Government of **Western Australia**
Development Assessment Panels

Metro North-West Joint Development Assessment Panel Agenda

Meeting Date and Time: 6 May 2019, 2:30pm
Meeting Number: MNWJDAP/254
Meeting Venue: Department of Planning, Lands and Heritage
140 William Street
Perth

Attendance

DAP Members

Ms Karen Hyde (Presiding Member)
Mr Clayton Higham (A/Deputy Presiding Member)
Mr Fred Zuideveld (Specialist Member)
Cr Christine Hamilton-Prime (Local Government Member, City of Joondalup)
Cr Philippa Taylor (Local Government Member, City of Joondalup)

Officers in attendance

Mr Ryan Bailey (City of Joondalup)
Mr Chris Leigh (City of Joondalup)

Minute Secretary

Ms Michelle Tan (DAP Secretariat)

Applicants and Submitters

Mr Sean Fairfoul (Rowe Group)
Ms Sarah Asher (MJA Studio)
Mr Jarrad Sizer (Helm Living)
Mr Ben Doyle (Planning Solutions)
Ms Ingrid Maher (Planning Solutions)

Members of the Public / Media

Nil

1. Declaration of Opening

The Presiding Member declares the meeting open and acknowledges the past and present traditional owners and custodians of the land on which the meeting is being held.

2. Apologies

Ms Sheryl Chaffer (Deputy Presiding Member)

3. Members on Leave of Absence

DAP Member, Ms Sheryl Chaffer has been granted leave of absence by the Director General for the period of 6 May 2019 to 7 June 2019 inclusive.

4. Noting of Minutes

Signed minutes of previous meetings are available on the DAP website.

5. Declarations of Due Consideration

Any member who is not familiar with the substance of any report or other information provided for consideration at the DAP meeting must declare that fact before the meeting considers the matter.

6. Disclosure of Interests

Nil

7. Deputations and Presentations

7.1 Mr Sean Fairfoul (Rowe Group) presenting against the application at item 8.1. The presentation will object to the proposal in its current form and layout.

7.2 Ms Sarah Asher (MJA Studio) presenting in support of the application at item 8.1. The presentation will provide an overview of the design process and architectural merits of the proposal.

7.3 Mr Jarrad Sizer (Helm Living) presenting in support of the application at item 8.1. The presentation will provide an overview of the consultation process and merits of the proposal.

7.4 Mr Ben Doyle (Planning Solutions) presenting in support of the application at item 8.1. The presentation will speak in support of the proposed multiple dwelling development.

The City of Joondalup may be provided with the opportunity to respond to questions of the panel, as invited by the Presiding Member.

8. Form 1 – Responsible Authority Reports – DAP Applications

8.1

Property Location:	Lot 22 (25) Koorana Road, Mullaloo
Development Description:	23 Multiple Dwellings
Applicant:	Helm Living Pty Ltd
Owner:	Ms Deborah Brown
Responsible Authority:	City of Joondalup
DAP File No:	DAP/19/01577

9. Form 2 – Responsible Authority Reports – Amending or cancelling DAP development approval

Nil

10. Appeals to the State Administrative Tribunal

Current Applications		
LG Name	**Property Location**	**Application Description**
City of Joondalup	Portion of 9040 (34) Kallatina Drive, Iluka	Mixed Commercial Centre (Iluka Plaza)
City of Joondalup	Lot 33 and Lot 34 Tuart Trail, Edgewater	Fourteen (14) Multiple Dwellings
City of Stirling	Lot 100 (304) Scarborough Beach Road, Osborne Park	Motor Vehicle Sales and Repair
City of Stirling	Lot 101 (191) Balcatta Road, Balcatta	Extension to the Existing Bunnings Warehouse
City of Wanneroo	Lot 801 (28K) Caloundra Road, Clarkson	Proposed 24 hour drive-through fast food outlet (McDonalds)

11. General Business / Meeting Closure

In accordance with Section 7.3 of the DAP Standing Orders 2017 only the Presiding Member may publicly comment on the operations or determinations of a DAP and other DAP members should not be approached to make comment.

Government of **Western Australia**
Development Assessment Panels

Form 1 – Responsible Authority Report

(Regulation 12)

Property Location:	Lot 22 (25) Koorana Road, Mullaloo
Development Description:	23 Multiple Dwellings
DAP Name:	Metro North-West JDAP
Applicant:	Helm Living Pty Ltd
Owner:	Ms Deborah Brown
Value of Development:	$5.75 million
LG Reference:	DA19/0091
Responsible Authority:	City of Joondalup
Authorising Officer:	Dale Page, Director Planning and Community Development
DAP File No:	DAP/19/01577
Report Due Date:	23 April 2019
Application Received Date:	5 February 2019
Application Process Days:	90 Days
Attachment(s):	1. Location plan. 2. Development plans. 3. Building perspectives. 4. Landscape concept plan. 5. Applicant's DA report. 6. Transport impact statement. 7. Statement against SPP7 and SPP7.3. 8. Acoustic report. 9. Waste management plan.

Officer Recommendation:

That the Metro North-West JDAP resolves to:

Approve DAP application reference DAP/19/01577 and accompanying plans (Attachment 2) in accordance with Clause 68 of the *Planning and Development (Local Planning Schemes) Regulations 2015*, the *Metropolitan Region Scheme* and the City of Joondalup *Local Planning Scheme No*.3 subject to the following conditions:

1. Pursuant to clause 26 of the *Metropolitan Region Scheme*, this approval is deemed to be an approval under clause 24(1) of the *Metropolitan Region Scheme*.

2. This approval relates to the 23 multiple dwellings and associated works only. It does not relate to any other development on the lot. Development shall be undertaken in accordance with the approved plan(s), any other supporting information and the conditions of approval.

3. All stormwater shall be collected onsite and disposed of in a manner acceptable to the City.

4. All development shall be contained within the property boundaries.

5. The car parking bays, driveways and access points shall be designed, constructed, drained and marked to the specification of the City and in accordance with the Australian Standard for Off-street Car Parking (AS/NZS2890.1 2004), Off-street Parking for People with Disabilities (AS/NZS2890.6 2009) and Off-street Commercial Vehicle Facilities (AS2890.2:2002), prior to the occupation of the development. These bays, driveways and access points shall thereafter be maintained to the satisfaction of the City.

6. The recommendations outlined under *Part 4 – Conclusions* of the Acoustic Report dated 29 January 2019 by Lloyd George Acoustics are to be incorporated in the design and construction of the development to the satisfaction of the City.

7. Lighting shall be installed along all driveways and pedestrian pathways and in all common service areas prior to the development first being occupied, to the satisfaction of the City.

8. Detailed landscaping plans shall be submitted to and approved by the City prior to the commencement of development. These landscaping plans are to indicate the proposed landscaping treatments of the subject site and the adjoining road verges, and shall:

    - provide plant species, mature height and spread, plant spacing, pot size and quantities and an irrigation design by a Certified Irrigation Designer;
    - provide all details relating to paving, treatment of verges and tree planting;
    - be based on water sensitive urban design and designing out crime principles to the satisfaction of the City;
    - include details of the deep soil zone/s;
    - provide one shade tree for every four uncovered parking bays;
    - landscaping of the terraced areas between retaining walls;
    - show spot levels and/or contours of the site; and
    - be drawn at an appropriate scale of either 1:100, 1:200 or 1:500.

9. Landscaping and reticulation shall be established in accordance with the approved landscaping plans, Australian Standards and best trade practice prior to the development first being occupied and thereafter maintained to the satisfaction of the City.

10. Six visitor car parking bays shall be provided onsite which are located outside of the security gate and be clearly delineated (marked/signed) for visitor use only, prior to the occupation of the development.

11. Each pair of tandem resident parking bays shown on the approved plans shall be allocated to a single dwelling, and marked accordingly, to avoid obstruction and conflicts with resident parking.

12. A Waste Management Plan indicating the method of rubbish collection shall be submitted to the City prior to the commencement of development and approved by the City prior to the development first being occupied. All rubbish collection shall be in accordance with the approved Waste Management Plan.

13. A Construction Management Plan shall be submitted to and approved by the City prior to the commencement of development. The management plan shall detail how it is proposed to manage:

    - all forward works for the site;
    - the delivery of materials and equipment to the site;
    - the storage of materials and equipment on the site;
    - the parking arrangements and access for the contractors and subcontractors;
    - the management of dust during the construction process;
    - other matters likely to impact on the surrounding properties;
    - management of the shared accessway during construction;

    and works shall be undertaken in accordance with the approved Construction Management Plan.

14. A full schedule of colours and materials for all exterior parts to the development (including retaining walls) shall be submitted to and approved by the City prior to the commencement of development. Development shall be in accordance with the approved schedule and all external materials and finishes shall be maintained to a high standard, including being free of vandalism, to the satisfaction of the City.

15. Any proposed building plant and equipment, including air conditioning units, piping, ducting and water tanks shall be located so as to minimise any visual and noise impact on surrounding landowners, and screened from view from the street. Details shall be submitted to and approved by the City prior to the commencement of development and maintained to the satisfaction of the City.

16. Bicycle parking facilities shall be in accordance with the Australian Standard for Off-street Carparking – Bicycles (AS2890.3-1993 as amended) prior to the development first being occupied. Details of bicycle parking areas shall be provided to the City for approval prior to the commencement of development.

17. Retaining walls shall be of a clean finish and made good to the satisfaction of the City.

18. Prior to occupation of the dwellings, each dwelling shall be provided with adequate clothes drying facilities which are screened from view from the street(s) to the satisfaction of the City. No clothes drying is permitted within the courtyards/balconies of the dwellings.

Advice Notes

1. With respect to the schedule of colours and materials, the City encourages the developer to incorporate materials and colours to the external surface of the building and associated structures, including roofing, that have low reflective characteristics to minimise potential glare from the development impacting the amenity of the adjoining or nearby neighbours.

2. Any existing footpaths and kerbing are to be retained and protected during construction of the development. Should the footpath/kerb be damaged during the construction of the development, it should be reinstated to the satisfaction of the City.

3. Development shall comply with the requirements of the *Environmental Protection Act 1986* and the *Environmental Protection (Noise) Regulations 1997*.

4. In respect to the acoustic report, the internal noise levels for sleeping areas (night time) and living areas of all dwellings should be no greater than 30 dB(A) and 35 dB(A) respectively.

5. All laundry areas to be provided with a floor waste in accordance with the City's Local Laws. In addition to having mechanical ventilation it is recommended that internal laundry areas be provided with condensation dryers to minimise the likelihood of mould occurring.

6. The applicant/owner is advised that verge treatments are required to comply with the City's Street Verge Guidelines. A copy of the Guidelines can be obtained at https://www.joondalup.wa.gov.au/verge-treatments/

7. This approval does not include the dividing fence(s). You are advised that in accordance with the *Dividing Fences Act 1961* you are required to reach agreement with the adjoining owners as to the height, appearance and location of the dividing fence. Further information is available at www.buildingcommission.wa.gov.au.

Details: outline of development application

Zoning	MRS:	Urban.
	LPS3:	Commercial.
Use Class:		Multiple Dwelling.
Strategy Policy:		Not applicable.
Development Scheme:		City of Joondalup Local Planning Scheme No. 3.
Lot Size:		3,062m^2.
Existing Land Use:		Recreation Centre (Mullaloo Squash Centre).

The proposed development comprises the following:

- A four storey building with at-grade car parking accessed via an existing shared vehicle access leg from Koorana Road.
- 23 multiple dwellings with a mix of one, two and three bedroom dwellings.
- A total of 41 resident parking bays and six visitor parking bays onsite
- Façade comprising glass balustrade to balconies, aluminium bronze coloured feature screens, limestone and concrete coloured render finish walls with limestone coloured face brick work.
- Terraced retaining walls with landscaping along the eastern, northern and western lot boundaries.

The development plans, building perspectives and landscaping concept plans are provided in Attachments 2, 3 and 4 respectively.

Background:

The applicant seeks approval for the development of a four storey building comprising 23 multiple dwellings at Lot 22 (25) Koorana Road, Mullaloo (subject site).

The subject site is currently occupied by the Mullaloo Squash Centre and is bound by the Mullaloo Plaza Shopping Centre (11 Koorana Road) to the west, a pedestrian access way and the True North Church (19 Scaphella Avenue) to the north, Mullaloo Community Kindergarten and a drainage sump (27 Koorana Road) to the east, and existing commercial tenancies to the south (19 Koorana Road). A location plan is included in Attachment 1.

The subject site is serviced by a six metre wide vehicle access leg, with an existing driveway which is located over both the subject site and the neighbouring site at 27 Koorana Road, Mullaloo. An easement exists over this access leg. The neighbouring site is owned by the City of Joondalup and is leased to the Mullaloo Community Kindergarten.

Council, at its meeting on 11 December 2018, granted development approval for the extension and refurbishment of the Mullaloo Plaza Shopping Centre (11 Koorana Road, Mullaloo) to the west of the subject site. The approved works include the following:

- Relocation of loading dock to western side of shopping centre building.
- Second storey addition fronting Koorana Road.
- Two additional freestanding commercial tenancies abutting the shared boundary between the subject site and the shopping centre site.
- Reconfiguration of the car parking area.
- Extension and façade upgrades to the shopping centre building.

The design and configuration of the approved shopping centre refurbishment has been taken into account when considering the proposed multiple dwellings at the subject site.

The land use 'multiple dwelling' is a discretionary ('D') in the Commercial Zone under LPS3 and is coded R80 in accordance with clause 26(2) of LPS3 due to the size of the lot being greater than 1,000m^2.

Design WA

On 18 February 2019, the State Government released *State Planning Policy 7: Design of the Built Environment* (SPP7) and *State Planning Policy 7.3: R-Codes Volume 2 – Apartments* (SPP7.3).

SPP7.3 is the first stage of Design WA and will replace Part 6 of the R-Codes once it becomes operative on 24 May 2019. The Department of Planning, Lands and Heritage has advised that, during this transition period, decision makers should have due regard to SPP7.3.

The applicant has provided a statement against the 10 guiding principles of SPP7 and SPP7.3 to demonstrate that the intent and objectives are being achieved through the design of the development (Attachment 7 refers).

As SPP7.3 is not yet operative, the City has undertaken an assessment against the current planning framework and has had due regard to SPP7.3 when considering any discretion against the current planning framework.

Legislation and Policy:

Legislation

- *Planning and Development Act 2005.*
- *Metropolitan Region Scheme* (MRS).
- *Planning and Development (Local Planning Schemes) Regulations 2015*.
- *City of Joondalup Local Planning Scheme No.3* (LPS3).

State Government Policies

- *State Planning Policy 3.1: Residential Design Codes of WA* (R-Codes).
- *State Planning Policy 7: Design of the Built Environment* (SPP7).
- *State Planning Policy 7.3: Residential Design Codes Volume 2 - Apartments* (SPP7.3).

Local Structure Plan/Local Development Plan

Not applicable.

Local Planning Policies

- *Residential Development Local Planning Policy* (RDLPP).
- *Environmentally Sustainable Design Policy.*
- *Subdivision and Dwelling Development Adjoining Areas of Public Space Policy.*

Consultation:

Public Consultation

The application was advertised for a period of 14 days, commencing on 15 March 2019 and concluding on 29 March 2019. Consultation was undertaken in the following manner:

- a letter was sent to 62 owners and occupiers of properties in the vicinity of the subject site;
- a sign was installed on the proposed development site facing Koorana Road; and
- development plans and supporting information was made available for public viewing on the City's website and at the City's Administration building.

A total of 13 valid submissions was received during the advertising period, being four submissions objecting to the development and nine submissions not objecting or supportive of the development.

Of the 13 submissions received, five were from landowners/occupants who were directly consulted as part of the advertising process. Two of these submitters objected, and three submitters supported the proposal. The remaining 57 landowners/occupants directly consulted did not provide comment within the advertising period.

The issues raised in the submissions are summarised in the table below:

No.	Issue Raised	Applicant response	Officer comments
1	The development is too high.	Amended plans show a reduction in overall building height from 13.4m to 13.15m above the finished floor level (250mm reduction). The height variation is due to the topography of the land along the northern boundary, rather than the building being excessively tall. Given the site context, the proposed height variation will not have any significant impact on the amenity of adjoining properties. The proposed floor-to-ceiling heights also allow for fire sprinklers to be concealed, in light of changes to the BCA fire requirements to be introduced in 2020.	The applicant has provided amended plans to reduce the building height by an additional 0.25m. The maximum height of the building is proposed at 15.45m from natural ground level and 13.15m above the finished floor level. Refer to the officer comments below for further detail.
2	The development will negatively affect the aesthetics of the surrounding land.	The building is designed by award-winning architects MJA Studio and will be built using high quality materials that will stand the test of time. This will create an attractive and inviting place that contributes positively to the local character of the area. In its current state, we submit the immediate area is aesthetically quite poor, and the proposed development will significantly improve the visual amenity of the area.	The design and aesthetics of the development is generally supported by the Joondalup Design Reference Panel (JDRP).
3	The ground floor should include commercial tenancies (retail and restaurant/café land	There is no requirement for commercial uses at ground level. Given the site's location away from passing trade, and at the	There is no provision which requires a mix of residential and commercial land uses on the subject site.

No.	Issue Raised	Applicant response	Officer comments
	uses).	'back' of the centre, any commercial use is likely to struggle to be viable. The ground level residential interface to the reserve and surrounding properties is attractive and appropriate in the site context.	The landowner has the ability to decide what is developed on their land subject to the land use permissibility table and the applicable development provisions under the City's *Local Planning Scheme No. 3.* (LPS3) and/or R-Codes.
4	The development will improve the outlook and modernise the area.	Agreed.	Noted.
5	The development is much needed in the area.	Agreed.	The development of multiple dwellings on the subject site will provide a greater diversity in housing product in an area which is characterised predominantly by detached single houses on larger lots.
6	The design should be in keeping with the surrounding area and the new renovation of the shopping centre.	Agreed. The design is a high quality contemporary design and will complement the contemporary form and materials being utilised for the upgrading of Mullaloo Plaza.	The design is considered to respond to its context and the existing/desired character of the locality.
7	Too many dwellings for block size.	The proposed development has a plot ratio of 0.7, which is significantly lower than the maximum 1.0 plot ratio permitted under the R80 density code. The additional dwellings will assist in supporting the provision of services to the local community, and it is not anticipated that the additional residents will place significant additional demand on existing infrastructure.	The proposal complies with the 'deemed-to-comply' requirements in respect to plot ratio area.
8	Not enough parking	The development	The plans have been

No.	Issue Raised	Applicant response	Officer comments
	provided.	provides parking consistent with the 'deemed-to-comply' provisions of the R-Codes. The parking is sufficient to accommodate the anticipated demand.	amended to ensure the total amount of resident and visitor car parking provided onsite complies with the 'deemed-to-comply' requirements of the R-Codes. Under the R-Codes, six visitor parking bays and 31 resident bays are required onsite. The applicant has proposed six visitor bays and 41 resident bays onsite, which results in a surplus of 10 resident bays.
9	Excessive traffic on service road adjacent to community centre/kindergarten.	The application is supported by a Traffic Impact Assessment, which demonstrates the traffic generated by the proposed development may be readily accommodated by the local road network. The methodology and recommendations of the Transport Impact Statement are accepted by the City.	The City has reviewed the Transport Impact Statement provided by the applicant (Attachment 6) and is satisfied that the vehicle trips generated by the proposal will not significantly impact the right-of-way or the existing road network. Refer to the officer comments below for further detail.
10	Safety hazard due to rubbish collection.	The application is supported by a Traffic Impact Statement and Waste Management Plan, which demonstrate that waste vehicles can service the site safely and effectively. The methodology and recommendations of the Traffic Impact Statement are accepted by the City.	The City has reviewed the waste management plans provided by the applicant (Attachment 9) and is satisfied the method of collection from the site is appropriate.
11	Mullaloo cannot support the significant increase in population.	According to the 2016 Census, Mullaloo has 2,264 dwellings. The proposed development comprises 23 dwellings, equating to a 1% increase in the number of dwellings	The applicable R80 coding of the subject site allows for this scale and density of residential development. There will be no direct impact on existing

No.	Issue Raised	Applicant response	Officer comments
		in the suburb. Assuming a conservative average of two residents per apartment, the development would result in a 0.8% increase in population. It is not expected that this increase would have any measurable impact on infrastructure in Mullaloo.	infrastructure within Mullaloo as a result of the proposal.
12	The squash courts should remain.	Unfortunately, squash has significantly declined in popularity. The proposed development is capable of approval on the subject site and must be determined on its merits. Whether there is an alternative use that some may prefer is not a relevant planning consideration.	There is no ability to force a business to continue operating should the landowner/operator wish to discontinue the use.
13	Proximity to the noise sources, and likely complaints from residents regarding noise.	An acoustic report has been prepared and submitted with the application, which includes modelling of the noise emissions. The acoustic report recommends noise attenuation measures to be incorporated into the building and concludes that noise emissions may be addressed through design and construction. It is appropriate for these matters to be dealt with as conditions of development approval.	The City has reviewed the acoustic report (Attachment 8) provided by the applicant and is satisfied that noise can be mitigated by the use of speciality glazing and acoustic seals to the proposed dwellings. A condition of approval is recommended to ensure the internal noise levels within the dwellings meet the applicable noise level criteria. Refer to the officer comments below for further detail.

Consultation with other Agencies or Consultants

Not applicable.

Joondalup Design Reference Panel (JDRP)

The proposal was presented to the JDRP at its meeting held on 20 March 2019. A summary of the JDRP comments, as well as the City and applicant's response to these items are included below:

JDRP comment	Applicant response	Officer comment
The aesthetics of the design are good, including the colours and materials used.	Noted.	The design, including the colours and materials of the development, are considered to respect the local context and character of the area.
Have you considered stepping the building to assist in respecting the natural slope of the land, particularly along the northern boundary and north-eastern corner of the site?	The proposed design of the built form has been carefully considered to respond to the surrounding context, including topography of the site. The impact of the development is minimised through the use of articulation, varied materials and landscaping. The building has been designed and sited to minimise overshadowing and optimise views and access to northern light, improving the overall amenity of the development. Given the surrounding context and high quality design features incorporated into the proposal, it is considered the proposed development is entirely compatible with its surrounds and will not have any adverse impact on the amenity of surrounding properties.	Although the proposed retaining and fill along the western and eastern lot boundaries does not meet the 'deemed-to-comply' criteria of the R-Codes, it is considered that the terraced retaining and landscaping respects the natural topography of the land and results in a good design outcome for surrounding properties.
The car parking area is quite a harsh environment with vast amounts of hard surfaces. It is recommended that additional landscaping and shade trees be incorporated within this area. In addition, the blank walls abutting the car parking area do not assist in improving the amenity of this space.	Amended plans show additional landscaping adjacent to the car park area and access pathway near the workshop, with the northern carport structure split into two sections with a space to allow light onto the landscaped pathway. The additional landscaping will improve the amenity of the car parking area and entrance to the main building.	Amended plans have been provided by the applicant which include communal open space on the ground floor adjacent to the car parking area to soften this space and to add an additional level of amenity for residents.

JDRP comment	Applicant response	Officer comment
	The southern carport structures have been separated into smaller modules, to allow some daylight penetration and relieve the appearance of the structures.	
There appears to be very little, if any, passive/active surveillance of the resident car parking area.	The amended plans show additional glazing at the entrance to the workshop which will provide for increased passive surveillance to the resident car parking area. The proposed development provides for adequate passive/active surveillance to the resident car parking area through the open walkways on all levels of the building. In addition, both the Type A and Type C apartments, on all levels, have habitable rooms with windows looking onto the car parking area, and the terrace to apartment Type A overlooks the approach and entrance. It should also be noted the car park is located behind a secure gate, restricting unauthorised access to this area.	The applicant has provided amended plans which includes communal open space and reduced roofing to the car parking area to provide greater surveillance and amenity to this space.
The southern elevation of the building is blank and should incorporate additional articulation and openings (similar to the other elevations). This is important because of its frontage and visibility from the street.	The amended plans show the wall on the southern elevation has been modified to increase building articulation around the core of the building, providing for an improved frontage and visibility from Koorana Road. Utilising the curved motif that is present throughout all the elevations, the amended design extends the planters either side of the core to meet in the	The applicant has revised the design of the southern elevation to include differing colours and materials to improve the appearance of the building from this elevation.

