the form of signage have been recommended in **section 5.2**.

3.3 TRIP GENERATION RATES

Typical peak hour trip generation rates for various land uses are shown in the WAPC Transport Impact Assessment Guidelines 2016 (Table 1, Volume 5) and shown in **Table 4.1**.

Table 4.1: Typical Land Use Vehicle Trip Rates *Source: WAPC Guidelines Vol 5 Table 1*

LAND USE	UNIT	AM peak hour trip rate			PM peak hour trip rate		
		In	Out	Total	In	Out	Total
Residential	Dwellings	0.2	0.6	0.8	0.5	0.3	0.8
School	Pupils	0.5	0.5	1.0	0.5	0.5	1.0
Commercial	100m² GFA	1.6	0.4	2.0	0.4	1.6	2.0
Retail (Food) [ab]	100m² GFA	2.0	0.5	2.5	5.0	5.0	10.0
Retail (Non-food) [b]	100m² GFA	1.0	0.25	1.25	2.0	2.0	4.0
Industrial	100m² GFA	0.8	0.2	1.0	0.2	0.8	1.0

GFA = gross floor area

a – These rates should be applied to retail developments/ shopping centres that have a significant food retail component.

b – The trip rates for both food and non-food retail stores can vary significantly depending upon a number of issues including type of goods sold, location and size. Caution should be used in applying these rates arbitrarily.

The six apartments of the development might generate some 5 trips in the peak hour (0.8 peak hour trip rate). This volume of traffic, will be split between the two driveways meaning that there will be no measurable impact on the capacity of the road network.

3.4 PARKING

The parking provision for the site can be determined from Table 4.1 of the City of South Perth's Local Planning Scheme No.7, as shown in **Figure 4.1**.

(4) Parking

4.1 Residential parking shall be provided in accordance with the table below:

Parking type		Minimum bays	Maximum bays
Car parking	1 bedroom dwelling	0.75 per dwelling	1 per dwelling
	2 bedroom dwelling	1 per dwelling	2 per dwelling
	+3 bedroom dwelling	3 per dwelling	5 per dwelling
	Visitor bays	1 per 12 dwellings	No maximum
Bicycle parking	Bicycle bays	1 per 3 dwellings	No maximum
	Visitor bicycle bays	1 per 10 dwellings	No maximum

Figure 3.2: Parking requirements *Source: City of South Perth*

The proposed development comprises six 2-bedroom dwelling which equates to a minimum requirement of 6 parking bays plus 1 visitor bay. The table also shows the development will require 3 bicycle bays with 2 for residents and 1 for visitors. As stated in section 3.2, the current DA drawings show 6 resident car bays, 1 visitor cay bay and 6 bicycle racks as being provided, hence the parking bay requirements of the council are met.

The DPLH/WAPC Residential Design Codes (R-Codes) Volume 1 (2024) Part C also provides 'Deemed to Comply' parking requirements. Table 2.3 of the R-Codes sets the minimum number of parking spaces at one per dwelling for residents and one bay for visitors for between 5 and 8 dwellings.

No motorcycle or scooter bays are required for developments of less than 20 dwellings and a minimum of three bicycle parking facilities are needed for the six dwellings proposed.

The development proposal therefore meets the 'Deemed to Comply' parking requirements of the current R-Codes.

3.5 SERVICE VEHICLES

All household waste bins will be placed on the roadside verge for collection by the council refuse truck. There will be no truck access to the site.

3.6 ROAD SAFETY

The crash record for the surrounding road network does not point to any particular road safety issues with the current road layout. Existing driveway crossovers are to be retained. Slow travel speeds within the sites will be enforced by the geometry of the layout.

4 SUSTAINABLE TRANSPORT

4.1 BUS ROUTES

There are two bus stops adjacent the subject site, one on each side of Thelma Street. See **Figure 4.1** and **Photo 2**.

Figure 4.1: Existing bus stops near the subject site *Source: MetroMap*

Photo 2: Bus stops near the subject site

As can be seen in **Figure 5.2** and **Figure 5.3**, bus routes 30, 31, 32 and 33 all pass within a 50m walk of the development site.

Figure 4.2: Bus route 32 and 33 servicing the site *Source: Transperth website*

Figure 4.3: Bus route 30 and 31 servicing the site *Source: Transperth website*

4.2 PEDESTRIAN AND CYCLE ACCESS FACILITIES

Thelma Street has footpaths on both sides, providing a designated area for pedestrians. Additionally, there are on-road cycle lanes on both sides of Thelma Street. These provide excellent pedestrian and cyclist access to and from the site.

Photo 3: Existing footpath and cycle lanes along Thelma Street outside the subject site

Additionally, the City of South Perth and Town of Victoria Park have developed a long-term vision for the strategic cycling network across the two local governments, aligning with the State Government's Perth and Peel Transport Plan for 3.5 million People and Beyond. This initiative includes five-year action plans for each local government to further investigate and implement specific cycle network improvements. The proposed aspirational cycle network over both areas is shown in **Figure 5.4**.

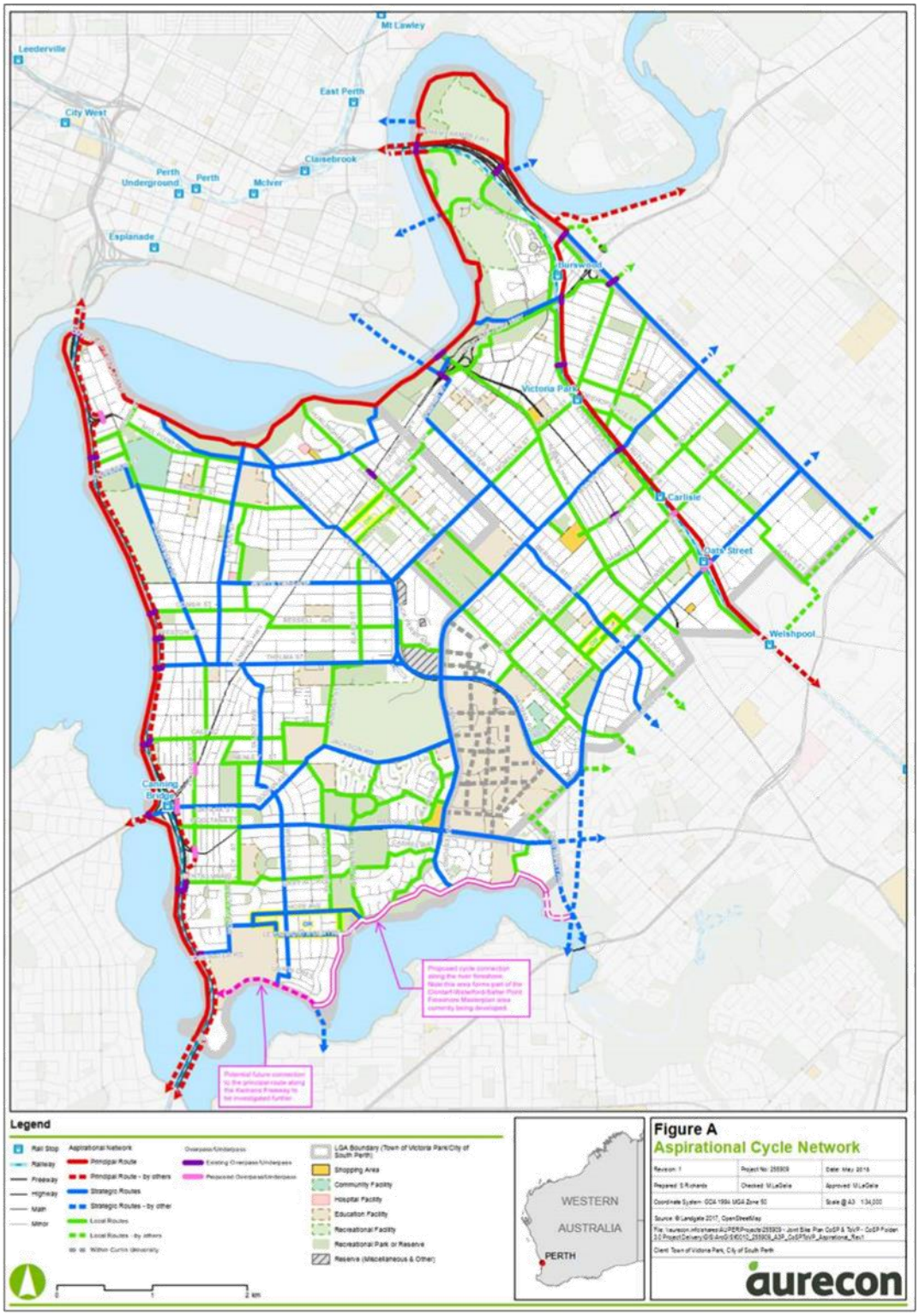

Figure 4.4: Aspirational Cycle Network *Source: Your Move- City of South Perth*

5 SUMMARY AND RECOMMENDATIONS

5.1 SUMMARY

DALCORP Holdings Pty Ltd has commissioned Donald Veal Consultants (DVC) to prepare this Transport Impact Statement (TIS) to support a Development Application of the proposed 3-storey development of six apartments each with two bedrooms on Lots 1 & 2 of Lot 5 Thelma Street, Como within the City of South Perth.

The development proposal envisages a 3-storey building providing a total of six 6 apartments each with two bedrooms.

The site has two driveway accesses off Thelma Street, which will be upgraded to provide separate vehicular access to Units 1, 3, 5 and Units 2, 4, 6. Both the western and eastern driveways are 3.0m wide. These will be designated as two-way, with the western driveway serving car bays 1, 3, 5, and the eastern driveway serving car bays 2, 4, 6, and the visitor bay. The small volume of traffic, slow (walking pace) travel speeds and short length of the aisle means that this arrangement should be acceptable to residents and visitors and would not pose any road safety concern. To eliminate any confusion as to who has right of way, mitigation measures in the form of signage have been recommended in **section 5.2**.

Car bays 3, 4, 5, 6, and the visitor bay can be accessed by forward-in and reverse-out manoeuvres, while car bays 1 and 2 require reverse-in and forward-out manoeuvres. Car bays 3, 4, 5, and 6 need multi-point manoeuvres for exiting due to limited manoeuvring space.

Very little traffic generation is forecast for the peak hours and detailed analysis is therefore not warranted.

The parking provision of 6 residential bays and 1 visitor bay plus bike racks meets both the City of South Perth's requirements and the current R-Codes. All internal parking bay and aisle dimensions conform to AS2890.1.

5.2 RECOMMENDATIONS

The following treatments are advised to promote safety within the sites, namely:

- install post-mounted signs reading 'NO VISITOR PARKING' at the western crossover and 'VISITOR PARKING AVAILABLE' at the eastern crossover; and
- install wall mounted signage reading 'GIVE WAY TO ONCOMING TRAFFIC' facing exiting traffic in both car parks.

Based on the assessment documented in this report, we fully support the development application in terms of its traffic and road safety impact and recommend its approval.

APPENDIX 6

WASTE MANAGEMENT PLAN

Waste Management Plan

32a & 32b (lot 5) Thelma Street, Como

21st June 2024

Dalcorp Advisory

1.0 Introduction

This waste management plan (WMP) assists and supports the development of six(6) multiple dwellings to be located at ,32(a) & (b) Lot 5 Thelma Street, Como, as part of a Development Application to the Metro Inner South Joint Development Assessment Panel.

The WMP has been developed based on preliminary investigations with the project team, and discussions with the City of South Perth (City) around suitable waste storage, collection, and provision of waste facilities and infrastructure.

As the proposed units all face the Thelma St frontages with direct street and verge access, the method of waste storage and collection, is a combination of a central bin store at the rear carpark for the units, serviced by seven (7)240L bins, being 4 general waste bins and 3 recycling bins , and presented for verge collection

The methodology and approach of this report ensures the City's municipal services can service the proposal adequately for weekly refuse collection, via weekly verge collection, and fortnightly in the case of recycling.

The WMP is based on the City's Policy P212 – Waste Management, and the City's Guidelines for Waste Management Pans – New Multi Residential Developments, and ensures the use of appropriate calculation rates, to supply suitable volumes of capacity for waste storage for the amenity of residents of the development.

2.1 SUMMARY OF DEVELOPMENT

The proposal, is a high-quality multiple dwelling development, and consists of a three (3) storey ,six(6) , two bedroom apartment development .

All units are serviced by a bin store, located within the rear parking area, that is screened from the street, and will be serviced via verge collection.

2.2 Location of Development

The development is located at 32(a)&(b) Lot 5 Thelma Street in Como, and within the municipality of the City of South Perth.

2.3 Number of Floors

The proposal consists of six (6) multiple dwellings, over 3 storeys (two apartmemts per floor).

2.4 Number of Dwelling Units by Size

The following table sets out the number of units within the development relative to bedroom size breakdowns:

Residential Dwelling Units	Number
1 Bedroom Unit	0
2 Bedroom Unit	6
3 Bedrooms Unit	0
Total Unit Yield	**6**

2.5 Size of Each Commercial Unit

The proposed development is purely for residential, and does not include a commercial component, or commercial floorspace. Accordingly, the waste generation rates, and bin storage of this proposal caters purely to a residential waste generation demand, which will not be subject to change, as the development does not cater for commercial uses on site in the future.

2.6 Details of the Intended Use of the Development

The development is designed and proposed to be an infill development catering to residential purposes. The development is intended to function with conventional apartments, with a central bin store.

3.1 WASTE GENERATION RATES

The City utilises the Western Australian Local Government Association (WALGA) Multiple Dwellings Waste Management Plan Guidelines, along with their own additional Guidelines for Waste Management Plans – New Multi Residential Developments (Guidelines).

Appendix C, Table 1 of the guidelines sets out the various waste generation rates for residential development projects, and the residential components of mixed-use development projects.

As this proposal relates only to residential units, the following calculations are based solely on accordance with the Table 1 Residential Waste Generation Rates.

3.2 Waste Calculation Rates

The following table details the gross waste generation rates for the development.

Dwelling size	Refuse (L/week)	Recycling (L/fortnight)
3 bed apartment (240L/120L)	2400x0	1200x0
2 bed apartment (160/120L	160x6	120x6
1 bed apartment (80L/80L)	80x0	80x0
Gross waste generation	960L	720L

3.2.1 Refuse

The proposal has a generation of 960 litres of general refuse. This will be stored in a central bin store, with four(4) unit bins.

3.2.2 Recycling

The proposal has a generation of 720 litres of co-mingled recycling per fortnight, and will be stored in the central bin store, with three (3) unit bins.

3.2.3 Other

As the proposal is below the 100-unit threshold for a bulky goods collection room, the proposal does not cater for this requirement.

4.1 BIN STORAGE AREA

The proposal caters to six(6) units through a central bin store located in the parking area, of 2480xW3000L

Figure 1 contained over leaf sets out the central bin store location and verge location.

4.2 Waste Disposal

Residents within the development will be required and advised through strata management to present their own waste to the central bin store, or own bin, as appropriate. Strata management will arrange for weekly bin presentation on the verge for collection.

4.3 Bin Storage Area Size

The central bin store is based on the following generation rates and storage capacity:

Dwelling size	Refuse (L/week)	Recycling (L/fortnight)
3 bed apartments (240L/120L)	240x0	1,200x0
2 bed apartments (160/120L	160x6	120x6
1 bed apartment (80L/80L)	80x0	80x0
Gross waste generation	**960**	**720**

This leads to the central bn store including:

- 4 x 240L general refuse bins
- 3x 240L recycling bins

Figure 1 shows that the bin store, adequately cater to the bin sizes for the waste requirements of the development.

4.4 Bin Storage Area Layout

The central bin store is designed to enable access via both sides facing the carpark, with circulation along an aisle, adjacent to the bins within the store. The Store area is 2.48 mx 3.0m

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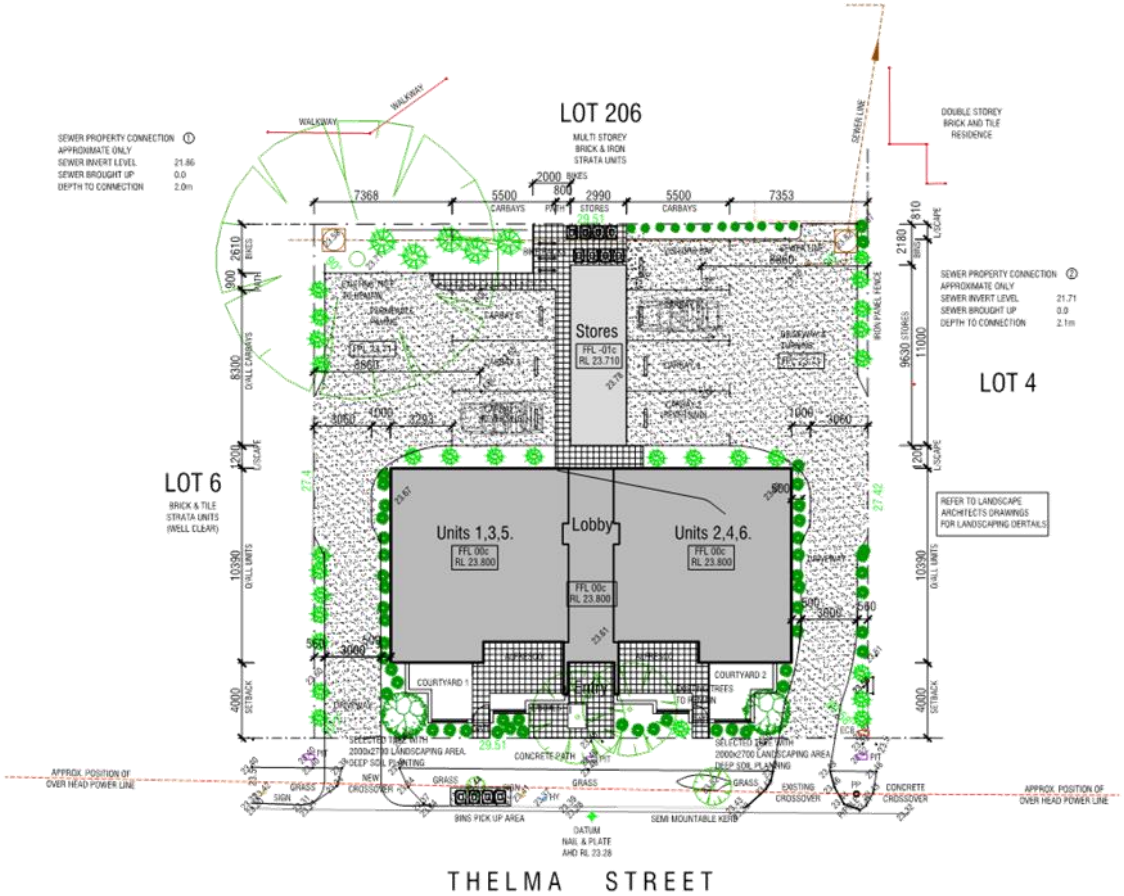
4.5 Alternative Waste

Any alternative waste such as hard, bulk or hazardous waste is to be coordinated for separate removal through residents and tenants alike coordinating with strata management.

Figure 1: Bin Store Plan

SITE AREA	809m²
Unit 1 - external floor area	93.32m²
- internal floor area	83.68m²
Unit 2 - external floor area	93.32m²
- internal floor area	83.68m²
Entry Lobby - floor area	-24.26m²
Stores - external floor area	28.80m²
- internal floor area	25.26m²
Total external floor area	239.70m²
Site coverage	29.62%

UNIT	LIVING	STORE	BALCONY/ COURTYARD	TOTAL
Unit 1	93.32m²	4.21m²	11.60m²	109.13m²
Unit 2	93.32m²	4.21m²	11.60m²	109.13m²
Unit 3	93.32m²	4.21m²	11.60m²	109.13m²
Unit 4	93.32m²	4.21m²	11.60m²	109.13m²
Unit 5	93.32m²	4.21m²	11.60m²	109.13m²
Unit 6	93.32m²	4.21m²	11.60m²	109.13m²
Totals	559.92m²	25.26m²	69.60m²	654.78m²



LOUD Design&Build	Proposed 6 multiple dwellings, Lots 1 & 2 of Lot 5, Thelma Street,Como for Scutti				drawing: SITE PLAN		
					drawn: jp	dwg. no: DA.02	rev: B
					date: April. 2024		
		B	18.06.24	ISSUED FOR DA	scale: 1:200 @ A3		
		A	17.05.24	ISSUED FOR DPR			

6

4.6 Wash Down Area

The central bin store area is treated with both a water source, and central floor waste, that enables convenient and on-site wash down on bins following collection. Construction documentation Hydraulics will show location and specificatio0n at time of building license application.

4.7 Ventilation

The bin store is open on 2 sides and unroofed and as such will not require mechanical ventilation.

4.7 Vermin Protection

The bin stores is to be regular treated with vermin proof solutions, by the Strata Manager.

4.8 Noise Reduction

As the bin store, does not include any mechanical infrastructure by way of compactors, extraction fans, etc. the noise emanating from the bin store is limited to opening and closing of bins, which has no acoustic impact. Due to its location at the rear of the development and well away from adjoining neighbors.

5.1 COLLECTION METHOD AND FREQUENCY

5.2 Collection Vehicle to be Utilised

The proposal is to be serviced by the City's small rear loader, as the proposal generates general waste below the 10,000 litre maximum threshold per week.

5.3 Movement of Collection Vehicles

The six apartments will present bins to the street, to enable conventional residential kerbside collection to Thelma Street.

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5.4 Collection Location

The bin store area provides bins to be wheeled out via strata management, and presented for collection on the Thelma St verge.

5.5 Transfer of Waste to the Collection Vehicle

The bins from the central bin store, will be wheeled to the verge collection point on Thelma Street, enabling ease of collection by the City's waste collection vehicle.

5.6 Frequency of Collection

The provision of waste receptacles for the development is based on collection of general refuse once a week, and fortnightly collection of co-mingled recycling waste.

5.7 Chutes

The proposal only caters to at grade waste disposal and does not include any provisions for a bin chute.

5.8 Compactor

The proposal is shown to adequately cater to the waste generation rates through the various selection of bin types and sizes nominated in this report. Accordingly, there is no requirement for a compactor in the development.

5.9 Bin Lifter

The units will be serviced by the central bin store. Accordingly, there is no requirement or need to be providing bin lifter

6.0 WASTE PROVIDER

Initial engagement and discussions with the City's staff confirm that for a proposal that is solely residential, the City's does not enable private collection.

On this basis, the proposal has been designed to cater for the City's municipal waste collection service, and service vehicles, including the specification of the City's service vehicles in accordance with the City's Guidelines.

7.0 EDUCATION

The education of residents within the development will be required, to confirm the obligations of residents with respect to waste management presentation to the bin store, and bins.

The central bin store area to include signage, encouraging the residents of the development to report any issues associated with the bin store, to the strata management for resolution of issues.

The use of strata management and instructing residents as to obligations around good waste management to ensure on-site amenities will be an essential component for incoming residents.