JDRP comment	Applicant response	Officer comment
	middle. The louvres of the bike/workshop/roof plant area are also repeating from elsewhere to incorporate appropriate screening for the plant deck and allow for potential natural light penetration into the ground floor spaces, continuing down the length of the façade.	
No communal open space has been provided onsite for residents. It is recommended a seating area, BBQ space or a similar level of amenity is provided as part of the development.	Modified plans show seating incorporated into the lobby and car park area at the entrance to the main building. This seating will improve the amenity and 'communal' aspects of the development. The site is immediately adjacent to a neighbourhood centre that is proposed to be developed with additional food and beverage premises, and public BBQ facilities are provided in the park less than 400m away. For these reasons, we submit BBQ (or similar) facilities would most likely be underutilised and would cost residents additional fees for little benefit. The proposed landscaped seating areas are appropriate and will provide opportunities for incidental interactions between neighbours.	The applicant has provided amended plans which include the provision of communal open space. This space increases the amenity and shading within the car parking area. In addition, the development is located directly adjacent to the Mullaloo Plaza Shopping Centre and Charonia Park which provide a high level of amenity for future residents. There is no requirement under the R-Codes for communal open space to be provided on site.
There is a large volume of roof over the car parking bays. These carports do not match the same aesthetics as the building and could be broken-up or separated to improve	Amended plans show additional landscaping adjacent to the car park area and access pathway near the workshop, with the northern car port structure split into two sections with a space to allow light onto the	The applicant has provided amended plans which reduce the amount of roofing to the car parking area. This has allowed for further landscaping of the area and communal open

JDRP comment	Applicant response	Officer comment
their appearance and assist with the amenity within the car parking area.	landscaped pathway. The additional landscaping will improve the amenity of the car parking area and entrance to the main building. The southern car port structures have been separated into smaller modules, to allow some daylight penetration and relieve the appearance of the structures.	space.
The lot boundary setbacks to the building are considered appropriate based on the context of the site. It is considered that increasing the setbacks would impact the architecture and form of the development.	The minimum setbacks to the eastern and western boundaries are mitigated by the larger average setbacks resulting from the building receding from the boundaries. The adjoining properties comprise non-residential uses and are characterised by open car parks, pedestrian accessways, drainage sumps, vacant land and the back of commercial buildings. The western portion of the building is adjacent to an unorthodox 'spur' in the corner of Lot 11, which is realistically incapable of being developed for residential purposes, or indeed any built form. The minor setback variations will have no impact on residential privacy, amenity, access to daylight, ventilation or acoustic privacy.	It is considered that the proposed lot boundary setbacks meet the applicable 'design principles' of the R-Codes and will have minimal impact on the adjoining non-residential uses.
The outdoor living area of dwelling type B (on the ground floor) is located adjacent to a future parapet wall on the neighbouring site. This may impact the	The amenity and outlook of dwelling type B on the ground floor will be not significantly impacted by the future parapet wall located on the adjoining property, given the outdoor living	It is noted that the (future) western lot boundary wall is located 5.5 metres from the outdoor living area, and, based on the landscaping concept plan, semi-mature trees will be

JDRP comment	Applicant response	Officer comment
outlook and amenity of this unit.	area of this unit and adjoining open space is to be landscaped with shade trees and the natural ground level fall in this portion of the site will minimise the impact of the wall. The proposed landscaping within this portion of the site will screen the parapet wall from view, provide a buffer to the future adjoining commercial properties and improve amenity and outlook for this unit.	planted to provide additional screening from this dwelling.
The air-conditioning units and plant equipment should all be located on the roof and screened from view.	Plant equipment and air-conditioning units will be located in screened plant areas.	If approved by the JDAP, it is recommended a condition of approval is included which requires the screening of all plant equipment as viewed from adjoining properties and the public realm.

Planning Assessment:

The City has completed an assessment of the proposal against the relevant provisions of the Regulations, LPS3, the R-Codes, SPP7, the City's RDLPP and *Subdivision and Dwelling Development Adjoining Areas of Public Space* Policy. The proposal complies with the majority of these requirements, with the exception of those listed below:

Item	Requirement	Proposal	Compliance
Clause 6.1.2 - Building Height under R-Codes.	Maximum of 13 metres to top of external wall (concealed roof) as measured from natural ground level.	Maximum building height of 15.45 metres.	2.45 metres higher than 'deemed-to-comply' requirement. See officer comments below.
Clause 6.1.4 – Lot boundary setbacks under R-Codes.	In accordance with Table 5, lots with a width of greater than 16 metres require a four (4) metre setback.	Western lot boundary Minimum 1.6 metres Northern lot boundary Minimum 2.8 metres Eastern lot boundary Minimum 1.2 metres	Up to 2.8 metres less than 'deemed-to-comply' requirement. See officer comments below.

Item	Requirement	Proposal	Compliance
		Southern lot boundary Minimum 1.8 metres	
Clause 6.1.5 - Open space under R-Codes.	No requirement specified under the R-Codes – refer to local structure plan and/or local development plan, however none exist for the site.	46% open space provision proposed onsite.	See officer comments below.
Clause 6.3.6 & 6.3.7 - Site works and Retaining Walls under R-Codes.	Fill/retaining shall not exceed 0.5m from natural ground level unless setback greater than one metre from lot boundary. Excavation or filling within a site and behind a street setback like is limited by compliance with building height limits.	Western boundary Maximum 1.4m high with 0.7 metre setback. Eastern boundary 1.3m high, nil setback. Building height does not meet the 'deemed-to-comply' criteria under R-Codes.	Maximum 0.9 metres higher than 'deemed-to-comply' requirement. See officer comments below.
Clause 6.4.3 – Dwelling size under R-Codes.	• Minimum of 20%, and maximum of 50%, one-bedroom dwellings. • Minimum of 40% two-bedroom dwellings. • Dwellings >40m² plot ratio area.	• 17% (four) one-bedroom dwellings. • 48% (11) two-bedroom dwellings. • 35% (eight) three-bedroom dwellings. • No dwelling less than 40sqm.	One less one-bedroom dwelling than 'deemed-to-comply' requirement. See officer comments below.
Utilities and facilities under R-Codes.	Storerooms a minimum of 4m² in area, a minimum dimension of 1.5m and accessed from outside the building/dwelling.	Store rooms proposed are a minimum of 3.4m², with minimum dimension of 1.4 metres and some being accessed internal to the dwellings.	The proposed size of the stores is considered to meet the relevant 'design principles' of the R-Codes as they are conveniently located, not directly visible from street/public realm and can be secured and managed appropriately.

Officer Comments

Building height

In accordance with clause 6.1.2 of the R-Codes, the maximum building height permitted for a concealed roof is 13 metres from natural ground level. However, the proposed development includes a maximum building height of 15.45 metres from natural ground level in the north-eastern corner of the site.

In considering the acceptability of the additional building height the City has assessed the development against the relevant design principle of clause 6.1.2 of the R-Codes which states:

"Building height that creates no adverse impact on the amenity of adjoining properties or the streetscape, including road reserves and public open space reserves; and where appropriate maintains:

- *adequate access to direct sun into buildings and appurtenant open spaces;*
- *adequate daylight to major openings into habitable rooms;*
- *access to views of significance;*
- *buildings present a human scale for pedestrians;*
- *building façades designed to reduce the perception of height through design measures; and*
- *podium style development is provided where appropriate."*

In addition, clause 2.2 *Building heights* of SPP7.3 includes an acceptable outcome of four storeys and/or 15 metres high. The element objectives under SPP7.3 in respect to building height focuses on the character of the area, topography, articulated roof design and maintaining access to daylight for adjoining residential development.

It is considered the proposed development meets the above design principles and applicable element objectives due to the following:

- The development provides adequate access to sunlight due to the orientation of the building and the location of balconies and major openings along the northern elevation.
- The site is surrounded by non-residential development and therefore the building height discretion will not directly impact any surrounding residents.
- Due to the location of the site, the land immediately adjoining and the significant distance from the coast (approximately 1.2 kilometres), the development is unlikely to impact on any views of significance from adjoining land.
- The majority of the height discretion proposed is due to the topography of the land, which slopes approximately four metres downwards towards the northern lot boundary. The levels of the adjacent drainage sump also impact on the natural topography of the land. The southern elevation of the building meets the 'deemed-to-comply' height requirements being 12.65 metres from natural ground level.
- The design quality, as well as the colours and materials proposed, are all of a high standard of built form and will positively contribute to the streetscape and the surrounding non-residential development.
- Concealed roofing has been proposed, as well as a large amount of glazing to reduce the perceived bulk and scale of the building.

As a result, the City considers that the proposed building height of the development is appropriate in this instance.

Lot boundary setbacks

In accordance with clause 6.1.4 and Table 5 of the R-Codes, the required setback to all lot boundaries is four metres with the following minimum setbacks proposed:

- Western lot boundary – minimum 1.6 metre setback.
- Northern lot boundary – minimum 2.8 metre setback.
- Eastern lot boundary – minimum 1.2 metre setback.
- Southern lot boundary – minimum 1.8 metre setback.

In considering the acceptability of the lot boundary setbacks the City has assessed the development against the relevant design principle of clause 6.1.4 of the R-Codes which states:

"Buildings set back from boundaries or adjacent buildings so as to:

- *ensure adequate daylight, direct sun and ventilation for buildings and the open space associated with them;*
- *moderate the visual impact of building bulk on a neighbouring property;*
- *ensure access to daylight and direct sun for adjoining properties; and*
- *assist with the protection of privacy between adjoining properties."*

It is also noted that SPP7.3 includes an acceptable outcome of three metre setbacks to side and rear lot boundaries and the associated element objective focuses on the existing/desired streetscape, and adequate separation between properties and landscaping.

It is considered the proposed development meets the above design principle and relevant element objectives due to the following:

- The reduced setbacks still provide for daylight, direct sun and ventilation for dwellings, particularly as the majority of dwellings have major openings and/or outdoor living areas which have a northern aspect.
- The setbacks proposed to the eastern and western lot boundaries have been calculated from the balconies, and the southern lot boundary setback has been calculated from the proposed carport. Being open structures, the visual impact of the reduced setback to these boundaries is minimal.
- The reduced setback to the northern lot boundary relates to the two vertical tubular features which protrude forward of the northern façade of the building. The reduced setback to this boundary only relates to 16% of the lot boundary, and the remaining portion of the building (including balconies) is set back greater than four metres.
- The adjoining properties include non-residential land uses, and therefore no residents will be directly impacted by the development.
- The articulated and varied setback of the development which includes balconies, screening and architectural features add interest and reduce the bulk of the building.
- As no residential properties adjoin the site, the development complies with the 'deemed-to-comply' requirements of the R-Codes in respect to visual privacy.

As detailed above, the City considers that the proposed lot boundary setbacks are appropriate in this instance.

Open space

In accordance with clause 6.1.5 of the R-Codes, an open space provision is required to be identified under an applicable local structure plan or local development plan, however none exist over the subject site.

As a result, the City has considered the proposed open space provision against the the relevant design principle of clause 6.1.5 of the R-Codes which states:

"Open space respects existing or preferred neighbourhood character and responds to the features of the site."

It is noted that SPP7.3 does not include any standards for open space provision either. Instead SPP7.3 controls the scale and footprint of development based on plot ratio, landscaping, communal open space and setback requirements.

It is considered the proposed development meets the above design principle and relevant element objectives due to the following:

- A total of 46% open space provision has been proposed by the applicant. It is noted that R60 coded development under the R-Codes requires 45% open space, and therefore the amount provided is consistent with a lower density coding.
- Being located adjacent to a local centre and Charonia Park, future residents will have access to areas of high amenity.
- The majority of open space provided on site is located along the perimeter of the lot boundaries to assist in reducing the visual impact of the building on surrounding land.
- Deep soil zones have been provided to increase the amount of substantial landscaping onsite.
- Communal open space has been provided on the ground level adjacent to the car parking area and lobby, which includes causal seating areas and a communal workshop for residents.

As a result of the above, the proposed open space provision on site is considered acceptable in this instance.

Site works and retaining

In accordance with the 'deemed-to-comply' requirements of clause 6.3.6 and 6.3.7 of the R-Codes, site works and retaining behind the street setback area and within one metre of a lot boundary are permitted to a maximum height of 0.5 metres.

The proposal includes retaining/fill setback at nil metres to the eastern lot boundary which is 1.3 metres above natural ground level. In addition, retaining/fill is also proposed along the western lot boundary which is a maximum of 1.4 metres high and is setback 0.7 metres from the boundary.

In considering the acceptability of the proposed site works and retaining the City has assessed the development against the relevant design principle of clause 6.3.6 and 6.3.7 of the R-Codes which states:

"Development that considers and responds to the natural features of the site and requires minimal excavation/fill.

Where excavation/fill is necessary, all finished levels respecting the natural ground level at the boundary of the site and the adjoining properties and as viewed from the street."

"Retaining walls that result in land which can be effectively used for the benefits of residents and do not detrimentally affect adjoining properties and are designed, engineered and adequately landscaped having regard to clauses 6.3.6 and 6.4.1"

Although SPP7.3 does not include any specific provisions regarding retaining and fill, the relationship and response to the topography of the land is considered under clause 2.2 *Building height* and clause 3.2 *Orientation* of SPP7.3.

It is considered the proposed development meets the above design principles and relevant element objectives due to the following:

- The site slopes a maximum of four metres downwards towards the northern portion of the site, particularly within the north-eastern corner which is adjacent an existing drainage sump. It is difficult to accommodate such a significant slope in such a small area without impacting the aesthetics and accessibility of the development.
- The retaining has been terraced and landscaped to improve its appearance and respects the natural slope of the land.
- The retaining provides a physical separation of the pedestrian access way and the subject site, whilst still maintaining active surveillance of this space.
- As the majority of fill and retaining is located along the northern lot boundary, the only land that will be potentially impacted by the additional height and reduced setback of the walls is the public pedestrian access way and the drainage sump.

As a result, it is considered the proposed site works are acceptable in this instance.

Dwelling size

In accordance with the 'deemed-to-comply' requirements of clause 6.4.3 of the R-Codes, residential development that contains more than 12 dwellings is to provide diversity in unit types and sizes, including a minimum of 20% one-bedroom dwellings, which equates to five one-bedroom dwellings in this instance.

In considering the acceptability of the proportion of one-bedroom dwellings proposed (17%), the City has assessed the development against the relevant design principle of clause 6.4.3 of the R-Codes which states:

"Each dwelling within the development is of a sufficient size to cater for the needs of the residents. The development must provide diversity in dwellings to ensure that a range of types and sizes is provided."

In addition, the element objective of clause 4.8 *Dwelling mix* of SPP7.3 focuses on providing a range of dwelling types, sizes and configurations which cater for a diverse demographic of residents.

It is considered the development meets the above design principle and element objective as the size of dwellings is greater than the minimum 40m² plot ratio area (and therefore meets the 'deemed-to-comply' requirement under the R-Codes) and a diversity of dwellings is still proposed; including four one-bedroom, 11 two-bedroom and eight three-bedroom dwellings. The suburb of Mullaloo is characterised predominantly by single detached houses on larger lots, and therefore considering the wider context of the locality, the proposed development provides a greater diversity of housing product for the area.

As a result, the reduced number of one-bedroom dwellings is supported by the City.

Vehicle access and movement

A right of carriageway easement currently exists between the subject site and the adjoining Mullaloo Community Kindergarten which allows for shared access over a six metre portion of each site (as depicted as a black dashed line on the site plan included in Attachment 2). Although the applicant is proposing to resurface the existing driveway, its location and width remains unchanged.

In addition, the applicant has prepared a Transport Impact Statement (Attachment 6 refers) which states that the traffic volumes generated by the proposal will be 105 vehicle trips per day (vtpd), 12 vehicle trips per hour (vtph) during the morning (AM) peak and 7vtph during the evening (PM) peak. It is stated that the vehicle trips generated by the proposal can be accommodated by the existing road network.

It is noted that the existing squash courts are not currently operating at their peak capacity in respect to traffic, however based on the *Roads and Traffic Authority (NSW) - Guide to Traffic Generating Developments* (2002), typically squash courts generate a total of 3vtph per court during the PM peak. As a result, based on the nine existing squash courts onsite, the current land use could generate a total of 27vtph during PM peak. Therefore, the proposed development is anticipated to generate 20vtph less than the peak performance of a typical squash centre.

Further, based on the *WAPC's Transport Impact Assessment Guidelines,* additional traffic analysis of the local road network is only necessary where a trip generation rate of more than 100vtph is estimated. As the proposal only generates a peak of 12vtph (12% of this amount), the detail and analysis provided within the Transport Impact Statement is considered sufficient.

As a result, based on the Transport Impact Statement provided by the applicant, the traffic generated by the development will not significantly impact the existing road network.

Noise

The applicant has provided an Acoustic Report (Attachment 8 refers) which outlines the impacts of noise associated with the development and the surrounding land.

There are a number of surrounding land uses that due to the nature of their operations emit a greater level of noise than typically found within a residential area. The existing Church, kindergarten, restaurant and shopping centre all generate noise which could impact future residents of the development.

The Acoustic Report identifies the adjacent Church land use as being the most notable emitter of noise due to its operations and location in respect to balconies and openings of the dwellings. An exhaust fan associated with the Chinese restaurant to the south also results in noise emissions which have the potential to impact future residents.

Under the *Environmental Protection (Noise) Regulations 1997* (Noise Regulations), a Church generates 'Call to Worship' and 'Community Noise' emissions which can exceed the normal assigned (allowable) levels. As a result, they can have a greater impact on sensitive land uses compared to other noise emitting uses.

AS2107:2016 *Acoustic – Design Sound Levels and Reverberation Times for Building Interiors* states that houses and apartments in suburban areas or near minor roads need to achieve a noise level range between 30 to 35 dB(A) in sleeping areas (night-time) and 30 to 40 dB(A) in living areas. The acoustic consultants have stated that internal sound levels of 35 dB(A) for the living rooms (during the day) and 30dB(A) for sleeping areas (during the night) are an acceptable level of noise in this instance.

The internal noise levels of sleeping areas during night-time hours has been calculated at 34 dB(A) for those dwellings impacted by the Church (north) and 32 dB(A) for dwellings impacted by the restaurant (south). The report states that the internal noise levels of bedrooms can be reduced to an acceptable level of 30 dB(A) by including 6.5mm thick glazing to bedrooms impacted by the restaurant, and 10.5mm thick glazing and acoustic seals to bedrooms impacted by the Church. Therefore, the internal noise level of bedrooms can achieve the appropriate levels through the installation of speciality glazing and acoustic seals as outlined in the acoustic report.

The dwellings impacted by the adjacent shopping centre were considered compliant with the acceptable noise levels based on the emissions measured by the acoustic consultant. It is noted that the assessment did not consider the additions to the shopping centre approved on 11 December 2018. Although it is difficult to estimate the potential noise emissions of the future development of the shopping centre, the orientation of the proposed buildings means that noise emissions will largely be focused west (internally) towards the existing shopping centre building, away from future residents. An acoustic report was submitted as part of the development application for the shopping centre additions, however this was focused on relocation of the load dock and potential impact on residential properties to the north west of the shopping centre site. Any future mechanical ventilation and other noise emitting plant equipment will need to be located and designed appropriately to avoid exceeding the assigned (allowable) levels under the *Environmental Protection (Noise) Regulations 1997*. It is considered that setting back the multiple dwellings from the common boundary to meet the deemed-to-comply requirements of the R-Codes would make negligible difference to the protection of dwellings from potential future noise sources from the shopping centre.

Should the development be approved, a condition is recommended for the development to comply with the recommendations of the acoustic report, to the satisfaction of the City.

Options/Alternatives:

Not applicable.

Council Recommendation:

Not applicable.

Conclusion:

As detailed above, the proposed development is considered to comply with the relevant 'deemed-to-comply' and 'design principles' under the R-Codes and the design principles of SPP7. In addition, those aspects of the development which require assessment against the design principles of the R-Codes have also been considered against the applicable element objectives of SPP7.3 to ensure the development meets the intended outcomes under this soon to be operative state planning policy.

Overall, the design and layout of the development complements and responds to the existing and desired character of the area, will provide greater diversity of housing product and will integrate well with Mullaloo Plaza Shopping Centre and Charonia Park.

As a result, it is recommended that the JDAP approve the application subject to conditions.

PLANNING SOLUTIONS | PS
URBAN & REGIONAL PLANNING

SCALE	1: 2,000 @ A4
DATE	29 January 2019
FILE	01 190129 5868 Aerial Photograph.dwg
REVISION	1/DR/First Draft/29.01.2019

Scale Bar (m)
0 50

AERIAL PHOTOGRAPH

LOT 22 (25) KOORANA ROAD,
MULLALOO, WA

FIGURE
01

Rev.	Description	Drawn	Date	Checked
A	Initial Issue	ERG	10/01/2019	NS

SCALE 1:200 @ A1

0 10 20

ALL DISTANCES ARE IN METRES

For a fresh to scale reproduction of this plan plot it as A1 with the Plotting Scaling set to None

The boundaries shown on this plan were not re-established as part of this survey, therefore this plan does not guarantee their accuracy. Existing easements, encumbrance or interest are not depicted and a title search is recommended to obtain this information. Re-establishment of the cadastral boundaries is recommended for any proposed works on or near existing boundaries.

FS 565311 OSH 591267

Surveyor: DRD
Survey Date: 07/09/2018
Prints/Cad:-

N

DETAIL SURVEY
25 KOORANA ROAD
MULLALOO

CLIENT: HELM LIVING Pty Ltd

The contents of this plan are owned and copied in all the data shared within the previous parties. All consultants and persons acting to utilise the data should satisfy themselves of this point prior to undertaking the commencement of any.

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Project Engr	NEEL SIMPSON	Datum	VD(AHD / AHD)

Job Number: 101726 - DE - 001 - A
Type:
Plan Number:
Revision:

MJA studio

LEVEL 1, SUITE 6, 23 RAILWAY ROAD, SUBIACO WA 6008
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REV.	DATE	AMENDMENT
A	25.01.2019	FOR CONSULTANT REVIEW
B	29.01.2019	PRELIM DA ISSUE
C	31.01.2019	DA ISSUE

CLIENT

HELM LIVING PTY LTD

PROJECT

MULLALOO RESIDENTIAL

PROJECT ADDRESS

25 KOORANA ROAD
MULLALOO

MJA PROJECT NUMBER

17080

PROJECT STATUS

DEVELOPMENT APPROVAL
APPLICATION

TRUE NORTH

SCALE 0 2 4 10

1:200 @ A1

DRAWING

SURVEY

DRAWING NO.	DRAFTER	CHECKED	REV.
DA1.01	-	-	C

23 APTS

	A	B	C	D	E	F		
	1 X 1	1 X 1	2 X 2	2 X 2 + internal store	3 X 2	3 X 2 + internal store		TOTAL
	51	51	75	84	95	119		
G		1		2	1	1		5
1	1		1	2	1	1		6
2	1		1	2	1	1		6
3	1		1	2	1	1		6
TOTAL	3	1	3	8	4	4		23
TOTAL STRATA	153	51	225	672	380	476		1957

MIX			RESI CARBAYS
1X1	(4)	17%	4
2X2	(11)	48%	21
3X2	(8)	35%	16
			41 TOTAL

PARKING CALCS.	
VIS BAYS REQUIRED:	6
PROVIDED:	6
RESI BAYS:	41
BIKE BAYS:	12

SITE DENSITY	
SITE AREA:	3062m²
R80=	1
PR PROVIDED:	2163.7m² (0.7 PR)

LANDSCAPE	
STRUCT. L'SCAPE:	33m² (1% of site area)
IN GROUND L'SCAPE:	637m² (21% of site area)

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PROJECT STATUS

DEVELOPMENT APPROVAL APPLICATION

TRUE NORTH

SCALE

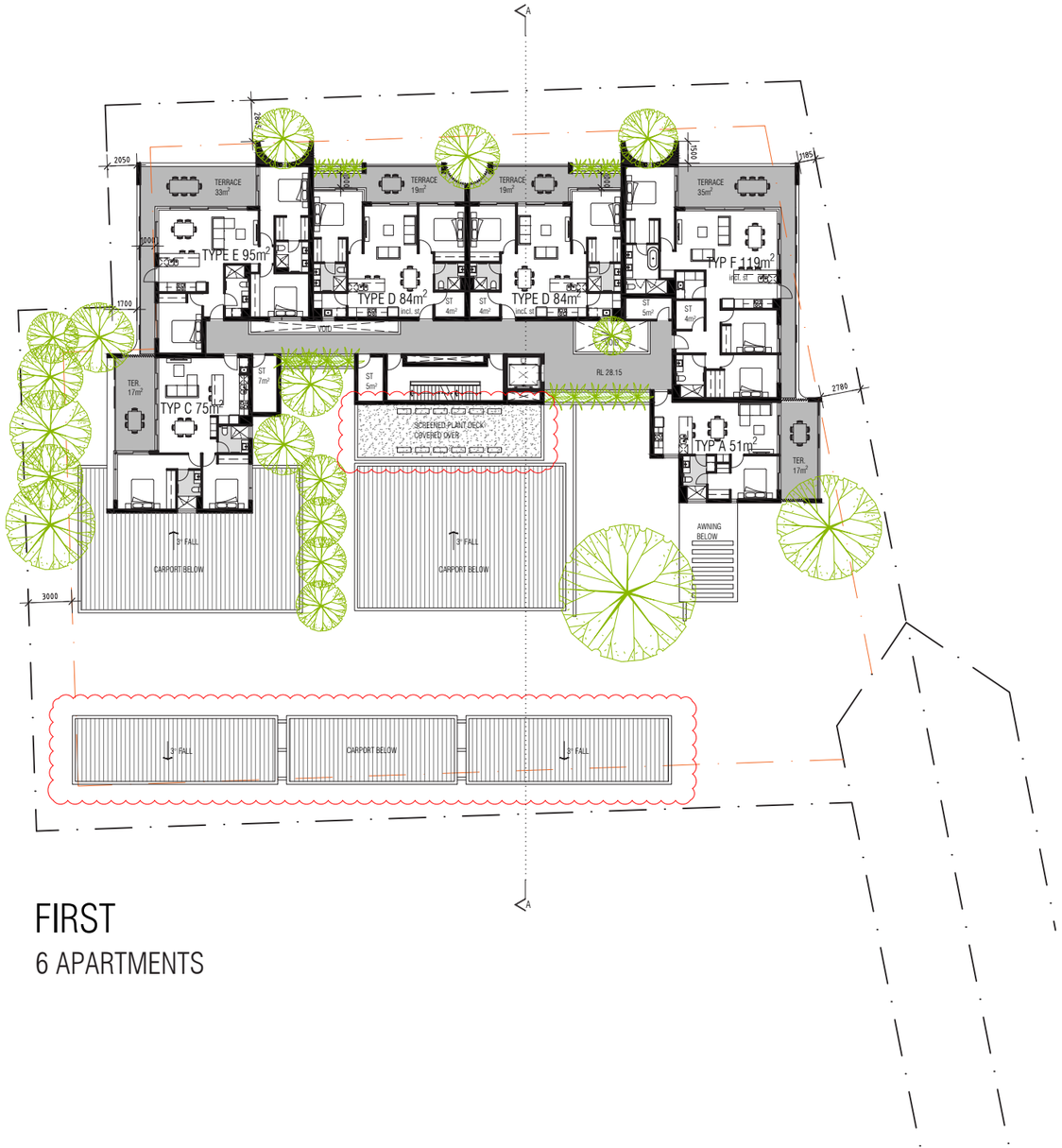
0 2 4 10

1:200 @ A1

DRAWING

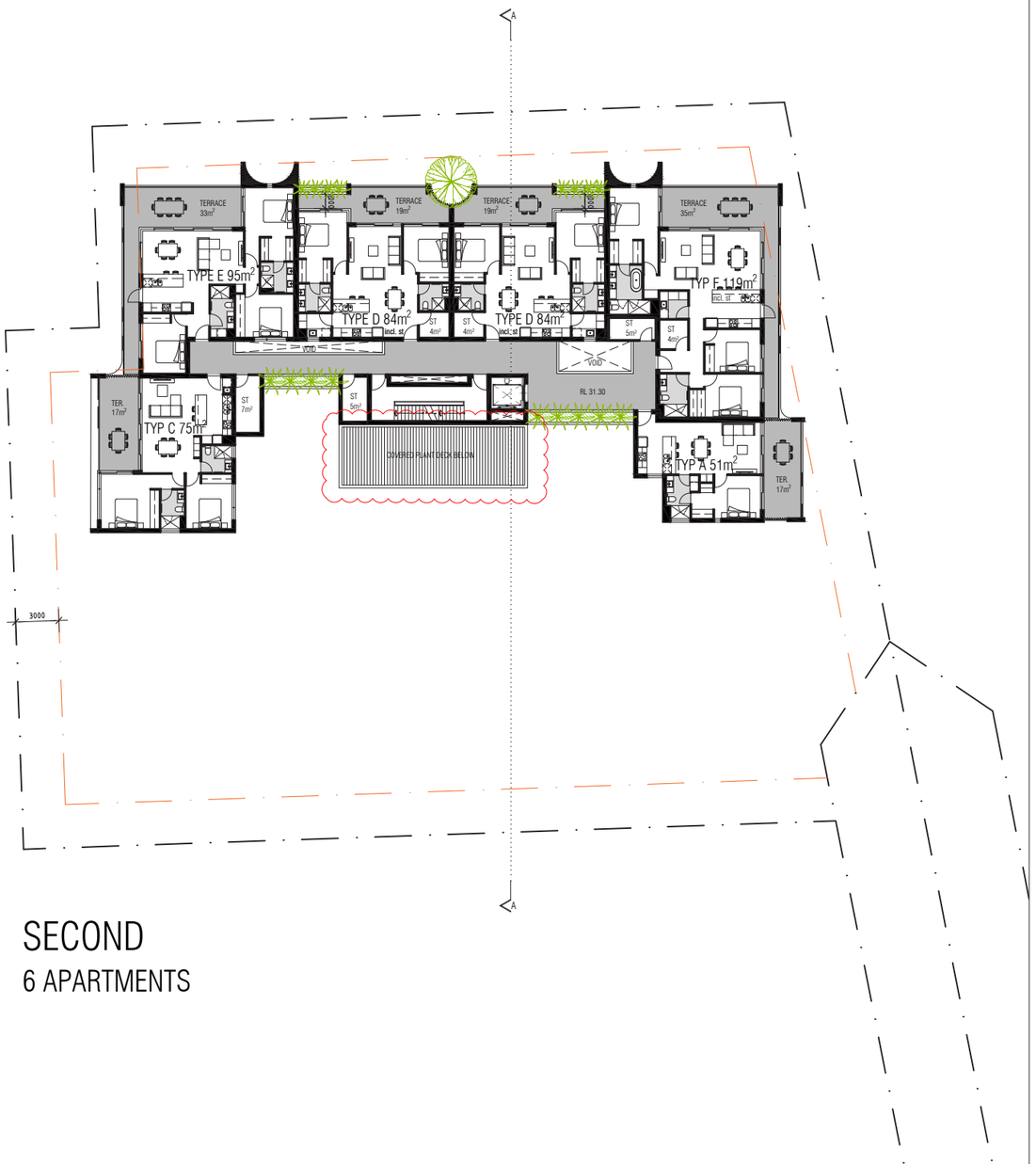
GROUND FLOOR PLAN

DRAWING NO.	DRAFTER	CHECKED	REV.
DA3.01	SA	-	E



FIRST

6 APARTMENTS



SECOND

6 APARTMENTS

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HELM LIVING PTY LTD

PROJECT

MULLALOO RESIDENTIAL

PROJECT ADDRESS

25 KOORANA ROAD
MULLALOO

MJA PROJECT NUMBER

17080

PROJECT STATUS

DEVELOPMENT APPROVAL APPLICATION

TRUE NORTH

SCALE

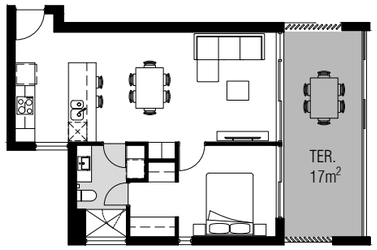
0 2 4 10

1:200 @ A1

DRAWING

1ST / 2ND FLOOR PLAN

DRAWING NO.	DRAFTER	CHECKED	REV.
DA3.02	SA	-	E



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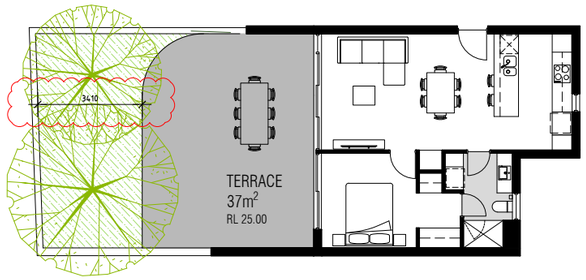

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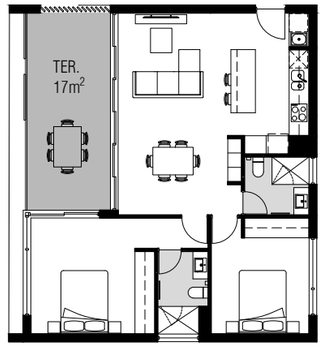

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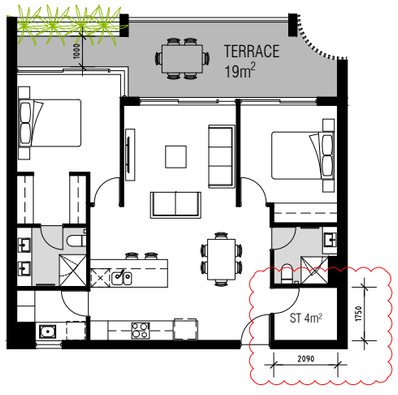

TYPE D
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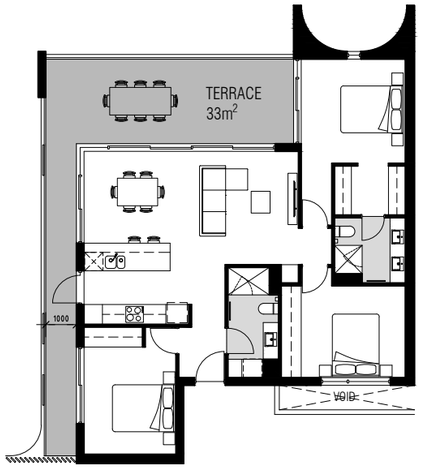
incl. store



TYPE E
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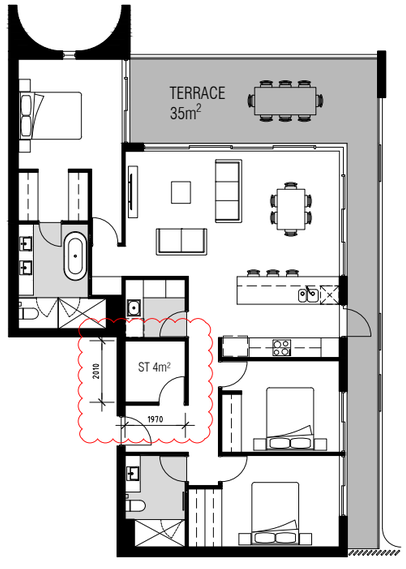

TYPE F
119m^2
incl. store

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HELM LIVING PTY LTD

PROJECT
MULLALOO RESIDENTIAL

PROJECT ADDRESS
25 KOORANA ROAD
MULLALOO

MJA PROJECT NUMBER
17080

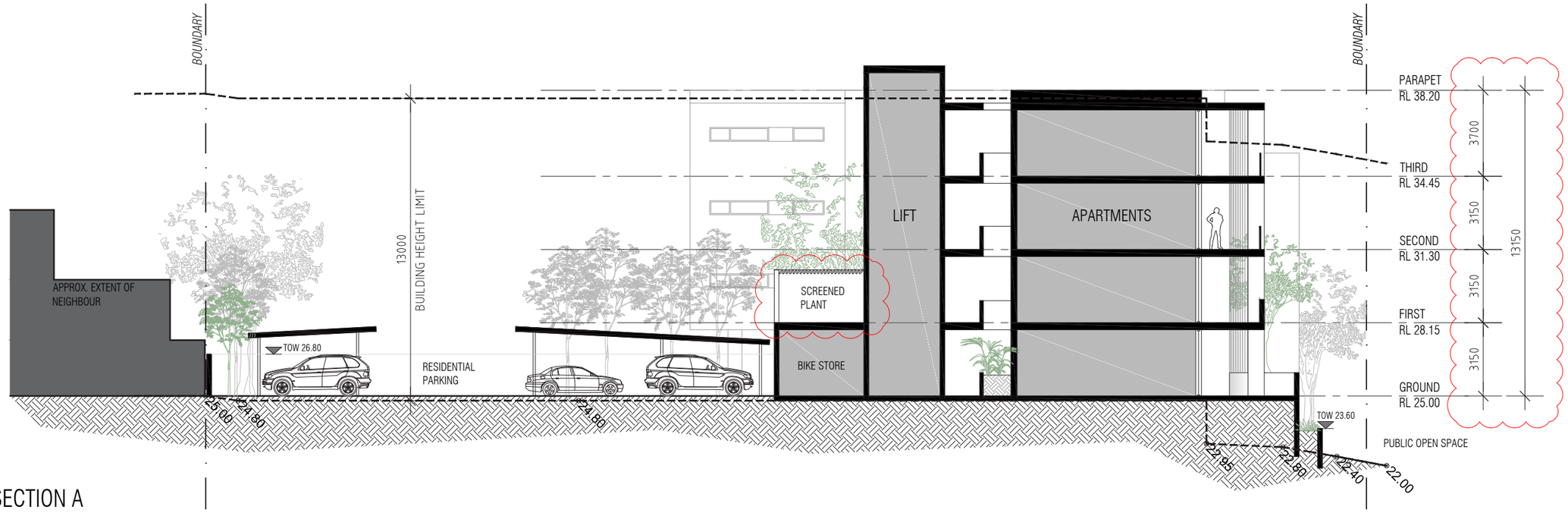
PROJECT STATUS
DEVELOPMENT APPROVAL APPLICATION

TRUE NORTH

SCALE
0 1 2 5
1:100 @ A1

DRAWING
APARTMENT PLANS

DRAWING NO.	DRAFTER	CHECKED	REV.
DA3.04	SA	-	E



SECTION A

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MULLALOO RESIDENTIAL

PROJECT ADDRESS
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MULLALOO

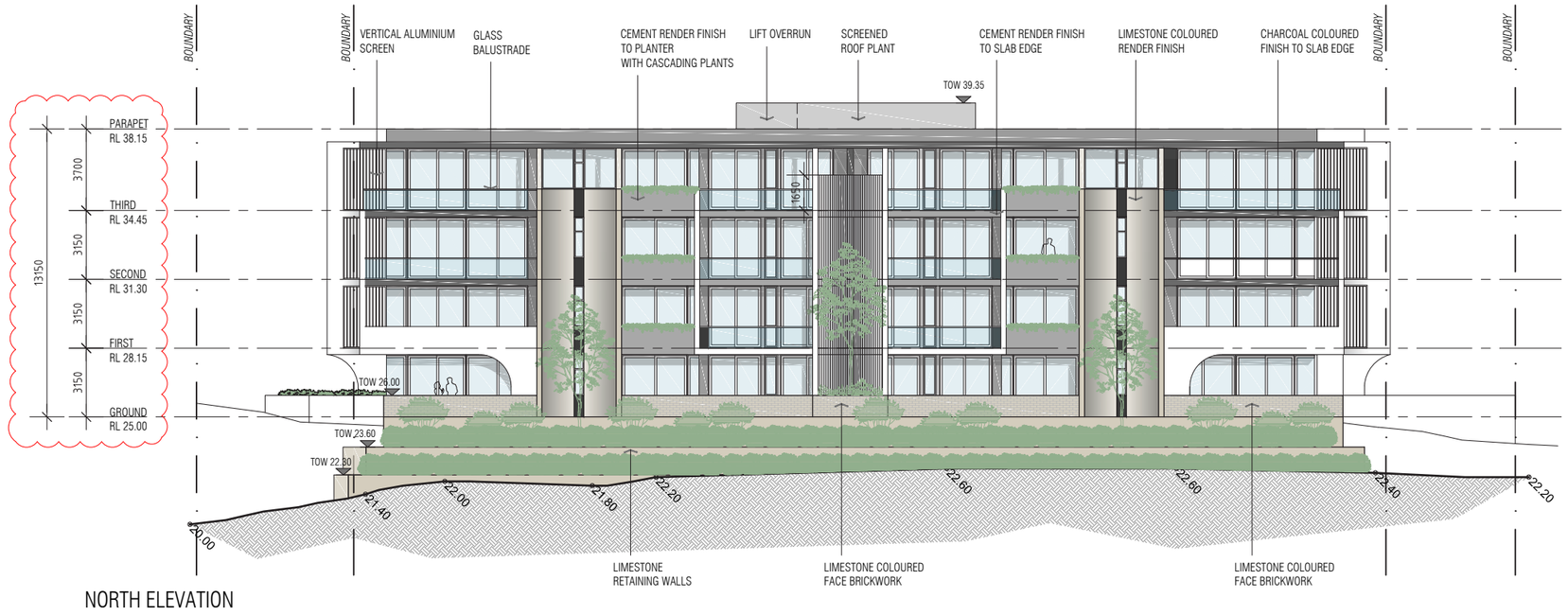
MJA PROJECT NUMBER
17080

PROJECT STATUS
DEVELOPMENT APPROVAL APPLICATION

SCALE
0 1 2 5
1:100 @ A1

DRAWING
DESIGN SECTION

DRAWING NO.	DRAFTER	CHECKED	REV.
DA4.01	SA	-	D



NORTH ELEVATION

WEST ELEVATION

MJA studio

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CLIENT
HELM LIVING PTY LTD

PROJECT
MULLALOO RESIDENTIAL

PROJECT ADDRESS
25 KOORANA ROAD
MULLALOO

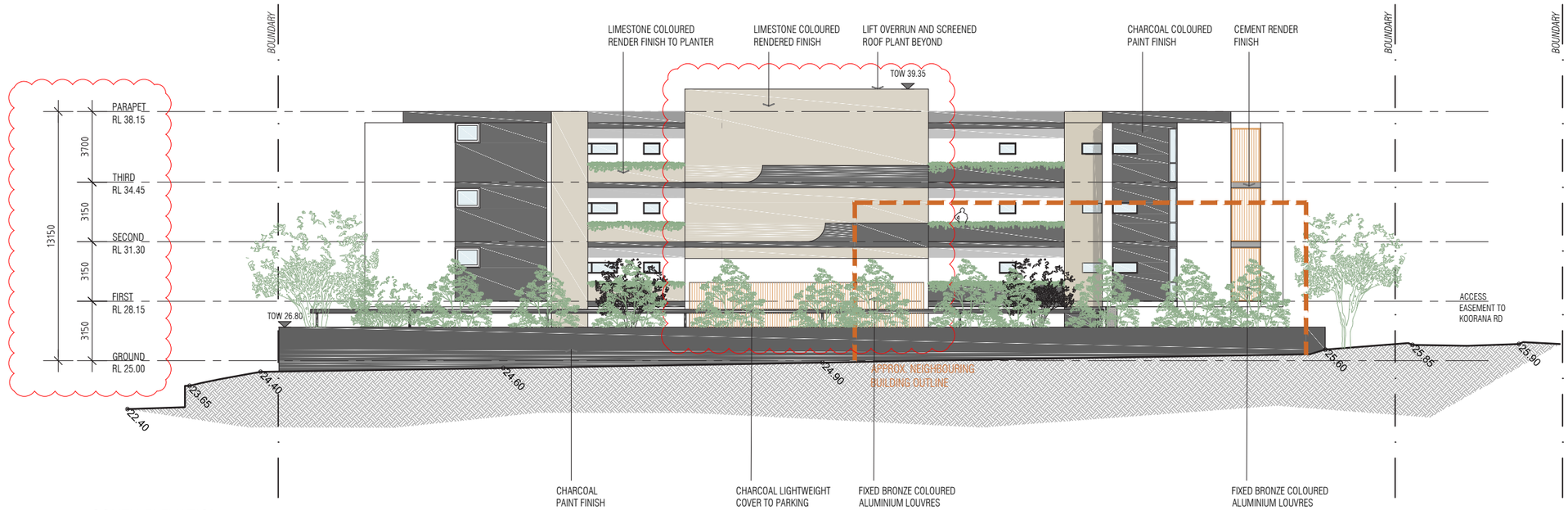
MJA PROJECT NUMBER
17080

PROJECT STATUS
DEVELOPMENT APPROVAL APPLICATION

SCALE
1:200 @ A1
0 2 4 10

DRAWING
ELEVATIONS

DRAWING NO.	DRAFTER	CHECKED	REV.
DA5.01	SA	-	C



SOUTH ELEVATION

EAST ELEVATION

MJA studio

LEVEL 1, SUITE 6, 23 RAILWAY ROAD, SUBIACO WA 6008
T (08) 9388 0333 www.mjastudio.net | admin@mjastudio.net

REV.	DATE	AMENDMENT
A	29.01.2019	PRELIM DA ISSUE
B	31.01.2019	DA ISSUE
C	29.03.2019	REVISED DA ISSUE

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SCALE
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DA5.02	SA	-	C

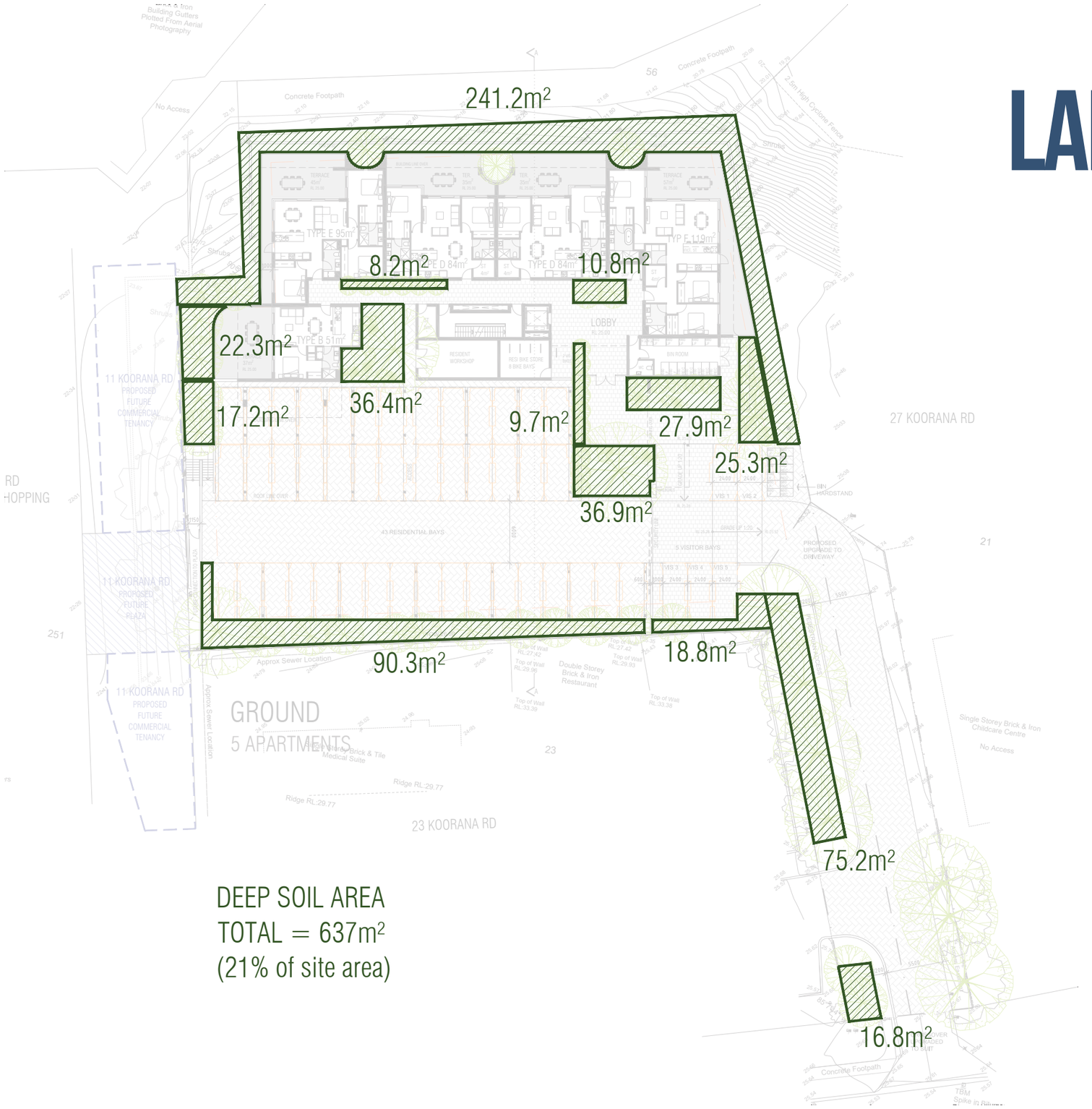
PRINCIPLE 10_

AESTHETICS

The overall built form composition has been carefully considered to respond to the surrounding context, both existing and proposed.

The use of sculptural forms against contrasting colours, textures, and vegetation, has been highly considered to compliment the surrounding context, current and future. Forms of varied depth and shapes work to break up the facade, and interpret the built form into a collection of buildings, that sit comfortably in their surrounds. References to coastal limestone colours, and the extensive presence of brick within the surrounding suburban landscape, are interplayed with soft landscaping from the neighbouring parkland.

Fine grain detail is incorporated into the overall built form through the use of sliding screens, louvres, and bronze batten screens. Feature brickwork and layers of planters at ground introduce texture and visual interest at the level of human scale.



DEEP SOIL AREA
TOTAL = 637m²
(21% of site area)

LANDSCAPE QUALITY

Landscaping forms an integral element of the proposal. MJA_studio and Tim Davies Landscaping have worked in conjunction to proposed appropriate and hardy plants to compliment the site and its built form.

A mixture of deciduous and evergreen trees are proposed throughout the site, these will provide shade in summer, permit solar penetration in winter, and screen commercial neighbours where appropriate.

The planting selections to the internal atrium will tolerate rainforest-like dappled shade, and provide a quiet place to pause and reflect, protected from the outside world.

Planting buffers along the rear boundary will assist in visual privacy between the development and its neighbours through multi-level screening.

The proposal includes 21% deep soil area, with an additional 33m2 of structured planting across floors 1-3.