8.0 ONGOING MANAGEMENT

Subject to the approval of the City of South Perth, the ongoing management and coordination of the waste management approach for the development will be deferred to the responsibility of the strata management.

The strata body corporate is therefore tasked with the appropriate use of the bin store, which includes upholding the requirements of residents to appropriately dispose of waste, and to alert the grounds keeper or maintenance person tasked with management of any issues.

Similarly, the strata body corporate is required to assign services attributed to the good and regular functioning of waste services at the property, including:

- Regular cleaning and checking of the bin store.
- Regular inspection of the bin store to ensure functioning of all bins.
- Coordination of presentation of bins for collection by the City's waste services prior to waste collection days.
- Timely returning of bins to the bin store following waste collection.
- Coordination of other incidental waste collection, such as bulk or hazardous waste.

Incidental waste collection such as bulk or hard waste, or building materials waste is to be coordinated between residents and the building's strata manager

branch arboriculture

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ARBORICULTURAL REPORT: TREE RETENTION & PROTECTION RECOMMENDATIONS

LOCATION : LOT 5, 32 (a) & (b) THELMA ST, COMO, WA

PREPARED FOR: DALCORP ADVISORY
C/O LUIGI D'ALESSANDRO,

PREPARED BY: ALEX CORKE, CONSULTING ARBORIST. 22/08/2024

1.0 Brief:

1.1 Branch Arboriculture has been engaged by Lou D'Alessandro at Dalcorp Advisory to undertake an arboricultural assessment of one established tree (Subject tree), selected for retention, situated at 32 (a) & (b) Thelma St, Como (Subject property), and review surface treatment proposal for permeable paving adjacent to the subject tree, as requested by the City of South Perth

2.0 General Observations:

2.1 The Subject tree assessment was undertaken from the ground 22/09/24, during overcast and windy meteorological conditions

2.2 The health and structural characteristics of the trees were assessed using contemporary arboricultural principles and practices, and for the purposes of this report, a Visual Tree Assessment (VTA) was undertaken. QTRA Risk Assessment was not undertaken due to pending changes in target/occupancy values.

2.3 The subject tree is a mature Jacaranda *(Jacaranda mimosifolia),* situated in the northwest corner of the subject property, which at the time of inspection consists of a semidetached single storey brick and tile dwelling, with a rear yard, an area of lawn and smaller trees and shrubs adjacent to the subject tree.

2.4 Satellite image taken from Google Maps showing location of subject tree selected for retention. in relation to existing buildings:

3.0 Tree Inspection and VTA Field Notes:

Tree number:	N/A (Single Tree)
Tree location: (address / GPS coordinates)	Lot 5, 32 (a) &(b)THELMA ST. COMO WA (31°59'45.4"S 115°51'39.7"E)
Date of Tree Inspection/assessment:	22/08/2024
Botanic name: (Common name)	*Jacaranda mimosifolia* {Jacaranda)
Origin of species:	Exotic
Stem diameter (DBH & DAB):	DBH 0.44m DAB 0.58m
TPZ/SRZ Ø Dimensions:	TPZ 5.28m / SRZ 2.63m
Height: (approx.)	16m
Crown spread: (N/E/S/W)	5m/6m/6m/5m
Age:	Mature
Health:	Good: Winter (dormant) state - retained foliage present. Shoots appear healthy. No evidence of pathogenic activity on rootplate/stem/structural limbs/canopy. Significant canopy lifting to approx. 7m above ground level (AGL)
Structure:	Good: Stem divides at approx. 50cm AGL - appears sound, secondary division at approx. 2.1m agl – possibly lopped, with stems ascending - unions appear sound. No obvious defects exhibited on stem/rootplate/structural limbs . Good basal flare.
Crown form:	Broad - lifted.
Useful life expectancy:	> 15 years
Maintenance recommendations:	No maintenance works required – Protect during construction
Additional observations:	N/A
QTRA Risk rating - whole (WT) part tree (PT) failure within following 12-month period:	QTRA Not Applied
Image of subject tree:	

3.1 Summary of Observations:

The subject tree in a dormant state, and at the time of inspection appears to be in good health/structural condition, and as such can be expected to tolerate some minor disturbance from the proposed works (Permeable paving installation) as part of the site redevelopment, provided that tree protection recommendations are followed.

4.0 Tree Protection Zones:

4.1 Industry standard procedure for the protection of trees on construction sites is to establish a Tree Protection Zone (TPZ), and Structural Root Zone (SRZ). for all trees on a construction site. These zones are theoretical but should be documented on construction drawings, and provide an estimate of the extent of fine, and structural roots, and the amount of root mass required intact to keep a tree stable and in good health during and after construction.
Typically, Tree protective fencing is used to protect the SRZ at a minimum, and the TPZ as a whole where practicable.
Within the TPZ, certain construction activities are restricted, but limited encroachment from construction is feasible. No construction works should occur within the SRZ.

4.2 TPZ and SRZ measurements are calculated using formulae outlined in AS 4970 *Protection of Trees on Development Sites*– 2009 and are based on diameter measurements of the subject trees' lower stem:

4.3 A Tree protection Zone (TPZ) is a specified area above and below ground at a given distance (measured radially) from the trunk set aside for the protection of a tree's roots and crown to provide for the viability and protection of the tree to be retained The TPZ is the combination of the root area and crown area requiring protection. Where the Diameter at Breast Height (DBH) is measured 1.4m above ground level. The TPZ should not be less than 2m nor greater than 15m, except where crown protection dictates.

4.4 A Structural Root Zone (SRZ) is an area around the base of a tree required for the tree's stability in the ground. The woody root growth and soil cohesion in this area are necessary to hold the tree upright, so the entire profile (depth) of the root zone is included in the structural root zone. The SRZ is nominally circular with the trunk at its centre and is expressed by its radius in metres. This zone considers a tree's structural stability only, not the root zone required for a tree's vigour and long-term viability, which will usually be a much larger area.

5.0 Tree Protection Requirements:

5.1 The Developer/Project Manager should liaise with a consulting arborist onsite prior to commencement of works, and discuss the implications of Tree Protection Zones and Structural Root Zones as indicated on provided plan (see **5.4** below).

5.2 No site demolition/construction works should commence before protective fencing is erected and secured around the base of the tree – a minimum of four panels of 2.4 x 1.8 temporary mesh fence panels is recommended.
Note AS 4970 (Protection of Trees on Development Sites), recommends fencing off the entire TPZ where feasible.

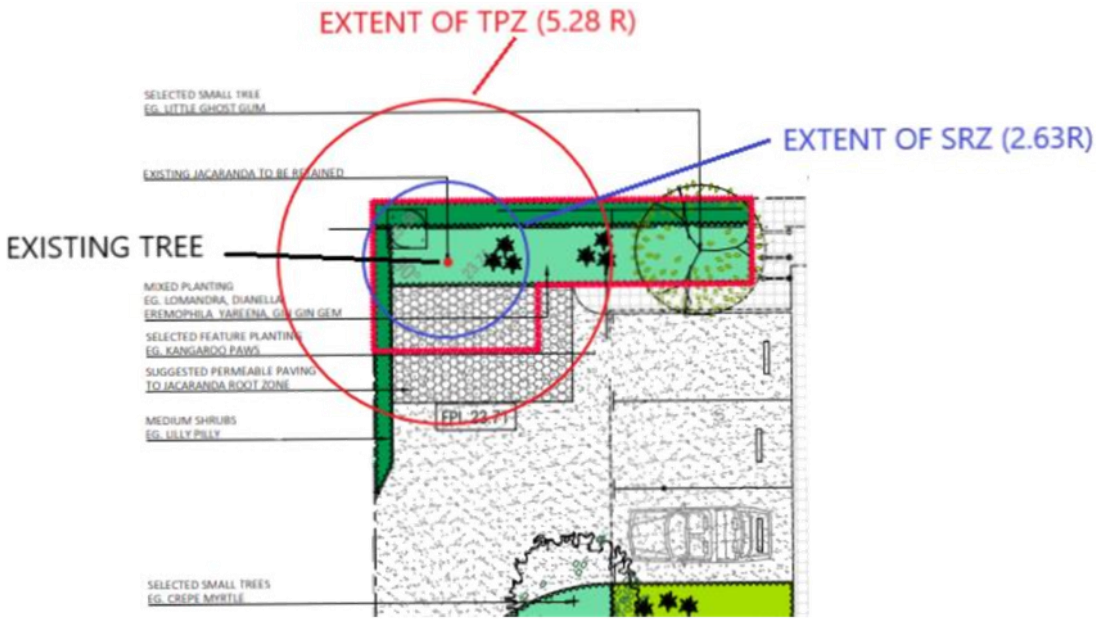
An example of tree protection fencing, from AS 4970 Protection of trees on development sites:

LEGEND:
1 Welded mesh panels with signage and shade cloth attached (if required) held in place with concrete feet.
2 Alternative Plywood panels with signage and bracing.
3 Mulch across surface of protected area. (recommendation – not requirement)
4 Non ground penetrating bracing can be installed within protected area.

5.3 Activities restricted within the TPZ include but are not limited to:

(a) machine Excavation including trenching;
(b) excavation for fencing;
(c) storage
(d) preparation of chemicals, including cement products and exposed aggregate surface sprays
(e) parking of vehicles and plant
(f) refueling
(g) dumping of waste
(h) washing down and cleaning of equipment
(i) placement of sand, fill, or rubble or changing soil level
(k) temporary or permanent installation of utilities and signs
(l) physical damage to the tree

5.4 Marked up landscape plans from KD Landscape Architects, showing extent of subject trees' TPZ/SRZ's.



6.0 Proposed Surface Treatment Within The TPZ:

6.1 The proposed permeable paving within the subject trees' TPZ and SRZ is a suitable surface treatment, providing a trafficable surface which can be installed within TPZ's/SRZ's of existing trees without damaging root systems.
Permeable paving allows for future root growth and development by making available water/nutrients and O_2/CO_2 exchange, while reducing the potential for roots to disturb the paved surface.

6.2 There are various methods for permeable paving installation, depending on product suppliers' technical specifications, but typically have similar installation guidelines: manual /air spade/soil vacuum excavation to approx. 200 – 250mm below ground level, a geotextile layer, 20 – 50mm Ø (no fines) aggregate course (sometimes in a geocell type matrix), followed by a second geotextile layer, a bedding course and permeable paving.

Note. manual /air spade/soil vacuum excavation is vital to avoid root damage, and an excavator must not be used for installation.

6.3 It is recommended that a suitably qualified arborist is present for the excavation stage of this process.

7.0 DISCUSSION:

7.1 Should any sudden change in the subject trees' appearance occur (discoloured/wilting foliage, damaged stem/limbs) during the period of construction works , a consulting arborist should be contacted to discuss.

7.2 The subject tree is a valuable natural asset to the site, and its retention and continued vitality will confer significant amenity value to the local ecosystem and overall visual aspect of the completed development. As such all efforts should be made to protect the subject tree during demolition and construction works.

7.3 For further enquiries/discussion regarding this document and its recommendations, please contact Alex Corke using details provided below:

Alex Corke,
Independent Consulting Arborist.

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TRAQ CERTIFIED

8.0 Disclaimer/ Limitation of Liability:

8.1 Consulting Arborists are tree specialists who use their qualifications, education, knowledge, training, diagnostic tools and experience to examine trees, recommend measures to enhance the aesthetic, structure and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of this assessment and report.

8.2 Branch Arboriculture Consulting Arborist cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways that the arboriculture industry does not fully understand. Conditions are often hidden within trees and below ground. Unless otherwise stated, observations have been visually assessed from ground level. Branch Arboriculture cannot guarantee that a tree will be healthy or a low risk of harm under all circumstances, or for a specified period of time. Likewise, remedial treatments cannot be guaranteed.

8.3 Treatment, pruning and removal of trees may involve considerations beyond the scope of Branch Arboriculture's service, such as property boundaries and ownership, disputes between neighbours, sight lines, landlord-tenant matters and other related incidents. Branch Arboriculture cannot take such issues into account unless complete and accurate information is given prior or at the time of the site inspection. Likewise, Branch Arboriculture cannot accept responsibility for the authorisation or non-authorisation of any recommended treatment or remedial measures undertaken.

8.4 In the event that Branch Arboriculture recommends re- inspection of trees at stated intervals. It is the client's responsibility to make arrangements with Branch Arboriculture Tree Consultancy to conduct the re-inspection.

8.5 Trees can be managed, but they cannot be controlled. To live or work near a tree involves a degree of risk. All written reports must be read in their entirety; at no time shall part of the written assessment be referred to unless taken in full context with the whole written report. If this written report is to be used in a court of law, or any other legal situation, Branch Arboriculture must be advised in writing prior to the written assessment being presented in any form to any other party.

GABRIELS HEARNE FARRELL

ARCHITECTURAL ACOUSTICS

PROPOSED RESIDENTIAL DEVELOPMENT
LOT 5 (#32A) THELMA STREET, COMO

26th August 2024 - Rev A

For

DALCORP ADVISORY
Level 3 / 98 Colin Street
WEST PERTH WA 6005

UNIT 3 / 2 HARDY STREET, SOUTH PERTH 6151 TEL: 9474 5966 EMAIL: reception@gabriels.net.au
GABRIELS HEARNE FARRELL PTY LTD ACN 608 956 734 ATF THE GHF UNIT TRUST

EXECUTIVE SUMMARY

The proposed construction of the Residential Development at Lot 5 Thelma Street, Como, consists of a three storey, six unit development with covered parking at the rear of the property. This report identifies the construction required to meet the statutory requirements including:

Design Compliance / Building License

The report is intended for Design Compliance / Building License and establishes the acoustic requirements for the project that is addressed in the documentation of the project

- Noise emission from the site to comply with the requirements of the Environmental Protection (Noise) Regulations
- Construction to meet the requirements of National Construction Code (NCC), specifically Volume 1, the Building Code of Australia (BCA), Section F5
- Control of environmental noise intrusion from the development to meet the requirements of Australian / New Zealand Standard AS/NZS 2107 Acoustics: *"Recommended design sound levels and reverberation times for building interiors"*, and the State Planning Policy 5.4 - *"Road and Rail Noise"*.

Architects and Engineers are to ensure that these acoustic requirements are incorporated into their documentation.

Environmental Protection (Noise) Regulations

An assessment of the potential noise emissions form the proposed mechanical condensing units is indicating that compliance is likely to be achieved at all times of the day.

Units with night setback modes available are recommended, however these are not necessarily *required* for compliance to be maintained.

Building Code of Australia

The construction requirements to meet the "Deemed-to-Satisfy" provisions of the BCA applicable to this project are outlined in this report. The report details the requirements in terms of "Deemed-to-Satisfy" wall and floor construction and hydraulic requirements.

The proposed construction is 253mm reinforced concrete floors slabs and 90 / 50 / 90 masonry walls. Generally speaking, as there are no party walls present on this project, these constructions (along with the recommended flooring and underlays outlined in this report) should meet all NCC requirements.

Report Version	Author	Notes	Date
Initial Report	Michael Ferguson		26th August 2024
Rev A	Michael Ferguson	Minor client updates	27th August 2024

Association of Australasian Acoustical Consultants

Gabriels Hearne Farrell Pty Ltd is a Member Firm of the Association of Australasian Acoustical Consultants. The report author is a full member of the Australian Acoustical Society.

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ATTACHMENTS

- APPENDIX A - Legend for Marked-up Floor Plans
- APPENDIX B - Sealing of Full Height Walls
- APPENDIX C - Marked-up Floor Plans (x3)

1. INTRODUCTION

This report addresses the architectural acoustics for the proposed construction of the Residential Development located at Lot 5 Thelma Street, Como. The development consists of a three story complex with six units of various layouts and covered car parking facilities on the ground floor.

This report sets out the acoustic requirements to be incorporated into the project in order to meet the design standards as set out in Regulations and Codes that are applicable. Where acoustic requirements impact on other building and engineering requirements the architect / builder shall refer the matter to the appropriate professional person for further advice regarding buildability. Architects and Engineers are to ensure that these acoustic requirements are fully incorporated into their documentation.

The Acoustic requirements for this project include:

- Environmental Noise Emissions - Emissions from the site must comply with the requirements of the Environmental Protection (Noise) Regulations
- BCA Compliance - Construction to meet the requirements of National Construction Code (NCC), specifically Volume 1, the Building Code of Australia, Section F5
- Control of Environmental Noise Intrusion - As the proposed development is located within 300m of Canning Highway it is a requirement to undertake an assessment in accordance with the State Planning Policy 5.4 - *"Road and Rail Noise"*.

2. ENVIRONMENTAL NOISE EMISSIONS

In Western Australia, noise transmission from one property to another is governed by the Environmental Protection (Noise) Regulations 1997. These regulations establish Assigned Levels which are the noise levels that cannot be exceeded at surrounding noise sensitive premises.

2.1 Assigned Levels for Surrounding Properties

2.1.1 Assigned Noise Levels

The Assigned Levels for the existing and future residences around the development are provided in Table 01 below. The Assigned Levels are based on commercial properties and major roads within a 100m and 450m radius of the noise sensitive receivers, and is known as the Influencing Factor.

For this development there are negligible commercial properties within 450m.

There are two secondary roads within the inner circle and a major road in the outer circle, resulting in a total Influencing factor of +6 dB(A) for the adjacent noise sensitive receivers.

Given this, the Assigned Noise Levels for the receiver positions are as follows:

Type of premises receiving noise	Time of day	Assigned Noise Level (dB)		
		L_{A10}	L_{A1}	$L_{A\,max}$
Noise sensitive premises; highly sensitive area (i.e. within 15m of a residential building)	0700 to 1900 hours Monday to Saturday	51	61	71
	0900 to 1900 hours Sunday and public holidays	46	56	71
	1900 to 2200 hours all days	46	56	61
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays.	41	51	61
Commercial Premises	All hours	60	75	80

Table 01 - Assigned Noise Levels for the Worst Case Noise Sensitive Receiver Positions

The sound level parameters used for the various environmental noise criteria are described below. These are based upon an assessment period of 15 minutes up to 4 hours:

L_{A10} is the 'A' weighted noise level which is not to be exceeded for more than 10% of the time, e.g. for more than 10 minutes in 100 minutes. This is the parameter relevant to most HVAC equipment, and emissions from other longer term noise sources that run for extended duration (such as condensing units, exhaust fans, etc.).

L_{A1} is the 'A' weighted noise level which is not to be exceeded for more than 1% of the time, e.g. for more than 1 minute in 100 minutes, or up to 24 minutes in 4 hours. This is the parameter relevant to noise sources that only occur occasionally, for short durations, (e.g. fire pumps).

L_{Amax} is the 'A' weighted noise level which is not to be exceeded at any time and is largely reserved for impulsive noise sources (e.g. car door closes).

2.1.2 Adjustments for Noise Character

In accordance with Regulation 9, sounds with tonal, modulating or impulsive characteristics are deemed to be more annoying, and therefore an adjustment of +5 dB is required to be added to the measured level for tonal and modulating characteristics, and +10 dB for impulsive characteristics; where measurable at the point of reception.

In accordance with the noise assessment techniques described in the Regulations, noise emission from most mechanical equipment such as condensing units etc. are considered tonal and therefore a +5 dB adjustment is required to be added the measured (or predicted) level.

2.1.3 Noise from vehicles in carparks

Noise emission from vehicle movements in carparks that are open to public access are treated in accordance with the Road Traffic Act (as road traffic noise), and are therefore not covered by the Environmental Protection (Noise) Regulations. This is consistent with the approach applied to public parking areas at other multi-residential and commercial developments.

2.2 Impact on Project

The main sources that may result in noise emission to adjoining properties include:

- Mechanical air-conditioning condensers for Apartments,
- Fan exhaust systems

2.2.1 Air-Conditioning Condensers

For this development the proposed location of the external air-conditioning equipment appears to be currently documented on the rear wall of the complex, on the Norther façade (above the covered parking area). We have also been advised by the client that the units in question have a sound power level of approximately 62 dB(A) each, with 6 units being required for the complex.

A noise assessment has been conducted to the neighbouring highly noise sensitive receiver positions. The current site plan is indicating that these residence are approximately 20m from the mechanical compound. Based on the information above the predicted noise level is approximately 40 dB(A), once allowing for penalties for tonality. Based on this assessment it is likely that compliance with the Environmental Regulations will be achieved at all times of the day.

Notwithstanding the results of this assessment, it is still highly recommended that units are selected with the capability for a night setback mode, as they typically reduce noise emissions by approximately 5dB(A). Should overnight issues ever arise in the future the systems can be forced to run in the night setback mode during certain periods of the day.

2.2.2 Fan Exhaust Systems

Bathrooms and kitchens are typically exhausted to the side of the building. Top floor units may exhaust through the roof is desired. Fans must be selected and installed by the mechanical engineer / contractor to ensure the Assigned Noise Levels as set out in Table 01 are achieved.

To aid with this, bathroom exhaust fans are recommended to be located within bathroom ceiling, using quiet in-line fan systems, such as the TD Silence range of mixed flow fans available from Fantech.

Kitchen exhaust fans should also be installed in the ceiling space as per above. These should be installed with speed controllers so that minimum speeds can be used to achieve the required air flow and minimise noise emission. External wall mounted fans with noisy closing shutters must not be used.

2.2.3 Carpark & Vehicles

Based on the current documentation it appears that the ground floor parking area is externally located and therefore all naturally ventilated. No mechanical sources are expected as a part of these parking facilities.

Noise emission from vehicle movements in Public Carparks that are open to public access are treated in accordance with the Road Traffic Act (as road traffic noise), and are therefore not addressed by the Environmental Protection (Noise) Regulations. This is consistent with the approach applied to public parking areas at other multi-residential and commercial developments.

3. ENVIRONMENTAL NOISE INTRUSION

3.1 External Traffic Noise

Due to the location of this development being within 300m of Canning Highway (approximately 250m), the proposed development must be assessed in accordance with the State Planning Policy 5.4 - *"Road and Rail Noise"* requirements.

It should be noted that this policy does not consider aircraft noise nor does it consider any ground vibration as "noise", and may require further consideration beyond the recommendations outlined in this report. However ground vibration noise is typically reserved for development in close proximity to rail lines.

3.1.1 Outdoor Noise Criteria

The State Planning Policy 5.4 - *"Road and Rail Noise"*, establishes criteria in terms of an Outdoor Noise Levels.

Outdoor Noise Level Criteria	
Time of Day	**Noise Criteria**
Day - 16 Hour (6am to 10pm)	L_{Aeq}(day) = 55 dB
Night - 8 Hour (10pm to 6am)	L_{Aeq}(night) = 50 dB

Table 02 –SPP 5.4 Outdoor Noise Level Criteria

The above levels are for average external noise levels (L_{Aeq}) measured over the whole of the day or night period. The criteria set out above applies to the emission of rail noise as received at a noise sensitive development. It is our understanding that this outdoor criteria is to be met in at least one outdoor space for the development.

3.1.2 Indoor Noise Criteria

In terms of indoor noise levels, the SPP quotes the acceptable levels for residential buildings as:

- L_{Aeq} (day) 40 dB(A) in living and work areas, and
- L_{Aeq} (night) 35 dB(A) in bedrooms.

For all other non-residential noise sensitive areas of a development, acceptable indoor noise levels are to meet the recommended design sound levels in Table 1 of Australian Standard AS/NZS 2107:2016 *"Acoustics - Recommended Design Sound Levels and Reverberation Times for Building Interiors"*.

3.1.2 Noise Exposure Forecast

The predicted noise levels at the proposed development site has been assessed using the Screening Survey Table in the State Planning Policy 5.4 Implementation Guidelines. This table can be seen below:

Table 2: *Noise exposure forecast*

Transport Corridor Classification		Number of lanes (both directions), including bus/priority lanes and entrance/exit ramps	Forecast noise exposure category based on lot distance(m) from edge of nearest main road carriageway (not entrance/exit ramps)																								
			adjacent	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	175	200	225	250	275	300
Strategic freight/major traffic route • 500 or more Class 7-12 Austroads vehicles per day; or • 50,000+ vehicles per day		2 to 4 lanes	72	68	66	65	63	62	61	61	60	59	59	58	57	57	56	55	54	53	52	51	50	
		5 to 6 lanes	74	70	68	66	65	64	63	62	61	61	60	59	59	58	58	57	56	55	54	53	52	
		7 to 8 lanes	76	72	69	68	66	65	64	64	63	62	62	61	60	60	59	58	57	56	55	54	53	
		9 to 10 lanes	77	73	70	69	67	66	65	65	64	63	63	62	61	61	60	59	58	57	56	55	54	
		10 or more lanes	78	74	71	70	68	67	66	66	65	64	64	63	62	62	61	60	59	58	57	56	56	
Other significant freight / traffic routes • Any actual or planned future State Administered Road • Local Government Roads Carrying 100 or more Class 7 – 12 Austroads vehicles/day • 25,000+ vehicles per days vehicles/day	Urban Region Scheme areas 60-80 km/hr	1 to 2 lanes	67	64	62	61	60	59	58	57	56	56	55	54	54	53	53	52	51	50	49	48	47	
		3 to 6 lanes	69	66	64	63	62	61	60	59	58	58	57	56	56	55	55	54	53	52	51	50	49	
	Urban Region Scheme areas 100+ km/hr	1 to 2 lanes	70	67	65	64	63	62	61	60	59	59	58	57	57	56	56	55	54	53	52	51	50	
		3 to 6 lanes	74	70	68	66	65	64	63	62	61	61	60	60	59	59	58	57	56	55	54	53	52	
	Rural areas 60-80 km/hr	1 to 2 lanes	62	59	57	56	55	54	53	52	51	51	50	49	49	48	48	46	45	44	43	42	41	
		3 to 4 lanes	66	63	61	60	59	58	56	56	55	54	53	53	52	52	51	50	49	48	47	46	45	
	Rural areas 100+ km/hr	1 to 2 lanes	67	64	62	61	60	59	58	57	56	55	54	54	53	53	52	51	50	49	48	47	46	
		3 to 4 lanes	69	66	64	63	62	61	60	59	58	57	56	56	55	55	54	53	52	51	50	49	48	

Based on the above table, as well as the traffic volumes / heavy vehicle percentage data available on the MainRoads website, the predicted noise level at the closest building façades is 50 dB(A). Due to this, there is no requirement for any further Quiet House Package implantation on the site. Normal architectural detailing should be sufficient to meet the relevant criteria set out in the previous sections of this report.

3.4 Noise Intrusion from Development

3.4.1 Carpark Construction

Driveway Construction

If driveway is constructed of in-situ concrete or masonry pavers on ground, the driveway should be isolated from the residential building structure by 2 layers Abelflex.

Drainage Grates

Noise associated with cars driving over drainage grates should be controlled. Drainage grates are recommended to be installed to ensure noise both airborne and structure-borne is not transmitted into the Residential Units. If required insert resilient material between the grate and the support structure. Where possible, use alternative materials that incorporate some resilience.

Tyre Squeal

The surface finish to carpark and ramp shall be roughened to ensure tire squeal or slip does not occur. Alternatively, application of a suitable concrete sealant can be used e.g. Aquron 1000.

3.4.2 Windows Overlooking Car-park / Entry

Where windows are in close proximity to the driveway or car park areas the glazing should be upgraded and the area of window controlled. For living areas the window should be less than 30% of floor area and the glazing should be upgraded to 6.38mm laminated glass that achieve minimum R_w 32 performance with the frame/glass combined.

For bedrooms overlooking driveways the area of glazing should ideally be less than 20% of the floor area, and the glazing should also be upgraded to minimum 10.38mm laminated glass. Windows are recommended to be awning /fixed style windows that achieve an R_w 34 performance minimum.

3.4.3 Windows in Public Walls

The acoustic requirements for windows in walls separating a sole-occupancy unit and the Walkway/Voids depends on the classification of the adjoining area.

- If the area is classified as "External" then there are no specific acoustic requirements established in the BCA. The acoustic performance of the window needs to be selected suited to the specific situation. This is an acoustic quality issues and the acoustic performance requirements must be set by the Architect / client.

- If the area is classified in terms of the BCA as "part of different classification", then the BCA establishes specific acoustic requirements for the wall separating the Sole occupancy Unit from the Walkway/Void. Part F5,5(a)(ii) sets a the acoustic requirement for the separating wall at R_w 50. The requirement for the window is then R_w 50 window.

For this project there does not appear to be any windows located in walls separating sole-occupancy units from parts of a different classification. Therefore there are no mandatory requirements for external glazing.

3.4.4 Balconies

For large areas of glazing onto balconies, a fixed full height dividing screen extending from the party wall to the edge of the balcony is typically required to control typical flanking transmission noise from one balcony to the adjacent apartment glazing.

Due to the currently proposed layout of separated balconies and no party walls, this is not a requirement on this project. Full height partitions along balconies where practicable (separating line-of-sight to adjacent balconies) are still recommended.

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4. PART F5 OF THE BUILDING CODE OF AUSTRALIA

4.1 Minimum BCA Acoustic Requirements

The BCA in Volume 1 Part F5 establishes the acoustic performance requirements for walls, floors / ceilings and building services for Class 3 buildings.

Airborne Sound Reduction for Walls Separating Sole Occupancy Units

The Weighted Sound Reduction Index (R_w) is a single number rating determined from the 1/3 octave band frequency sound reduction performance of the wall construction as tested in an Acoustic Laboratory. The (C_{tr}) is a spectrum adaptation term to take into account the low frequency component of noise in apartments.

Discontinuous Construction

The BCA requires the party wall between a wet area and a habitable area to be of 'discontinuous construction' and have a minimum 20mm cavity. This requires a wall system with two independent leaves and no ties, or resilient ties. It must be noted that resilient ties are only allowed when separating leaves of masonry. Resilient mounts mounted on concrete panels **are not** considered to be discontinuous.

In this report, the "Walls Separating Sole Occupancy Units" are referred to as Party Walls. Walls to adjoining public spaces are referred to as Public Walls.

Minimum Acoustic BCA Requirements	
Walls	
Party walls separating habitable areas in adjoining Sole Occupancy Units	$R_w + C_{tr}$ 50
Party walls between wet and habitable areas	$R_w + C_{tr}$ 50 + discontinuous construction
Walls to public corridor or lobby, stairs, or parts of different classification	R_w 50
Walls separating plant rooms or lift shafts from a sole-occupancy unit	R_w 50 + discontinuous construction
Entry Doors	
Entry Door to Public Area	R_w 30
Floors	
Separating sole occupancy units, or parts of different classification - Airborne	$R_w + C_{tr}$ 50
Impact sound insulation	L'_{nTw} not greater than 62 dB field measurement
Services	
Services adjacent to Habitable room	$R_w + C_{tr}$ 40
Services adjacent to Kitchen or Non-habitable room	$R_w + C_{tr}$ 25

Table 02 - Minimum BCA Acoustics Requirements

The Building Code of Australia does not address external wall construction.

4.2 Party Wall Construction

The BCA Vol.1 Part F5.5 (a)(i) requires walls that separate sole occupancy units to achieve $R_w + C_{tr}$ 50 performance. In addition if it separates a wet area (including kitchen) from a habitable area then the wall must be of discontinuous construction.

Based on our review of the proposed documentation, there are no party walls present in the development. Should this change then advice on constructions can be provided.

4.3 Public Wall Construction

The BCA Vol.1 Part F5.5 (a) (ii) requires walls to lobbies, corridors, stairs and lifts to achieve R_w 50 performance.

A 'Deemed-to-Satisfy' construction for these walls is 150mm brick with render both sides. An equivalent Alternative Solution construction suitable for these walls is:

- 13mm Render + 2mm plaster set
- 90mm Acoustic Maxi brick
- 50mm air space with normal ties
- 90mm Acoustic Maxi brick; face brick or render

If a plasterboard finish is desired then this is must be installed on an appropriate furring channel system to maintain the wall performance. Plasterboard sheeting in lieu of render is not permitted as this can downgrade the acoustic performance of the masonry.

A lightweight alternative to the above construction is 2 layers of 13mm fire rated plasterboard each side of a minimum 76mm stud frame with 75mm 14 kg fibreglass insulation.

4.4 Party Wall Flanking Construction

The separating requirements outlined in this section of the report must be maintained through the ceiling flanking path. This can be achieved by the construction of full height complying wall systems, or by the construction of an adequate ceiling system. Details of ceilings systems can be provided where required, however it is strongly recommended that full height walls are constructed around the full perimeter of all Sole-Occupancy Units.

4.5 Full Height Walls

The perimeter walls surrounding Sole-Occupancy Units, including external walls, must be extended and sealed to the underside of the slab or roof sheeting above. Where installing full height walls around roofing structure 2 sheets of 13mm fire rated plasterboard can be used on either side of the masonry wall, cut and sealed air tight around all structural members.

Where box gutters are in line with party walls the separating construction may be affected. To address this, a detail is typically required with two layers of fire rated plasterboard around the box gutter, maintaining the acoustic performance of the wall below. Details can be provided where required.

4.6 Flanking Sound Transmission via External Wall Construction

Where windows are located in close proximity to a party wall or a separating floor slab there is a potential for flanking sound transmission through the aluminium window sections. This can significantly reduce the performance of a separating construction. The general concern is in terms of both horizontal transmission via the cavity between adjoining apartments and also vertical transmission via the cavity to the units above or below.

Generally, where windows either side of the party wall are located less than 1.8 metres apart, the cavity must be closed with a construction to maintain the $R_w + C_{tr}$ 50 BCA requirement. This can be done by extending the party wall or floor slab out to sit flush with the external leaf of brickwork (with all required waterproofing installed where needed). Alternatively for vertical window separation heavy gauge flashing can be installed directly above and below windows in close proximity. This must extend out at least 1.2m each side of the windows in question.

4.7 External Walls

The acoustic performance of external walls are not covered by the BCA. They are required to provide reasonable acoustic sound reduction performance in order to adequately attenuate external noise. Normal brick cavity wall construction with 50mm cavity with normal wire ties is acceptable. Both 90mm and 110 mm bricks are acceptable.

4.8 Hydraulic Services in Walls

The BCA Specification F5.2,2,(e) requires that "Services must not be chased into concrete or masonry elements". We understand this to be the Party walls, single leaf Public walls, and floors separating Sole Occupancy units. We understand the term "chased" to be embedded or physically cut into the wall.

It is our understanding that there are no hydraulic services to be installed within party walls. Technically this is allowed, however any services can only be fixed to the same leaf of brickwork that it serves. It is also a requirement that minimum clearances are maintained, which if onto a habitable area may require a larger cavity size than currently allowed for (to allow for the pipework, the lagging, and the minimum clearances). Any fixings must be of a resilient nature to reduce noise transmission as much as possible.

All services located within ducts and risers should be mounted on to the least critical wall (i.e. the external wall or public wall, not the party wall) and be installed on resilient mounts e.g. Binder clips.

4.9 Plumbing Ducts and Hydraulic Services

The BCA requires that if a duct, soil, waste or water supply pipe, including a duct or pipe that is located in a wall or floor cavity whilst serving or passing through more than one sole occupancy unit, the duct or pipe must be separated from the rooms of and sole occupancy unit by construction achieving:

- $R_w + C_{tr}$ 40 if adjacent to habitable type spaces
- $R_w + C_{tr}$ 25 is adjacent to non-habitable type spaces

The above requirements also apply where storm water pipes pass through a sole occupancy unit.

4.9.1 Plumbing Duct to Habitable Areas $R_w + C_{tr}$ 40

As per Part F5.6(a)(i), the walls between the ducts and adjacent habitable spaces must achieve a minimum sound reduction of $R_w + C_{tr}$ 40. Our recommended approach to meet this requirement is as follows:

- Pipes wrapped with Pyrotek Soundlag 4525 + 90mm masonry and 13mm render.

Again, services must not be chased into concrete or masonry elements (as per Part F5.2(2)(e)).

4.9.2 Plumbing Duct to Non-Habitable Areas $R_w + C_{tr}$ 25

Any area of wall between a services duct and a non-habitable room such as a bathroom, laundry, store room etc. is required to be $R_w + C_{tr}$ 25. This can be achieved by 90mm masonry with 13mm render.

It should be noted however that whilst the above construction will meet this minimum requirement, the services in the some of the ducts may be required to be lagged in any case due to at least one of the duct walls being onto a habitable space (requiring both lagging and 90mm brick + render to achieve the required $R_w + C_{tr}$ 40 rating).

Further to this, where ducts are continuous down the building (i.e. the concrete slab does not close off the riser at each level), then the riser wall will need to consist of at least 90mm masonry with render in order to maintain the required $R_w + C_{tr}$ 50 rating for separating of SOU's.

4.9.3 Pipe clearances in Hydraulic Ducts

Plumbing ducts to be adequately sized to provide a 50mm clearance between the outer skin of the waste, soil or storm water pipe and the plumbing duct. Where pipes are required to be wrapped the clearance should be 50mm from the pipe or 20mm from the face of wrapping, whichever is the greater. The BCA requires a clearance of not less than 10mm for a water supply pipe.

It is our view that this required clearance is from the outer edge of the lagging to the inside of any rigid material, such as a stud or brick / plasterboard lining. However if fibreglass insulation is required within

the riser, then an equivalent space must be allowed for i.e. do not compress the fibreglass insulation between the lagging and an adjacent rigid lining.

4.9.4 Access Panels within Plumbing Ducts

Access panels must not open onto a habitable space i.e. they can only be installed within the ensuites or laundry's etc. of this project. The minimum required construction is as follows:

- The access panel to be firmly fixed so as to overlap the frame or rebate of the frame by not less than 10 mm, and be fitted with a sealing gasket along all edges.
- The access panel itself to be constructed of wood or particleboard not less than 33mm in thickness, or 9mm compressed fibre cement.

Note access panels to individual fan coil units do not specifically have any building code requirements, and are therefore recommended to at least maintain the performance of the ceiling surrounding it.

4.9.5 Soil, Waste and Stormwater Pipes within the Ceiling Space

Where a soil, waste, or stormwater pipe is located within the ceiling space, the following acoustic specification must be achieved:

- $R_w + C_{tr}$ 40 Pipes within ceiling space above habitable area
- $R_w + C_{tr}$ 25 Pipes within ceiling space above service/wet areas

Waste Pipes over Habitable Areas– $R_w + C_{tr}$ 40

Where waste pipes or stormwater pipes are located in ceiling voids over Habitable Areas:

- Wrap the pipe under the slab with foil faced 5 Kg/m^2 vinyl over 25mm acoustic foam; e.g. Pyrotek 4525.
- Locate ceilings at least 100mm below the underside of the unwrapped pipe to allow for lagging and ceiling insulation.
- Ceiling to be 13mm flush plasterboard with no penetrations and minimum 75mm fibreglass insulation over.

Given the concern for waste pipe noise intrusion into adjacent habitable areas it is recommended to avoid this where possible, particularly over bedrooms. Where this relocation is not possible, it is recommended to double wrap the pipes, with a second layer of plasterboard (i.e. 2 x 13mm plasterboard ceiling total) being installed within at least 2m of the waste pipe location.

Waste Pipes Over Wet Areas – $R_w + C_{tr}$ 25

Where waste pipes or stormwater pipes are located in ceiling voids over bathrooms and laundries:

- Wrap the pipe under the slab with foil faced 5 Kg/m2 vinyl over 25 acoustic foam. E.g. Pyrotek 4525, and
- Bathroom ceilings to be 13mm flush plasterboard as a minimum

  OR
- Locate ceilings at least 100mm below the underside of the unwrapped pipe.
- Bathrooms, ceilings to be a single layer 13mm plasterboard with 75mm fibreglass insulation over

With both of the above options it is required for:

- The bathroom perimeter walls to be extended to the underside of the slab
- Bathroom and toilet exhausts to be via lined cushion head and 900mm internally lined metal duct prior to converting to acoustic flexible duct. Alternatively, locate bathroom exhaust in a separate bulkhead,
- Access panel to be 13mm thick particleboard or 6 mm compressed fibre cement sheeting. Access panel to overlap rebate by not less than 10mm and be fitted with a sealing gasket along all edges.

If the walls cannot be taken full height around the bathroom then both acoustic lagging and insulation is required, on top of the 13mm plasterboard ceiling and barrier / access panel requirements. This is because the hydraulic services is technically located onto a ceiling space common with a habitable space.

4.10 Electrical Services in Walls

The BCA Specification F5.2 requires that electrical outlets must be offset from each other -

(a) in masonry walling, not less than 100m, and

(b) in timber or steel framed walling, not less than 300mm

4.11 Floor Construction of the Sole-Occupancy Units

The BCA Part F5.4(a) sets out the acoustic requirement for the floor of the apartments in terms of both airborne and structure-borne noise criteria. The requirements apply the floor construction between the upper and ground floor units. The requirements are:

- Airborne sound insulation rating $R_w + C_{tr}$ 50
- Impact sound insulation rating L'_{nTw} not greater than 62 dB

NOTE - Although the minimum BCA requirement is no greater than L'_{nTw} 62 dB, we suggest the developer consider a project criteria of no greater than L'_{nTw} 55 dB such that the impact noise control is likely closer to the owners and occupiers expectations.

4.11.1 Deemed-to-Satisfy Floor Constructions

The Deemed-to-Satisfy concrete floor constructions in the BCA that achieve both the airborne $R_w + C_{tr}$ 50 performance and the impact isolation L'_{nTw} not greater than 62 dB include:

- 200mm minimum concrete floors with carpeted on underlay, or
- Concrete floors at least 150mm thick with resilient suspended and insulated ceiling as per the following section.

No ceiling is required under concrete slabs greater than 200mm thick provided the floor is carpeted with underlay. However where a hard floor finish is installed, a resiliently suspended and insulated ceiling is generally required as per the following section, with the possible exception of floating timber or vinyl floors on a reputable underlay.

4.11.2 Resiliently Suspended Ceiling

The minimum construction for a resilient supported and insulated ceiling is:

- Minimum 150mm concrete slab,
- Furring channels suspended from concrete slab with resilient mounts, e.g. Rondo WHI rubber hanger isolators or similar approved,
- Minimum 65mm air gap with fibreglass insulation in cavity space,
- 13mm flush plasterboard ceilings

We do recommend that the ceiling cavity space is increased to at least 120mm if possible.

4.11.3 Floor Construction – Airborne Sound Isolation

Generally we assume the proposed floor slab is not less than 200mm concrete. This is a 'Deemed-To-Satisfy' construction for floors and meets the BCA requirement of $R_w + C_{tr}$ 50 performance.

Direct stick plasterboard or a plasterboard ceiling with small cavity of less than 50mm is not permitted. As noted previously, direct stick plasterboard to mass construction will result in a drop in the sound reduction performance of the floor. The minimum requirement for plasterboard lining of floor slabs is stated previously in Section 4.11.2.

4.11.4 Floor Construction – Impact Sound Insulation

Suitable constructions to meet the minimum impact noise isolation performance requirements of the BCA are set out below. If higher level of acoustic performance is required we must be informed such that details of upgraded constructions can be provided. It should be noted that this requirement extends to the stairwells internally within SOU's as well as the general living areas.

It is critical that if a hard floor finish is proposed to be installed, that a small gap is provided around the perimeter of the room between the flooring material and the surrounding walls. Previous testing has determined that if this gap is not provided then this may need to be cut out afterwards in order to maintain the acoustic performance of the flooring system.

It should be noted that based on our experience, hard floors with full adhesives beds (such as tiles or glued timber) are required to have an acoustic underlay as a bare minimum. As per below it is also strongly recommended that a resiliently suspended ceiling is installed below these areas. If this ceiling is not installed then it is critical that an impact test is undertaken on-site to ensure compliance with the minimum required performance of L'_{nTw} 62 is achieved.

Carpet Floor finish

A 200mm concrete floor with carpet over underlay fully meets the BCA requirements. A skim coat ceiling to underside of slab is acceptable.

Tile Floor finish

This floor construction requires tiles to be installed over an approved acoustic underlay, and a "Deemed-to-Satisfy" resiliently supported and insulated ceiling below the slab. Suitable acoustic underlays are Regupol Sonus Multi 4.5mm or Embelton 5mm Impacta-mat.

Glued Timber Floor

The requirements for timber floor finish where floors are adhered to the slab is similar to tiled floor as per above. This is in terms of approved acoustic underlay and a "Deemed-to-Satisfy" resiliently suspended and insulated ceiling construction below the slab. A suitable underlay is either the Regupol Sonus Multi 4.5mm underlay or equivalent, or a specific timber flooring system, such as a Sika Acoubond System consisting of a 5mm thick SikaLayer-05 slotted foam underlay and Sikabond-T53 adhesives

Floating Timber Floor

Floating timber floors provide improved acoustic impact isolation performance compared to fully adhered timber floors. A floating timber floor on Regupol 5512 or Dunlop Advantage3 acoustic underlay in combination with minimum 200mm concrete slab with skim coat ceiling will achieve the basic BCA minimum requirements in terms of impact noise.

It should be noted that floating timber floors are generally associated with higher levels of step noise within the apartment. However there is a direct relationship between higher "step noise" within the apartment, and reduced impact noise transmission to the floor below.

Vinyl Floor Finish

Vinyls or Tarket on Regupol underlay provide significant improved impact isolation performance compared to both timber and tiles on acoustic underlay. These materials should be considered for living type spaces such as kitchens. Site testing indicates that vinyl, Tarket or similar finishes glued to Regupol 4515 over a minimum 200mm concrete slab will provide adequate impact noise isolation to fully comply with the BCA requirements. Alternatively use a cushion backed vinyl with a minimum 15dB impact noise reduction as tested in an acoustic laboratory.