GROUND FLOOR

INSPIRATIONAL IMAGERY

PRELIMINARY PLANT SELECTION

AUTHOR: JS Q.A: RB PROJECT NUMBER: 10832

0 1 2 4 6 10m

NTS

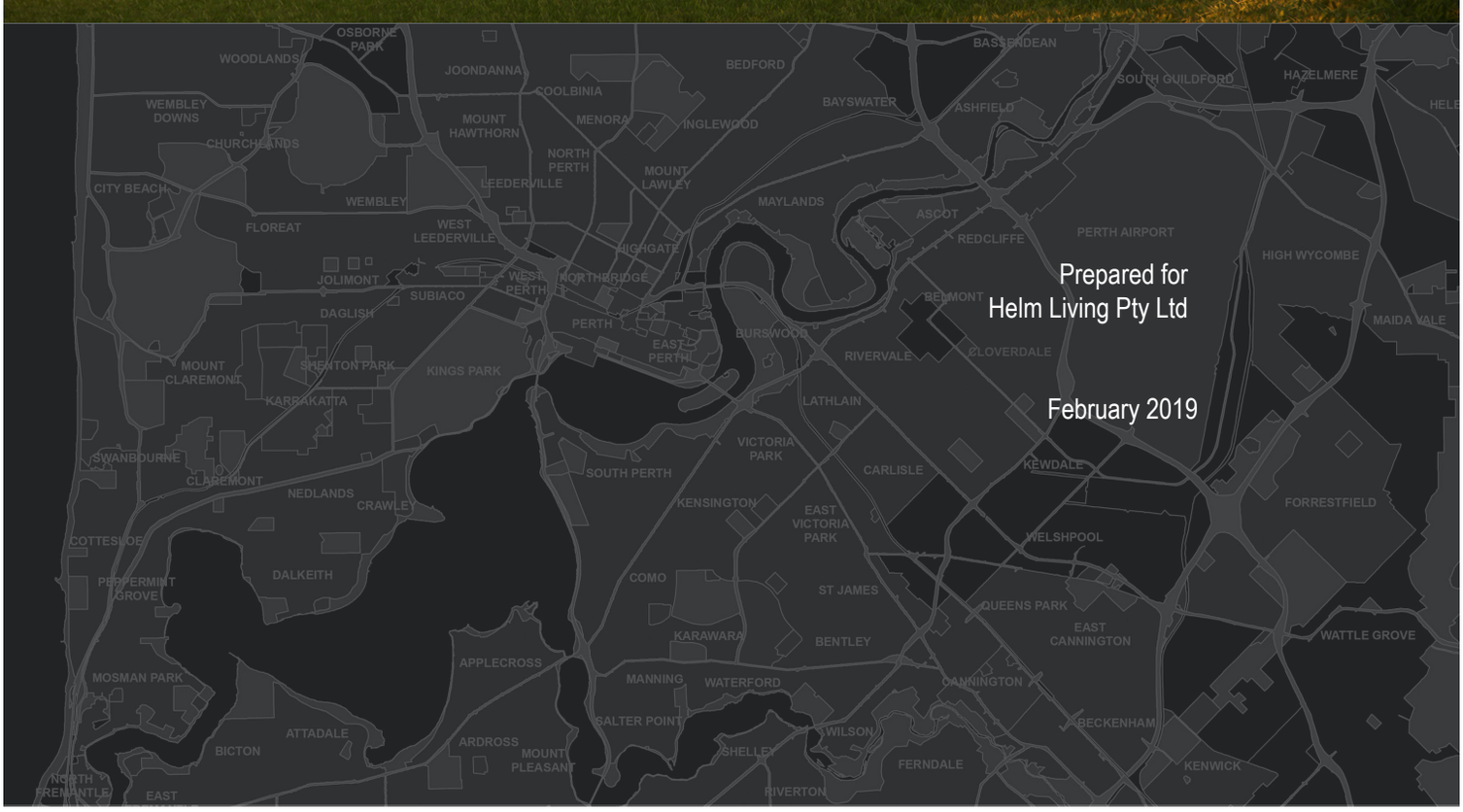
MULLALOO RESIDENTIAL
25 KOORANA ROAD, MULLALOO
LANDSCAPE DESIGN CONCEPT

SK01-A

Development Application Report

Lot 22 (25) Koorana Road
Mullaloo, WA

PLANNING SOLUTIONS
URBAN & REGIONAL PLANNING
PS



Prepared for
Helm Living Pty Ltd

February 2019

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Project details

Job number	5868	
Client	Helm Living Pty Ltd	
Prepared by	Planning Solutions	
Consultant Team	Town Planning Architecture and Landscaping Traffic Engineering Acoustic Engineering Waste Management	Planning Solutions MJA Studio Urbii Lloyd George Acoustics Talis

Document control

Revision number	File name	Document date
Rev 0	190129 5868 DA Report - Rev 0	1 February 2019

Contents

Figures

Appendices

Appendix 5:	Waste Management Plan
Appendix 6:	Acoustic Report
Appendix 7:	City of Joondalup Environmentally Sustainable Design Checklist

1 Preliminary

1.1 Introduction

Planning Solutions acts on behalf of Helm Living Pty Ltd, the proponent of the proposed development at Lot 22 (25) Koorana Road, Mullaloo (**subject site**). Planning Solutions has prepared the following report in support of an Application for Approval to Commence Development for 23 multiple dwellings at the subject site.

The proposal involves the demolition of the existing building on-site (Mullaloo Squash Centre) and construction of a new four-storey contemporary multiple dwelling building on the subject site. The proposal seeks to provide a development which achieves the strategic direction of the State Government for infill development, in a manner consistent with the overall objectives of the City of Joondalup planning framework. The proposed development will provide the locality with additional high quality residential accommodation, offering greater diversity of dwelling types and housing choice for the local community.

This report will discuss various issues pertinent to the proposal, including:

- Background.
- Site details.
- Proposed development.
- Town planning considerations.
- Development Assessment.

1.2 Background

1.2.1 Pre-lodgement engagement with City of Joondalup

Consultation and pre-lodgement engagement occurred with the City of Joondalup (**City**) with respect to the proposed development. On 3 October 2019 and 17 January 2019, representatives of the project team attended meetings with senior officers at the City, where the following matters were discussed with respect to the proposal:

- The City did not raise any 'in principle' concerns with the proposal.
- The proposed development will be assessed in accordance with the City's local planning framework.
- The development application is to be supported by a traffic report, acoustic report, waste management plan and landscape plan.

The feedback provided by the City was received and incorporated into the design of the site, the development plans and this development application, including all required expert consultant reporting.

2 Site details

2.1 Land description

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

Table 1 – Lot details

Lot	Diagram	Volume	Folio	Area (m^2)
22	63642	1642	452	3,062

The following encumbrances are listed on the Certificate of Title for the subject site:

- C528598 Easement (Benefit/Burden) – Access (right of carriageway).
- D916392 Easement (Burden) – Access (right of carriageway).

The development as proposed does not conflict with any of the encumbrances.

The above easements impact the south east portion of the subject site. The easements provide for shared vehicle access between the subject site and adjoining lots to the south and east.

Refer **Appendix 1** for a copy of the Certificate of Title, Diagram and Sketch.

2.2 Location

2.2.1 Regional context

The subject site is located within the municipality of the City of Joondalup (**City**), and in the suburb of Mullaloo. It is situated approximately 22km north west of Perth city centre, 4.5km south west of Joondalup Strategic Metropolitan Centre, 1km east of Mullaloo Beach and 3km west of Mitchell Freeway and Edgewater Railway Station.

The subject site is a battleaxe lot with access to Koorana Road via a shared access driveway along the south east boundary. Koorana Road provides access to Marmion Avenue via Mullaloo Drive to the east and Mitchell Freeway via Ocean Reef Road and Dampier Avenue to the north, which connect the subject site to the greater North West Region and wider Perth metropolitan region. Ocean Reef Road also provides access to Edgewater Railway Station, which is a major north-south rail link.

2.2.2 Local context, land use and topography

The subject site currently accommodates a recreational sporting facility, the Mullaloo Squash Centre, comprising indoor squash courts and associated reception, storage and car parking areas. The popularity of squash has declined over an extended period, and the building is neither well-suited to adaptive reuse, nor is it considered to exhibit any valued character. As a result, the building is approaching the end of its economic life.

The subject site is a battleaxe lot with access to Koorana Road provided via a shared vehicle access driveway along the south east property boundary.

The subject site is part of a neighbourhood centre generally bounded by Koorana Road, Dampier Avenue, Scaphella Avenue, and Charonia Road, incorporating a mix of retail, commercial, and community uses. The subject site is bounded by commercial uses to the south and west, a church to the north, and a kindergarten, park and residential properties to the east.

Specifically, the subject site is surrounded by the following mix of land uses:

- Mullaloo Plaza neighbourhood shopping centre abuts the subject site to the west, comprising Mullaloo IGA, Cellarbrations liquor store, chiropractor, hair salon, bakery, café, fish & chip shop, bistro restaurant and associated car parking.
- BP service station abuts Mullaloo Plaza to the west, at the corner of Koorana Road and Dampier Avenue.
- Dental surgery and Chinese restaurant abut the subject site to the south.
- True North Church abuts the subject site to the north/west.
- Mullaloo Community Kindergarten adjoins the subject site to the south east.
- Vacant land (at the rear of the kindergarten) abuts the subject site to the east.
- Charonia Park and Mullaloo Heights Primary School is located beyond the vacant land to the north east.

Beyond its immediate extents and adjoining properties, the subject site is widely surrounded by low-medium density residential development, predominantly single houses and some grouped dwelling complexes. Mullaloo Beach is approximately 1.2km west of the site.

Bus stops are located within 500m walking distance of the subject site, along Dampier Avenue and Mullaloo Drive. Bus routes 461 and 462 provide access to Joondalup train station and Whitfords train station.

The topography of the subject site varies between approximately 24m AHD in the south west corner of the site, 22m AHD in the north west portion of the site, 23m AHD in the north east portion of the, and sloping up to a high point of approximately 26m AHD in the south eastern portion of the site.

Refer **Figure 1**, aerial photograph.

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URBAN & REGIONAL PLANNING

SCALE	1: 2,000 @ A4
DATE	29 January 2019
FILE	01 190129 5868 Aerial Photograph.dwg
REVISION	1/DR/First Draft/29.01.2019

Scale Bar (m)
0 50

AERIAL PHOTOGRAPH

LOT 22 (25) KOORANA ROAD,
MULLALOO, WA

FIGURE
01

Photograph 1: View of existing squash building from pedestrian access way, looking east.

Photograph 2: View of existing squash building from pedestrian access way, looking southeast.

Photograph 3: View from pedestrian access way over drainage sump to public open space, looking east.

Photograph 4: View of existing squash building from pedestrian access way, looking west.

Photograph 5: View of bin store and existing squash building from shopping centre car park, looking east.

Photograph 6: View of subject site from shopping centre car park, looking northeast.

Photograph 7: View of existing retaining and subject site from shopping centre car park, looking north.

Photograph 8: View of existing consulting rooms (right) and subject site (background), looking north.

Photograph 9: View along existing battleaxe driveway, looking north. Kindergarten at right.

Photograph 10: View of existing squash building and car park, looking west from battleaxe driveway.

Photograph 11: View of existing squash centre car park, looking west.

Photograph 12: View of existing squash building, looking west.

Photograph 13: View from subject site over drainage sump to public open space, looking north.

Photograph 14:View from subject site to shopping centre northern car park and church, looking northwest.

Photograph 15: View from subject site to shopping centre eastern car park, looking southwest.

Photograph 16: View of existing squash centre car park to kindergarten (background) and rear of restaurant (right).

3 Proposed development

The proposed development comprises a four-storey 23 multiple dwelling development and associated on-site parking, common areas and landscaping. The dwellings comprise four (4) one-bedroom apartments, 11 two-bedroom apartments and eight (8) three-bedroom apartments.

The development particulars are outlined in **Table 2** below.

Table 2 – Development Particulars

Level	Development Particulars
Ground Floor	Entry foyer/ residential lobby. One (1) one-bedroom, one-bathroom apartment (51m^2 floor area plus 37m^2 outdoor terrace). Two (2) two-bedroom, two-bathroom apartments (84m^2 floor area plus 35m^2 outdoor terrace). Two (2) three-bedroom, two-bathroom apartments (one with 95m^2 floor area plus 45m^2 outdoor terrace, and one with 119m^2 floor area plus 57m^2 outdoor terrace). 43 undercover secure residential car parking bays including, 26 parallel tandem bays. Five (5) visitor car parking bays. Eight (8) internal secure resident bicycle parking bays Two (2) visitor bicycle parking bays. Communal resident workshop. Internal bin storage area and shared toilet. External bin hardstand area. One external stairwell and pedestrian accessway providing future connection to adjoining Plaza.
First Floor	One (1) one-bedroom, one-bathroom apartment (51m^2 floor area plus 17m^2 outdoor terrace). Three (3) two-bedroom, two-bathroom apartments (one with 75m^2 floor area plus 17m^2 outdoor terrace, and two with 84m^2 floor area plus 19m^2 outdoor terrace). Two (2) three-bedroom, two-bathroom apartments (one with 95m^2 floor area plus 33m^2 outdoor terrace, and one with 119m^2 floor area plus 35m^2 outdoor terrace).
Second Floor	One (1) one-bedroom, one-bathroom apartment (51m^2 floor area plus 37m^2 outdoor terrace). Three (3) two-bedroom, two-bathroom apartments (one with 75m^2 floor area plus 17m^2 outdoor terrace, and two with 84m^2 floor area plus 19m^2 outdoor terrace). Two (2) three-bedroom, two-bathroom apartments (one with 95m^2 floor area plus 45m^2 outdoor terrace, and one with 119m^2 floor area plus 57m^2 outdoor terrace).
Third Floor	One (1) one-bedroom, one-bathroom apartment (51m^2 floor area plus 37m^2 outdoor terrace). Three (3) two-bedroom, two-bathroom apartments (one with 75m^2 floor area plus 17m^2 outdoor terrace, and two with 84m^2 floor area plus 19m^2 outdoor terrace). Two (2) three-bedroom, two-bathroom apartments (one with 95m^2 floor area plus 45m^2 outdoor terrace, and one with 119m^2 floor area plus 57m^2 outdoor terrace).

The following plans and technical reports are appended to this report in accordance with City's requirements:

- **Appendix 2** – Development Plans
- **Appendix 3** – Landscaping Plan
- **Appendix 4** – Transport Impact Statement
- **Appendix 5** – Waste Management Plan
- **Appendix 6** – Acoustic Report
- **Appendix 7** – Environmentally Sustainable Design (**ESD**) Checklist

Details of the proposed parking and access, traffic, waste and noise management, and landscaping is provided in the following sections of this report.

3.1 Parking and Access

The proposed development includes provision of a total of 48 on-site car parking bays provided at ground level, comprising 43 undercover secure residential car parking bays and five visitor car parking bays. The 43 residential car parking bays comprise a mix of single and tandem bays (17 single bays and 13 tandem bays). Most residential apartments will be allocated two car parking bays each, with tandem bays being allocated to the same apartment.

Vehicle access to the subject site will be maintained via the existing battle-axe shared driveway (reciprocal access easement) on the south eastern boundary of the site, which connects to Koorana Road. The proposal includes upgrades to the existing access driveway and crossover to Koorana Road.

Pedestrians and cyclists will access the development from the existing external path network on Koorana Road. The proposal includes provision of a separate pedestrian access pathway alongside the access driveway, which will provide for safe access to and from Koorana Road.

The proposed development includes provision of a total of 10 bicycle parking bays at ground level, including eight secure internal residential bicycle bays and two internal visitor bicycle bays. The bicycle parking areas will be accessed via the lobby on the ground floor of the development.

Waste collection, delivery and other service vehicles will be accommodated within the designated service area adjacent to the bin storage area, with sufficient space provided to allow for service vehicle parking and loading, without obstructing other vehicles. Waste collection vehicles will reverse into the site, exiting in a forward gear.

Refer to **Appendix 2**, Development Plans.

3.1.1 Transport Impact Statement

The proposal has been subject to a detailed transport analysis, in the form of a Transport Impact Statement prepared by Urbii which demonstrates that there will be minimal impacts on the surrounding road network arising from the proposal, and the proposed access arrangements are satisfactory. A summary of the report conclusions is provided below:

- The subject site has good connectivity with the existing road and pedestrian network. The site also has good access to existing public transport services operating within this locality.
- The traffic generation as a result of this development is minimal (less than 100 vehicles per hour in peak peak periods) and as such would have no significant impact on the surrounding road network. The development traffic can be accommodated by the existing standard of the surrounding roads and intersections without the need for any traffic management measures.
- The car parking supply is satisfactory and can accommodate the car parking demand of the proposed development.
- No particular transport or safety issues have been identified for the proposed development.

Refer to **Appendix 4** for a copy of the Transport Impact Statement prepared by Urbii.

3.2 Waste Management

A Waste Management Plan has been prepared by Talis waste management consults for the proposed multiple dwelling development. Waste will be collected via the existing reciprocal driveway on the south eastern boundary, with waste collection vehicles reversing into the site and along the short battleaxe leg, before exiting in forward gear.

Refer to **Appendix 5** for a copy of the Waste Management Plan prepared by Talis.

3.3 Noise Management

A Development Application Acoustics Report has been prepared by Lloyd George Acoustics consultancy for the proposed development. The assessment has modelled and assessed potential noise sources associated with the proposed development, as well as noise emanating from the surrounding properties, noting that the nearby primary school was not occupied at the time of assessment being school holidays.

The Acoustic Report demonstrates the proposed development is compliant with the *National Construction Code* and *Environmental Protection (Noise) Regulations 1997*, subject to various recommended acoustic treatments being incorporated as part of the development.

Refer to **Appendix 6** for a copy of the Acoustic Report prepare by Lloyd George Acoustics.

3.4 Landscaping

The proposal includes provision of high quality landscaping across the subject site, which is provided adjacent to car parking areas, along all property boundaries, on all levels of the development and within internal courtyards. The landscaping areas will be planted with suitable species and have been carefully designed to enhance the amenity of future residents. Existing mature trees along the shared access driveway in the south eastern portion of the subject site are to be retained.

The proposed development provides approximately 637m^2 of deep soil landscaped area at ground level, which represents approximately 21% of the overall 3,062m^2 site area. An additional 33m^2 of structured planting is provided across floors 1-3.

Refer to **Appendix 3**, Design Report which include a concept landscape plan.

3.5 Design Response

The design of the proposed development balances the need for increasing residential infill, and enhancing the mix of uses in activity centres, while remaining sensitive to the existing context.

The development will help to activate the subject site and locality. Importantly, the design ensures that all 23 dwellings have access to northern sunlight and ensures all 23 dwellings are cross-ventilated. The proposed development offers high quality contemporary design that reflects the surrounding context, and will improve the safety and amenity of the subject site and surrounds. Landscaping provides an interface between all development edges and surrounding development.

The materials respond to the prevailing character of the immediate locality, with the use of blond face brickwork, aluminium bronze coloured feature screens, and limestone and concrete coloured render finishes.

Refer to **Appendix 2**, Development Plans, and **Appendix 3**, Design Report**.**

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4 Strategic planning framework

4.1 Perth and Peel @3.5 Million

Perth and Peel at 3.5 Million is the overarching spatial planning framework applicable to the Perth and Peel regions. The document provides guidance on where development should occur to ensure sustainable urban growth, protect the environment and heritage and make the most effective use of existing infrastructure. The Perth and Peel @ 3.5 million documents sets the context for four draft sub-regional planning frameworks, including the North-West Sub-Regional Planning Framework relevant to the subject site (refer section 4.2 below). The framework guides infill development, with the aim to deliver a compact and connected city.

The proposed development involves an increase in the residential density of a site in an established neighbourhood, in close proximity to existing commercial activities and public transport services. The development optimises existing civic and community infrastructure within the locality, consistent with the intent of the Perth and Peel @ 3.5 million documents.

4.2 North-West Sub-Regional Strategy

The Perth and Peel @ 3.5 million North-West Sub-Regional Planning Framework (**Sub-Regional Planning Framework**) builds upon the principles and vision articulated in the WAPC's Directions 2031 and Beyond and is a key instrument for achieving a more consolidated urban form that will reduce dependence on new urban greenfield developments. The Sub-Regional Planning Framework provides the spatial framework which will guide local governments in achieving optimal urban consolidation over the long term. The Sub-Regional Planning Framework supports the orderly and proper development of infill through the region by encouraging development adjacent to activity centres, station precincts and urban corridors.

Whilst it is acknowledged that careful planning is required to preserve streetscapes and neighbourhood character, new housing is required in a compact and sustainable urban form to promote housing choice and diversity in response to changing community needs.

The Sub-Regional Strategy identifies a crucial role for private sector developers to invest in higher density housing projects and for Local Government to encourage innovative infill and be advocates for the housing needs of future generations. The framework includes a target for the City of Joondalup to increase its existing housing stock of 58,560 dwellings (as at 2011) to achieve an infill target of an additional 12,110 dwellings by 2031.

Urban infill development within established urban areas contributes to housing diversity, responds to changing demographics and community aspirations, and optimises use of existing infrastructure with urban infill. Accordingly, the proposed higher density development is consistent with the strategic vision of the Sub-Regional Strategy.

4.3 City of Joondalup Local Planning Strategy

The City's Local Planning Strategy (**LPS**) is the principal strategic planning framework which guides the City's vision. The LPS provides the strategic context for the development of more detailed frameworks pertaining to housing and commercial considerations and ultimately, a new District Planning Scheme. The LPS is intended to guide the City's strategic direction for a period of 10 to 15 years.

The following objectives and provisions of the City's LPS are pertinent to this proposal.

Section 2.0, Objective 2:	*To provide additional and more diverse housing to cater for an ageing population and changing household structures.*

Section 4.2, clause 4.2.1 Strategies:	*Encourage diversity of housing in terms of lot sizes and housing types to reflect changing demographics.* *Encourage regeneration of older areas to provide opportunities for more diverse housing types and to upgrade physical infrastructure and improve amenity.* *Promote good urban design outcomes in future housing developments which will contribute to improved quality of development and streetscapes over time.*

The proposal seeks to develop a four-storey multiple dwelling development that will contribute to diversifying the existing housing stock in the area, which is predominantly one and two-storey, low-medium density single residential development, and will cater to changing demographics and household structures.

The proposal includes demolition of the existing old run-down building on the site, and construction of a new building which offers high quality contemporary apartments. In this way, the proposed development will improve the amenity of the subject site and surrounds.

The proposed development is appropriately located adjacent to an established neighbourhood commercial centre and near Charonia Park, Mullaloo Heights Primary School and good public transport services. In alignment with the LPS, the proposal will appropriately provide for a good urban design outcome and contribute to the improved quality of development in the area.

Having regard to the above, the proposal is consistent with the vision as set out by the City's LPS.

4.4 City of Joondalup Draft Local Housing Strategy

The City's draft Local Housing Strategy (**LHS**) sets out a strategy for meeting the future housing needs of the City's community whilst ensuring the character and amenity of existing residential areas is appropriately managed. The draft LHS will provide a firm rationale for determining the future housing needs of the City's community.

The draft LHS identifies a shortage of higher density residential developments within the municipality, and existing housing stock does not reflect the forecast shifting demographics of the City. The draft LHS recognises the needs to provide for urban infill development in established areas and increase the diversity of existing housing stock through provision of a greater concentration of higher density dwellings, to cater to the forecast demographic shift. Specifically, the draft LHS states that "*there needs to be a significant increase in housing choices to allow residents the opportunity to move into dwellings best suited to their circumstances*".

The draft LHS also recognises the City must proactively plan to ensure the housing needs of its community are met.

The proposal provides an opportunity to achieve higher density residential development within an established suburb and adjacent to an existing neighbourhood commercial centre, which will cater for the increasing share of the City's younger household types and households looking to downsize.

The proposal will contribute to the long-term vision of ensuring the future housing needs of the City's residents are met. The proposed development addresses the draft LHS by increasing the supply and choice of housing, specifically providing for increased high density residential development in the municipality, and is consistent with the guiding principles of the LHS.

5 Statutory planning framework

5.1 Metropolitan Region Scheme

The subject site is zoned Urban under the provisions of the Metropolitan Region Scheme (**MRS**). The proposed development is consistent with the MRS provisions and may be approved accordingly.

5.2 City of Joondalup Local Planning Scheme No. 3

5.2.1 Zoning

The subject site is zoned Commercial pursuant to the provisions of the City's Local Planning Scheme No. 3 (**LPS3**). Refer **Figure 2**, LPS3 Zoning Map.

Table 2 of LPS3 sets out the objectives of the Commercial zone, including the following relevant objective:

- *To ensure that development is not detrimental to the amenity of adjoining owners or residential properties in the locality.*

The proposed development is appropriately located, sited and designed to ensure that the proposed development will not have any adverse impact on the amenity of adjoining property owners or nearby residential properties. The proposed development provides for a high quality design outcome, including modern building facades, variety of building materials and landscaping that compliments the surrounding residential context, and will contribute to improving the area's amenity.

Importantly, the development will significantly enhance passive surveillance of the shopping centre's eastern and northern car parks, and pathway to the reserve. Inspection of the subject site reveals these areas currently have very little surveillance, creating a perception that they may be unsafe, or subject to antisocial behaviour. In addition, increased activity will enhance the security of the kindergarten, particularly on weekends and during school holidays. As a result, the development is expected to significantly enhance the amenity of this area, which is currently blighted by a lack of activity. In conjunction with the planned expansion of the shopping centre, it is expected the amenity of the area will significantly improve with increased investment.

Having regard to the above, the proposal is consistent with the relevant objectives of the Commercial Zone.

5.2.2 Land use and permissibility

Pursuant to LPS3 and the R-Codes, the proposed development is classified as a 'Multiple Dwelling' land use. Under the Zoning Table of LPS3, Multiple Dwelling is a 'D' use in the Commercial zone, which means the use is capable of being approved at Council's discretion.