General Management of Hard Floor Surfaces

In our experience, a construction that achieves the no greater than L'_{nTw} 62 dB performance, as set out in the BCA, will still result in audible impact noise transmission. Management of impact noise on hard floor surfaces will still be required to reduce potential annoyance to other units. The major considerations are:

- Use of soft soled shoes inside apartments,
- Felt pads under all furniture

4.11.5 Floors over Carpark

The BCA Part F5.4(a)(ii) sets out acoustic requirements for floors separating a sole occupancy unit from parts of a different classification at $R_w + C_{tr}$ 50. A minimum 200mm concrete slab separating apartments from car park is therefore required as a minimum.

4.11.6 Balconies over Internal Areas

Any floor slab to balconies or public spaces located over habitable areas must be treated similar to the main floor slab in terms of thickness and requirements for impact noise control. For tiled floors this therefore requires the installation of Regupol 4515 4.5mm or Embelton 5mm Impacta-mat as well as a resiliently suspended ceiling below (as per Section 4.11.2 of this report).

Alternatively if these areas are proposed to be paved on pedestals, then the pedestals shall be installed on top of 15mm shearflex pads or acoustically equivalent.

Vertically stacked balconies (or balconies over other external areas) should still have acoustic adhesives considered for any tiling as a good practice measure (i.e. for diagonal impact control).

4.11.7 Pipes in Concrete Slabs

The BCA Specification F5.2,2,(e) requires that services must not be chased into concrete or masonry elements. We understand this to mean water supply and drainage pipes must not be embedded in concrete slabs.

4.12 Entrance Door to Sole-Occupancy Units

As per Clause F5.5(b) of the BCA, the entry doors to each sole-occupancy unit shall achieve a minimum sound reduction of R_w 30. This can be achieved by specifying 50mm solid core doors with full-perimeter heavy duty acoustic seals (e.g. Raven RP24 and RP38 seals). Door grilles are not permitted in these doors.

4.13 Inspection and Field Testing During Construction

4.13.1 Walls

The BCA places great importance in the 'on site' quality of the wall construction. The extension and sealing of all walls surrounding sole-occupancy units to the underside of the floor slab and particularly the roof should be inspected and signed off by the project architect.

All junctions in concrete / masonry walls must be fully sealed, inspected and signed off prior to ceilings being installed. Acoustic failure of a seal between precast walls or mortar joints can result in significant loss of acoustic performance.

Junctions of party walls and external walls and flanking sound transmission paths through windows and window frames must be inspected and signed off prior to building in. Acoustic failure at these locations can result in significant loss of acoustic performance.

The site acoustic tests during an early stage in the construction is recommended and will identify details of the construction that are reducing the overall performance of the wall. These can then be rectified in the early stages of the construction to ensure acoustic performance of the wall meets BCA Requirements.

4.13.2 Hydraulics

Installation of hydraulic services to be carefully inspected during construction. Issues requiring inspection include:

- Isolation of water supply pipes from party walls
- Adequacy of vibration isolation of pipes
- Extent and quality of acoustic wrapping/lagging
- Adequacy of plumbing duct construction

5. ARCHITECTURAL ACOUSTICS NOT GOVERNED BY THE BCA

Beyond the minimum BCA requirements set out in the previous section of this report, the following represents good acoustic practice and is strongly recommended to be considered. Without these recommendations included into the documentation the risk of complaints due to acoustic issues can be high.

5.1 Internal walls of Apartments

The walls within a Sole Occupancy Unit are not governed by the Building Code of Australia. However, internal partition construction can be rated on a 6 star quality rating as established by the Association of Australasian Acoustic Consultants (AAAC). The AAAC sets the following performance for bedroom walls within a tenancy

- 2 Star: DnTw + Ctr 25; equivalent to $R_w + C_{tr}$ 30.
- 3 Star: DnTw + Ctr 30; equivalent to $R_w + C_{tr}$ 35
- 4 Star: DnTw + Ctr 35; equivalent to $R_w + C_{tr}$ 40
- 5 Star: DnTw + Ctr 40; equivalent to $R_w + C_{tr}$ 45
- 6 star: DnTw + Ctr 45; equivalent to $R_w + C_{tr}$ 50

Details on recommended constructions can be provided if required.

The doors are the weak element within the wall system and will reduce the overall sound reduction of the separating system. Doors with no seal are expected to achieve R_w 17. Improved acoustic performance (R_w 28-30) can be achieved by installing 40mm solid core doors with Raven compression seals to head and jamb, and drop seals to door thresholds.

5.2 Entry Doors of Sole-Occupancy Units

Part F5.5(b) of the BCA requires a door that separates a sole occupancy unit from a stairway, public lobby, public corridor, or the like to achieve a minimum R_w 30 performance. However, it is our understanding that technically entry doors from an external environment do not have any acoustic requirements. Regardless, we recommend an R_w 30 door is specified as a minimum to all entry doors in any case.

5.3 Structure-Borne Noise Sources

Issues related to structure-borne noise are generally not covered in the BCA, but are a source of significant complaint in apartment projects. Structure-borne noise issues are therefore more related to the quality of acoustic performance as opposed to compliance with regulations.

5.3.1 Stairwells

Stairwells can be a significant source of structure-borne noise transmission within buildings. It is therefore recommended that consideration is given to the following construction techniques to help mitigate this:

- Stairs should be of mass construction, such as concrete floor slabs, to limit the noise generated by occupants landing on the individual steps when traversing up and particularly down the stairs.
- A small discontinuous 10mm gap should be provided between the concrete treads and the adjacent wall if it is common to a Sole-Occupancy Unit. The riser can then be supported solely on the floor slab and landing, with the discontinuous gap filled with resilient Abelflex Expansion Joint Filler.
- Handrails installed on the wall common to an SOU should be avoided where possible. We have previously received complaints regarding the noise handrails being used, particularly where peoples rings 'clang' on the handrail material. The best alternative is to provide hand rails that are mounted directly to the stair treads. If this is not desired then the following precautions should be taken:
  - Construct the separating wall with a discontinuous component
  - Mount handrails on the wall using resilient fixings, such as Rawlnut anchors
  - Avoid the use of hollow metal tubing. Timber or plastic is preferred
- If possible stairs should ideally be carpeted. If not possible and tiling is the preferred floor finish then this should be installed on an appropriate acoustic underlay, such as 4.5mm Regupol.

5.3.2 Doors

Slamming doors can be a significant source of structure-borne noise. It is recommended that all doors be fitted with soft rubber or preferably felt stoppers to ensure dampened impact. All external doors to be controlled by door closers to provide a soft closing action for the door.

The closing of cupboard doors is often audible in adjoining units. This is due in part to the low ambient sound levels in sleeping areas. Soft rubber or preferably felt stoppers can be used to minimise the annoyance associated with the closing of cupboard doors. The preferred option is to use soft closing hinges and soft closing drawers.

Similarly sliding roller doors for wardrobes can result in structure-borne noise intrusion to the adjoining units. Smooth action rollers and soft rubber bumpers are recommended to control noise emissions into adjoining units. In addition, the base track should be installed over a resilient mat and fixed with resilient fixings such as neoprene Rawlnuts.

5.3.3 Kitchen Benches

General kitchen activities such as chopping vegetables, placing of pots on benches etc. will result in impact noise transmitted through the floor or adjacent wall. Any benchtops provided should be isolated from the surrounding structure.

Any fixing of the cupboards to the floor or wall, if required, should be with neoprene Rawlnut fasteners and 5mm Impacta-mat washers / spacers. The bench top should be set clear from the wall; i.e. it must not touch the wall. The space between the bench top and wall tiles is to be filled with a flexible caulking compound.

It is our recommendation that the acoustic underlay or the cushion backed vinyl is continued underneath any cabinetry provided. Alternatively where acoustic underlay if not required (i.e. ground floor apartments), this can be replaced by Embelton 5mm Impacta-Mat pads.

5.3.4 Toilet Pans

Because of the low background noise levels being present in many units, particularly at night, we are aware of occupier concerns regarding structure-borne noise transmission from toilets to adjoining units. This can be addressed by resiliently fixing both the toilet pan and cistern and using low noise toilet cisterns. This is a particular concern for toilets locate above or adjacent to bedrooms.

Generally the toilets should be installed above the floor system and are therefore isolated by the acoustic underlay provided below the tiled flooring. The toilet pans should be fixed to the concrete floor with neoprene Rawlnut fixings. Consideration should also be given to fixing toilet pans with silicone in accordance with manufacturer's instructions.

5.3.5 Clothes Dryers and Washing Machines

Laundry machines hung on the wall can cause significant structure-borne noise transmission to neighbouring units. The preferred option is for driers etc. to be self-supporting (e.g. on the floor, on top of floor mounted cabinetry, or on top of front loading washing machines). If driers must be supported on a wall, then they should be resiliently supported via a wall bracket with neoprene "Rawlnuts Multi-Purpose Fixings" with neoprene washer made from Mackay M164. The plastic wall stubs fixed to the bottom edge of the drier to keep it off the wall are to be replaced with Embelton Stud Mounting Type SMW-1.

5.3.6 Security Gate

Noise intrusion from security gates can be a concerning noise source in multi-unit developments. There does not appear to be any security gates proposed for the development. Should this change then we recommend this is a swing or sliding mechanism type, with adequate vibration isolation from the surrounding structure provided.

5.4 Rain Noise

Typically we would recommend a construction on the upper floor of Anticon insulation compressed between the roof purlins and the roof sheeting. This dampening effect, in combination with the acoustic barrier of the ceiling, provides rain noise control that has been deemed adequate on previous similar projects.

6. MECHANICAL ACOUSTICS

6.1 Noise Emission from Condensing Units

As discussed in Section 2 of this report, noise emissions from any external condensing units must comply with the Environmental Protection (Noise) Regulation 1997.

6.2 Noise from Fan Coil Units

The noise emissions from above ceiling ducted fan coil units (FCU's) or surface mounted FCU's should comply with the Design Sound Levels established within Australian Standard AS/NZS 2107:2016 *"Acoustics - Recommended Design Sound Levels and Reverberation Times for Building Interiors"*:

	Recommended Ambient Design Sound Level Range	
Type of Space	*Lower*	*Upper*
Living Areas	40 dB(A)	45 dB(A)
Sleeping Areas	35 dB(A)	40 dB(A)
Common Areas	40 dB(A)	45 dB(A)

Table 03 - AS 2107 Recommended Internal Noise Levels

The mechanical engineer shall ensure that the above criteria is achieved from any internal mechanical systems.

6.3 Kitchen and Bathroom Exhausts

6.3.1 External Noise Emissions

Kitchen and bathroom exhausts are to be designed and installed to ensure compliance with the Environmental Protection (Noise) Regulations 1997. As these exhaust fans can be turned on at any time of the day, they must be designed to achieve the night time Assigned Noise Level of 41 dB(A) at the neighbouring receiver locations.

6.3.2 Noise Reduction through the Floor Ceiling System

The bathroom ceilings form an integral part of the overall acoustic performance of the floor / ceiling system, designed to control airborne and impact noise transmission from above as well as noise breakout from waste pipes located in the ceiling. The performance of these systems has been designed to meet the minimum requirement of the BCA. Care must therefore be taken to ensure the designed acoustic performance is not downgraded by mechanical penetrations of the ceiling.

Exhaust ducts located in ceilings are required to be designed so as not to downgrade the acoustic isolation of the ceiling system. Bathroom and toilet exhausts to be via lined cushion head. Cushion head should not be in contact with or attached to the underside of the slab. Flexible acoustic ducts should be wrapped with 4kg/m^2 loaded vinyl for a distance of 1.5 metres from waste pipes. Alternatively use internally insulated metal ducts.

6.3.3 Toilet Exhaust Ducting Within The Building

Bathroom exhaust fans must be located within bathroom ceiling and be resiliently suspended from the slab using approved double deflection neoprene or spring mounts. Use quiet in-line fan systems e.g. the "TD Silence" range of mixed flow fans available from Fantech.

6.3.4 Mounting of Exhaust Fans

All exhaust fans suspended from the floor slab or roofing structure above must be resiliently suspended using approved double deflection neoprene or spring mounts.

7. HYDRAULIC ACOUSTICS

7.1 Hydraulic Layout

The noise associated with soil, waste, and water supply pipes located in the ceiling void of the apartments is a significant source of annoyance. To minimise the number of pipes located in ceilings that require acoustic treatment, we recommend that pipes, as far as is practicable, be connected to soil or waste stacks in plumbing ducts above the floor slab. Design issues that can be considered include:

- Locate toilets backing onto plumbing ducts so that the P trap runs straight into the soil stack above the concrete slab. Alternatively the pipe can run horizontally above the slab in a cupboard to a vertical stack.
- Waste lines from sinks and basins can enter the plumbing stack via the cupboards; i.e. do not penetrate the floor system.
- For kitchen sinks, resiliently support the waste pipes above the slab in the toe rail of the cupboards and drain horizontally to the nearest plumbing duct.
- Minimise length of run from floor waste to plumbing duct within the ceiling below.
- Locate waste pipes in ceiling spaces at the perimeter of the space to allow for adequate acoustic control of mechanical exhaust fan and duct systems
- Waste and stormwater stacks should not change direction above habitable rooms
- Basins to drain direct to stack rather than to floor waste trap. Where wet areas are located over habitable areas, basins shall not drain to floor waste trap.

7.2 General Hydraulic Recommendations

7.2.1 Water Supply Pressure

It is important that domestic hot and cold water is not supplied at excessive pressure. This results in excessive noise being generated at taps, shower mixing valves and toilet valves. The water should be supplied at the minimum pressure to provide satisfactory flow of water to basins etc.

Typically pressures of <350Kpa are recommended for acoustic purposes. We note that main risers are often at slightly higher pressures, and this is acceptable where the pipes is enclosed in a plumbing duct.

7.2.2 Water Supply Pipe Velocities

The design objective for hot and cold water velocities in pipework within walls is 1.2m/sec, but should not exceed 1.5m/sec. General reticulation pipework up to 50mm in diameter to not exceed 1.5m/sec

7.2.3 Pipe Fixings

All reticulation pipework within the building particularly in plumbing ducts, and suspended ceilings contiguous to habitable rooms and public spaces, should be installed so that it is neither in contact with nor rigidly fastened to structural or architectural elements of the building.

All pipework including hot and cold water reticulation shall be properly supported by resilient pipe hangers e.g. Binder clips. Alternatively for smaller diameter pipes, use 13mm closed cell nitrile rubber between pipe and clamp.

Cross braced polyethylene pipes to be resiliently fixed and provide minimum 10mm gap between pipe connectors and mounting surface.

Reticulation pipework in vertical plumbing ducts should be connected to the wall on the service side of the plumbing duct. Pipes must not be in contact with the wall on the habitable side of the duct. If required wrap pipework in a closed cell nitrile rubber, e.g. Bradflex

7.2.4 Penetrations

All pipework penetrating building walls shall be installed so that there is no direct contact between pipes and the surrounding structure. The preferred construction is to install pipes in steel pipe sleeves with 10 to 15 mm fibreglass packing between the pipe and the sleeve to minimise transmission of hydraulic vibration from the pipe into the structure. Alternatively cut a clean round hole 30mm greater than the pipe and pack with fibreglass insulation

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7.2.5 Bends

Use radial bends in preference to 90° elbows.

7.2.6 Toilet Cisterns

All cisterns to be fitted with quiet fill valve systems. The cisterns are to be fixed to the wall with neoprene Rawlnut fixings. Use 6mm neoprene washers to isolate the cistern from the wall.

7.2.7 Taps

All taps used on this project shall be selected on the basis of providing quiet operation and shall have soft closing action. Alternatively in line shock absorbers may be required to control water hammer.

7.2.8 Flusher Valves

Flusher Valves shall not be used in this project unless noise specification for the valves has been approved by the acoustic consultant

7.2.9 Electrically Operated Devices

Flexible connections to control transfer of machinery noise should be fitted to all water supply and drain pipes serving washing machines and dishwashers etc. Select equipment with gentle valve action to control impulse noise transmission via hydraulic system. Alternatively an inline shock absorber can be installed. e.g. Hydra-Rester or Dorf silencer.

8. ELECTRICAL ACOUSTICS

8.1 Services in Party Wall

The BCA Specification F5.2 requires that electrical outlets must be offset from each other -

(c) in masonry walling, not less than 100m, and

(d) in timber or steel framed walling, not less than 300mm

8.2 Recessed Light Fittings

Acoustic/Fire rated recessed light fittings are strongly recommended for the units. However, in some cases acoustic rated light fittings will be required to satisfy Part F5 of the BCA.

8.3 Penetrations

Any penetrations for electrical services through acoustically critical walls or floors must not downgrade the acoustic performance of the partition. Generally the openings shall be packed tight with fibre insulation and sealed on both sides of the wall with flexible sealant.

8.4 Smoke Detection & Alarm Systems

The BCA establishes acoustic requirements in terms of the minimum sound levels for Building Occupant Warning Systems. Smoke Alarm and Detection Systems are to be designed such that warning systems comply with the specific acoustic requirements as set out BCA Specification E2.2a "Smoke Detection and Alarm Systems" Clause 6. The sound level of the emergency signal shall be tested in accordance with commissioning requirements set out in AS 1670-1. Report of results shall be forwarded to the Superintendent.

9. OVERVIEW

This report identifies the construction required to meet the statutory requirements to address The BCA requirements, as well as further acoustic recommendations for the project. Architects and Engineers are to ensure that these acoustic requirements are incorporated into their documentation.

If you have any further queries regarding any of the information contained in this report, please call the undersigned on 9474 5966.

Regards,

Michael Ferguson
Associate Director *B.IntArch(Hons) M.A.A.S.*

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ATTACHMENTS

- APPENDIX A - Legend for Marked-up Floor Plans
- APPENDIX B - Sealing of Full Height Walls
- APPENDIX C - Marked-up Floor Plans (x3)

APPENDIX A

LEGEND FOR ACOUSTIC MARK-UPS

Public Wall - R_w 50 minimum wall construction - **Required** - Cavity masonry walls

Services Shaft Wall - $R_w + C_{tr}$ 40 minimum - **Required** - Detailed as per Section 4.9.1 of this report

Services Shaft Wall - $R_w + C_{tr}$ 25 minimum - **Required** - Detailed as per Section 4.9.2 of this report

Solid Core Door with Full Perimeter Acoustic Seals - **Required**

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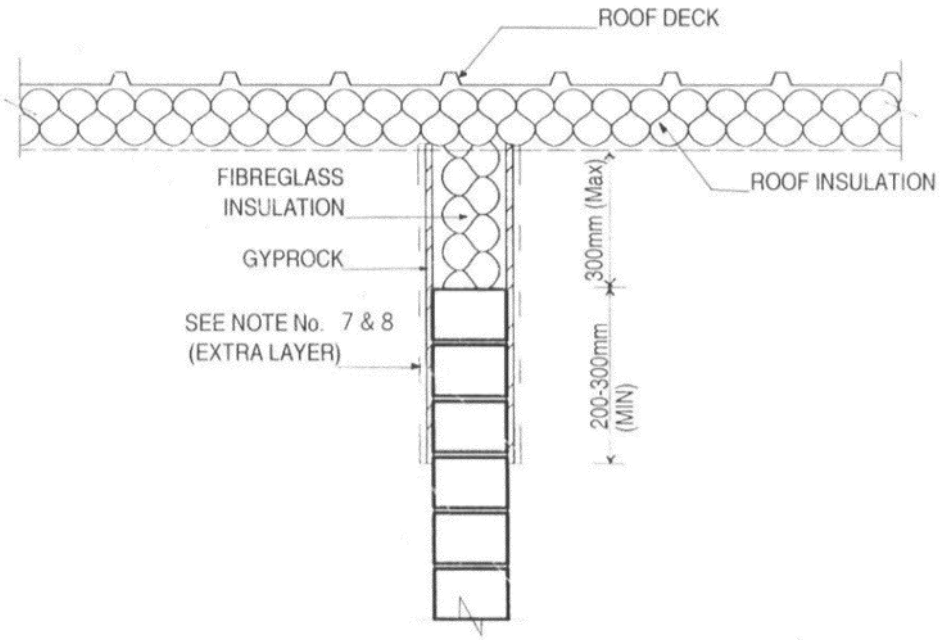
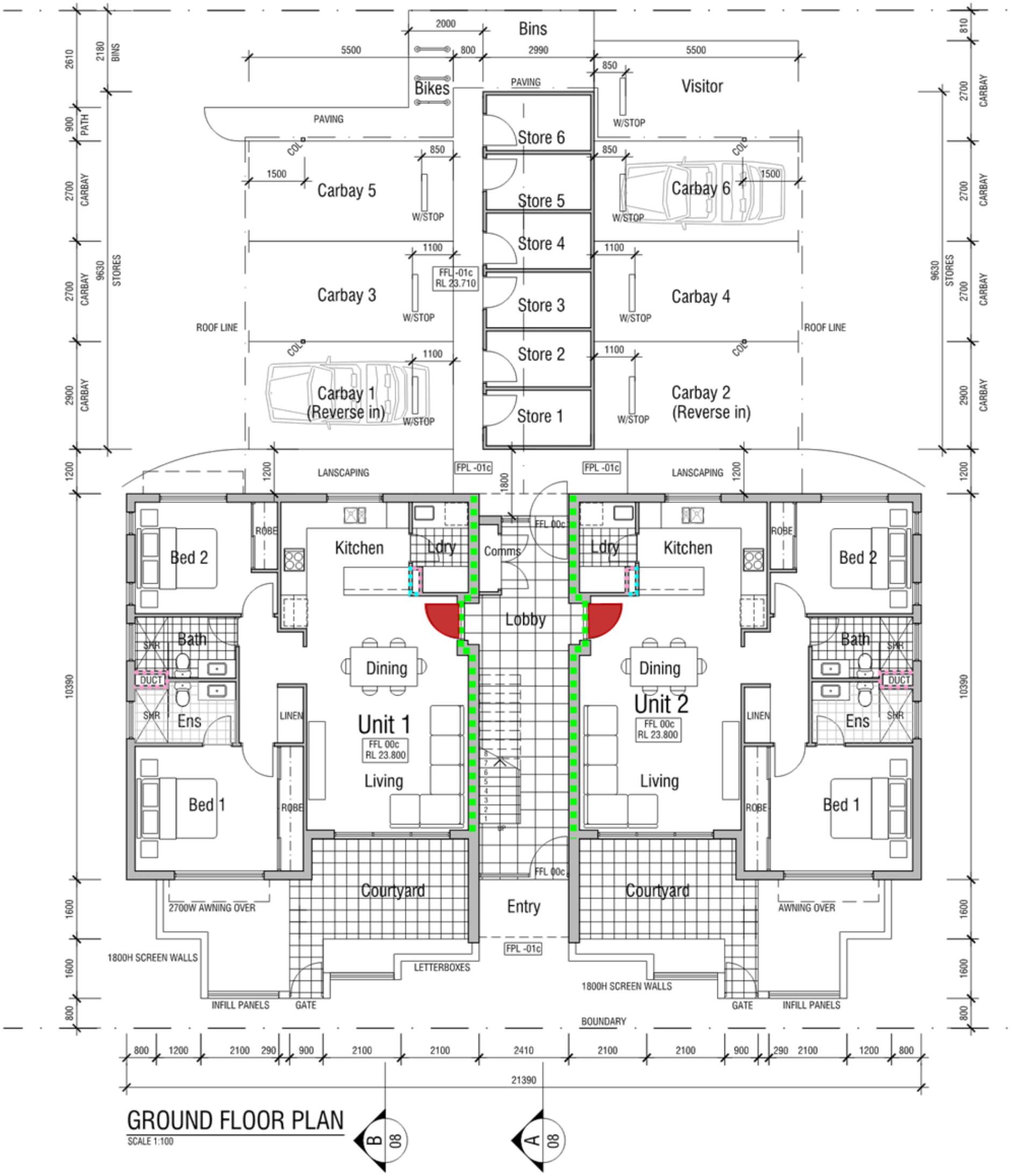
SEALING OF WALLS TO UNDERSIDE OF ROOF

SCHEMATIC SECTION (N.T.S)



Notes:

1. Concrete or Masonry Walls to be extended to within 100 mm of the underside of purlins or 300 mm of the underside of the roof sheeting – whichever is smaller.
2. All masonry walls above the ceiling are to be bag finished to ensure all bed and perpend joints are fully filled and sealed.
3. Plasterboard to be fixed to walls with a continuous bead of cornice cement along the bottom edge of the Plasterboard, and with 50 mm daubs at 450 mm centres at the top of the wall.
4. Plasterboard sheets to be pushed tight into the insulation blanket under roofing, or fully sealed to exposed roof sheeting.
5. Plasterboard sheets to be neatly cut and sealed in and around purlins, rafters or any other penetrations. All joints to be flush jointed.
6. For 110 mm masonry walls use single 13 mm thick plasterboard on either side of the wall.
7. For double leaf or cavity masonry use double layer 13 mm plasterboard on both sides of the wall. Each layer of plasterboard to be flush jointed, and all joints must be staggered.
8. For any "Party Wall" in an Apartment Project use double layer 13 mm fire rated plasterboard on both sides of the wall. Each layer of plasterboard to be flush jointed, and all joints must be staggered. (Normal fire rating requirements must not be compromised).
9. Fill cavity between plasterboard sheets with 10 to 14 kg/m^3 fibre insulation.



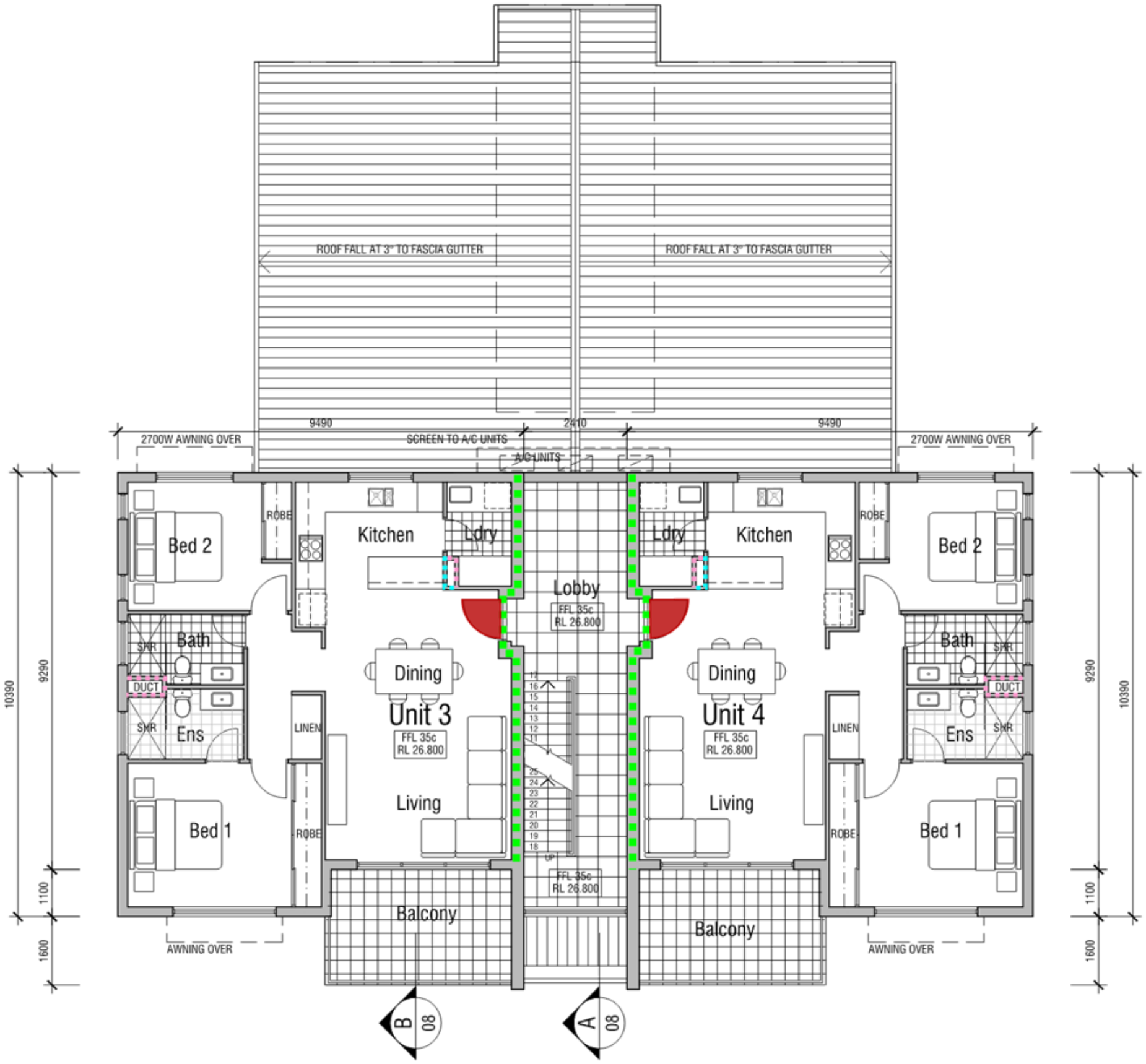
GROUND FLOOR PLAN

SCALE 1:100

B 08

A 08

LOUD Design&Build	Proposed 6 multiple dwellings, Lots 1 & 2 of Lot 5, Thelma Street,Como for Scutti		drawing: GROUND FLOOR PLAN	
			drawn: jp	dwg. no: DA.03 / rev: B
			date: April. 2024	
	B	18.06.24 ISSUED FOR DA	scale: 1:100 @ A3	
	A	17.05.24 ISSUED FOR DPR		



FIRST FLOOR PLAN

SCALE 1:100

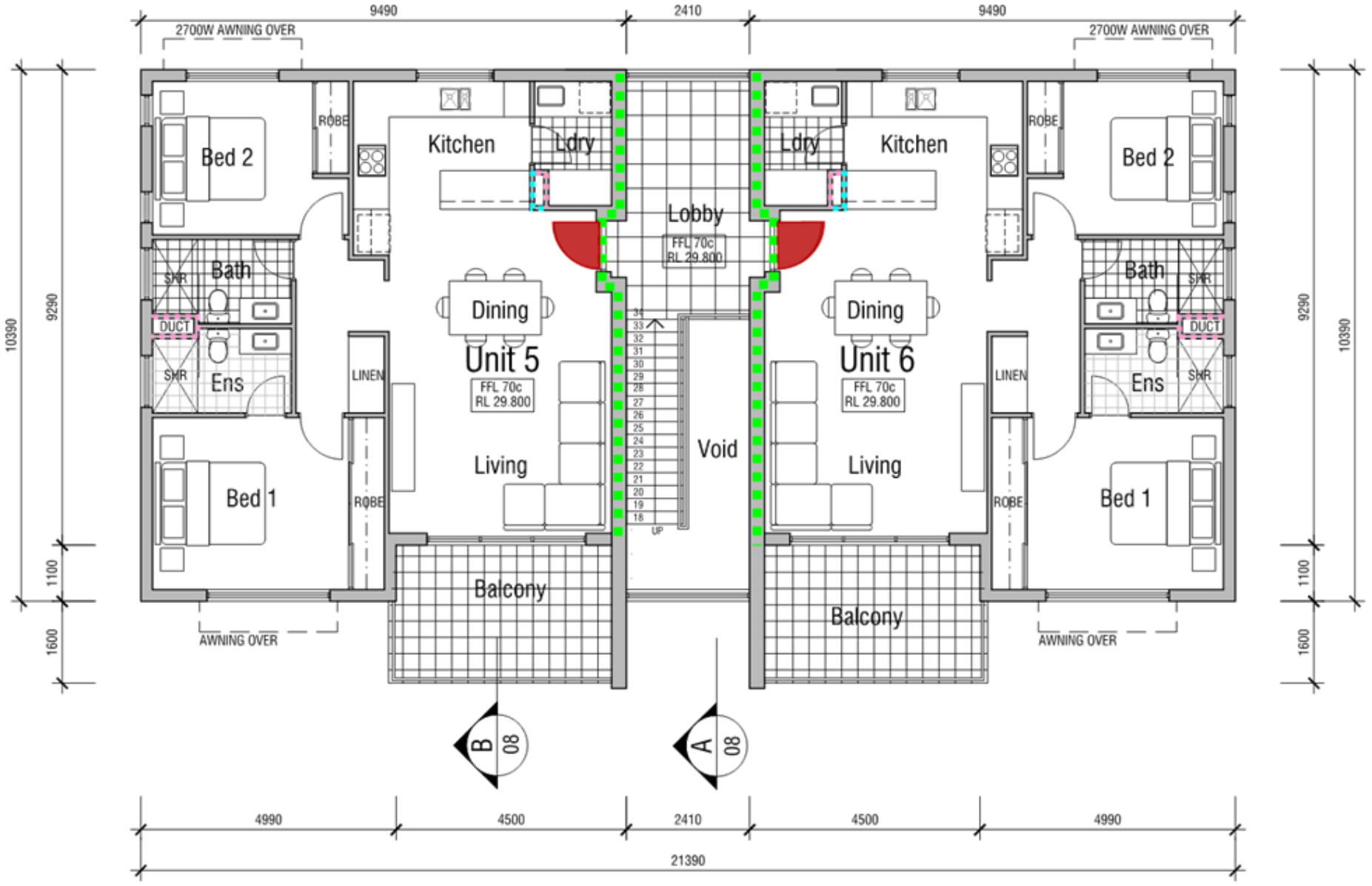
N

LOUD Design&Build

Proposed 6 multiple dwellings,
Lots 1 & 2 of Lot 5,
Thelma Street,Como
for Scutti

B	18.06.24	ISSUED FOR DA
A	17.05.24	ISSUED FOR DPR

drawing: FIRST FLOOR PLAN
drawn: jp
date: April. 2024
scale: 1:100 @ A3
dwg. no: DA.04
rev: B



SECOND FLOOR PLAN

SCALE 1:100

N

LOUD Design&Build	Proposed 6 multiple dwellings, Lots 1 & 2 of Lot 5, Thelma Street,Como for Scutti			drawing: SECOND FLOOR PLAN	
				drawn: jp	dwg. no: DA.05 / rev: B
				date: April. 2024	
		B	18.06.24	ISSUED FOR DA	scale: 1:100 @ A3
		A	17.05.24	ISSUED FOR DPR	

APPENDIX 5

NATHERS REPORT

modus compliance pty ltd

NatHERS Report

DALCORP ADVISORY

Lot 1, 2, 5 #32A and B Thelma Street, Como WA 6152

MODUS Ref: C24-0409

Unit 13
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Date:

27 June 2024

Revision No:	Date:	By:	Checked:
1	3/07/24	DB	KVT

KMART NATIONAL SUPPLIER OF THE YEAR; Cost Savings 2015

2013 INDUSTRY AWARD
AIBS Australian Institute of Building Surveyors

Modus Compliance Pty Ltd
ABN 86 144 967 920
ACN 144 967 920

Nationwide House Energy Rating Scheme — Class 2 Summary
NatHERS Certificate No. #HR-MEGH3W-01

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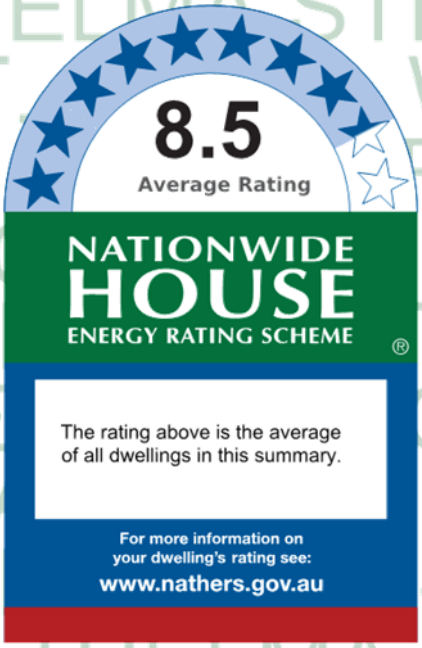
Property

Address Thelma Street, Como, WA, 6152

Lot/DP

NatHERS climate zone 13 - Perth Airport



Accredited assessor

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Accreditation No. 10229

Assessor Accrediting Organisation HERA

Verification

To verify this certificate, scan the QR code or visit http://www.hero-software.com.au/pdf/HR-MEGH3W-01. When using either link, ensure you are visiting http://www.hero-software.com.au

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m²)	Cooling load (MJ/m²)	Total load (MJ/m²)	Star rating
HR-6UQOLS-01	Unit 01	19.6 (70)	4.6 (57)	24.2	8.6
HR-0CUYJU-01	Unit 02	21.9 (70)	4.6 (57)	26.5	8.4
HR-Q7VBZ1-01	Unit 03	11.6 (70)	10.3 (57)	22.0	8.7
HR-FSZLRX-01	Unit 04	11.4 (70)	9.6 (57)	21.0	8.8

National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at www.abcb.gov.au.

State and territory variations and additions to the NCC may also apply

#HR-MEGH3W-01 NatHERS Certificate **8.5 Average Star Rating** as of 03 Jul 2024

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m²)	Cooling load (MJ/m²)	Total load (MJ/m²)	Star rating
HR-TNS8EP-01	Unit 05	12.5 (70)	16.9 (57)	29.3	8.3
HR-2BPGQY-01	Unit 06	12.2 (70)	14.9 (57)	27.1	8.4
Average	6x (Total)	14.9	10.2	25.0	8.5

Explanatory Notes

About this report

This summary rating is the average rating of all NCC Class 2 dwellings in a development. The individual dwellings' ratings are a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate the energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances, or energy production of solar panels. For more details about an individual dwelling's assessment, refer to the individual dwelling's NatHERS Certificate (accessible via link).

Accredited Assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO). AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country.

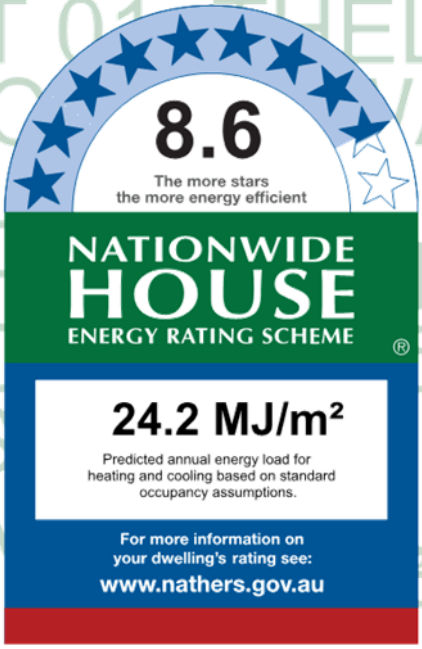
Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content, input and creation of the NatHERS Certificate is by the assessor. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. #HR-6UQOLS-01

Generated on 03 Jul 2024 using Hero 4.0 (Chenath v3.21)



Property

Address	Unit 01, Thelma Street, Como, WA, 6152
Lot/DP	
NCC Class*	2
Type	New

Plans

Main Plan	April 2024
Prepared by	Loud Design & Build

Construction and environment

Assessed floor area (m²)*		**Exposure Type**	
Conditioned*	76.7	Suburban	
Unconditioned*	4.5	**NatHERS climate zone**	
Total	81.2	13 - Perth Airport	
Garage	0.0		

Thermal Performance

Heating	Cooling
19.6 MJ/m²	4.6 MJ/m²

Accredited assessor

Name	David Barham
Business name	Sustainaspace Pty Ltd
Email	info@sustainaspace.com.au
Phone	+61 400754762
Accreditation No.	10229
Assessor Accrediting Organisation	HERA
Declaration of interest	No Conflict of Interest

About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

Verification

To verify this certificate, scan the QR code or visit http://www.hero-software.com.au/pdf/HR-6UQOLS-01. When using either link, ensure you are visiting http://www.hero-software.com.au

National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at www.abcb.gov.au.

State and territory variations and additions to the NCC may also apply.

* Refer to glossary.

#HR-6UQOLS-01 NatHERS Certificate **8.6 Star Rating** as of 03 Jul 2024

Certificate Check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

Ceiling penetrations*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

Provisional* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
ALM-001-01 A	Aluminium A SG Clear	6.70	0.57	0.54	0.60
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bath	ALM-001-01 A	W07	514	1010	Awning	90	W	None

* Refer to glossary.

#HR-6UQOLS-01 NatHERS Certificate **8.6 Star Rating** as of 03 Jul 2024

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bed 1	ALM-002-01 A	W01	1543	2410	Sliding	30	S	None
Bedroom 2	ALM-002-01 A	W04	1543	1810	Sliding	45	N	None
Bedroom 2	ALM-001-01 A	W05	514	600	Awning	90	W	None
Bedroom 2	ALM-001-01 A	W06	514	600	Awning	90	W	None
Ensuite	ALM-001-01 A	W08	514	1010	Awning	90	W	None
Kitchen/Living	ALM-002-01 A	W03	772	1510	Sliding	45	N	None
Kitchen/Living	ALM-002-01 A	W02	2400	3110	Sliding Door	60	S	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

* Refer to glossary.

#HR-6UQOLS-01 NatHERS Certificate **8.6 Star Rating** as of 03 Jul 2024

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation

None

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
BRICK-90-90-R-Ins	Cavity Brick Wall - 90mm/90mm Rendered Internally - 1.8	0.50	Medium	0.00	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bath	BRICK-90-90-R-Ins	2740	1651	W		Yes
Bed 1	BRICK-90-90-R-Ins	2740	4529	S	574	Yes
Bed 1	BRICK-90-90-R-Ins	2740	3356	W		Yes
Bed 1	BRICK-90-90-R-Ins	2740	1100	E	4180	Yes
Bedroom 2	BRICK-90-90-R-Ins	2740	3831	N	9569	Yes
Bedroom 2	BRICK-90-90-R-Ins	2740	3001	W		Yes
Ensuite	BRICK-90-90-R-Ins	2740	1647	W		Yes
Kitchen/Living	BRICK-90-90-R-Ins	2740	3450	N	9569	Yes
Kitchen/Living	BRICK-90-90-R-Ins	2740	4352	S	2671	Yes
Laundry	BRICK-90-90-R-Ins	2740	1503	N	9569	Yes
Laundry	BRICK-90-90-R-Ins	2740	383	E		Yes

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
BRICK-90-90-R-Ins	Cavity Brick Wall - 90mm/90mm Rendered Internally - 1.8	13.5	0.00
CAV-BRICK-90-90-EXP	Cavity Brick Wall - 90mm/90mm Exposed	8.9	0.00
SGL-BRICK-REND	Single 90mm Brick Wall - Rendered Both Sides	66.4	0.00

* Refer to glossary.

#HR-6UQOLS-01 NatHERS Certificate **8.6 Star Rating** as of 03 Jul 2024

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bath	CSOG-100: Concrete Slab on Ground (100mm)	4.5	N/A	0.00	Tile (8mm)
Bed 1	CSOG-100: Concrete Slab on Ground (100mm)	15.2	N/A	0.00	Carpet
Bedroom 2	CSOG-100: Concrete Slab on Ground (100mm)	11.5	N/A	0.00	Carpet
Ensuite	CSOG-100: Concrete Slab on Ground (100mm)	4.5	N/A	0.00	Tile (8mm)
Kitchen/Living	CSOG-100: Concrete Slab on Ground (100mm)	36.3	N/A	0.00	Tile (8mm)
Laundry	CSOG-100: Concrete Slab on Ground (100mm)	3.7	N/A	0.00	Tile (8mm)
Passage	CSOG-100: Concrete Slab on Ground (100mm)	5.6	N/A	0.00	Carpet

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
None			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bath	1	Exhaust Fan	350	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Laundry	1	Downlight	200	Sealed
Laundry	1	Exhaust Fan	350	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
None			

* Refer to glossary.

Explanatory Notes

About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsements can be confirmed on the ACT licensing register

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

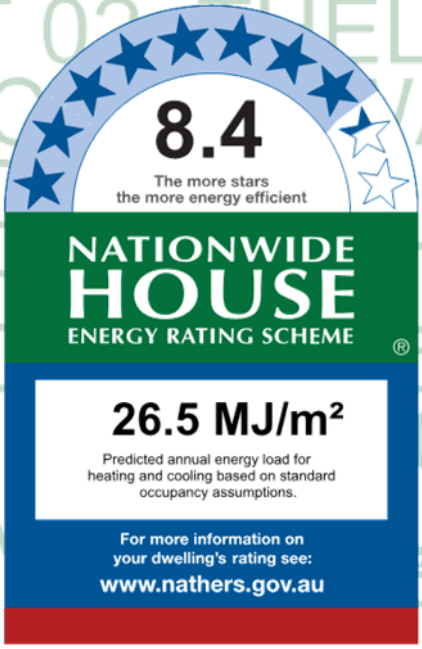
Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category - protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. #HR-0CUYJU-01

Generated on 03 Jul 2024 using Hero 4.0 (Chenath v3.21)



Property

Address	Unit 02, Thelma Street, Como, WA, 6152
Lot/DP	
NCC Class*	2
Type	New

Plans

Main Plan	April 2024
Prepared by	Loud Design & Build

Construction and environment

Assessed floor area (m²)*		**Exposure Type**	
Conditioned*	76.7	Suburban	
Unconditioned*	4.5	**NatHERS climate zone**	
Total	81.2	13 - Perth Airport	
Garage	0.0		

Thermal Performance

Heating	Cooling
21.9 MJ/m²	4.6 MJ/m²

Accredited assessor

Name	David Barham
Business name	Sustainaspace Pty Ltd
Email	info@sustainaspace.com.au
Phone	+61 400754762
Accreditation No.	10229
Assessor Accrediting Organisation	HERA
Declaration of interest	No Conflict of Interest

About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

Verification

To verify this certificate, scan the QR code or visit http://www.hero-software.com.au/pdf/HR-0CUYJU-01. When using either link, ensure you are visiting http://www.hero-software.com.au

National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at www.abcb.gov.au.

State and territory variations and additions to the NCC may also apply.

* Refer to glossary.