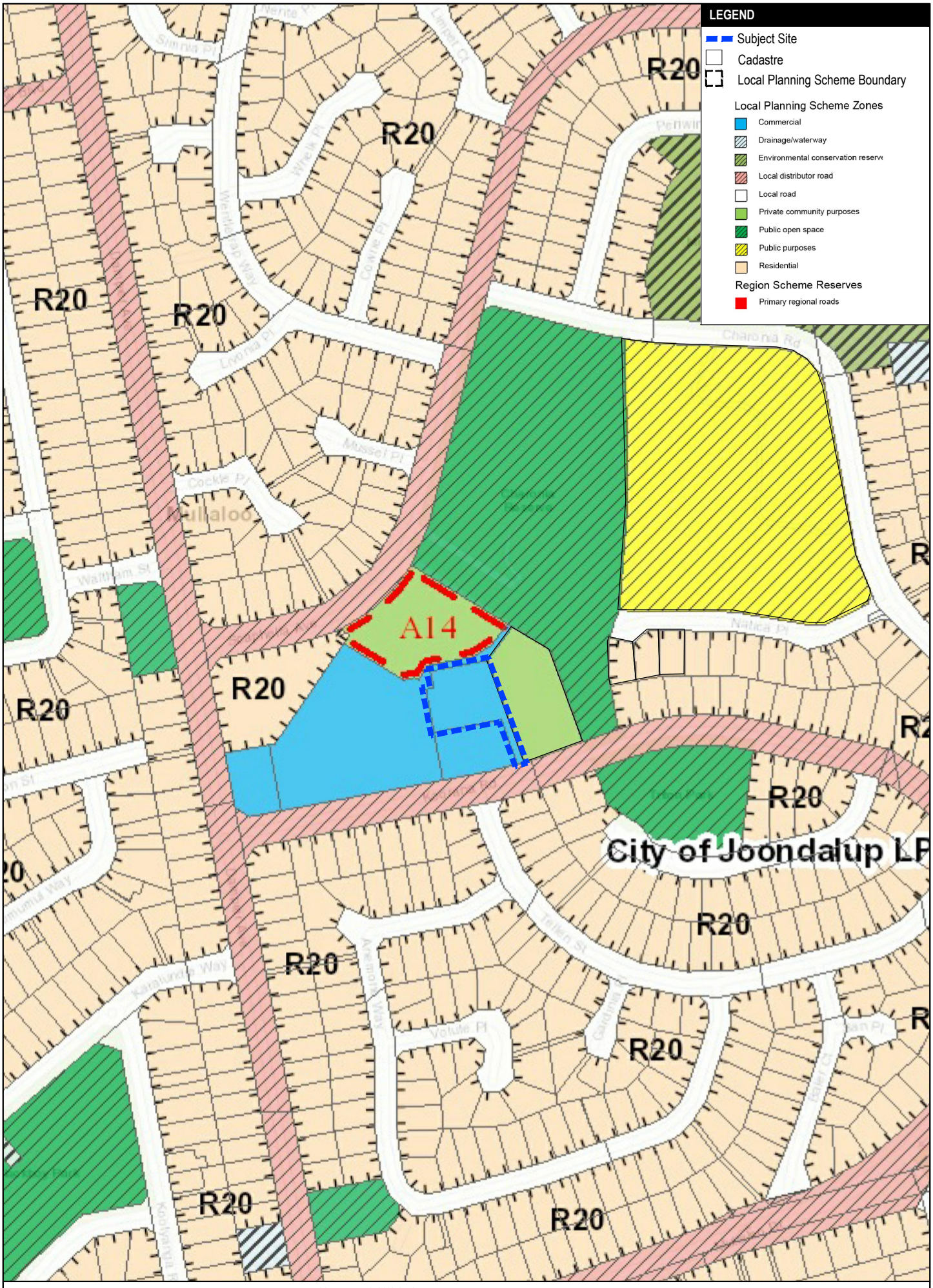
5.2.3 Development Standards and Requirements

Under clause 25 of LPS3, the R-Codes are to be read as part of the Scheme. Refer to sections 5.3 and 6 of this report below for more details of the R-Codes and the development standards applicable to this application.

Clause 26 of LPS3 sets out various modifications of the R-Codes, including clause 26(2) which states:

> *Unless a density code is specified on the Scheme Map, for lots with a land area of 1,000m² or more within the Commercial or Mixed Use zone on the Scheme Map the applicable density code is R80.*

The subject site is zoned Commercial under LPS3, and has a site area of 3,062m^2. Therefore, the subject site has an applicable density code of R80.



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URBAN & REGIONAL PLANNING

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DATE	30 January 2019
FILE	02 190130 5868 Zoning Map.dwg
REVISION	1/DR/First Draft/30.01.2019

Scale Bar (m) 0 50 100

ZONING MAP

LOT 22 (25) KOORANA ROAD,
MULLALOO, WA

FIGURE 02

5.3 State Planning Policies

5.3.1 State Planning Policy 3.1 – Residential Design Codes of Western Australia

State Planning Policy 3.1 - Residential Design Codes (**R-Codes**) applies to residential development in Western Australia. The aims of the R-Codes include:

a) To provide for a full range of housing types and densities that meet the needs of all people;

b) To provide for local variations in neighbourhood character;

c) To ensure appropriate standards of amenity for all dwellings;

d) To ensure provision of on-site facilities for all dwellings; and

e) To protect the amenity of adjoining residential properties.

Part 6 of the R-Codes controls the design elements for Multiple Dwellings. An assessment against the deemed-to-comply criteria of the R-Codes and relevant local planning policies (where the deemed-to-comply provisions depart from the R-Codes) is provided in Section 6 of this report. For the elements which do not meet the deemed-to-comply elements, a merit assessment against the relevant design principles is provided in section 7 of this report.

5.3.2 Draft State Planning Policy No.7 – Design of the Built Environment

Draft State Planning Policy No.7 – Design of the Built Environment (**SPP7**) was published by the WA Planning Commission for public comment in October 2016. The draft policy sets out the principles, processes and considerations which apply to the design of the built environment in Western Australia, across all levels of planning and development.

Draft SPP7 establishes a set of 'Design Principles', providing a consistent framework to guide the design, review and decision-making process for planning proposals. While the draft policy has not yet received final approval or been gazetted, the City of Joondalup now requires proposals for multiple dwelling developments to include a statement against each of the ten (10) design principles established by the draft policy.

Table 3 below provides a statement against each of the ten (10) design principles of draft SPP7.

Table 3 – Draft SPP7 Design Principles Statement

Design Principle	Proposed Development Response
1. Context and character Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.	The proposed development responds to its context and character in an effective manner. The subject site benefits from its location adjacent to Charonia Park and in walking distance to Mullaloo Beach. The proposed development seeks to maximise its outlook to the coastal and parkland aspects, and residential interface with the adjoining parklands, in a form that remains highly sympathetic to, and consistent with, the modern residential character of the locality. This multiple dwelling development also serves to act as an intermediate / transition between the low density residential character to the east, and the future redevelopment of non-residential activities (Mullaloo Plaza) to the west.
2. Landscape quality Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.	The proposal has an emphasis on quality landscaped areas, both at ground level and through within the complex itself through the provision of landscaped communal open spaces and thoroughfares. In acknowledgement of the site's location and parkland aspects, the design response places a significant emphasis on maximising the access and outlook of all dwellings to the north, ensuring all residents can benefit from this environmental asset.

Design Principle	Proposed Development Response
3. Built form and scale Good design provides development with massing and height that is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.	The proposed built form is consistent and sympathetic to its broader context. While the site is a located in an area that is predominately detached single storey dwellings, the intended built form outcome for the site (as established by the planning framework) is for higher density attached form of residential development. The four-storey development is consistent with the built form and scale contemplated by the planning framework, and intended to be delivered on site.
4. Functionality and build quality Good design meets the needs of users efficiently and effectively, balancing functional requirements to deliver optimum benefit and performing well over the full life-cycle.	Functionality and quality is at the core of the proposed design, to ensure the needs of users are met. The arrangement of private and communal spaces maximises their ease of use and adaptability to be used for a range of purposes. An emphasis on good quality and robust building materials will ensure that the building remains resilient to wear and tear from its intended use. Additionally, the high quality design ensures that the building is not an eyesore and remains that way for its lifespan.
5. Sustainability Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.	Pedestrian movements, solar access and natural ventilation has been emphasised in this project. Sustainability is a major focus for both the City and the developer, and to this end, the range of ESD measures to be implemented have been outlined in the ESD Checklist (refer **Appendix 7**). In addition to the positive environmental aspects, the proposed development will also deliver social benefits (through increase diversity and choice of housing) and positive economic outcomes (by providing greater density of residents adjacent to Mullaloo Plaza neighbourhood centre).
6. Amenity Good design optimises internal and external amenity for occupants, visitors and neighbours, contributing to living and working environments that are comfortable and productive.	All apartments have been designed to provide exceptional levels of amenity for future residents, visitors and neighbours. All dwellings are provided with large balconies maximising access to daylight and natural ventilation. Furthermore, the overall development form and design treatment will create a high quality environment with appropriate private/public realm treatments. The application is also supported by a range of expert consultant reports demonstrating the suitability of traffic, acoustic and waste management arrangements to ensure the amenity of the locality is preserved and maximised.
7. Legibility Good design results in buildings and places that are legible, with clear connections and memorable elements to help people find their way around.	The proposed development is legible and easy to navigate for both pedestrians and vehicle drivers. The apartment building will be visible from Koorana Road, with a legible approach and entry. The proposal includes a pedestrian priority zone within the driveway, and various design features to welcome visitors at the lobby entrance. The access point/lobby is visible to persons entering the site via the driveway and on-site car parking area, avoiding any confusion for visitors. Access from the site to the adjoining shopping centre is also incorporated. A single vehicle access crossover from Koorana Road also maximises legibility for residents and visitors.
8. Safety Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.	Safety and security is promoted through maximising opportunities for both passive and active surveillance. All dwellings provide direct surveillance opportunities over the adjoining properties and public realm beyond, while increased activity, interaction and surveillance of internal communal areas are encouraged through the provision of landscaped thoroughfares. The development will also be well lit with secure access points. Additionally, the residential carpark will be gated and secure, ensuring that there is no opportunity for theft or damage to private property.
9. Community Good design responds to local community needs as well as the wider social context, providing buildings and spaces that support a diverse range of people and facilitate social interaction.	A good mix of dwelling types from one bedroom through to three-bedroom apartments ensure that there is a diverse range of housing options provided. Six different apartment types will provide a range of price points catering to the needs of different purchasers. This diversity of dwelling stock is needed in the locality, given the prevalence of traditional single dwellings on freehold lots, and will provide new opportunities for single people, couples and families wishing to live in the area. The provision of communal areas onsite will also help to facilitate both active and passive social interaction.

Design Principle	Proposed Development Response
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.	The building is designed by highly respected and award-winning architecture practice MJA Studio, and will be built using high quality materials that will stand the test of time. This will create an attractive and inviting place that contributes positively to the local character of the area. The building, while maintaining a consistent building height of four storeys, provides a high degree of variety and visual interest through its varied façade treatments. The combination of vertical and horizonal design elements, varied screening treatments and a diverse materials/colour pallet all contribute to an interesting and attractive development outcome.

Having regard for the design principles and statement outlined above, we consider the proposed development design to be of high quality and worthy of approval.

Refer **Appendix 3**, Design Report for more details of how the proposal addresses the principles of draft SPP7.

5.3.3 Draft State Planning Policy 7.3 – Apartment Design

On 19 October 2016, a new suite of State Planning Policies and associated documents known as 'Design WA' were released for public comment. This suite of policies signals an acceleration in the State government's transition towards the use of performance-based measures to facilitate good design outcomes for urban development. Recent announcements by the State Government indicate the Apartment Design Guide will be gazetted in February 2019, meaning it will likely be in operation prior to determination of this application.

Draft *State Planning Policy 7.3 – Apartment Design* (**SPP7.3**) will define the principles, primary controls, site analysis and standards that guide the design and development of multiple dwellings and mixed-use developments. Draft SPP7.3 will provide design criteria with an emphasis on solar access and ventilation, circulation and communal space, façade and landscaping, sustainability and energy efficiency, access and interface as well as site analysis and response.

Upon adoption, draft SPP7.3 is intended to replace Part 6 of the R-Codes. Although the specific provisions are not known at the time of lodgement, and we understand a number of modifications have been made to the advertised version, the key design outcomes are outlined in **Table 4** below; consistent with draft SPP 7.3:

Table 4 – High level analysis of Draft Apartment Design Guide

Design element	Design outcome
Streetscape Type	This proposal adopts the A2 - Neighbourhood Attached streetscape character type, based on the Commercial zoning and default R80 density code. The proposed development aligns with its location and aspect, capturing key views of the Charonia Park to the north east, and provides for garden and courtyard apartments. The proposal also ensures good solar orientation and protects the amenity of adjacent development.
Plot Ratio	The proposed plot ratio of 0.7 is well below the maximum plot ratio of 2.0 applicable to a A2 - Neighbourhood Attached streetscape character type.
Building Height	The proposed four storey development is within the maximum building height limit of four storeys of Draft SPP 7.3.
Landscaping	High quality landscaping is provided throughout the site including along all property boundaries, adjacent to car parking areas and on all levels of the development. The landscaping will soften and enhance the amenity of the development for residents and visitors. The majority of the existing mature trees along the shared access driveway and within the front setback area are to be retained, whilst 21% deep soil cover provides quality landscaped interfaces to soften 'edges' within the development.

Solar & Daylight Access	The proposed development is oriented to the north and all apartments are dual-aspect, maximising solar access. The building's internal voids allow for better access to daylight and enhance the sense of internal space.
Natural Ventilation	The apartment design allows cross ventilation to every apartment. Ventilated central access corridor increases ventilation within the apartments, reducing reliance on mechanical cooling and minimising energy costs.

Having regard for the above, the proposed development design is considered to be consistent with draft SPP4.7.

5.4 Local Planning Policies

The following local planning policies adopted under LPS3 are applicable to the proposed development.

5.4.1 Environmentally Sustainable Design Policy

The City's *Environmentally Sustainable Design Policy* (**ESD Policy**) encourages the integration of environmentally sustainable design principles into the siting, design and construction of new development, including new multiple dwelling developments such as that proposed.

The ESD policy requires applications for planning approval (excluding single and grouped dwellings) to be accompanied by a completed *Environmentally Sustainable Design Checklist*. In accordance with policy requirements, a completed checklist has been submitted in support of this development application, confirming the environmentally sustainable design credentials of the proposal. Refer **Appendix 7** for a copy of the completed/signed ESD checklist.

5.4.2 Residential Development Local Planning Policy

The City's Residential Development Local Planning Policy (**RD Policy**) provides guidance on the assessment criteria for all residential development within the City of Joondalup. It establishes local 'deemed-to-comply' requirements that replace or augment certain R-Codes requirements, along with local housing objectives to inform the exercise of discretion where 'deemed-to-comply' provisions are not met. **Table 5** below provides an assessment of the proposed development against Residential Development Policy requirements.

Table 5 – City of Joondalup Residential Development Policy Assessment

Policy Requirement Principle	Proposed Development Compliance
6.1.2 – Building Height for Multiple Dwellings C2 Development complies with the maximum height set out in Table 4 of the R-Codes.	**Not applicable**. Maximum building heights (13m) are established by the R-Codes.
6.1.4 – Lot boundary setback C2 A wall may be built up to the lot boundary, where it abuts an existing or simultaneously constructed wall of equal or greater construction; or a wall may be built up to one side boundary if it is not higher than 3.5m with an average of 3m for two-thirds the length of the balance of the lot boundary behind the front setback.	**Not applicable**. Lot boundary setback requirements established by the R-Codes.
6.2.2 – Street walls and fences C2 Fencing along a secondary street, right-of-way, pedestrian access way or battleaxe leg shall be visually permeable above 1.2m from natural ground level for 50 per cent of the length of the boundary and allow surveillance from an outdoor living area and/or major opening.	**Complies.** The fencing along the battleaxe leg will be appropriate for the site, with exact specifications to be confirmed at detailed design stage.

6.2.3 – Sight lines A pillar to a height of 1.8m with a maximum dimension of 350mm x 350mm may be permitted within 1.5m of where the vehicle access point meets the street boundary provided the remainder of the wall within this area is visually permeable above 750mm.	**Complies**. No structures exceeding maximum policy dimensions are contained within 1.5m of the vehicle intersection point with Koorana Road.

The proposed development is consistent with the City's RD Policy requirements and warrants approval.

6 Development Assessment

Table 6 below provides an assessment of the proposal against the requirements of the R-Codes deemed-to-comply criteria. Where variations are sought, further justification against planning framework objectives and design principles are provided in section 7 of this report.

Table 6 – R-Codes deemed-to-comply assessment

R-Code clause and requirement (R80)		Provided	Compliance
6.1 Context			
6.1.1 Building size			
Maximum plot ratio	1.0	Proposed plot ratio = 0.7	✓
6.1.2 Building height			
Maximum building height Top of external wall (concealed roof)	13m	Proposed maximum building height = 17.0m	Design Principles Assessment
6.1.3 Street setback			
Minimum street setbacks *N/A – battle-axe lot with no street frontage*			
Balconies Balconies located entirely within property boundary		All balconies are located entirely within the property boundary	✓
6.1.4 Lot boundary setback			
Minimum side/rear boundary setback	4m	North boundary: Minimum 2.4m setback to northern boundary	Design Principles Assessment
		South boundary Minimum 24.6m setback to southern boundary	
		East boundary Minimum 3.1m setback to eastern boundary	
		West boundary Minimum 2.49m setback to western boundary	
6.1.5 Open space			
N/A – not addressed by local planning framework		Open space = 1,766m^2 (57.7% of site area), including 637m^2 deep soil area (21% of site area).	✓
6.2 Streetscape			
6.2.1 Street surveillance			
N/A – battle-axe lot with no street elevations or frontage			
6.2.2 Street walls and fences			
Front fences within primary street setback area are visually permeable to 1.2m above NGL		No front fencing within front setback area existing or proposed.	✓
6.2.3 Sight lines			
Walls, fences and other structures truncated or reduced to no higher than 1.5m of where walls, fences or other structures where driveway meets a public street		No walls, fences or structures proposed within 1.5m of access driveway where driveway meets Koorana Road	✓
6.2.4 Building appearance			

R-Code clause and requirement (R80)	Provided	Compliance
N/A – No provisions under the local planning policy framework		
6.3 Site planning and design		
6.3.1 Outdoor living areas		
Balconies Each dwelling to have a balcony or equivalent accessed from a habitable room with a minimum area of 10m^2 and a minimum dimension of 2.4m.	All apartments have a balcony accessed from a habitable room with minimum area of 17m^2 and minimum dimension of 2.4m (main balcony areas).	✓
6.3.2 Landscaping		
Street setback areas *N/A – battle-axe lot with no street frontage*		
Pedestrian path Separate pedestrian paths providing wheelchair accessibility connecting all entries to buildings with the public footpath and car parking areas.	Proposal includes a separate and distinct pedestrian pathway alongside the access driveway, which connects the building entrance, on-site car parking areas and the public footpath on Koorana Road.	✓
Landscaping between car parking Landscaping between each six consecutive external car parking spaces to include shade trees	All proposed car parking with six consecutive external bays or more are to be undercover.	✓
Lighting Lighting provided to pathways, and communal open space and car parking areas	Proposal includes appropriate lighting to all common areas and access points, with specific arrangements to be confirmed at detailed design stage.	✓
Clear sight lines Clear sight lines at pedestrian and vehicle crossings	Pedestrian and vehicle access is provided via a private driveway / access easement adjacent the south eastern boundary of the development site (connecting to/from Koorana Road).	✓
6.3.3 Parking		
Resident car parking bays Within 'Location B': • 1.25 bays per 1 or 2-bedroom dwelling (15 x 1.25) = 18.75 bays • 1.5 bays per 3-bedroom dwelling (8 x 1.5) = 12 bays **Total = 31 bays** (rounded)	Proposal includes 43 residential car bays (surplus of 12 bays)	✓
Visitor car parking bays 0.25 bays per dwelling (23 x 0.25) = 5.75 bays **Total = 6 bays** (rounded)	Proposal includes 5 visitor car bays (shortfall of 1 visitor bay)	Design Principles Assessment
Bicycle parking 1 resident bay for each 3 dwellings (= 8 bays) plus 1 visitor bay for each 10 dwellings for visitors (= 2.4 bays). **Total = 10.4 spaces**.	Proposal includes 10 bicycle parking bays (shortfall of 0.4 bicycle bays). Residential bike store room can accommodate an additional bicycle if required.	✓
6.3.4 Design of car parking spaces		
Design of parking In accordance with AS2890.1	Parking has been designed in accordance with AS2890.1. Refer **Appendix 4** Traffic report.	✓
Visitor bay design Marked, signposted and located close to or visible from point of entry. Located outside any security barrier	Visitor bays are to be provided on street, immediately adjacent the main building access lobby, easily identified and visible from the point of entry and outside any security barrier.	✓

R-Code clause and requirement (R80)	Provided	Compliance
Concealed from street view All car parking spaces except visitor parking to be fully concealed from the street or public space.	All non-visitor bays are located on site, fully concealed from the street and/or public spaces.	✓
6.3.5 Vehicular access		
Crossover One crossover per 20m of street frontage.	No new crossovers proposed. Access to the development is provided via an existing two-way crossover on Koorana Road.	✓
Access Access to on-site car parking be provided where available from a right-of-way available for the lawful use to access the lot	Access to on-site car parking is provided via an existing shared access driveway (reciprocal access easement) along the south east boundary line.	✓
Driveways Driveway designed for two way access to allow vehicles to enter the street in forward gear.	The shared driveway is designed to accommodate two-way vehicle access, allowing vehicles to enter Koorana Road in forward gear.	✓
Driveway materials Driveway to be adequately paved and drained.	The driveway will be adequately paved and drained, with exact specifications to be confirmed at detailed design stage.	✓
6.3.6 Site works		
Excavation or filling Excavation or filling within a site and behind the street setback line limited by compliance with building height limits and building setback requirements.	Site filling up to 3.6m is proposed to accommodate the development within the northern portion of the site, and respond to the topography on the site. Proposed development includes minor variations to building height and setback requirements.	Design Principles Assessment
Excavation or filling Excavation or filling should not be 0.5m above the natural ground level, within 1m of lot boundary	Site filling of up to 3.6m is proposed, generally within the northern portion of the site, adjacent to the northern, north western and north eastern lot boundaries.	Design Principles Assessment
6.3.7 Retaining walls		
Retaining walls Less than 0.5m high may be located on the lot boundary, or within 1m of the boundary, to allow for an area of landscaping.	Retaining of up to 3.6m is proposed, generally within 1m of the north, east and west boundary line.	Design Principles Assessment
6.3.8 Stormwater management		
Stormwater management All water draining from roofs, driveways, communal streets shall be directed towards gardens, sumps or rainwater tanks within the development site.	All water collected on site is to be directed towards gardens, sumps and/or rainwater tanks within the development site. No off-site discharge of stormwater is proposed.	✓
6.4 Building Design		
6.4.1 Visual privacy		

R-Code clause and requirement (R80)	Provided	Compliance
Overlooking Major openings and active habitable spaces, which have a floor level of 0.5m above natural ground level and overlook any part of a residential property behind its street setback line are to be set back from lot boundaries: • 3m for bedroom/studies; • 4.5m for other habitable rooms; • 6m for unenclosed outdoor active habitable spaces; Or provided with permanent screening to restrict views.	The subject site does not adjoin any residential properties, however, consideration of the proposed western elevation and boundary is provided below: **West boundary:** • Min. 4.6m setback for ground floor bedrooms. • Min. 3m setback for ground floor dining room. • Min. 2.1m setback for ground floor outdoor active spaces. • Min. 4.75m setback for floors 1-3 bedrooms. • Min. 3.1m setback for floors 1-3 dining rooms. • Min. 1.1m setback for floors 1-3 outdoor active spaces. Screening provided on all west facing balconies to minimise overlooking.	✓
6.4.2 Solar access for adjoining sites		
Maximum percentage of overshadowing to Lot to south	Adjoining property to the south will not be impacted by overshadowing resulting from the proposal. Refer **Appendix 2** Development Plans which includes an overshadowing drawing.	
6.4.3 Dwelling size		
Diversity For developments of more than 12 dwellings: • Minimum 20% 1-bedroom dwellings to a maximum of 50% • Minimum 40% 2-bedroom dwellings	Proposal is for 23 multiple dwellings, comprising the following mix of dwelling sizes: • 4x one-bedroom dwellings (17%) • 11x two-bedroom dwellings (48%) • 8x three-bedroom dwellings (35%)	Design Principles Assessment
Minimum dwelling size No dwellings smaller than 40m² plot ratio area.	All proposed dwellings to have greater than 40m² plot ratio area.	✓
6.4.4 Outbuildings		
Outbuildings Not attached, non-habitable, no more than 60m² or 10% in aggregate of the site area. Do not exceed a wall height of 2.4m, or ridge height of 4.2m. Set back from lot boundaries in same manner as other building walls. (For a 21m long wall, a setback of 1.5m applies).	N/A - no outbuildings proposed.	N/A
6.4.5 External fixtures, utilities and facilities		
Solar collectors Installed on roof	Photovoltaic solar collectors to be installed on roof.	✓
TV aerials, pluming vent pipes, down pipes Only of standard aerial type, essential vent pipes above roof line, and external roof water down pipes.	Where necessary, external fittings/fixtures to be installed compliant with R-Codes. To be confirmed at detailed design stage.	✓
Other fixtures Not visible from street, integrated and visually unobstrusive.	N/A	N/A

R-Code clause and requirement (R80)	Provided	Compliance
Store rooms 23 multiple dwelling units = 23 store rooms required. Minimum 4.0m² with 1.5m dimension, accessible from outside the dwelling.	23 store rooms provided (one per dwelling), each with minimum 4m² area and	✓
Bin store areas Where rubbish not collected from the street, there shall be provisions of communal pick up areas which are: • Conveniently located for rubbish and recycling pick-up; • Accessible to residents; • Adequate in area to store all bins; and • Fully screened from view of the street.	Proposed bin store area is conveniently located adjacent to the entrance lobby of the building and service vehicle collection point. The bin store is an adequate size to accommodate the number for bins required to service the development. Refer **Appendix 5**, Waste Management Plan.	✓
Clothes drying areas Screened from view of the street.	Clothes drying areas will not be visible from the street.	✓

In summary, the proposed multiple dwellings are compliant with the relevant deemed-to-comply provisions of the R-Codes with the exception of the following:

- Building height.
- Lot boundary setbacks.
- Visitor parking.
- Dwelling mix.
- Site works and retaining.