#HR-0CUYJU-01 NatHERS Certificate **8.4 Star Rating** as of 03 Jul 2024

Certificate Check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

Ceiling penetrations*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

Provisional* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
ALM-001-01 A	Aluminium A SG Clear	6.70	0.57	0.54	0.60
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bath	ALM-001-01 A	W04	514	1010	Awning	90	E	None

* Refer to glossary.

#HR-0CUYJU-01 NatHERS Certificate **8.4 Star Rating** as of 03 Jul 2024

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 1	ALM-002-01 A	W02	1543	2410	Sliding	30	S	None
Bedroom 2	ALM-002-01 A	W07	1543	1810	Sliding	45	N	None
Bedroom 2	ALM-001-01 A	W05	514	600	Awning	90	E	None
Bedroom 2	ALM-001-01 A	W06	514	600	Awning	90	E	None
Ensuite	ALM-001-01 A	W03	514	1010	Awning	90	E	None
Kitchen/Living	ALM-002-01 A	W08	772	1510	Sliding	45	N	None
Kitchen/Living	ALM-002-01 A	W01	2400	3110	Sliding Door	60	S	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

* Refer to glossary.

#HR-0CUYJU-01 NatHERS Certificate **8.4 Star Rating** as of 03 Jul 2024

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation

None

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
BRICK-90-90-R-Ins	Cavity Brick Wall - 90mm/90mm Rendered Internally - 1.8	0.50	Medium	0.00	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bath	BRICK-90-90-R-Ins	2740	1651	E		Yes
Bedroom 1	BRICK-90-90-R-Ins	2740	3356	E		Yes
Bedroom 1	BRICK-90-90-R-Ins	2740	4529	S	587	Yes
Bedroom 1	BRICK-90-90-R-Ins	2740	1100	W	4180	Yes
Bedroom 2	BRICK-90-90-R-Ins	2740	3831	N	9562	Yes
Bedroom 2	BRICK-90-90-R-Ins	2740	3001	E		Yes
Ensuite	BRICK-90-90-R-Ins	2740	1647	E		Yes
Kitchen/Living	BRICK-90-90-R-Ins	2740	3450	N	9562	Yes
Kitchen/Living	BRICK-90-90-R-Ins	2740	4352	S	2667	Yes
Laundry	BRICK-90-90-R-Ins	2740	1511	N	9562	Yes
Laundry	BRICK-90-90-R-Ins	2740	322	W		Yes

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
BRICK-90-90-R-Ins	Cavity Brick Wall - 90mm/90mm Rendered Internally - 1.8	0.8	0.00
CAV-BRICK-90-90-EXP	Cavity Brick Wall - 90mm/90mm Exposed	22.3	0.00
SGL-BRICK-REND	Single 90mm Brick Wall - Rendered Both Sides	67.2	0.00

* Refer to glossary.

#HR-0CUYJU-01 NatHERS Certificate **8.4 Star Rating** as of 03 Jul 2024

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bath	CSOG-100: Concrete Slab on Ground (100mm)	4.5	N/A	0.00	Tile (8mm)
Bedroom 1	CSOG-100: Concrete Slab on Ground (100mm)	15.2	N/A	0.00	Carpet
Bedroom 2	CSOG-100: Concrete Slab on Ground (100mm)	11.5	N/A	0.00	Carpet
Ensuite	CSOG-100: Concrete Slab on Ground (100mm)	4.5	N/A	0.00	Tile (8mm)
Kitchen/Living	CSOG-100: Concrete Slab on Ground (100mm)	36.3	N/A	0.00	Tile (8mm)
Laundry	CSOG-100: Concrete Slab on Ground (100mm)	3.7	N/A	0.00	Tile (8mm)
Passage	CSOG-100: Concrete Slab on Ground (100mm)	5.6	N/A	0.00	Carpet

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
None			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bath	1	Exhaust Fan	350	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Laundry	1	Downlight	200	Sealed
Laundry	1	Exhaust Fan	350	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
None			

* Refer to glossary.

#HR-0CUYJU-01 NatHERS Certificate **8.4 Star Rating** as of 03 Jul 2024

Explanatory Notes

About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsements can be confirmed on the ACT licensing register

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

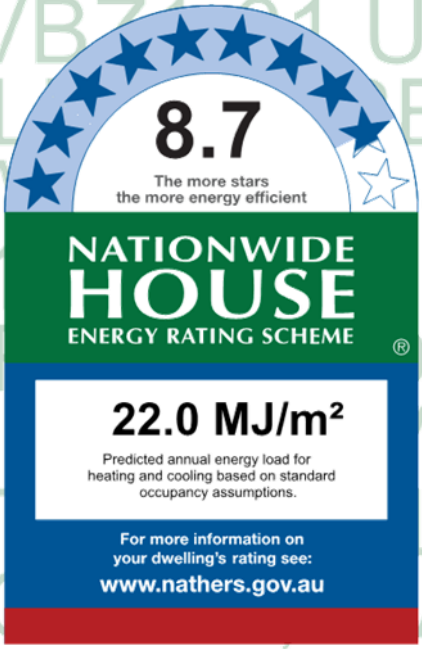
Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category - protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. #HR-Q7VBZ1-01

Generated on 03 Jul 2024 using Hero 4.0 (Chenath v3.21)



Property

Address	Unit 03 , Thelma Street, Como, WA, 6152
Lot/DP	
NCC Class*	2
Type	New

Plans

Main Plan	April 2024
Prepared by	Loud Design & Build

Construction and environment

Assessed floor area (m²)*		**Exposure Type**	
Conditioned*	76.7	Suburban	
Unconditioned*	4.5	**NatHERS climate zone**	
Total	81.2	13 - Perth Airport	
Garage	0.0		

Thermal Performance

Heating	Cooling
11.6 MJ/m²	10.3 MJ/m²

Accredited assessor

Name	David Barham
Business name	Sustainaspace Pty Ltd
Email	info@sustainaspace.com.au
Phone	+61 400754762
Accreditation No.	10229
Assessor Accrediting Organisation	HERA
Declaration of interest	No Conflict of Interest

About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

Verification

To verify this certificate, scan the QR code or visit http://www.hero-software.com.au/pdf/HR-Q7VBZ1-01. When using either link, ensure you are visiting http://www.hero-software.com.au

National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at www.abcb.gov.au.

State and territory variations and additions to the NCC may also apply.

* Refer to glossary.

#HR-Q7VBZ1-01 NatHERS Certificate **8.7 Star Rating** as of 03 Jul 2024

Certificate Check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

Ceiling penetrations*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

Provisional* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
ALM-001-01 A	Aluminium A SG Clear	6.70	0.57	0.54	0.60
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bath	ALM-001-01 A	W07	514	1010	Awning	90	W	None

* Refer to glossary.

#HR-Q7VBZ1-01 NatHERS Certificate **8.7 Star Rating** as of 03 Jul 2024

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bed 1	ALM-002-01 A	W01	1543	2410	Sliding	30	S	None
Bedroom 2	ALM-002-01 A	W04	1543	1810	Sliding	10	N	None
Bedroom 2	ALM-001-01 A	W05	514	600	Awning	90	W	None
Bedroom 2	ALM-001-01 A	W06	514	600	Awning	90	W	None
Ensuite	ALM-001-01 A	W08	514	1010	Awning	90	W	None
Kitchen/Living	ALM-002-01 A	W03	772	1510	Sliding	10	N	None
Kitchen/Living	ALM-002-01 A	W02	2400	3110	Sliding Door	60	S	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

* Refer to glossary.

#HR-Q7VBZ1-01 NatHERS Certificate **8.7 Star Rating** as of 03 Jul 2024

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation

None

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
BRICK-90-90-R-Ins	Cavity Brick Wall - 90mm/90mm Rendered Internally - 1.8	0.50	Medium	0.00	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bath	BRICK-90-90-R-Ins	2740	1651	W		Yes
Bed 1	BRICK-90-90-R-Ins	2740	4529	S	574	Yes
Bed 1	BRICK-90-90-R-Ins	2740	3356	W		Yes
Bed 1	BRICK-90-90-R-Ins	2740	1100	E	4104	Yes
Bedroom 2	BRICK-90-90-R-Ins	2740	3831	N	562	No
Bedroom 2	BRICK-90-90-R-Ins	2740	3001	W		Yes
Ensuite	BRICK-90-90-R-Ins	2740	1647	W		Yes
Kitchen/Living	BRICK-90-90-R-Ins	2740	3450	N		No
Kitchen/Living	BRICK-90-90-R-Ins	2740	4352	S	2557	Yes
Laundry	BRICK-90-90-R-Ins	2740	1503	N		No

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
CAV-BRICK-90-90-EXP	Cavity Brick Wall - 90mm/90mm Exposed	23.5	0.00
SGL-BRICK-REND	Single 90mm Brick Wall - Rendered Both Sides	66.4	0.00

* Refer to glossary.

#HR-Q7VBZ1-01 NatHERS Certificate **8.7 Star Rating** as of 03 Jul 2024

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bath	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	4.5	N/A	0.15	Tile (8mm)
Bed 1	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	15.2	N/A	0.15	Carpet
Bedroom 2	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	11.5	N/A	0.15	Carpet
Ensuite	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	4.5	N/A	0.15	Tile (8mm)
Kitchen/Living	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	36.3	N/A	0.15	Tile (8mm)
Laundry	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	3.7	N/A	0.15	Tile (8mm)
Passage	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	5.6	N/A	0.15	Carpet

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
None			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bath	1	Exhaust Fan	350	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Laundry	1	Downlight	200	Sealed
Laundry	1	Exhaust Fan	350	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
None			

* Refer to glossary.

#HR-Q7VBZ1-01 NatHERS Certificate **8.7 Star Rating** as of 03 Jul 2024

Explanatory Notes

About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

Accredited assessors

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Disclaimer

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The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

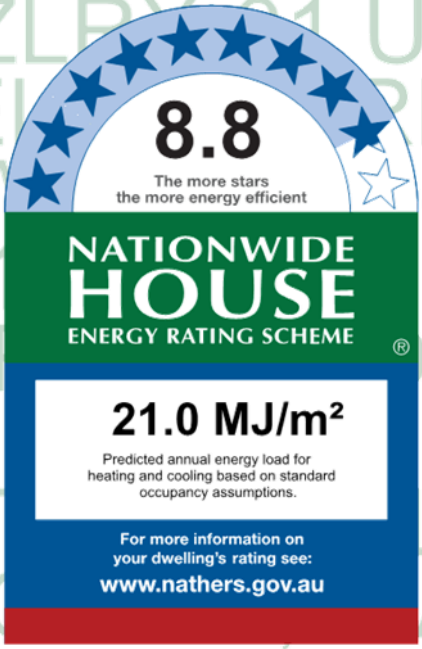
Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category - protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. #HR-FSZLRX-01

Generated on 03 Jul 2024 using Hero 4.0 (Chenath v3.21)



Property

Address	Unit 04 , Thelma Street, Como, WA, 6152
Lot/DP	
NCC Class*	2
Type	New

Plans

Main Plan	April 2024
Prepared by	Loud Design & Build

Construction and environment

Assessed floor area (m²)*		**Exposure Type**	
Conditioned*	76.7	Suburban	
Unconditioned*	4.5	**NatHERS climate zone**	
Total	81.2	13 - Perth Airport	
Garage	0.0		

Thermal Performance

Heating	Cooling
11.4 MJ/m²	9.6 MJ/m²

Accredited assessor

Name	David Barham
Business name	Sustainaspace Pty Ltd
Email	info@sustainaspace.com.au
Phone	+61 400754762
Accreditation No.	10229
Assessor Accrediting Organisation	HERA
Declaration of interest	No Conflict of Interest

About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

Verification

To verify this certificate, scan the QR code or visit http://www.hero-software.com.au/pdf/HR-FSZLRX-01. When using either link, ensure you are visiting http://www.hero-software.com.au

National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at www.abcb.gov.au.

State and territory variations and additions to the NCC may also apply.

* Refer to glossary.

#HR-FSZLRX-01 NatHERS Certificate **8.8 Star Rating** as of 03 Jul 2024

Certificate Check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

Ceiling penetrations*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

Provisional* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
ALM-001-01 A	Aluminium A SG Clear	6.70	0.57	0.54	0.60
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bath	ALM-001-01 A	W04	514	1010	Awning	90	E	None

* Refer to glossary.

#HR-FSZLRX-01 NatHERS Certificate **8.8 Star Rating** as of 03 Jul 2024

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 1	ALM-002-01 A	W02	1543	2410	Sliding	30	S	None
Bedroom 2	ALM-002-01 A	W07	1543	1810	Sliding	10	N	None
Bedroom 2	ALM-001-01 A	W05	514	600	Awning	90	E	None
Bedroom 2	ALM-001-01 A	W06	514	600	Awning	90	E	None
Ensuite	ALM-001-01 A	W03	514	1010	Awning	90	E	None
Kitchen/Living	ALM-002-01 A	W08	772	1510	Sliding	10	N	None
Kitchen/Living	ALM-002-01 A	W01	2400	3110	Sliding Door	60	S	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

* Refer to glossary.

#HR-FSZLRX-01 NatHERS Certificate **8.8 Star Rating** as of 03 Jul 2024

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation

None

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
BRICK-90-90-R-Ins	Cavity Brick Wall - 90mm/90mm Rendered Internally - 1.8	0.50	Medium	0.00	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bath	BRICK-90-90-R-Ins	2740	1651	E		Yes
Bedroom 1	BRICK-90-90-R-Ins	2740	3356	E		Yes
Bedroom 1	BRICK-90-90-R-Ins	2740	4529	S	587	Yes
Bedroom 1	BRICK-90-90-R-Ins	2740	1100	W	4068	Yes
Bedroom 2	BRICK-90-90-R-Ins	2740	3831	N	545	No
Bedroom 2	BRICK-90-90-R-Ins	2740	3001	E		Yes
Ensuite	BRICK-90-90-R-Ins	2740	1647	E		Yes
Kitchen/Living	BRICK-90-90-R-Ins	2740	3450	N		No
Kitchen/Living	BRICK-90-90-R-Ins	2740	4352	S	2600	Yes
Laundry	BRICK-90-90-R-Ins	2740	1511	N		No

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
CAV-BRICK-90-90-EXP	Cavity Brick Wall - 90mm/90mm Exposed	24.0	0.00
SGL-BRICK-REND	Single 90mm Brick Wall - Rendered Both Sides	67.2	0.00

* Refer to glossary.

#HR-FSZLRX-01 NatHERS Certificate **8.8 Star Rating** as of 03 Jul 2024

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bath	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	4.5	N/A	0.15	Tile (8mm)
Bedroom 1	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	15.2	N/A	0.15	Carpet
Bedroom 2	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	11.5	N/A	0.15	Carpet
Ensuite	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	4.5	N/A	0.15	Tile (8mm)
Kitchen/Living	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	36.3	N/A	0.15	Tile (8mm)
Laundry	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	3.7	N/A	0.15	Tile (8mm)
Passage	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	5.6	N/A	0.15	Carpet

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
None			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bath	1	Exhaust Fan	350	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Laundry	1	Downlight	200	Sealed
Laundry	1	Exhaust Fan	350	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
None			

* Refer to glossary.

#HR-FSZLRX-01 NatHERS Certificate **8.8 Star Rating** as of 03 Jul 2024

Explanatory Notes

About this report

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Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

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Not all assumptions that may have been made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

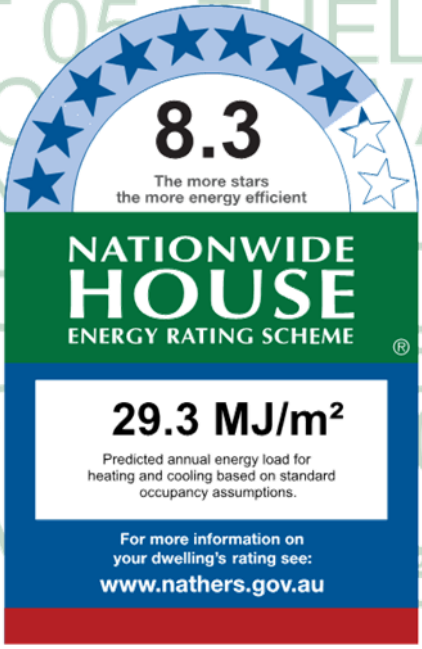
Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category - protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. #HR-TNS8EP-01

Generated on 03 Jul 2024 using Hero 4.0 (Chenath v3.21)



Property

Address	Unit 05, Thelma Street, Como, WA, 6152
Lot/DP	
NCC Class*	2
Type	New

Plans

Main Plan	April 2024
Prepared by	Loud Design & Build

Construction and environment

Assessed floor area (m²)*		**Exposure Type**	
Conditioned*	76.7	Suburban	
Unconditioned*	4.5	**NatHERS climate zone**	
Total	81.2	13 - Perth Airport	
Garage	0.0		

Thermal Performance

Heating	Cooling
12.5 MJ/m²	16.9 MJ/m²

Accredited assessor

Name	David Barham
Business name	Sustainaspace Pty Ltd
Email	info@sustainaspace.com.au
Phone	+61 400754762
Accreditation No.	10229
Assessor Accrediting Organisation	HERA
Declaration of interest	No Conflict of Interest

About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

Verification

To verify this certificate, scan the QR code or visit http://www.hero-software.com.au/pdf/HR-TNS8EP-01. When using either link, ensure you are visiting http://www.hero-software.com.au

National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at www.abcb.gov.au.

State and territory variations and additions to the NCC may also apply.

* Refer to glossary.

#HR-TNS8EP-01 NatHERS Certificate **8.3 Star Rating** as of 03 Jul 2024

Certificate Check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

Ceiling penetrations*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

Provisional* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
ALM-001-01 A	Aluminium A SG Clear	6.70	0.57	0.54	0.60
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bath	ALM-001-01 A	W07	510	1010	Awning	90	W	None

* Refer to glossary.

#HR-TNS8EP-01 NatHERS Certificate **8.3 Star Rating** as of 03 Jul 2024

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bed 1	ALM-002-01 A	W01	1540	2410	Sliding	10	S	None
Bedroom 2	ALM-002-01 A	W04	1543	1810	Sliding	10	N	None
Bedroom 2	ALM-001-01 A	W05	510	600	Awning	90	W	None
Bedroom 2	ALM-001-01 A	W06	510	600	Awning	90	W	None
Ensuite	ALM-001-01 A	W08	510	1010	Awning	90	W	None
Kitchen/Living	ALM-002-01 A	W03	770	1510	Sliding	10	N	None
Kitchen/Living	ALM-002-01 A	W02	2400	3110	Sliding Door	60	S	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

* Refer to glossary.

#HR-TNS8EP-01 NatHERS Certificate **8.3 Star Rating** as of 03 Jul 2024

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation

None

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
BRICK-90-90-R-Ins	Cavity Brick Wall - 90mm/90mm Rendered Internally - 1.8	0.50	Medium	0.00	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bath	BRICK-90-90-R-Ins	2743	1651	W		Yes
Bed 1	BRICK-90-90-R-Ins	2743	4529	S	574	Yes
Bed 1	BRICK-90-90-R-Ins	2743	3356	W		Yes
Bed 1	BRICK-90-90-R-Ins	2743	1100	E	4201	Yes
Bedroom 2	BRICK-90-90-R-Ins	2743	3831	N	562	No
Bedroom 2	BRICK-90-90-R-Ins	2743	3001	W		Yes
Ensuite	BRICK-90-90-R-Ins	2743	1647	W		Yes
Kitchen/Living	BRICK-90-90-R-Ins	2743	3450	N		No
Kitchen/Living	BRICK-90-90-R-Ins	2743	4352	S	2576	Yes
Laundry	BRICK-90-90-R-Ins	2743	1503	N		No

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
CAV-BRICK-90-90-EXP	Cavity Brick Wall - 90mm/90mm Exposed	23.4	0.00
SGL-BRICK-REND	Single 90mm Brick Wall - Rendered Both Sides	66.4	0.00

* Refer to glossary.

#HR-TNS8EP-01 NatHERS Certificate **8.3 Star Rating** as of 03 Jul 2024

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bath	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	4.5	N/A	0.15	Tile (8mm)
Bed 1	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	15.2	N/A	0.15	Carpet
Bedroom 2	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	11.5	N/A	0.15	Carpet
Ensuite	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	4.5	N/A	0.15	Tile (8mm)
Kitchen/Living	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	36.3	N/A	0.15	Tile (8mm)
Laundry	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	3.7	N/A	0.15	Tile (8mm)
Passage	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	5.6	N/A	0.15	Carpet

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bath	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	No
Bed 1	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	No
Bedroom 2	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	No
Ensuite	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	No
Kitchen/Living	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	No
Laundry	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	No
Passage	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bath	1	Exhaust Fan	350	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Laundry	1	Downlight	200	Sealed
Laundry	1	Exhaust Fan	350	Sealed

* Refer to glossary.

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	0.00	0.50	Medium

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#HR-TNS8EP-01 NatHERS Certificate **8.3 Star Rating** as of 03 Jul 2024

Explanatory Notes

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Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. #HR-2BPGQY-01

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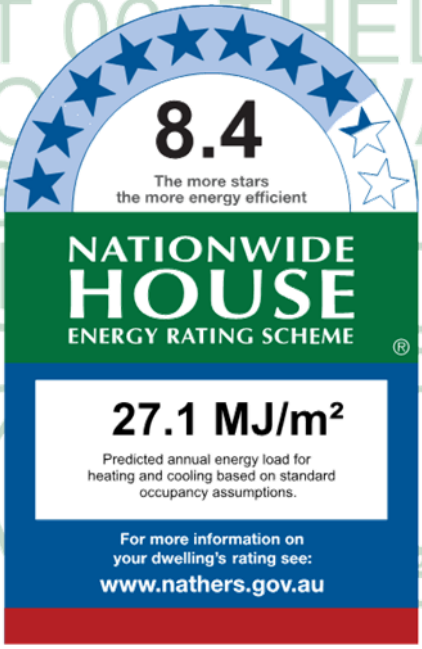


Property

Address	Unit 06, Thelma Street, Como, WA, 6152
Lot/DP	
NCC Class*	2
Type	New

Plans

Main Plan	April 2024
Prepared by	Loud Design & Build

Construction and environment

Assessed floor area (m²)*		**Exposure Type**	
Conditioned*	76.7	Suburban	
Unconditioned*	4.5	**NatHERS climate zone**	
Total	81.2	13 - Perth Airport	
Garage	0.0		

Thermal Performance

Heating	Cooling
12.2 MJ/m²	14.9 MJ/m²

Accredited assessor

Name	David Barham
Business name	Sustainaspace Pty Ltd
Email	info@sustainaspace.com.au
Phone	+61 400754762
Accreditation No.	10229
Assessor Accrediting Organisation	HERA
Declaration of interest	No Conflict of Interest

About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

Verification

To verify this certificate, scan the QR code or visit http://www.hero-software.com.au/pdf/HR-2BPGQY-01. When using either link, ensure you are visiting http://www.hero-software.com.au

National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at www.abcb.gov.au.