Each of these matters is considered in section 7 of this report below, having regard for the relevant R-Codes design principle and RD Policy provisions.

7 Merit Assessment

This section provides an assessment against the relevant design principles of the R-Codes, specifically in relation to the building height, lot boundary setbacks, visitor parking, dwelling size/diversity and site works, which do not meet the relevant deemed-to-comply standards.

In making a determination on the suitability of a proposal, regard was also had to the following:

a) any relevant purpose, objectives and provisions of LPS3;

b) any relevant objectives and provisions of the R-Codes;

c) any provision of a local planning policy adopted by the Council under the provisions of LPS3 and the R-Codes; and

d) orderly and proper planning.

7.1.1 Building height

The proposal includes a maximum building height of 17m within the north west portion of the development, in lieu of the maximum 13m building height limit under the R-Codes. We consider this aspect of the proposal meets the relevant design principle of the R-Codes for the following reasons:

- The building has an overall height of 13.4m above finished floor level, with the lift overrun protruding 1.0m above the main building, as is inevitably the result for a 4-storey building. The building height of 13.4m allows for floor-to-floor heights of 3.2m, plus the extended parapet to screen plant and rooftop. This accommodates floor-to-ceiling heights of minimum 2.7m for the living areas of the apartments, which is typical of quality apartment developments, and is considered to offer a high level of amenity for future residents. The minor variation of 0.4m on a 13-storey building will be imperceptible to the surrounding properties, where the nearest dwellings are more than 70m distant from the building.
- The development proposes a maximum building height of 17.00m (at the north west corner of development) in lieu of the 13m requirement. The building is generally consistent with the 13m standard, except where the natural ground level slopes steeply to the north and west, necessitating localised retaining and filling. As such, the height variation is the product of the natural ground level falling steeply, rather than the building being excessively tall. The 13m height limit clearly contemplates four storey development as proposed.
- The subject site adjoins a shopping centre car park, pedestrian access way, drainage sump and a vacant site. The minor building height variation results in no impact given surrounding context.

7.1.2 Lot boundary setbacks

The proposal includes variation to the north, west and east lot boundary setbacks. We consider this aspect of the proposal meets the relevant design principle of the R-Codes for the following reasons:

- The setback variations are primarily the product of the unorthodox lot shape, topography, and desire to orient the building to the north to optimise views and access to daylight. Due to the shape of the lot, the minimum setbacks to the eastern and western boundaries, in particular, is mitigated by larger average setbacks resulting from the building receding from the boundaries.
- The adjoining properties are not utilised for residential or other sensitive uses, but are characterised by open car parks, pedestrian access ways, drainage sumps, vacant land, and the back of commercial buildings. In the context of a commercial or activity centre, reduced or nil setbacks are common and generally appropriate, as they assist with delivering appropriate intensity of use, urban built form, and achieving CPTED principles. The minor boundary setback variations will have negligible impact on these adjoining sites, and will in all cases be a significant improvement on the current situation.
- The minor setback variations will have no impact on residential privacy, access to daylight, ventilation, or acoustic privacy.

- The setback areas will be fenced and landscaped, to enhance security and amenity for surrounding properties and future residents.
- In light of the above, the minor boundary setback variations will have a negligible impact on amenity, access to daylight, and ventilation, and will significantly improve the existing amenity. The minor variations warrant support.

7.1.3 Visitor parking bays

The application proposes 5 visitor bays, located outside the security gates. This is justified on the following grounds:

- Experience has shown than in many cases, on-site visitor parking provision at levels required by the R-Codes significantly exceeds actual demand and results in inefficient design outcomes, and strata management issues. The draft Apartment Design Guidelines respond to this by requiring a reduced amount of visitor car parking, and in this case, would require 4.375 visitor bays for a development of 23 dwellings. Accordingly, by the time this application is approved, it is likely the visitor parking provision will be fully compliant with the applicable development standards.
- Most dwellings will have two dedicated parking bays, which is greater than the minimum stipulated under the R-Codes. In many instances, visitors will have the option of utilising residents' bays, if these are unoccupied at the time.
- The draft Apartment Design Guidelines also acknowledge that further reductions in visitor parking can be applied where shared commercial parking bays are available, and additional off-street parking is provided in the vicinity. In this regard, we note the commercial development immediately south of the subject site will also provide significant on-site parking. Although it is not suggested visitors will be reliant on the shopping centre parking, it is possible and even likely that some visitors will also visit the shopping centre and park their vehicles there.
- In the unlikely event of insufficient on-site capacity, on-street parking is entirely legal in surrounding streets, and is almost completely unoccupied at all times.

7.1.4 Site works and retaining

Retaining and filling is proposed within the northern and north-western portions of the subject site, where the land slopes steeply downwards near the boundaries. This is consistent with the R-Codes design principles and warranted on the following grounds:

- The majority of the site is relatively flat, but slopes steeply downward near the northern and western boundaries. This topography is not conducive to a 'cut and fill' approach, but rather requires retaining in those areas to facilitate development.
- The proposed filling and retaining does not adversely affect adjoining properties:
    - The site to the northwest is currently a car park, with bulk rubbish storage areas, and is intended to be redeveloped for commercial buildings. The retaining will be against the rear parapet walls of these buildings, and will have negligible impact on this area. The only adjoining portion of the site is to be utilised for vehicle access, and is not adversely affected by the proposal.
    - To the north is the pedestrian path linking the shopping centre to the public open space, and a drainage sump in the northeastern corner. This area is currently unused and unkempt. The retaining in this area will be terraced to mitigate bulk, and landscaped to provide an attractive interface. The retaining and landscaping will significantly enhance the amenity of this area.
- As such, the retaining is required as a result of the land falling away steeply, as opposed to any desire to build the site up. The proposed retaining is an appropriate and necessary response to the site context, and maintains the natural topography of the area.

7.1.5 Dwelling size / diversity

Approximately 17.4% of the proposed dwellings are single bedroom dwellings, in lieu of the 20% stipulated in the R-Codes. This is consistent with the R-Codes design principles and warranted on the following grounds:

- All dwellings are sufficiently sized to cater for the needs of residents.
- Diversity in dwelling types and sizes is still provided. A range of 1, 2 and 3 bedroom dwellings are offered, with 6 different dwelling types catering for different purchasers at a range of price points.
- Provision of 20% equates to 4.6 dwellings, and the calculated 'shortfall' is simply the product of mathematical rounding. A mandatory proportion of single bedroom dwellings is not reflected in the draft Apartment Design Guidelines, providing for a more appropriate market / demand responsive approach.

8 Conclusion

As detailed in this report, the proposed development seeks to provide a high quality four-storey multiple dwelling development on the subject site. The proposal is generally consistent with the statutory planning framework for the subject site, requiring performance based assessments against the building height, lot boundary setback, housing diversity, visitor parking and site works requirements of the R-Codes.

It is considered the proposal warrants approval for the following reasons:

- The proposed land use is capable of approval and supported in this location, pursuant to the local planning framework.
- The proposal is entirely compatible with the adjoining land uses and will not have any adverse impact on the amenity of the adjoining properties or local area.
- The proposed development is supported by expert consultant reports demonstrating the suitability of the design with respect to traffic and access, waste management and acoustic management.
- The development is entirely consistent with the City and State's strategic objectives to encourage infill development, and will assist the City to achieve its infill targets.
- The proposed development will contribute to activating the neighbourhood centre, driving investment and economic development.
- The proposed development is an attractive, high quality development that will offer excellent amenity to future residents, and will significantly enhance the amenity of the locality.

We therefore respectfully request the Application for Approval to Commence Development is considered on its merits and favourably determined by the Metropolitan North-West Joint Development Assessment Panel.

urbii

Sustainable Transport. Safe Solutions

25 Koorana Road, Mullaloo

Proposed Residential Development

TRANSPORT IMPACT STATEMENT

Prepared for:

25 Koorana Pty Ltd

January 2019

25 Koorana Road, Mullaloo

Prepared for: 25 Koorana Pty Ltd
Prepared by: Paul Ghantous
Date: 30 January 2019
Project number: U18.001

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Appendices

1. Introduction

This Transport Impact Statement has been prepared by Urbii on behalf of 25 Koorana Pty Ltd with regards to the proposed residential development, located at 25 Koorana Road Mullaloo, in the City of Joondalup.

The subject site is located on the northern side of Koorana Road, as shown in Figure 1.

As shown in Figure 2, the site is bound by a church to the north, a supermarket to the west, a park, kindergarten and residential properties to the east and a restaurant and Koorana Road to the south. The site currently accommodates a recreational sporting facility – *Mullaloo Squash Centre*. Mullaloo Heights Primary School is located nearby to the east.

It is proposed to redevelop the site from the existing recreational sports facility to a multiple-dwelling residential development.

The key issues that will be addressed in this report include the traffic generation and distribution of the proposed development, access and egress movement patterns, car parking and access to the site for alternative modes of transport.

Figure 1: Subject site

Figure 2: Site context

2. Proposed development

The proposal for the subject site is for a multiple-dwelling residential development, comprising:

- A total of 23 residential apartments provided over four levels;
- ground level car parking providing 43 residential bays and 5 visitor bays (total of 48 car bays);
- bicycle parking for residents and visitors; and,
- an on-site bin store and designated waste collection hardstand area.

Vehicle access to the site will be maintained via the existing shared site access road connecting to Koorana Road.

Waste collection, delivery and other service vehicle activity for the development will be accommodated within the site from the shared access driveway. It is proposed that the City's rear lift waste truck will reverse into the site via the shared access driveway. Bins will be positioned in the designated hardstand area for ease of access and collection.

Pedestrians and cyclists will access the development from the external path network abutting the site.

The proposed development plans are included for reference in Appendix A.

3. Vehicle access and parking

Vehicle access

The proposed vehicular access arrangements have been reviewed for efficient and safe traffic movements.

Vehicular access to the existing site is detailed in Figure 3. There is one shared access driveway providing vehicle access to the site. The existing driveway is located at the property boundary, with half of the driveway located on the subject site and the other half located on the adjacent property to the east. The existing property to the south (restaurant), also features a car park connection to the shared access driveway. There is a car park crossover located nearby to the east of the shared driveway. This crossover serves the kindergarten and is configured as entry only, which improves local traffic circulation and interaction with the existing shared driveway.

Figure 3: Existing vehicle access

As detailed in the proposed development plans, vehicle access to the site is proposed to be maintained as per the existing situation. The existing shared driveway will be maintained as a full movement connection with Koorana Road, with no impact on access for adjacent properties sharing the driveway. The shared driveway will provide access to the proposed development car

park and designated service vehicle / waste collection area. The proposed development will not impact or change the existing vehicle sight lines or sight lines to and from the Koorana Road footpath.

Parking supply and demand

A total of 48 parking spaces are proposed to be provided for the development as following:

- 5 visitor car bays; and,
- 43 residential car bays in a secured, ground level car parking facility (mix of tandem and single bays provided).

The information in Table 1 has been sourced from the proposed development plans and parking requirements as set out in the Local Planning Scheme and Residential Design Codes.

Table 1: LPS parking assessment

Parking Rate	Calculations	Number of Bays
Less than 110m2 and/or 1 or 2 bedrooms – 1.25 bays per unit	15 units x 1.25	18.75 bays
110m2 or greater and/or 3 or more bedrooms – 1.5 bays per unit	8 units x 1.5	12 bays
Visitor parking – 1 bay per 4 units	23 units x 0.25	5.75 bays
Total parking required =		36.5 bays (rounds up to 37 bays)
Total parking provided =		48 bays
Parking surplus =		11 bays

Data source: Drawing DA3.01, Rev D, January 2019

Most residential units will be allocated two car bays each, with tandem bays being allocated to the same unit. There is a minor shortfall in the visitor car parking provided. This minor variation in visitor car parking provision is acceptable due to the following considerations:

- Residential units are allocated a surplus of car parking and some will have a spare car parking bay which can accommodate visitors to that unit;
- visitor bicycle parking and pedestrian connectivity is provided, to promote alternative forms of transport and reduce reliance on car trips; and,
- there is ample off-street car parking in the area which can accommodate any minor shortfall of visitor parking. For example, some visitors may visit the nearby shops before or after visiting the development and therefore may choose to park at the shops.

The car parking supply is satisfactory for the proposed development.

4. Provision for service vehicles

The proposed development site plan has been reviewed for service vehicle access, egress and circulation.

Waste collection is proposed to be undertaken within the site via the shared access driveway. There is a bin store provided near the building entrance with a direct access route to a designated bin hardstand area.

Based on the information provided, the largest vehicle required to be accommodated includes:

- Suez rear-lift large waste truck – 10m in length.

It is understood that preliminary communication between the waste consultant and the City's waste department has taken place. The City has indicated they are willing to consider the option of a rear lift waste truck reversing into the site and collecting waste from the 5.5m-wide access driveway.

The following advice and diagram (Figure 4) is provided in Liveable Neighbourhoods regarding the proposed 5.5m driveway pavement width:

"A 5.5 m pavement allows a car to pass a parked car or a moving car. It also allows a moving car **to pass a truck** but is clearly too narrow for cars to park opposite each other without blocking the street. Staggered parking supports the function of the street."

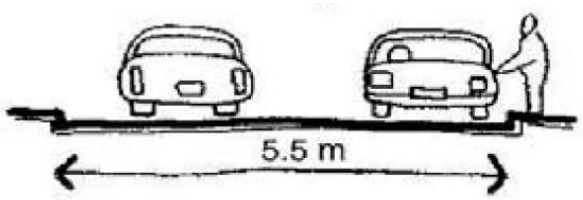


Figure 4: Liveable Neighbourhoods 5.5m pavement width

Based on the above advice from Liveable Neighbourhoods, the 5.5m driveway width is enough to allow development traffic to bypass a parked waste truck. The low traffic generation of the proposed development, the 5.5m driveway pavement width and the relatively short time the waste truck will be parked in the driveway will reduce the potential for any traffic conflict.

A swept path diagram has been prepared to demonstrate a car passing a parked truck and is included in Appendix B.

5. Hours of operation

For most residential developments, the peak traffic hours typically coincide with the weekday AM and PM peak hours on the surrounding road network.

As detailed in Figure 5, the weekday AM peak hour for the adjacent road network occurs between 8am to 9am and the weekday PM peak hour occurs between 3pm to 6pm. The peak hours for the proposed development are anticipated to occur between 8am to 9am and 5pm to 6pm.

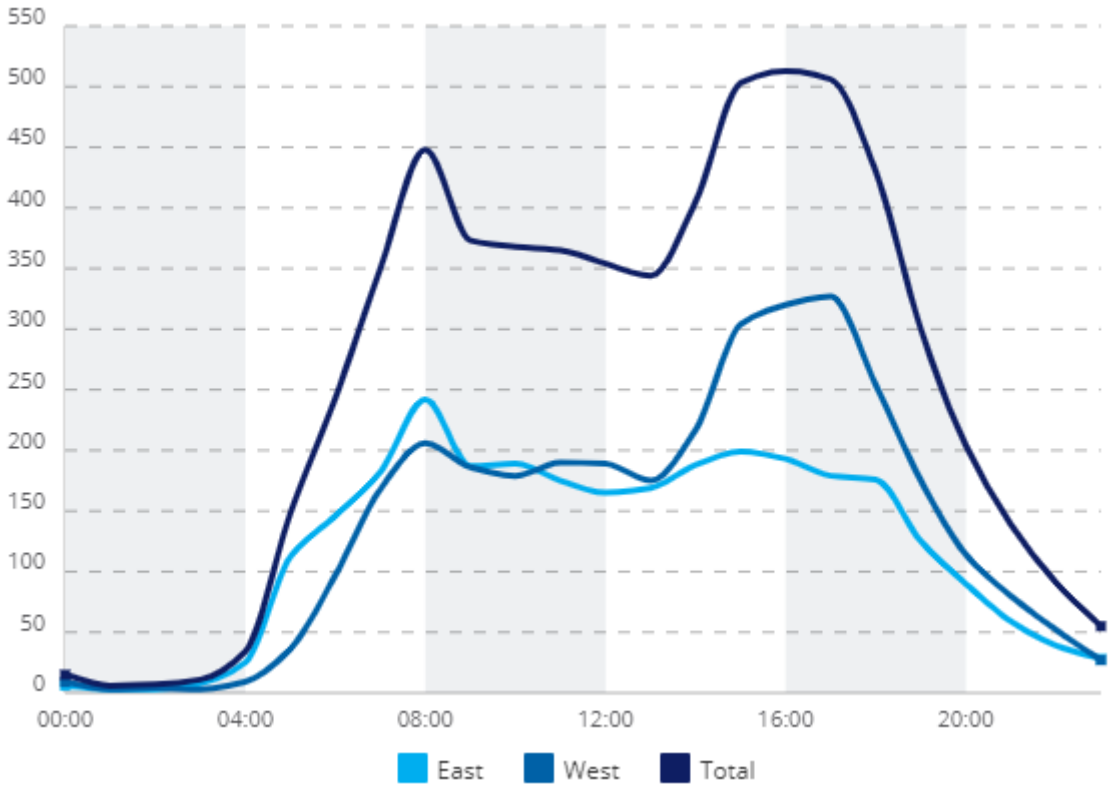


Figure 5: Hourly traffic flow profile on typical weekdays near the subject site[1]

[1] Source: MRWA traffic data for Mullaloo Dr – 2014/15

6. Daily traffic volumes and vehicle types

Traffic generation

The traffic volume that will be generated by the proposed development has been estimated using trip generation rates derived with reference to the following sources:

- WAPC Transport Impact Assessment Guidelines for Developments (2016) *Volume 5: Technical Guidance*;
- Roads and Traffic Authority of New South Wales *Guide to Traffic Generating Developments (2002);* and
- RTA TDT 2013/ 04a.

The trip generation rates adopted are detailed in Table 2. For robust traffic assessment the trip rate for regional high-density flat dwellings was adopted.

Table 2: Adopted trip rates for traffic generation

Land use	Trip rate source	Daily rate	AM rate	PM rate	AM-in	AM-out	PM-in	PM-out
Residential	TDT 2013/04a - High density residential flat dwellings	4.58	0.53	0.32	25%	75%	65%	35%

The estimated traffic generation of the proposed development is detailed in Table 3. The proposed development is estimated to generate a total of 105 vehicles per day (vpd) and 12 vehicles per hour (vph) during the AM peak hour.

These trips include both inbound and outbound vehicle movements. It is anticipated that most of the vehicle types would be passenger cars and SUVs.

Table 3: Daily and peak hour traffic generation

Land use	Quantity	Daily Trips	AM Trips	PM Trips	AM Peak Trips		PM Peak Trips	
					IN	OUT	IN	OUT
Residential	23	105	12	7	3	9	5	2

The above traffic generation is conservative as it does not account for existing traffic generated by the existing recreational sporting facility at the site. Therefore, the net change in traffic will be lower than the volumes detailed in Table 3.

Trip distribution and assignment

All the proposed development traffic will access the site via the shared access driveway connection on Koorana Road. It is estimated that the traffic will be distributed approximately 50%/50% to the east and west.

Impact on surrounding roads

The WAPC Transport Impact Assessment Guidelines for Developments (2016) provides the following guidance on the assessment of traffic impacts:

"As a general guide, an increase in traffic of less than 10 percent of capacity would not normally be likely to have a material impact on any particular section of road but increases over 10 percent may. All sections of road with an increase greater than 10 percent of capacity should therefore be included in the analysis. For ease of assessment, an increase of 100 vehicles per hour for any lane can be considered as equating to around 10 percent of capacity. Therefore, any section of road where development traffic would increase flows by more than 100 vehicles per hour for any lane should be included in the analysis."

The proposed development will not increase traffic flows on any roads adjacent to the site by the quoted WAPC threshold of +100vph to warrant further analysis. Therefore, the impact on the surrounding road network is minor.

7. Traffic management on the frontage roads

Information from online mapping services, Main Roads WA, Local Government and/or site visits was collected to assess the existing traffic management on frontage roads.

Koorana Road

Koorana Road near the subject site is an approximately 10m wide, two-lane divided road. The road is constructed with a boulevard style treatment featuring a red-asphalt median and tree planting. Footpaths are provided along both sides of the road.

Koorana Road is classified as a Local Distributor road in the Main Roads WA road hierarchy (Figure 6) and operates under a default built up area speed limit of 50km/h (Figure 7). Local Distributor roads are the responsibility of Local Government and support movement of traffic within local areas and connect access roads to higher order distributors (Figure 8).

Traffic count data obtained from the City of Joondalup indicates that Koorana Road carries average weekday traffic flows of around 3,249 vehicles per day (vpd), with a recorded 85th percentile speed of 45km/h.

A pedestrian crossing with kerb ramps and a refuge island is provided on Koorana Road east of the subject site.

The existing road features help with slowing down traffic travelling past the site.

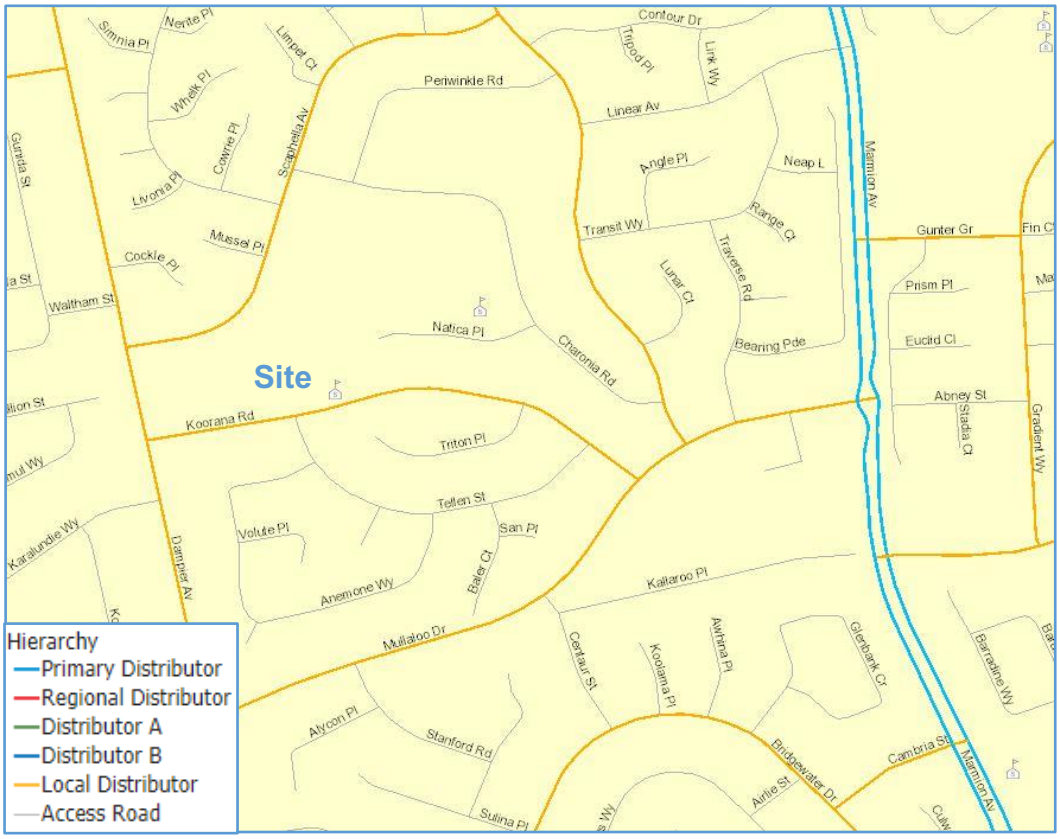


Figure 6: Main Roads WA road hierarchy plan

Source: Main Roads WA Road Information Mapping System (RIM)

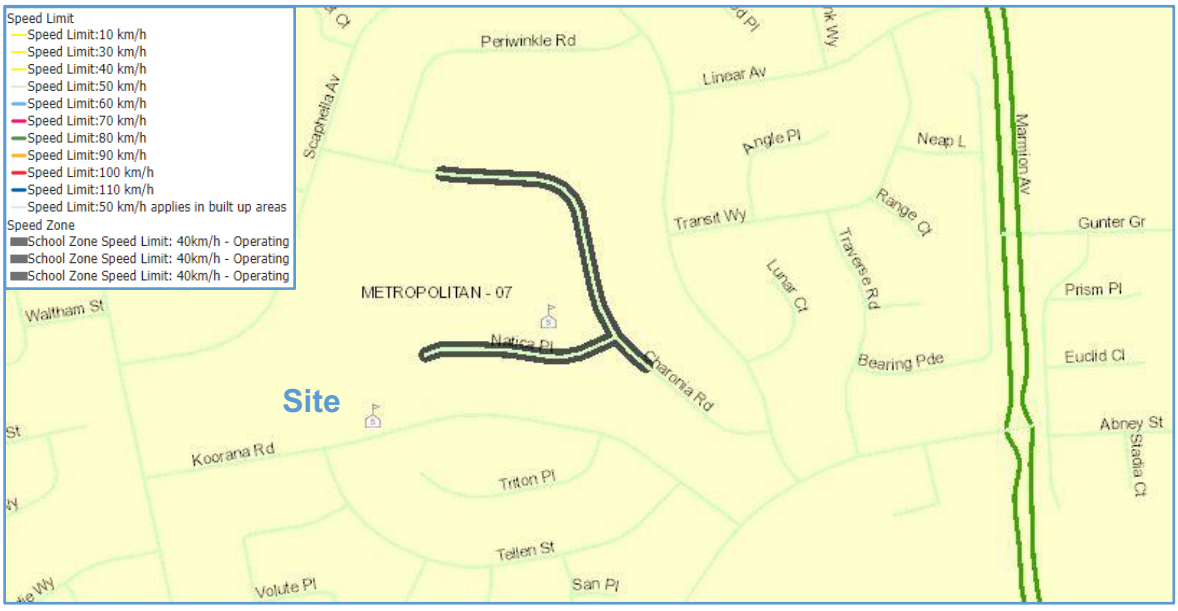


Figure 7: Main Roads WA road speed zoning plan

Source: Main Roads WA Road Information Mapping System (RIM)

ROAD HIERARCHY FOR WESTERN AUSTRALIA
ROAD TYPES AND CRITERIA (see Note 1)

CRITERIA	PRIMARY DISTRIBUTOR (PD) (see Note 2)	DISTRICT DISTRIBUTOR A (DA)	DISTRICT DISTRIBUTOR B (DB)	REGIONAL DISTRIBUTOR (RD)	LOCAL DISTRIBUTOR (LD)	ACCESS ROAD (A)
Primary Criteria						
1. Location (see Note 3)	All of WA incl. BUA	Only Built Up Area.	Only Built Up Area.	Only Non Built Up Area. (see Note 4)	All of WA incl. BUA	All of WA incl. BUA
2. Responsibility	Main Roads Western Australia.	Local Government.	Local Government.	Local Government.	Local Government.	Local Government.
3. Degree of Connectivity	High. Connects to other Primary and Distributor roads.	High. Connects to Primary and/or other Distributor roads.	High. Connects to Primary and/or other Distributor roads.	High. Connects to Primary and/or other Distributor roads.	Medium. Minor Network Role Connects to Distributors and Access Roads.	Low. Provides mainly for property access.
4. Predominant Purpose	Movement of inter regional and/or cross town/city traffic, e.g. freeways, highways and main roads.	High capacity traffic movements between industrial, commercial and residential areas.	Reduced capacity but high traffic volumes travelling between industrial, commercial and residential areas.	Roads linking significant destinations and designed for efficient movement of people and goods between and within regions.	Movement of traffic within local areas and connect access roads to higher order Distributors.	Provision of vehicle access to abutting properties
Secondary Criteria						
5. Indicative Traffic Volume (AADT)	In accordance with Classification Assessment Guidelines.	Above 8 000 vpd	Above 6 000 vpd.	Greater than 100 vpd	Built Up Area - Maximum desirable volume 6 000 vpd. Non Built Up Area – up to 100 vpd.	Built Up Area - Maximum desirable volume 3 000 vpd. Non Built Up Area – up to 75 vpd.
6. Recommended Operating Speed	60 – 110 km/h (depending on design characteristics).	60 – 80 km/h.	60 – 70 km/h.	50 – 110 km/h (depending on design characteristics).	Built Up Area 50 - 60 km/h (desired speed) Non Built Up Area 60 – 110 km/h (depending on design characteristics).	Built Up Area 50 km/h (desired speed). Non Built Up Area 50 – 110 km/h (depending on design characteristics).
7. Heavy Vehicles permitted	Yes.	Yes.	Yes.	Yes.	Yes, but preferably only to service properties.	Only to service properties.
8. Intersection treatments	Controlled with appropriate measures e.g. high speed traffic management, signing, line marking, grade separation.	Controlled with appropriate measures e.g. traffic signals.	Controlled with appropriate Local Area Traffic Management.	Controlled with measures such as signing and line marking of intersections.	Controlled with minor Local Area Traffic Management or measures such as signing.	Self controlling with minor measures.
9. Frontage Access	None on Controlled Access Roads. On other routes, preferably none, but limited access is acceptable to service individual properties.	Prefer not to have residential access. Limited commercial access, generally via service roads.	Residential and commercial access due to its historic status Prefer to limit when and where possible.	Prefer not to have property access. Limited commercial access, generally via lesser roads.	Yes, for property and commercial access due to its historic status. Prefer to limit whenever possible. Side entry is preferred.	Yes.
10. Pedestrians	Preferably none. Crossing should be controlled where possible.	With positive measures for control and safety e.g. pedestrian signals.	With appropriate measures for control and safety e.g. median/islands refuges.	Measures for control and safety such as careful siteing of school bus stops and rest areas.	Yes, with minor safety measures where necessary.	Yes.
11. Buses	Yes.	Yes.	Yes.	Yes.	Yes.	If necessary (see Note 5)
12. On-Road Parking	No (emergency parking on shoulders only).	Generally no. Clearways where necessary.	Not preferred. Clearways where necessary.	No – emergency parking on shoulders – encourage parking in off road rest areas where possible.	Built Up Area – yes, where sufficient width and sight distance allow safe passing. Non Built Up Area – no. Emergency parking on shoulders.	Yes, where sufficient width and sight distance allow safe passing.
13. Signs & Linemarking	Centrelines, speed signs, guide and service signs to highway standard.	Centrelines, speed signs, guide and service signs.	Centrelines, speed signs, guide and service signs.	Centrelines, speed signs and guide signs.	Speed and guide signs.	Urban areas – generally not applicable. Rural areas - Guide signs.
14. Rest Areas/Parking Bays	In accordance with Main Roads' *Roadside Stopping Places Policy*.	Not Applicable.	Not Applicable.	Parking Bays/Rest Areas. Desired at 60km spacing.	Not Applicable.	Not Applicable.

Figure 8: Road types and criteria for Western Australia

Source: Main Roads Western Australia D10#10992

Midblock road capacity

The post development midblock capacity of the frontage roads was assessed against the thresholds in Table 4.

Level of Service (LOS) (A) represents a free flow condition where drivers can choose their preferred speed and are not affected by other vehicles. LOS (F), on the other hand, represents a congested traffic situation where drivers have no choice of speed and are frequently forced to stop. Anything above the LOS (E) is LOS (F) which is the point of forced traffic flows where congestion occurs.

All frontage roads are expected to operate under conditions below their maximum midblock operating capacity at a good level of service A in the post development situation.

Table 4: Upper limits of daily traffic volumes per lane for each level of service

Road type	Upper limits of daily traffic volumes per lane for level of service				
	A	B	C	D	E
2-lane undivided road	5 100	5 950	6 800	7 650	8 500
2-lane divided road	5 700	6 650	7 600	8 550	9 500
4-lane undivided road	5 250	6 125	7 000	7 875	8 750
4-lane divided road	6 600	7 700	8 800	9 900	11 000
6-lane divided road	6 600	7 700	8 800	9 900	11 000
4-lane expressway	7 800	9 100	10 400	11 700	13 000
4-lane freeway	6 000	10 000	14 000	18 000	20 000
6-lane freeway	6 000	10 000	14 000	18 000	20 000
8-lane freeway [1]	6 000	10 000	14 000	18 000	20 000

Source: Review of Major Roads in the South West Metropolitan Corridor: Traffic congestion Technical Paper, Local Impacts Committee, December 2004

8. Public transport access

Information was collected from Transperth and the Public Transport Authority to assess the existing public transport access to and from the site.

The subject site has access to the following bus services within walking distance:

- Bus Route 461: Joondalup Stn - Whitfords Stn via Dampier Av; and
- Bus Route 462: Joondalup Stn - Whitfords Stn via Bridgewater Dr.

Bus services provide a viable alternative mode of transport for residents and visitors of the proposed development. The nearest bus stops are located on Dampier Avenue less than 400m walk or 5 minutes from the site. Bus services also connect to the rail network at Whitfords and Joondalup train stations for longer trips.

The public transport network plan is shown in Figure 9.

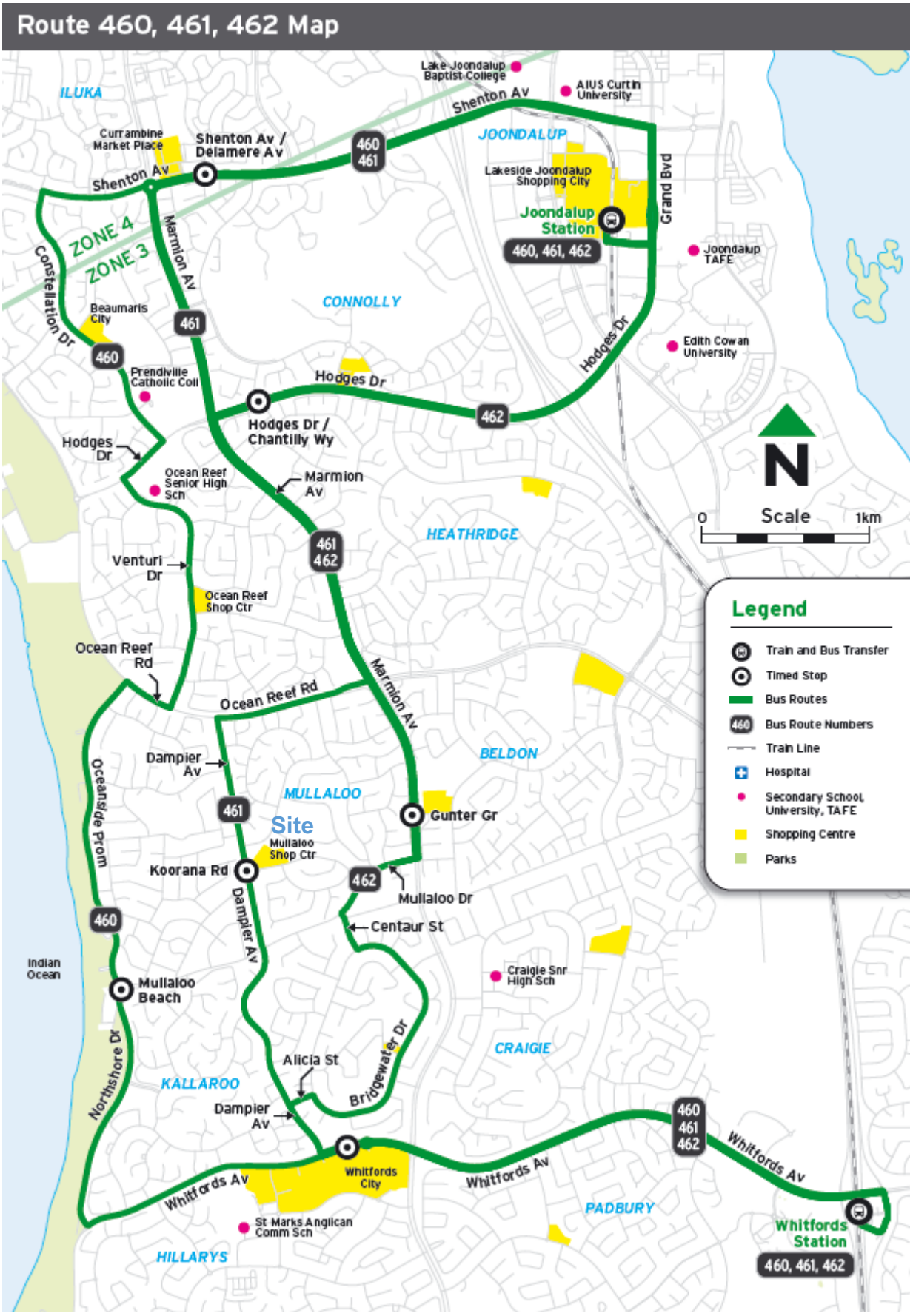


Figure 9: Transperth public transport plan

Source: Transperth bus timetable 65 – Effective: 03/02/2019

9. Pedestrian access

Information from online mapping services, Main Roads WA, Local Government, and/or site visits was collected to assess the pedestrian access for the proposed development.

It is proposed to provide a footpath parallel to the shared access driveway to provide connectivity from the proposed residential building to the footpath on Koorana Road. The proposed development plans also make allowance for a future pedestrian connection to the adjoining land to the west.

Walk score

The Walk Score online service was checked to measure the walkability of the site based on the distance to amenities. The site achieved a walk score of 56 which means it is somewhat walkable, with some errands that can be accomplished on foot. The score by category for different activities is detailed in Figure 10. It is noted that the site scores favourably for categories relevant to the proposed development, such as nearby access to parks, schools and groceries.

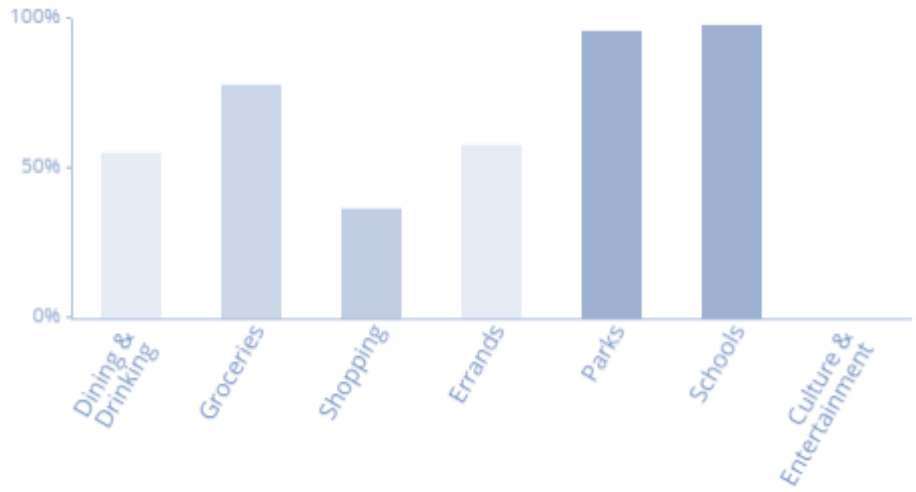


Figure 10: Subject site walk score by category

Source: www.walkscore.com – accessed 13 January 2019

Pedestrian facilities and level of service

Footpaths are provided along both sides of the road adjacent to the site. Pedestrian crossing facilities including kerb ramps are provided to the east of the site, which promotes improved access for bicycles, wheelchairs and prams. Pedestrian connectivity is provided from the proposed development to the external footpath network.

The WAPC Transport Impact Assessment Guidelines for Developments (2016) provide warrants for installing pedestrian priority crossing facilities. This is based on the volume of traffic as the key factor determining if pedestrians can safely cross a road. The guidelines recommend

pedestrian priority crossing facilities be considered once the peak hour traffic exceeds the volumes detailed in Table 5.

The traffic volumes in this table are based on a maximum delay of 45 seconds for pedestrians, equivalent to Level of Service E. Traffic volumes on the road network adjacent to the site are below the threshold for safe pedestrian crossing. Therefore, pedestrian crossing level of service is satisfactory on the adjacent road network.

Table 5: Traffic volume thresholds for pedestrian crossings

Road cross-section	Maximum traffic volumes providing safe pedestrian gap
2-lane undivided	1,100 vehicles per hour
2-lane divided (with refuge)	2,800 vehicles per hour
4-lane undivided*	700 vehicles per hour
4-lane divided (with refuge)*	1,600 vehicles per hour

10. Bicycle access

Information from online mapping services, Department of Transport, Local Government, and/or site visits was collected to assess bicycle access for the proposed development.

Bicycle network

The Department of Transport Perth Bicycle Network Map (see Figure 11) shows the existing cyclist connectivity to the subject site. Connectivity is provided to the wider bicycle network via Dampier Avenue to the west.

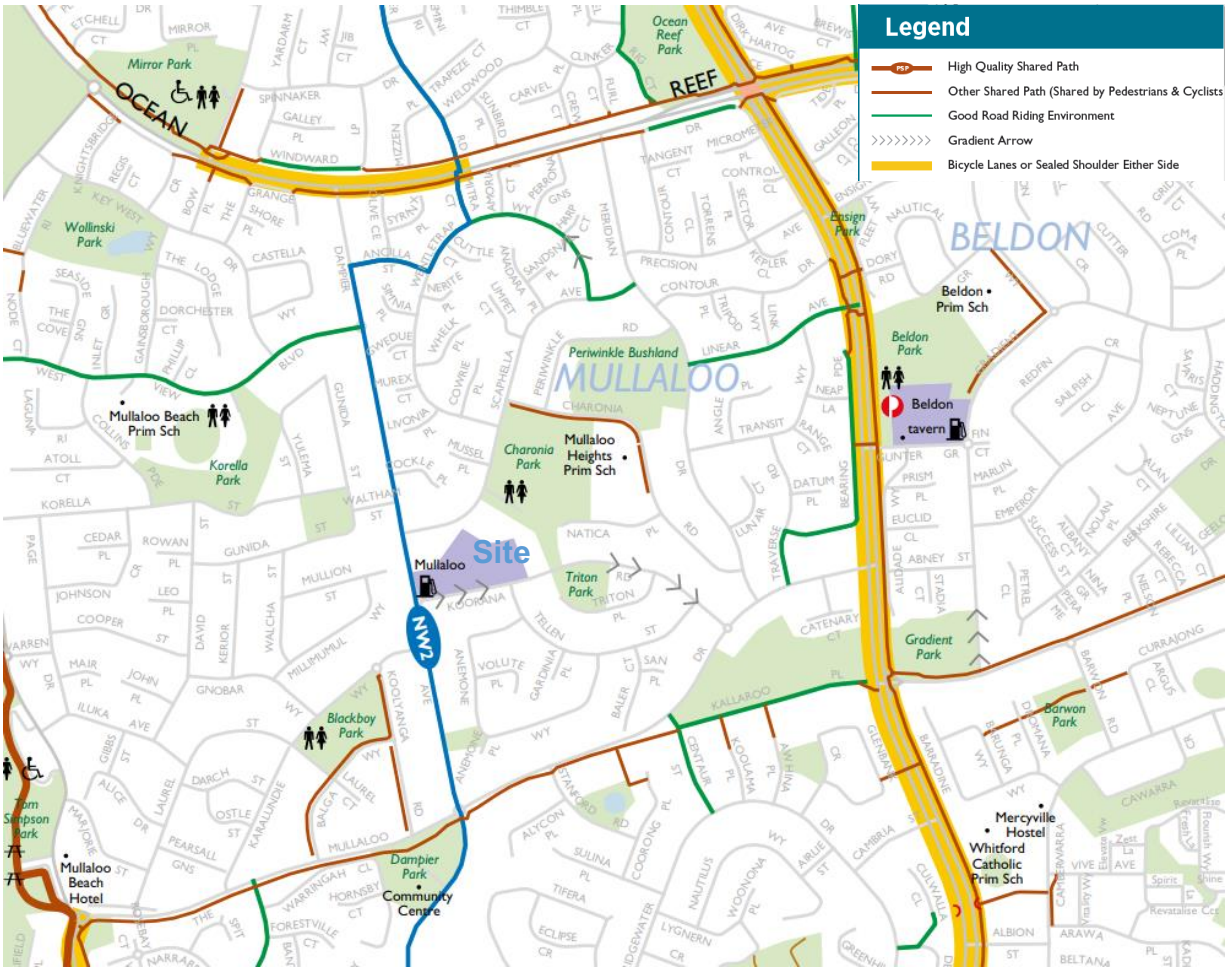


Figure 11: Perth bicycle network plan

Source: Department of Transport Joondalup and Stirling comprehensive bike map (accessed: 13/01/2019)

Bicycle parking and end of trip facilities

It is proposed to provide 8 secured bicycle spaces for residents and 2 bicycle spaces for visitors.

11. Site specific issues

No additional site-specific issues were identified within the scope of this assessment.

12. Safety issues

No additional safety issues were identified within the scope of this assessment.

13. Conclusion

This Transport Impact Statement has been prepared by Urbii on behalf of 25 Koorana Pty Ltd with regards to the proposed residential development, located at 25 Koorana Road Mullaloo, in the City of Joondalup.

The site features good connectivity with the existing road and pedestrian network. There is good public transport coverage through nearby bus services.

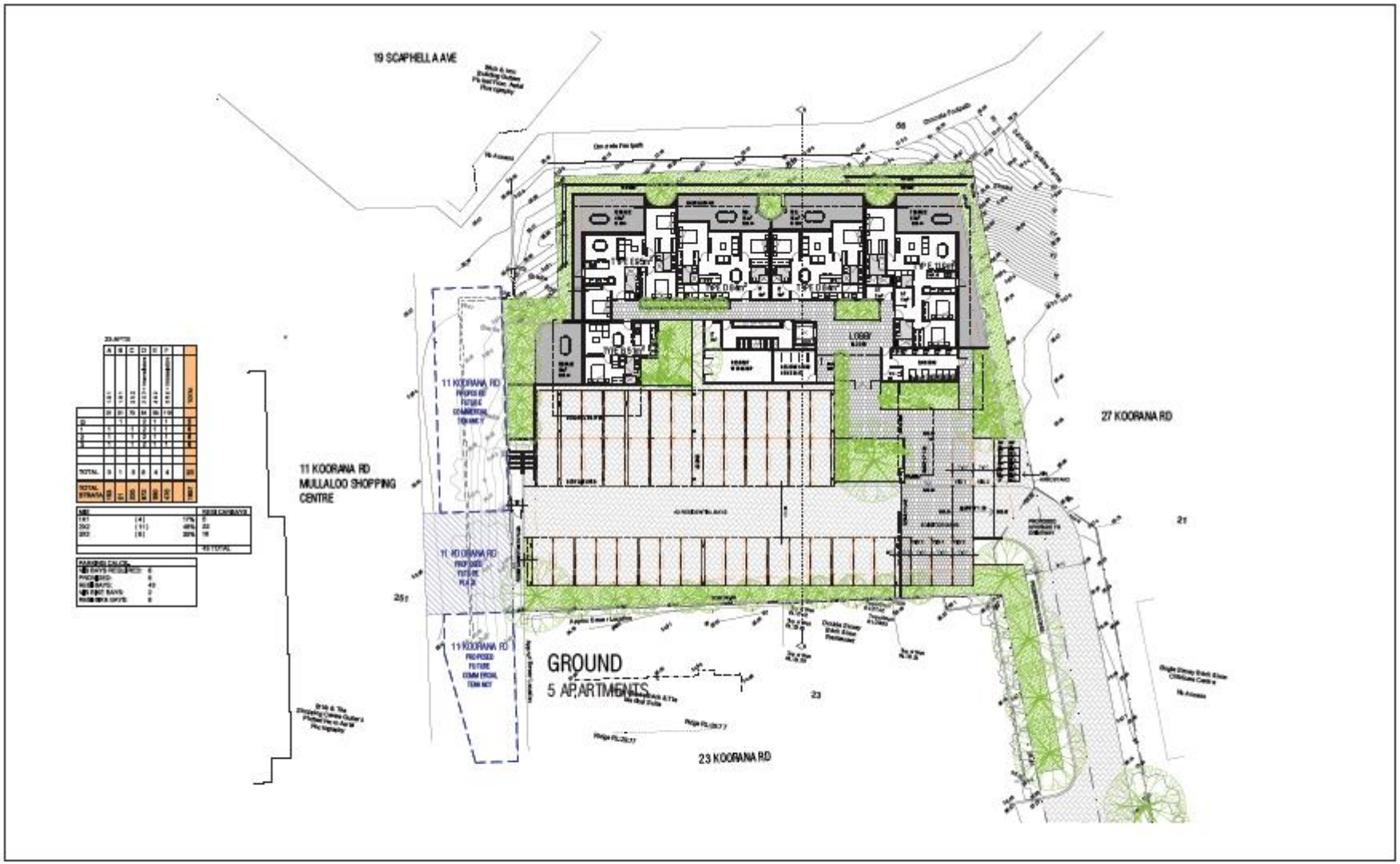
The traffic analysis undertaken in this report shows that the traffic generation of the proposed development is minimal (less than 100vph on any lane) and as such would have insignificant impact on the surrounding road network.

The car parking supply is satisfactory and can accommodate the car parking demand of the proposed development. Bicycle parking spaces are provided for both residents and visitors.

It is concluded that the findings of this Transport Impact Statement are supportive of the proposed development.