State and territory variations and additions to the NCC may also apply.

* Refer to glossary.

#HR-2BPGQY-01 NatHERS Certificate **8.4 Star Rating** as of 03 Jul 2024

Certificate Check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

Ceiling penetrations*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

Provisional* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
ALM-001-01 A	Aluminium A SG Clear	6.70	0.57	0.54	0.60
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bath	ALM-001-01 A	W04	510	1010	Awning	90	E	None

* Refer to glossary.

#HR-2BPGQY-01 NatHERS Certificate **8.4 Star Rating** as of 03 Jul 2024

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 1	ALM-002-01 A	W02	1540	2410	Sliding	10	S	None
Bedroom 2	ALM-002-01 A	W07	1540	1810	Sliding	10	N	None
Bedroom 2	ALM-001-01 A	W05	510	600	Awning	90	E	None
Bedroom 2	ALM-001-01 A	W06	510	600	Awning	90	E	None
Ensuite	ALM-001-01 A	W03	510	1010	Awning	90	E	None
Kitchen/Living	ALM-002-01 A	W08	770	1510	Sliding	10	N	None
Kitchen/Living	ALM-002-01 A	W01	2400	3110	Sliding Door	60	S	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

* Refer to glossary.

#HR-2BPGQY-01 NatHERS Certificate **8.4 Star Rating** as of 03 Jul 2024

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation

None

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
BRICK-90-90-R-Ins	Cavity Brick Wall - 90mm/90mm Rendered Internally - 1.8	0.50	Medium	0.00	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bath	BRICK-90-90-R-Ins	2743	1651	E		Yes
Bedroom 1	BRICK-90-90-R-Ins	2743	3356	E		Yes
Bedroom 1	BRICK-90-90-R-Ins	2743	4529	S	587	Yes
Bedroom 1	BRICK-90-90-R-Ins	2743	1100	W	4082	Yes
Bedroom 2	BRICK-90-90-R-Ins	2743	3831	N	545	No
Bedroom 2	BRICK-90-90-R-Ins	2743	3001	E		Yes
Ensuite	BRICK-90-90-R-Ins	2743	1647	E		Yes
Kitchen/Living	BRICK-90-90-R-Ins	2743	3450	N		No
Kitchen/Living	BRICK-90-90-R-Ins	2743	4352	S	2617	Yes
Laundry	BRICK-90-90-R-Ins	2743	1511	N		No

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
CAV-BRICK-90-90-EXP	Cavity Brick Wall - 90mm/90mm Exposed	24.0	0.00
SGL-BRICK-REND	Single 90mm Brick Wall - Rendered Both Sides	67.2	0.00

* Refer to glossary.

#HR-2BPGQY-01 NatHERS Certificate **8.4 Star Rating** as of 03 Jul 2024

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bath	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	4.5	N/A	0.15	Tile (8mm)
Bedroom 1	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	15.2	N/A	0.15	Carpet
Bedroom 2	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	11.5	N/A	0.15	Carpet
Ensuite	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	4.5	N/A	0.15	Tile (8mm)
Kitchen/Living	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	36.3	N/A	0.15	Tile (8mm)
Laundry	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	3.7	N/A	0.15	Tile (8mm)
Passage	SUSP-CONC-250: Suspended Concrete Slab Floor (250mm)	5.6	N/A	0.15	Carpet

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bath	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	No
Bedroom 1	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	No
Bedroom 2	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	No
Ensuite	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	No
Kitchen/Living	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	No
Laundry	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	No
Passage	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bath	1	Exhaust Fan	350	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Laundry	1	Downlight	200	Sealed
Laundry	1	Exhaust Fan	350	Sealed

* Refer to glossary.

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	0.00	0.50	Medium

* Refer to glossary.

#HR-2BPGQY-01 NatHERS Certificate **8.4 Star Rating** as of 03 Jul 2024

Explanatory Notes

About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsements can be confirmed on the ACT licensing register

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

Glossary

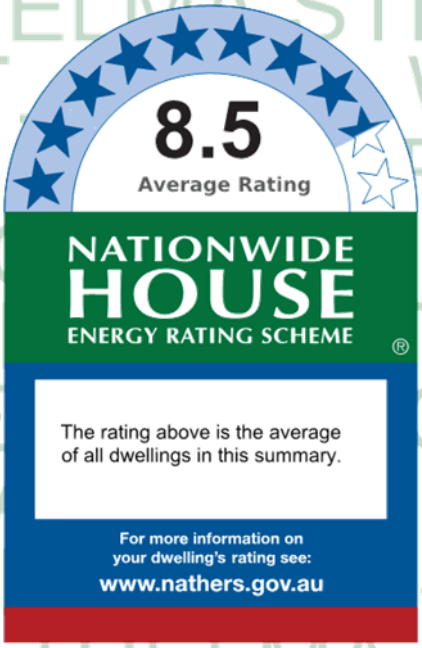
Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category - protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme — Class 2 Summary

NatHERS Certificate No. #HR-MEGH3W-01

Generated on 03 Jul 2024 using Hero 4.0



Property

Address Thelma Street, Como, WA, 6152

Lot/DP

NatHERS climate zone 13 - Perth Airport

Accredited assessor

David Barham
Sustainaspace Pty Ltd
info@sustainaspace.com.au
+61 400754762

Accreditation No. 10229

Assessor Accrediting Organisation HERA

Verification

To verify this certificate, scan the QR code or visit http://www.hero-software.com.au/pdf/HR-MEGH3W-01. When using either link, ensure you are visiting http://www.hero-software.com.au

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m²)	Cooling load (MJ/m²)	Total load (MJ/m²)	Star rating
HR-6UQOLS-01	Unit 01	19.6 (70)	4.6 (57)	24.2	8.6
HR-0CUYJU-01	Unit 02	21.9 (70)	4.6 (57)	26.5	8.4
HR-Q7VBZ1-01	Unit 03	11.6 (70)	10.3 (57)	22.0	8.7
HR-FSZLRX-01	Unit 04	11.4 (70)	9.6 (57)	21.0	8.8

National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at www.abcb.gov.au.

State and territory variations and additions to the NCC may also apply

#HR-MEGH3W-01 NatHERS Certificate **8.5 Average Star Rating** as of 03 Jul 2024

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m²)	Cooling load (MJ/m²)	Total load (MJ/m²)	Star rating
HR-TNS8EP-01	Unit 05	12.5 (70)	16.9 (57)	29.3	8.3
HR-2BPGQY-01	Unit 06	12.2 (70)	14.9 (57)	27.1	8.4
Average	6x (Total)	14.9	10.2	25.0	8.5

Explanatory Notes

About this report

This summary rating is the average rating of all NCC Class 2 dwellings in a development. The individual dwellings' ratings are a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate the energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances, or energy production of solar panels. For more details about an individual dwelling's assessment, refer to the individual dwelling's NatHERS Certificate (accessible via link).

Accredited Assessors

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Design Review Report

32A Thelma Street Como
Design Review 01

11 June 2024

Design Review Report		
Subject	32A Thelma Street, Como – **Design Review 01**	
Date	11 June 2024	
Time	1:00pm	
Location	City of South Perth	
Design Reviewers	Name Dominic Snellgrove Matthew Dunstan Steven Smyth Oliver Grimaldi	 Chair Panel Member Panel member Panel Member
Proponent	Apex Planning Loud Design & Build	
Project Team	Alessandro Stagno Lou D'Alessandro	
Planning Authority	City of South Perth	Fiona Mullen Donna Shaw Courtney Wynn Adam Dyson
Stakeholders	Nil.	
Declarations	None	
Briefings		
Relevant Authorities Project Team	Adam Dyson	
Design Review Report endorsement		
Reviewer's signature	 (Name) Dominic Snellgrove	

Introductory Comments		
Design quality evaluation		
		Supported
		Pending further attention
		Not yet supported
		Yet to be addressed
Strengths of the Proposal		• Comprehensive and instructive presentation • Affordable and economically viable 3 storey walk up typology • Well-arranged and functional planning • 100% cross ventilation including within individual bedrooms • High levels of streetscape passive surveillance • High levels of streetscape engagement and ground floor apartment courtyard interface with direct from street access. • Sleeved parking • Proposed materiality including face brick • Single width vehicular cross overs • Proposed tree retention including two at the front and one at the rear • Landscape professional appointed • Generous side boundary setbacks • Main entry legibility
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 project sits comfortably and appropriately within its immediate context and site. b) Whilst the ground floor apartments enjoy direct access from the street the gate is located to the side and accessed off the vehicular driveway.
Recommendations		**1. Consider relocating the ground floor courtyard access to the front of the property to engage with the streetscape more directly.**
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) The proponent is commended for appointing a landscape professional b) However, the submission did not include a full landscape plan with adequate information around species selection c) There is also concern regarding the viability of tree retention to the rear of the property with proximity to paved and parking areas. d) Deep soil areas are not provided e) Some garden bed widths are not wide enough to classify as deep soil.
Recommendations		**1. Provide a more detailed landscape concept and plan** **2. Consider engaging with an arborist to establish strategies that will ensure the successful retention of trees.** **3. Consider permeable paving** **4. Provide DSA areas**
Principle 3 **Built form and scale**		*Good design ensures that the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future*

		character of the local area.
		a) The built form and scale are supported. b) Consider providing streetscape elevations in context as a way of justifying the proposed height.
Recommendations		**1. None**
Principle 4 **Functionality and build quality**		*Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full life-cycle.*
		a) The proposal is function and well arranged b) The AC condenser will need to incorporate visual screening c) The central corridor width is dimensionally constrained and may result in challenges associated with moving furniture in and out. d) Visitor bay access in the event the bay is used is a concern
Recommendations		**1. Ensure the AC condensers are visually screened from the public and private domain and enjoy convenient access for servicing.** **2. Consider adding slightly more width to the central corridor to facilitate movement of furniture.** **3. Consider wayfinding and access to the visitor car parking bay.**
Principle 5 **Sustainability**		*Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.*
		a) There does not appear to be an ESD professional appointed. b) This Panel believes it is important to have an ESD professional engaged for the schematic design phase of a project: • to advise on the necessary and demanding design requirements for NCC 2022 and, • to evaluate and demonstrate the ESD commitments associated with a project as opposed to providing a 'shopping list' of possible initiatives c) Passive shade elements on the front façade are supported. However, there are none proposed on the north, east and west.
Recommendations		**1. The Proponent is encouraged to engage an ESD professional to assist with providing a wholistic ESD narrative and confirm the extent of measurable commitments proposed.** **2. Consider incorporating passive shade elements to glazing on the north, east and west.** **3. Consider solar PV's (30Kw), EV charging, and 100% electrification.**
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 project offers the capacity for high levels of residents and visitor amenity. b) The apartment layout situates the indoor and outdoor living areas inboard.
Recommendations		**1. Consider flipping the units so that the indoor and outdoor living areas enjoy a dual aspect, and the bedrooms are inboard.** **2. Consider adjusting the location of apartment entry doors so that they do not face each other.**
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 proposal offers high levels of streetscape legibility
Recommendations		**1. Consider relocating the ground floor courtyard access to the front of the**

		property to engage with the streetscape more directly.
Principle 8 **Safety**		*Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.*
		a. The built form provides high levels of passive surveillance over the public realm interface.
Recommendations		**1. None**
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) In a project of this scale the best thing that can be done for the community is to provide an active and engaged streetscape with effective passive surveillance.
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 Panel are supportive of the aesthetic considerations including built form and materiality. b) The proposal has the capacity to offer a modest but attractive and presence at the street c) However, the side and rear elevations do not enjoy the same level of detail, layering and depth as the front elevation.
Recommendations		**1. Consider incorporating passive shade elements to glazing on the north, east and west.**

Concluding Remarks
• The Panel supports the proposal subject to the comments above under Principles 2 and 5 being addressed. • The Proponent is encouraged to engage more early in the design process with an ESD professional.

Design Review progress	
	Supported
	Pending further attention
	Not yet supported
	Yet to be addressed

	DR1	*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**			

Received: 18 September 2024

Subject: PDDA-2024/3990

32A Thelma Street, Como WA 6152 – Three Storey Multiple Dwelling Development

We object to the proposed development. This property is zoned to a maximum of two stories. Developers are pushing the limits of the zoning restrictions based on spurious arguments in order to gain improved financial returns. A three-storey building will have an increased negative impact on the neighbouring properties. The suggestion that the design has a smaller horizontal footprint and plot ratio is very weak, given that the remaining land area is largely occupied by seven car parking spaces, leaving no space for gardens apart from the one struggling jacaranda. This location has no suitable street parking, and one car bay per unit plus one visitor bay seems grossly inadequate for 6 units. This proposal should be rejected and re-designed within the allowable limits of the zoning rules.

Paul AL Biggs

Owner 34 Thelma Street, Como WA 6152

Received: 17 September 2024

Subject: PDDA-2024/3990

32A Thelma Street, Como WA 6152 – Three Storey Multiple Dwelling Development

I wish to submit an objection for the proposed dwelling on 32A & 32B Thelma Street, Como. My objection is that the proposed three storey development is above the residential building code for the area. This will impact natural light and warmth for surrounding residences. Additionally, my property will be disadvantaged and lose value due to the dominance of a three story multiple dwelling blocking my view and encircling my dwelling. The proposed design is not in keeping with local architecture and design and I challenge the application stating that it sits comfortably within the immediate context. The three storey, multiple dwelling will dominate the Street and be an eye sore.

Marie Tiley

Owner 2/32 Thelma Street, Como WA 6152

Received: 17 September 2024

Subject: PDDA-2024/3990

32A Thelma Street, Como WA 6152 – Three Storey Multiple Dwelling Development

1. As the owner occupiers of 1/32 Thelma Street, we strongly oppose the proposal to build a three story / six dwelling construction and associated carparking on the lots covering 32A and 32B Thelma Street.

2. The proposed development is not in keeping with the residential building height code agreed in the Local Planning Scheme gazetted 27 Mar 2024, that applies to Thelma Street and the surrounding areas north of Canning Highway.

3. Building a three-storey complex on the proposed site will have an adverse effect on 1/32 Thelma Street, occluding natural light entering the front and the rear of the property, and casting it in shadow from the afternoon.

4. Due to the requirement to cater for both occupant and visitor parking, and storage at the rear for six dwellings (three each side) the proposed property is designed to be located well forward of the current dwellings, impacting the outlook from 1/32 Thelma Street, and is inconsistent with the street setbacks of the surrounding street facing properties. 5. The proposed building design is not in keeping with the period and architecture of existing street facing buildings adjacent and opposite, with 30, 1/32, 34 and 36 Thelma Street built across the 1940-50s, and Como Primary School developed from1916. The proposed design does not compliment the character and aesthetic of the streetscape.

6. Points 3, 4, and 5 above will not only impact the interior and exterior ambience of 1/32 Thelma Street, but will reduce the attractiveness and value for resale in the future.

7. As the owner occupiers of a renovated home in keeping with the period, we are not opposed to development of 32A and 32B Thelma Street, however we feel strongly that the mandated residential height codes are in place for a very good reason. A two storey (four dwelling) development, in keeping with the look and feel of the current street scape would be supported. Two storeys accommodating four dwellings fulfills the stated development objective of increasing 'supply' of dwellings by doubling the current capacity and potential return on investment. Four dwellings would require less space at the rear for storage and occupant parking (no visitor bay required for four or less dwellings) thereby allowing greater set back from the street so that the structure will better blend, rather than dominate the section between Coode Street and Labouchere Road, as well as have less negative impact on 1/32 Thelma Street.

Kerina Puttman & Kirstie Robson

Owner 1/32 Thelma Street, Como WA 6152

Short Term Rental Management Plan

1.0 Introduction

Property: 197 Douglas Avenue, Kensington, 6111
Type: 3 bedroom house
Proposal for use of house for Short Term Accommodation (3days to 3 months)

Emergency Contact Details
MadeComfy
Phone: 1800 526 133
Email: enquiries@madecomfy.com.au

Partner - Contact Details- LJ Hooker City Residential
Phone: 9325 0700 or 0449 257 451
Email: tuscany.mclean@ljhooker.com.au

Details of Operations
This property will be managed by MadeComfy Direct in partnership with LJ Hooker locally and will be listed on short term stay websites. All platforms adhere to strict rules and regulations to prevent parties and noise disturbances.

2.0 Check In
Check in 3pm, lockbox on site for keys.

3.0 Check Out
Check out 10am, lockbox on site for keys

4.0 Complaints Management

Anyone can call 1800 526 133- 24/7 Line or contact the Madecomfy Partner in this case LJ Hooker City Residential, team will then handle complaint via warning or eviction.
Worst case will engage security or police for removal.
Complaint is otherwise preferred in writing with finer details.

5.0 Use of Premises
The number of guests (6 guests) is fixed and cannot be modified. The maximum occupancy is determined by the number of beds available. This guest limit is consistent across all platforms, as they are managed through Guesty. 6 occupants maximum.
Duration of stay ranges from: Minimum 3 nights stay- 3 months

6.0 Onsite Register
All details are stored with Madecomfy (Management Company) on a secure platform.

7.0 Maintenance
Gardener attends monthly as required, property is inspected 6 monthly as well as any maintenance reported by the guest is reviewed. Property is also checked as required at owners request. Property will be maintained by owner.

8.0 Guest Guide – is provided to guests prior to stay. This includes Manager and contact details, House rules/Code of conduct, WiFi Device name and password, keybox code, TV information, Air condition function, location of first aid kit, towels sheets, rubbish bin location, checkin time, checkout time.

9.0 Managers Guide – Made Comfy is a professional agency that has strict guiding principles, for all management functions of short term rentals.

10.0 Code of Conduct

10.1 General Principles –House rules are clearly outlined in contract.

House Rules:

You are staying in a friendly and peaceful neighbourhood and we kindly ask you to respect the community and your surrounding neighbours. The following strict House Rules apply:

- No loud noise between 10 pm and 8 am
- No parties or antisocial behaviour
- No additional people are to access the property without our prior approval
- No pets are allowed in the property without approval
- No smoking is allowed at any times
- If you break something, please let us know
- To help protect all floor coverings, do not wear any shoes inside the property

Please be aware that excessive noise such as amplified music, vocals or screaming or anti-social behaviour in the property or common areas can cause neighbours to complain to us, the Building Manager, Council Rangers or Police.

10.2 General Requirements – guests are staying in friendly and peaceful neighbourhood and are kindly asked to respect the community and surrounding neighbours. Strict house rules apply as outlined in 10.1.

10.3 Noise and Residential Amenity – No loud noise between 10pm and 8am. No parties or antisocial behaviour

10.4 Visitors – No additional visitors are to access the property without prior approval from management company

10.5 Gathering and Functions – not possible without requesting to management company for prior approval.

10.6 Parking – Parking of 1-2 cars available in front of home within property confines.

10.7 Garbage and Recycling – Rubbish collection on a weekly basis is arranged and putting bins in and out weekly is arranged on a weekly basis.

10.8 Security – enclosed front and backyard with sliding automatic gate for vehicles and lockable front gate. Security screens on front door. All doors and windows with lock systems.

10.9 Smoking – smoking is not permitted on the property

10.10 Pets – Domesticated pets are allowed at the property upon request and approval. Any stays with pets incur an additional cleaning fee of $200.

10.11 Damages and Breakages – there is a claims process and any necessary repairs will be carried out.

10.12 Compliance - Any breach of house rules – according to contract may lead to $500 fine plus compensation for any damage and immediate eviction from property without refund.

Bourkes

Approximate Areas

Residence:	150m²
Garage:	12m²
Alfresco:	28m²
Verandah:	11m²
Total Area:	201m²

Objection
City Of South Perth
Development Application PDDA-2024/4382
197 Douglas Ave Kensington

I object to the change of use Development Application proposed for 197 Douglas Ave Kensington into a Holiday Accommodation (Short term rental accommodation).

The advertising document states: "All platforms adhere to strict rules and regulations to prevent parties and noise disturbances." Unfortunately, all too commonly holiday makers don't necessarily adhere to these same rules. This is a generally very quiet neighbourhood. Even normal day to day noise is clearly audible from 197 Douglas Ave to the surrounding houses. Having an available "24/7" complaints line to the building manager puts the onus for policing noisy occupants onto the neighbours. I pay rates to the City of South Perth to live in a quiet neighbourhood not to be a policeman for absent neighbours and disruptive tenants.

The back yard of 197 Douglas Ave has a gate with direct car access to a rear laneway that connects to Mabel St, as well as low fences to adjacent houses. It is bad enough, that rear laneway access even exists to these houses that front on both Douglas Ave and Mabel St. Particularly in addition, given the State Housing block of flats at 209 Douglas Ave where there are frequent anti-social occupants and recently another associated spate of break ins in the area. Having a steady stream of strangers staying, on a short term basis, at 197 Douglas Ave is a clear security risk to the houses backing onto the laneway and other neighbouring houses. Laneway access is a well recognised way for a house to be more burglary prone. On these grounds alone, the application should be rejected.

Please see the attached City of Perth Advertised Planning Applications page. Feedback should be completely anonymous to the applicant as is done at other councils in Perth. I do not give the City of South Perth consent to disclose or publish my personal details submitted (including but not restricted to name, contact numbers, physical address, email address and signatures) for this objection without my express consent as per the “Notice of public advertisement of planning proposal” from the City of South Perth. I will hold the City of South Perth liable for any publication or disclosure of my details without my express consent.

Action Title	Action Status Comment	Action Status		
		Complete	In progress	Not started
Item 7.7.3 - Parking demand should be reviewed every one to three years depending on how variable the demand is in each particular price area.	University students analysed the City's parking data and provided options for consideration in regard to pricing and other alternatives.		✓	
Item 7.7.4 - Prices should be adjusted either up or down in response to the occupancy surveys undertaken. In each case the goal is to maintain an average of 85% occupancy, as much as practicable.	Always monitoring and reviewed annually as part of fees and charges review.		✓	
Item 4.7 - All new parking controls or charges need to be constantly reviewed by the City and amended as necessary depending on the result of regular parking surveys.	Charges are reviewed each year as part of fees and charges.		✓	
Item 4.13 - The City to develop a plan to identify and prioritise potential sites for the construction of parking decks to serve the commercial centres.	Further review should occur as part of the review of the Parking Strategy. It should be noted that increasing timed parking up to 10:00pm at night along the South Perth Foreshore was implemented due to the high demand in the area.		✓	
Item 7.7.5 - Standard hours of parking restrictions should be 8:00am to 6:00pm Monday to Sunday. However, some Parking Control Area's in the City experience high parking demand in the evenings, and where this occurs, the City should implement expanded paid parking hours	Parking from 8:00am to 10:00pm was implemented along the South Perth Foreshore area where there is high demand in the evening.	✓		
Item 4.6 - It is recommended that the City appoint an administrative Parking Working Group chaired by the Parking Manager, which is responsible for bringing forward issues that cross boundaries between the traditional administrative units.	There is a parking working group as part of the Inner-City Working Group. There is little benefit in having a group within the City.			✓

Item 7.6 - The City should apply various parking restrictions in areas of high demand to achieve a target peak occupancy rate (the average of the four highest hours in a day) of 85% for on-street parking.	Further review should occur as part of the review of the Parking Strategy. It should be noted that increasing timed parking up to 10pm at night along the South Perth Foreshore was implemented due to the high demand in the area.		✓	
Item 4.7 - The City should evaluate the introduction of parking controls and eventually pay parking particularly in areas adjacent to major trip generators.	Paid parking is at Perth Zoo, around the Ferry terminal and Ellam Street near the new Causeway Pedestrian and Cyclist Bridges.	✓		
Item 7.4 - The City gradually expands pay parking areas based on regular and comparative surveys of usage. Pay parking fees are to be structured to favour short-term users and encourage a high churn of spaces.	Paid parking bays recently installed in Ellam Street. Other paid parking areas have been approved as part of fees and charges schedule in 2024/25.		✓	
Item 4.8 - Public parking information should be applied and published uniformly across the entire City equally to council and privately owned public car parking areas.	A consistent level of wayfinding, signage and parking restrictions is applied across the district.			✓
Item 4.9 - The City to increase the effective allocation of parking enforcement resources in combination with improved technologies for monitoring compliance such as in-ground sensors, licence plate recognition cameras and parking meters. Schools should self-manage their peak-time parking demand through tools such as TravelSmart for Schools.	There is currently no budget allocation for this action. The City is reviewing options for technology. In ground sensors have been determined as an unviable option due to errors and issues. Licence plate recognition quotes are being sought.		✓	

City of South Perth

Payment in Lieu of Parking Plan

October 2023

Contents

1. Introduction

1.1 Regulatory compliance

This Payment in Lieu of Parking Plan (the Plan) has been created under Schedule 2, Part 9A of the *Planning and Development (Local Planning Schemes) Regulations 2015* (the Regulations) and has been prepared in the Manner and Form approved by the Western Australian Planning Commission (WAPC).

1.2 Purpose

This Plan, together with the Regulations, governs the application of payments in lieu of providing car parking for development in the area(s) identified in this Plan. This plan outlines the purposes for which payment in lieu of car parking will be used in the areas(s) identified and how money collected will be administered.

1.3 Operational dates

The Plan commenced operation on 31 October 2023.

The Plan will cease operation on 31 October 2033, being 10 years from the operational date, unless extended in writing by the WAPC prior to the expiry date.

1.4 Amendments to the Plan

Amendments to the Plan shall be made in accordance with clause 77M and the current version shall be published in accordance with clause 77L. A record of amendments to the Plan shall be maintained in the table below:

Amendment No.	Date	Comment
1	10/12/2024	Insertion of Parking Area Maps and updated Index Map

1.5 Objectives of the Plan

The Plan has the following objectives:

1. To ensure a consistent approach to the application of payment in lieu of parking bays.
2. To support an integrated approach to transport and parking management within the City of South Perth which balances provision for cars with the requirements of other modes of transport.
3. To facilitate the provision and development of adequate parking facilities within the City of South Perth, which reflects the planning intent for a mixed use, urban, vibrant and accessible centre.
4. To support access by public transport, walking and cycling, as well as private vehicles.

1.6 Linkages to relevant adopted planning documents

The Plan supports the implementation of the following documents and the Integrated Planning and Reporting framework:

Strategic Community Plan

The Strategic Community Plan includes the following action in relation to parking management which provides strategic direction for the development of the Plan.

3.1. Develop and implement integrated transport and infrastructure plans that consider improved parking management systems and encourage alternative forms of transport.

Corporate Business Plan

As part of the implementation of the Strategic Community Plan action for a 'Connected and Accessible City' the Corporate Business Plan identifies to implement the supporting plans associated with the Integrated Transport Plan (ITP) which focuses on five key areas – active travel (walking and cycling), public transport, road transport, parking and public spaces. The management and provision of parking is a key component of the ITP which the Plan will assist to deliver.

Integrated Transport Plan

A key objective of the City's Integrated Transport Plan is to 'Manage the provision and operation of on-street and off-street parking to service the community and local businesses whilst managing travel demand to encourage a shift towards trips being made using public transport, cycling and walking.' The Plan is an important tool to manage appropriate provision of off-street parking and provide greater opportunities for active transport through the identified 'other transport infrastructure' projects.

Parking Strategy

The Parking Strategy provides a long-term plan for the provision and management of parking within the City. The Plan supports implementation of the Strategy and preparation of future Parking Management Plans to address the management and supply of public parking across the City.

City of South Perth Local Planning Strategy

The City's Local Planning Strategy is the key strategic urban planning document for the City. It is closely linked to the City's Strategic Community Plan (2017-2027) and the Corporate Business Plan. It defines a framework of land uses and activities and provides a guide to the integration of social, environmental and economic planning and development in the City.

One of the strategies (4.3.3) of the Local Planning Strategy recommends that the City:
'4.3.3 Develop a comprehensive parking system that considers demand, supply and management of parking'.

City of South Perth Local Planning Scheme No. 7

Local Planning Scheme No. 7 (LPS 7) will implement parking requirements through the local planning framework for all new development. At the time of adoption of this Plan, LPS 7 was being considered by the Western Australian Planning Commission for submission to the Minister for Planning for Final Approval. The *Planning and Development (Local Planning Schemes) Regulations 2015* provides for the preparation of a plan.

South Perth Activity Centre Plan & Canning Bridge Activity Centre Plan

The South Perth and Canning Bridge Activity Centre Plans contain parking requirements for all new development. This includes minimum car parking for non-residential uses and objectives generally discouraging private vehicle travel and encouraging active transport modes.

2. Terms used

The terms used in the Plan have the same meaning as in the Regulations.

3. Parking plan application and areas

This Plan relates to the areas specified in Section 3.1. Moneys collected within each Plan area must be spent in the Plan area.

3.1 Maps

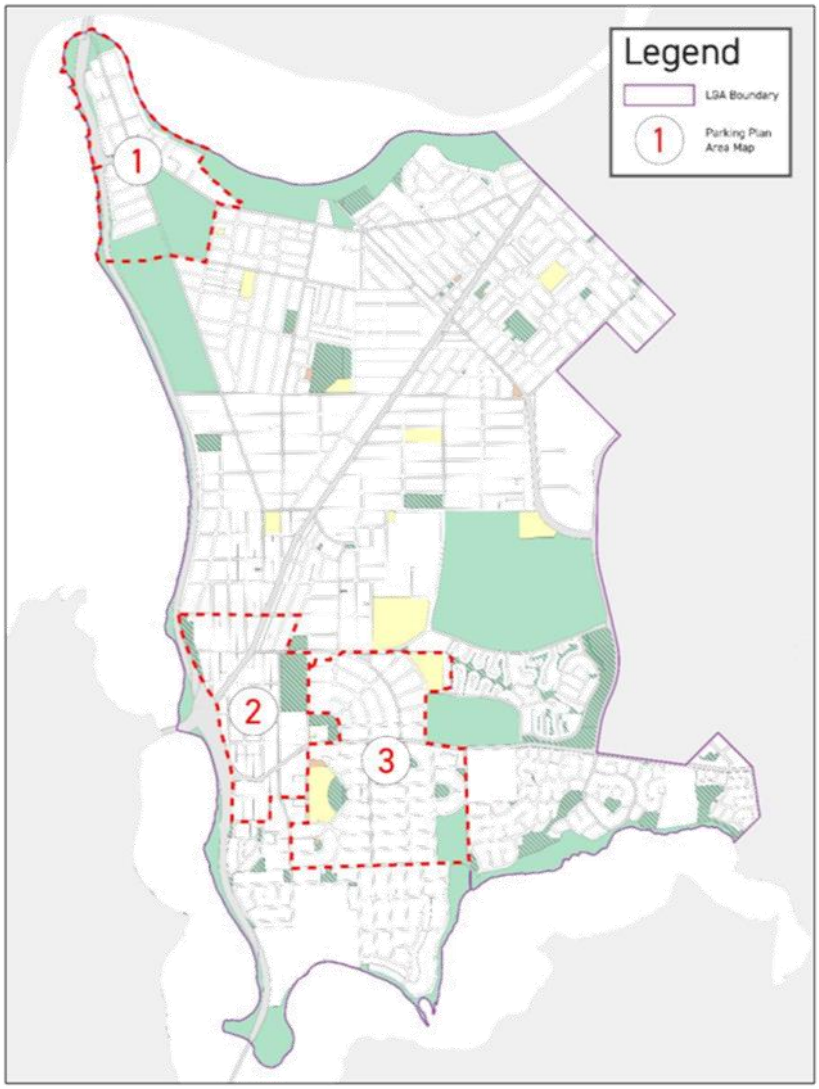

Figure 1 - Index Map

Figure 2 - Parking Area 1 Map

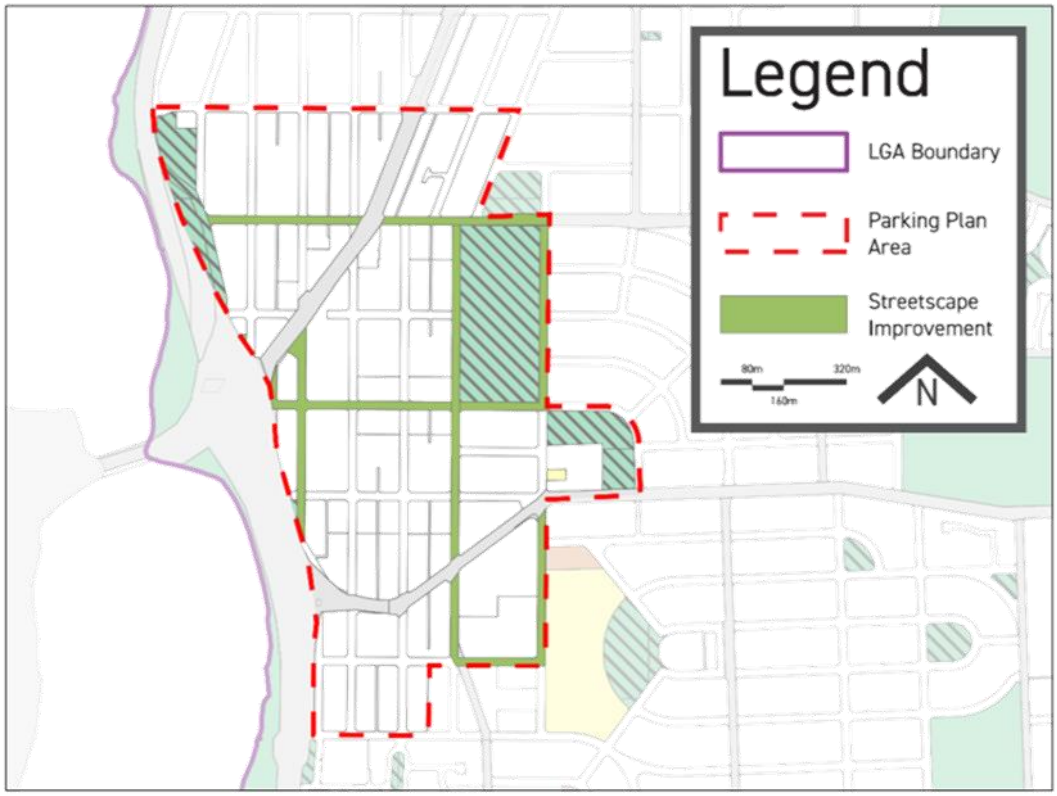

Figure 3 - Parking Area 2 Map

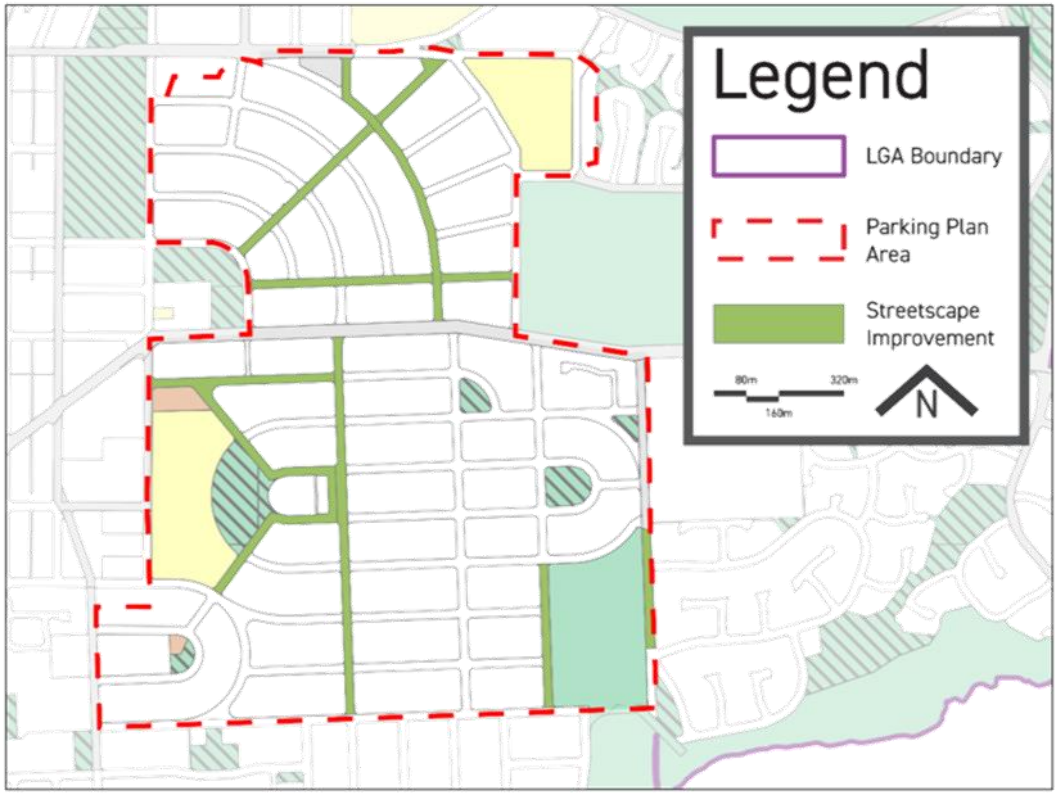

Figure 4 - Parking Area 3 Map

4. Reasonable estimate of costs for payment-in-lieu

4.1 Calculation of reasonable estimate of costs

The plan includes a reasonable estimate of costs of the City to provide parking and other infrastructure in-lieu of providing parking on the development site.

The costs of this plan are based on the approved method(s) of calculation that is published by Western Australian Planning Commission in terms of Clause 77H(4) and (5).

The Plan outlines the application of the WAPC approved method(s) used for the calculation of the Reasonable Estimate of Costs expressed in dollars applicable in each location identified in the Plan. In accordance with clause 77H, the Plan also sets out the application of the method(s) of the calculation for the reasonable estimate of costs which has been determined by the WAPC (as published in the Gazette).

The calculation cost is as follows:

(Infrastructure cost per m^2 x 15(m^2)*) x car parking space shortfall

The current infrastructure cost per m^2 for the City is $380.

4.2 Revisions to reasonable estimate of costs

The Reasonable Estimate of Costs in this Plan can be revised by a Local Government from time to time using the method(s) approved by the WAPC (as published in the Gazette). Revised Estimates of Cost are to be published in the updated version of the Plan in Section 4.1, together with a note confirming the date of inclusion of the revised estimate.

4.3 Attribution of costs

Contributions paid towards parking infrastructure in terms of the plan need to be spent in the local government boundary of the City of South Perth.

5. Purposes for which payment-in-lieu will be applied

In accordance with clause 77I(2), money collected under the Plan must be applied for the purposes set out below:

5.1 Public Car Parking Infrastructure

Public Car Parking Infrastructure	**Cost**
At-grade on-street car parking bay	$380 per m²

5.2 Other Transport Infrastructure

Other Transport Infrastructure	**Cost**
Technology to increase efficiency and turnover of bays	$450 per Parking Sensor $7,000 per Ticket Machine
Electric charging facilities	$14,000 per 63 A single e-vehicle charging station. $22,000 per 63 A double e-vehicle charging station
Footpath infrastructure, including new connections and upgrades	$76 per m² (supply and install concrete)
Street lighting	$10,000 per light (incl. pole and installation)
Provision of, or upgrades to, bicycle networks	$116 per m² (Shared Path 3.0m wide, red asphalt incl. line marking)

5.3 Ancillary or Incidental Purposes

Ancillary or Incidental Purposes	**Cost**
Shade Trees	$500 per tree (incl. supply, planting and 12 months maintenance)
CCTV	$35,000 per camera (incl. comms cabinet, pole, programming, and software licence)

Money collected under the Plan will be expended generally in proximity to the development providing the funds.

6. Other information required by the WAPC

No other information has been required by the WAPC.

7. Operation

7.1 Operational requirements

The Plan shall operate in accordance with Part 9A of the Regulations.

7.2 Triggers for payments to be made

Payment of money shall be made to the City of South Perth to satisfy a payment in lieu of car parking condition validly applied to a development approval for development located in the area subject to the Plan. The payment in lieu of car parking condition applied to the development approval shall specify when the City of South Perth requires payment of monies to be made.

Prior to granting development approval and imposing a condition for payment in lieu of parking, the City of South Perth will give the applicant a notice of apportionment in accordance with clause 77F(1)(b), which confirms the specified shortfall of car parking spaces in the proposed development that is to be dealt with by the condition.

The condition shall read as follows:

"Prior to the commencement of development, payment of $<insert total amount> shall be made to the City of South Perth for Payment in Lieu of <insert number of car parking bays> car parking bays which have not been provided on site or in a shared parking arrangement. This condition has been imposed under the requirements of the City of South Perth Payment in Lieu Parking Plan and Schedule 2, clause 77H of the Planning and Development (Local Planning Schemes) Regulations 2015."

Additional information, by way of an advice note, may be provided by the City of South Perth to confirm its expectations in relation to the payment in lieu of parking, where applicable.

7.3 Decision-making on Development Applications using this Plan

Decision makers are to have due regard to the Plan when making decisions on development applications that seek or require consideration of Payment in Lieu of Car Parking under the Plan.

8. Financial Administration (clause 77I)

8.1 Reserve Account to be established and maintained

The City of South Perth shall establish and maintain a Reserve Account for money collected under the Plan (clause 77I(1)). The Reserve Account shall be established under the provisions of the Local Government Act 1995, Section 6.11. The reserve account shall be operated in accordance with the requirements of the *Local Government (Financial Management) Regulations 1996*.

8.2 Interest earned

Interest earned on the Reserve Account under the plan shall be treated in accordance with clause 77I.

8.3 Records to be kept

Records of income and expenditure for the Reserve Account established under the Plan shall be maintained by the local government until all funds have been expended or repaid.

8.4 Reporting

Report of the Reserve Account shall be provided in accordance with the requirements of the *Local Government (Financial Management) Regulations 1996*.

8.5 Invoice for payment of money

In addition to a payment-in-lieu of parking condition applied to a development approval under clause 77H, the City of South Perth shall issue an invoice to the payer at the appropriate time to enable the payer to satisfy the condition of development approval. The invoice shall specify the method and timing for payment of the money required to satisfy the payment in-lieu of parking development approval condition.

8.6 Money held in the Reserve Account at the expiry of the Plan

Money held in the Reserve Account at the Expiry of the Plan shall be treated in accordance with clause 77I(5), (6) and (7).

Appendix 1 – Notice of Apportionment

GOVERNMENT OF WESTERN AUSTRALIA | Western Australian Planning Commission

NOTICE OF APPORTIONMENT

Clause 77F(1)(b)(i) and (ii) of the *Planning and Development (Local Planning Schemes) Regulations 2015*

Version: 1.0 (June 2021)

Date of Notice: [insert date of notice]

Issuing Authority: [insert name of Local Government]

Notice is hereby given that the car parking space shortfall for the [insert development type]

at [insert address]

is _____.
insert total number of car parking spaces shortfall on site

Apportionment

Payment In Lieu of Parking

For the purposes of imposing a payment in lieu of parking condition in accordance with clause 77H, the number of car parking spaces for which payment in lieu is required is _____.
insert number of car spaces subject to payment in lieu

Shared Parking Arrangement

For the purposes of imposing a shared parking arrangement condition in accordance with clause 77Q, the number of car parking spaces for which a shared parking arrangement condition is imposed is _____.
insert number of car spaces subject to a shared parking arrangement

Signed: _____

Name: _____

Position: _____

9

Strategic Direction
Environment (Built and Natural)

Policy P350.09 Significant Views

Responsible Business Unit/s	**Development Services**
Responsible Officer	**Manager Development Services**
Affected Business Unit/s	**Development Services**

Policy Objectives

To give balanced consideration to the reasonable expectations of both existing residents and applicants proposing new development with respect to a significant view.

Policy Scope

1. This Policy applies to all proposed residential development throughout the City which may affect existing significant views available from adjoining properties.
2. This Policy does not apply to any residential development in Precinct 13 - Salter Point assigned a building height limit of 3.0 metres, 3.5 metres or 6.5 metres.

Policy Statement

1. Definition of a Significant View

For the purpose of this Policy, the term 'significant view' means a panorama or a narrower vista seen from a given vantage point, not obtainable from the majority of residential properties within the City. Examples of a 'significant view' include views of the Perth City skyline, the Swan or Canning River, suburban townscape, parkland or treescape.

2. Design Considerations Relating to a Significant View

2.1 Information Requirements

Where a significant view from an adjoining property may be impacted by a proposed development, the applicant shall submit plans and/or photographs demonstrating the impact upon significant views.

2.2 Factors to Consider

The City will assess the proposal considering the objectives of this Policy. The City may require modifications to the design of the proposed building to enable the adjoining property to retain a significant view. Accordingly, the following elements of the proposed building may be required to be modified:

(a) Setbacks from the street and lot boundaries;
(b) Floor size;
(c) Roof form; and
(d) Any other design element that impacts upon views.

Advice Notes

Clause 1.1 expands the accompanying information requirements of the R-Codes clauses 3.2 and 3.3.

Definitions
Refer to next page.

City of South Perth

2.3 Normal Development Entitlements Retained

The City will not require the following elements of the proposed development to be modified:

(a) A reduction to permitted residential density; or

(b) A reduction to building height in terms of the number of storeys that the building height limit would normally permit.

Legislation / Local Law Requirements

City of South Perth Town Planning Scheme No. 6
Residential Design Codes of Western Australia
Building Code of Australia

Other Relevant Policies / Key Documents

City of South Perth Planning Policies

Definitions (from previous page)

Refer to TPS6 Schedule 1:
- Building Height Limit
- Development
- Residential
- Residential Development
- Precinct

Refer to R-Codes Appendix 1:
- Adjoining Property
- Building
- Lot boundary
- Setbacks
- Street Boundary

Policy Number:	P350.09	Relevant Council Delegation:	DC690 Town Planning Scheme
Council Adoption:	25 November 2008	Relevant Delegation:	DM690 Town Planning Scheme
Reviewed/Modified:	June 2016	Relevant Management Practice:	