Appendices

Appendix A: Proposed development plans



MJA studio

REV.	DATE	AMENDMENT
A	24.01.2018	FOR COUNCIL/STAFF REVIEW
B	25.01.2018	FOR COUNCIL/STAFF REVIEW
C	29.01.2018	PRELIMINARY ISSUE
D	30.01.2018	DA ISSUE

CLIENT: HELMLIVING PTY LTD

PROJECT: MULLALOO RESIDENTIAL

PROJECT ADDRESS: 25 KOORANA ROAD MULLALOO

MJA PROJECT NUMBER: 17080

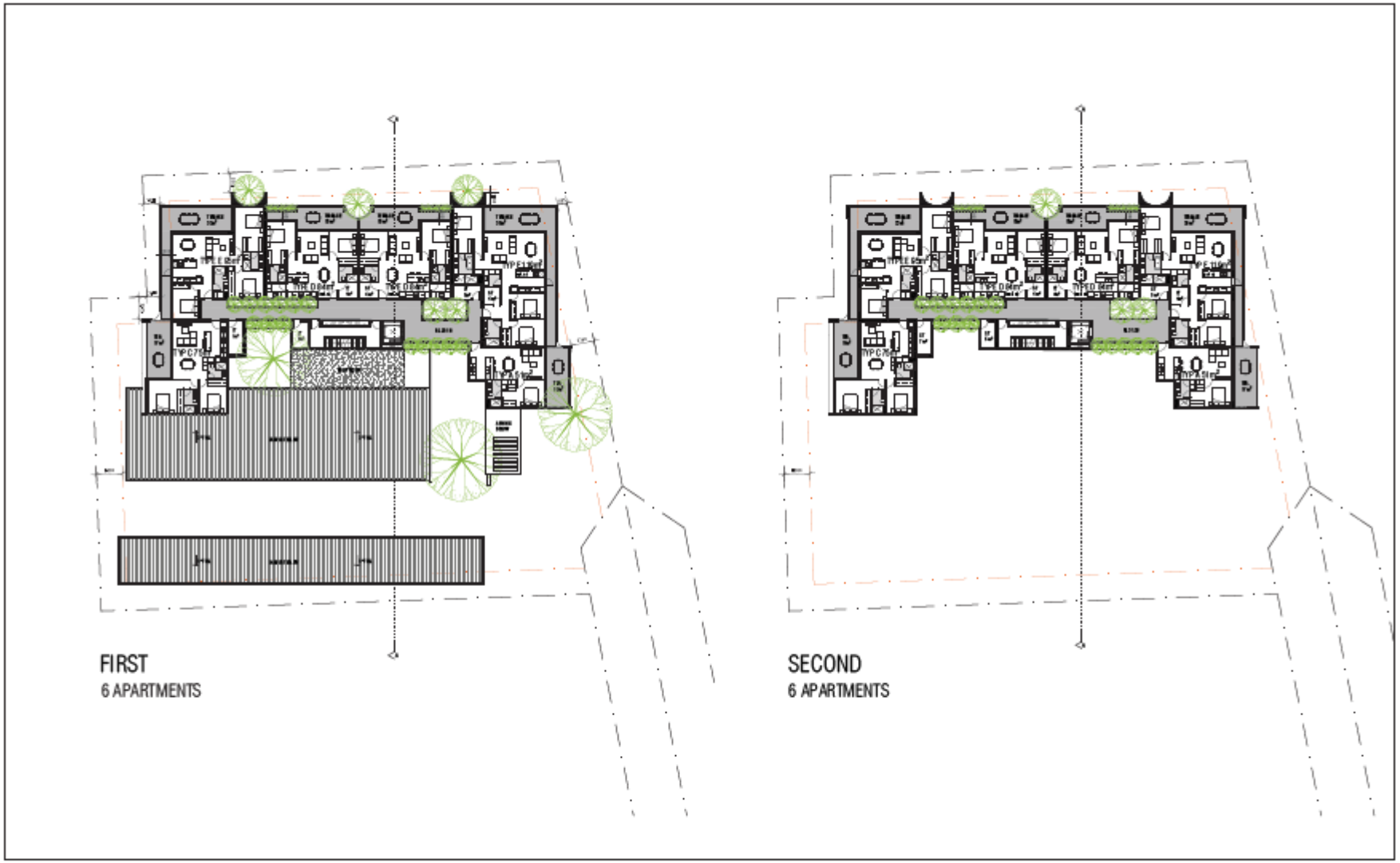
PROJECT STATUS: DEVELOPMENT APPROVAL APPLICATION

TRUE NORTH

SCALE: 1:200 @ A1

DRAWING: GROUND FLOOR PLAN

DRAWING NO.	STATUS	CHECKED	REV.
DA3.01	SA	-	D



MJA studio

REV.	DATE	AMENDMENT
A	24.01.2019	FOR CONSULTANT REVIEW
B	25.01.2019	FOR CONSULTANT REVIEW
C	28.01.2019	PRELIMINARY ISSUE
D	30.01.2019	DA ISSUE

CLIENT
HELM LIVING PTY LTD

PROJECT
MULLALOO RESIDENTIAL
PROJECT ADDRESS
25 KOORANA ROAD
MULLALOO

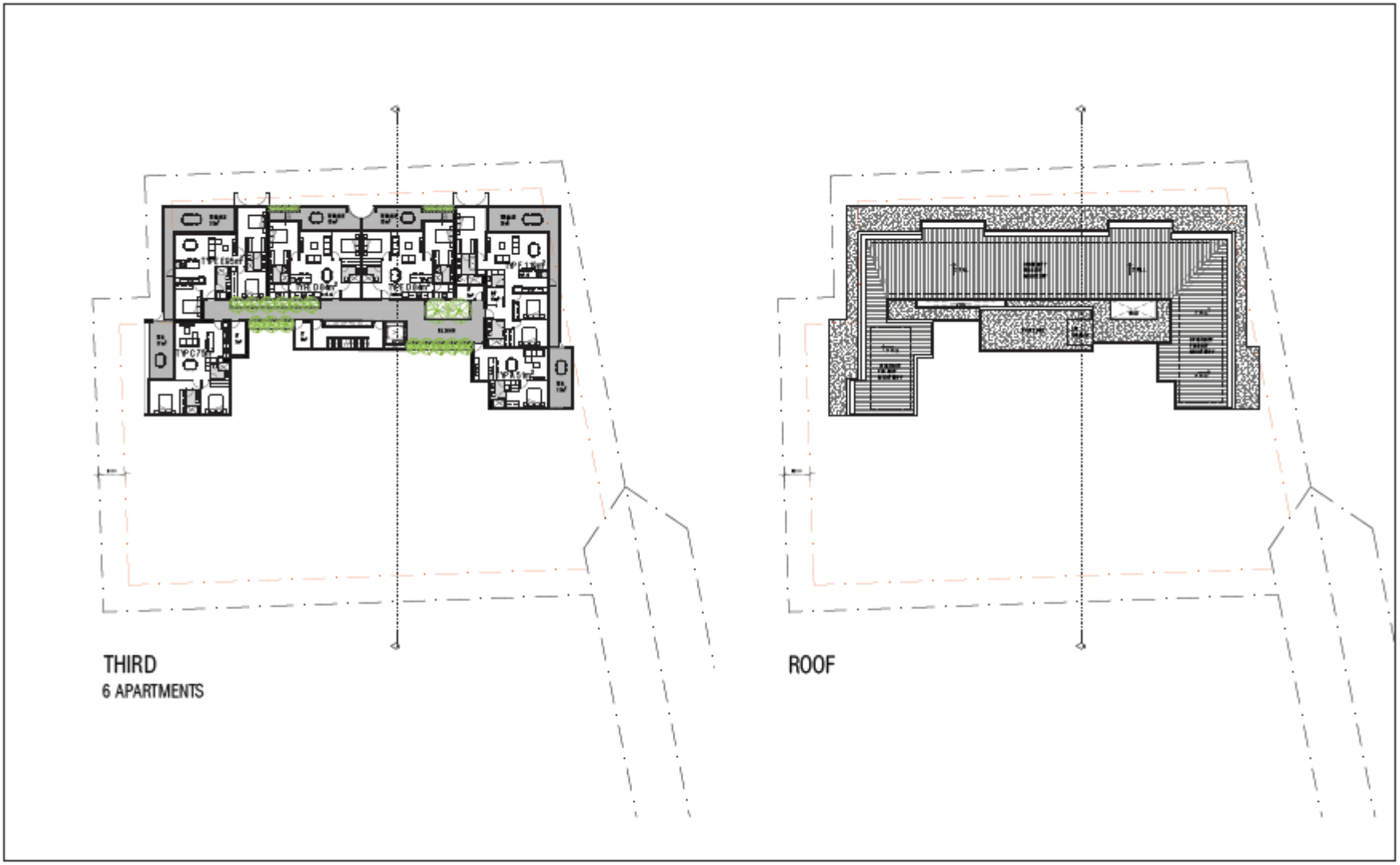
MJA PROJECT NUMBER
17080
PROJECT STATUS
DEVELOPMENT APPROVAL
APPLICATION

TRUE NORTH

SCALE
0 2 4 10
1:200 @ A1

DRAWING
1ST /2ND FLOOR PLAN

DRAWING NO.	ISSUE	CHECKED	REV.
DA3.02	SA	-	D



MJA studio

REV.	DATE	AMENDMENT
A	24.01.2018	FOR CONSULTANT REVIEW
B	25.01.2018	FOR CONSULTANT REVIEW
C	29.01.2018	PRELIMINARY ISSUE
D	30.01.2018	DA ISSUE

CLIENT
HELMLIVING PTY LTD

PROJECT
MULLALOO RESIDENTIAL

PROJECT ADDRESS
25 KOORANA ROAD
MULLALOO

MJA PROJECT NUMBER
17080

PROJECT STATUS
DEVELOPMENT APPROVAL
APPLICATION

TRUE NORTH

SCALE
0 2 4 10
1:200 @ A1

DRAWING
3RD FLOOR / ROOF PLAN

DRAWING NO.	DRAWN	CHECKED	REV.
DA3.03	SA	-	D

Appendix B: Swept path diagrams

Swept path diagrams are included in this section of the report. Different coloured lines are employed to represent the various envelopes of the vehicle swept path, as described below:

Cyan represents the wheel path of the vehicle

Green represents the vehicle body envelope

Blue represents a 500mm safety buffer line, offset from the vehicle swept path

The swept path diagrams are also provided separately in high-quality, A3 PDF format.

Rear-Load Semi Waste Truck
PEDESTRIAN ACCESS
6 VISITOR BAYS
VIS 1
VIS 2
VIS 3
VIS 4
VIS 5
43 RESIDENTIAL BAYS
urbii
Sustainable Transport. Safe Solutions.
PO Box 4315, Bakkvle WA 6171
0433 858 164

5.3 State Planning Policies

5.3.1 State Planning Policy 3.1 – Residential Design Codes of Western Australia

State Planning Policy 3.1 - Residential Design Codes (**R-Codes**) applies to residential development in Western Australia. The aims of the R-Codes include:

a) To provide for a full range of housing types and densities that meet the needs of all people;

b) To provide for local variations in neighbourhood character;

c) To ensure appropriate standards of amenity for all dwellings;

d) To ensure provision of on-site facilities for all dwellings; and

e) To protect the amenity of adjoining residential properties.

Part 6 of the R-Codes controls the design elements for Multiple Dwellings. An assessment against the deemed-to-comply criteria of the R-Codes and relevant local planning policies (where the deemed-to-comply provisions depart from the R-Codes) is provided in Section 6 of this report. For the elements which do not meet the deemed-to-comply elements, a merit assessment against the relevant design principles is provided in section 7 of this report.

5.3.2 Draft State Planning Policy No.7 – Design of the Built Environment

Draft State Planning Policy No.7 – Design of the Built Environment (**SPP7**) was published by the WA Planning Commission for public comment in October 2016. The draft policy sets out the principles, processes and considerations which apply to the design of the built environment in Western Australia, across all levels of planning and development.

Draft SPP7 establishes a set of 'Design Principles', providing a consistent framework to guide the design, review and decision-making process for planning proposals. While the draft policy has not yet received final approval or been gazetted, the City of Joondalup now requires proposals for multiple dwelling developments to include a statement against each of the ten (10) design principles established by the draft policy.

Table 3 below provides a statement against each of the ten (10) design principles of draft SPP7.

Table 3 – Draft SPP7 Design Principles Statement

Design Principle	Proposed Development Response
1. Context and character Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.	The proposed development responds to its context and character in an effective manner. The subject site benefits from its location adjacent to Charonia Park and in walking distance to Mullaloo Beach. The proposed development seeks to maximise its outlook to the coastal and parkland aspects, and residential interface with the adjoining parklands, in a form that remains highly sympathetic to, and consistent with, the modern residential character of the locality. This multiple dwelling development also serves to act as an intermediate / transition between the low density residential character to the east, and the future redevelopment of non-residential activities (Mullaloo Plaza) to the west.
2. Landscape quality Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.	The proposal has an emphasis on quality landscaped areas, both at ground level and through within the complex itself through the provision of landscaped communal open spaces and thoroughfares. In acknowledgement of the site's location and parkland aspects, the design response places a significant emphasis on maximising the access and outlook of all dwellings to the north, ensuring all residents can benefit from this environmental asset.

Design Principle	Proposed Development Response
3. Built form and scale Good design provides development with massing and height that is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.	The proposed built form is consistent and sympathetic to its broader context. While the site is a located in an area that is predominately detached single storey dwellings, the intended built form outcome for the site (as established by the planning framework) is for higher density attached form of residential development. The four-storey development is consistent with the built form and scale contemplated by the planning framework, and intended to be delivered on site.
4. Functionality and build quality Good design meets the needs of users efficiently and effectively, balancing functional requirements to deliver optimum benefit and performing well over the full life-cycle.	Functionality and quality is at the core of the proposed design, to ensure the needs of users are met. The arrangement of private and communal spaces maximises their ease of use and adaptability to be used for a range of purposes. An emphasis on good quality and robust building materials will ensure that the building remains resilient to wear and tear from its intended use. Additionally, the high quality design ensures that the building is not an eyesore and remains that way for its lifespan.
5. Sustainability Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.	Pedestrian movements, solar access and natural ventilation has been emphasised in this project. Sustainability is a major focus for both the City and the developer, and to this end, the range of ESD measures to be implemented have been outlined in the ESD Checklist (refer **Appendix 7**). In addition to the positive environmental aspects, the proposed development will also deliver social benefits (through increase diversity and choice of housing) and positive economic outcomes (by providing greater density of residents adjacent to Mullaloo Plaza neighbourhood centre).
6. Amenity Good design optimises internal and external amenity for occupants, visitors and neighbours, contributing to living and working environments that are comfortable and productive.	All apartments have been designed to provide exceptional levels of amenity for future residents, visitors and neighbours. All dwellings are provided with large balconies maximising access to daylight and natural ventilation. Furthermore, the overall development form and design treatment will create a high quality environment with appropriate private/public realm treatments. The application is also supported by a range of expert consultant reports demonstrating the suitability of traffic, acoustic and waste management arrangements to ensure the amenity of the locality is preserved and maximised.
7. Legibility Good design results in buildings and places that are legible, with clear connections and memorable elements to help people find their way around.	The proposed development is legible and easy to navigate for both pedestrians and vehicle drivers. The apartment building will be visible from Koorana Road, with a legible approach and entry. The proposal includes a pedestrian priority zone within the driveway, and various design features to welcome visitors at the lobby entrance. The access point/lobby is visible to persons entering the site via the driveway and on-site car parking area, avoiding any confusion for visitors. Access from the site to the adjoining shopping centre is also incorporated. A single vehicle access crossover from Koorana Road also maximises legibility for residents and visitors.
8. Safety Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.	Safety and security is promoted through maximising opportunities for both passive and active surveillance. All dwellings provide direct surveillance opportunities over the adjoining properties and public realm beyond, while increased activity, interaction and surveillance of internal communal areas are encouraged through the provision of landscaped thoroughfares. The development will also be well lit with secure access points. Additionally, the residential carpark will be gated and secure, ensuring that there is no opportunity for theft or damage to private property.
9. Community Good design responds to local community needs as well as the wider social context, providing buildings and spaces that support a diverse range of people and facilitate social interaction.	A good mix of dwelling types from one bedroom through to three-bedroom apartments ensure that there is a diverse range of housing options provided. Six different apartment types will provide a range of price points catering to the needs of different purchasers. This diversity of dwelling stock is needed in the locality, given the prevalence of traditional single dwellings on freehold lots, and will provide new opportunities for single people, couples and families wishing to live in the area. The provision of communal areas onsite will also help to facilitate both active and passive social interaction.

Design Principle	Proposed Development Response
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.	The building is designed by highly respected and award-winning architecture practice MJA Studio, and will be built using high quality materials that will stand the test of time. This will create an attractive and inviting place that contributes positively to the local character of the area. The building, while maintaining a consistent building height of four storeys, provides a high degree of variety and visual interest through its varied façade treatments. The combination of vertical and horizonal design elements, varied screening treatments and a diverse materials/colour pallet all contribute to an interesting and attractive development outcome.

Having regard for the design principles and statement outlined above, we consider the proposed development design to be of high quality and worthy of approval.

Refer **Appendix 3**, Design Report for more details of how the proposal addresses the principles of draft SPP7.

5.3.3 Draft State Planning Policy 7.3 – Apartment Design

On 19 October 2016, a new suite of State Planning Policies and associated documents known as 'Design WA' were released for public comment. This suite of policies signals an acceleration in the State government's transition towards the use of performance-based measures to facilitate good design outcomes for urban development. Recent announcements by the State Government indicate the Apartment Design Guide will be gazetted in February 2019, meaning it will likely be in operation prior to determination of this application.

Draft *State Planning Policy 7.3 – Apartment Design* (**SPP7.3**) will define the principles, primary controls, site analysis and standards that guide the design and development of multiple dwellings and mixed-use developments. Draft SPP7.3 will provide design criteria with an emphasis on solar access and ventilation, circulation and communal space, façade and landscaping, sustainability and energy efficiency, access and interface as well as site analysis and response.

Upon adoption, draft SPP7.3 is intended to replace Part 6 of the R-Codes. Although the specific provisions are not known at the time of lodgement, and we understand a number of modifications have been made to the advertised version, the key design outcomes are outlined in **Table 4** below; consistent with draft SPP 7.3:

Table 4 – High level analysis of Draft Apartment Design Guide

Design element	Design outcome
Streetscape Type	This proposal adopts the A2 - Neighbourhood Attached streetscape character type, based on the Commercial zoning and default R80 density code. The proposed development aligns with its location and aspect, capturing key views of the Charonia Park to the north east, and provides for garden and courtyard apartments. The proposal also ensures good solar orientation and protects the amenity of adjacent development.
Plot Ratio	The proposed plot ratio of 0.7 is well below the maximum plot ratio of 2.0 applicable to a A2 - Neighbourhood Attached streetscape character type.
Building Height	The proposed four storey development is within the maximum building height limit of four storeys of Draft SPP 7.3.
Landscaping	High quality landscaping is provided throughout the site including along all property boundaries, adjacent to car parking areas and on all levels of the development. The landscaping will soften and enhance the amenity of the development for residents and visitors. The majority of the existing mature trees along the shared access driveway and within the front setback area are to be retained, whilst 21% deep soil cover provides quality landscaped interfaces to soften 'edges' within the development.

Solar & Daylight Access	The proposed development is oriented to the north and all apartments are dual-aspect, maximising solar access. The building's internal voids allow for better access to daylight and enhance the sense of internal space.
Natural Ventilation	The apartment design allows cross ventilation to every apartment. Ventilated central access corridor increases ventilation within the apartments, reducing reliance on mechanical cooling and minimising energy costs.

Having regard for the above, the proposed development design is considered to be consistent with draft SPP4.7.

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DEVELOPMENT APPLICATION: ACOUSTICS

25 Koorana Road, Mullaloo

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24-Jan-19	-	Issued to Client as Draft	Terry George	Olivier Mallié
29-Jan-19	0	Issued as final with no changes	Terry George	Olivier Mallié

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1 INTRODUCTION

It is proposed to construct a 4 level, 23 residential apartment development at 25 Koorana Road, Mullaloo (refer *Figure 1-1*). The site is currently used for squash courts which will be demolished to make way for the new apartments. The site is currently on commercially zoned land and surrounded by the following uses:

- Mullaloo Kindergarten to the east;
- Charonia Park / Mullaloo Heights Primary School to the north-east;
- True North Church to the north-west;
- Shopping Centre to the west;
- Mullaloo Dental Centre and Ho Mei Chinese Restaurant to the south.

The floor plans of the proposed apartment development are provided in *Appendix A*.

Figure 1-1 Site Locality (Source: City of Joondalup Intramaps)

As per all apartment developments, the project is required to comply with the *National Construction Code* and control its noise to neighbouring developments as prescribed in the *Environmental Protection (Noise) Regulations 1997*. There is also a requirement to control ambient noise to within the apartment development. In this case, ambient noise will exist from the surrounding existing land uses.

Given this report is for DA purposes only, it does not go into the full detail that will be required as the design progresses, as more information becomes available. The detailed design information will form part of on-going work once the DA is approved.

2 PROJECT CRITERIA

The relevant acoustic criteria for the project that will be considered during the design, construction and commissioning stages are discussed below and in more detail in *Sections 2.1 to 2.3* -

- Noise emissions from this project to neighbouring premises. Sources of noise emission from this project include mechanical plant and equipment. The relevant criteria are those prescribed by the *Environmental Protection (Noise) Regulations 1997* – refer *Section 2.1*.
- Control of existing/future noise levels in the area to within this development. Known existing noise is from the surrounding land uses, comprising in particular the Chinese restaurant, kindergarten and school, church and shopping centre. The appropriate criteria for these noise sources are discussed in *Section 2.2*.
- Noise within the building to sole-occupancy units. In this case, the criteria are prescribed by the *National Construction Code* (NCC) through the *Building Code of Australia* (BCA) – refer *Section 2.3*.

2.1 Environmental Protection (Noise) Regulations 1997

Environmental noise in Western Australia is governed by the *Environmental Protection Act 1986*, through the *Environmental Protection (Noise) Regulations 1997* (EPNR). The regulations that will be applicable to this project are as follows:

- Mechanical plant and the like are to comply with regulations 7 and 8 at neighbouring properties.
- Noise during construction is to comply with regulation 13.

Each of these regulations are explained in detail in *Sections 2.1.1* and *2.1.2*.

2.1.1 Regulations 7 & 8

Regulation 7 defines the prescribed standard for noise emissions as follows:

"7. (1) Noise emitted from any premises or public place when received at other premises –

(a) Must not cause or significantly contribute to, a level of noise which exceeds the assigned level in respect of noise received at premises of that kind; and

(b) Must be free of –

i. Tonality;

ii. Impulsiveness; and

iii. Modulation".

A "…noise emission is taken to *significantly contribute to* a level of noise if the noise emission exceeds a value which is 5 dB below the assigned level…"

Tonality, impulsiveness and modulation are defined in Regulation 9. Noise is to be taken to be free of these characteristics if:

(a) The characteristics cannot be reasonably and practicably removed by techniques other than attenuating the overall level of noise emission; and

(b) The noise emission complies with the standard prescribed under regulation 7 after the adjustments of *Table 2-1* are made to the noise emission as measured at the point of reception.

Table 2-1 EPNR Adjustments Where Characteristics Cannot Be Removed

Where Noise Emission is Not Music			Where Noise Emission is Music	
Tonality	**Modulation**	**Impulsiveness**	**No Impulsiveness**	**Impulsiveness**
+ 5 dB	+ 5 dB	+ 10 dB	+ 10 dB	+ 15 dB

Note: The above are cumulative to a maximum of 15dB.

The baseline assigned levels (prescribed standards) are specified in Regulation 8 and are shown in *Table 2-2*.

Table 2-2 EPNR Baseline Assigned Noise Levels

Premises Receiving Noise	Time Of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises: highly sensitive area[1]	0700 to 1900 hours Monday to Saturday (Day)	45 + influencing factor	55 + influencing factor	65 + influencing factor
	0900 to 1900 hours Sunday and public holidays (Sunday)	40 + influencing factor	50 + influencing factor	65 + influencing factor
	1900 to 2200 hours all days (Evening)	40 + influencing factor	50 + influencing factor	55 + influencing factor
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	35 + influencing factor	45 + influencing factor	55 + influencing factor
Commercial	All hours	60	75	80

1. ***highly sensitive area*** means that area (if any) of noise sensitive premises comprising —
   (a) a building, or a part of a building, on the premises that is used for a noise sensitive purpose; and
   (b) any other part of the premises within 15 metres of that building or that part of the building.

An influencing factor of + 1 dB has been estimated based on the commercial zoning of the shopping centre (excluding the subject site). *Table 2-3* shows the assigned noise levels including the + 1 dB influencing factor at surrounding noise sensitive premises to the subject site.

Table 2-3 EPNR Assigned Noise Levels

Premises Receiving Noise	Time Of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises: highly sensitive area[1]	0700 to 1900 hours Monday to Saturday (Day)	46	56	66
	0900 to 1900 hours Sunday and public holidays (Sunday)	41	51	66
	1900 to 2200 hours all days (Evening)	41	51	56
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	36	46	56
Commercial	All hours	60	75	80

1. ***highly sensitive area*** means that area (if any) of noise sensitive premises comprising —
   (a) a building, or a part of a building, on the premises that is used for a noise sensitive purpose; and
   (b) any other part of the premises within 15 metres of that building or that part of the building.

Note for the subject site itself receiving noise from the surrounding uses, the influencing factor is + 2 dB, due to a higher percentage of commercial land within 100 metres, so that the assigned levels will be 1 dB higher than those shown in *Table 2-3*. The surrounding uses are ultimately responsible for their noise emissions and would have to comply with these assigned levels.

It should be noted that under regulation 15, noise (calls to worship) from the church is not required to comply with the regulation 8 assigned noise levels. Provided noise levels from the church do not exceed 55 dB(A), then there are no time restrictions for when the noise can occur. Note that where music is played during a service, this is considered a call to worship.

2.1.2 Regulation 13

Construction noise must comply with regulation 13, which states the following:

Regulation 7 does not apply to … construction work carried out between 0700 hours and 1900 hours on any day which is not a Sunday or public holiday if the occupier of the premises … shows that –

a) The construction work was carried out in accordance with control of environmental noise practices set out in section 6 of AS 2436-1981 Guide to Noise Control on Construction, Maintenance and Demolition Sites;

b) The equipment used on the premises was the quietest reasonably available; and

c) If the occupier was required to prepare a noise management plan … in respect of the construction site –

i. The noise management plan was prepared and given in accordance with the requirement, and approved by the Chief Executive Officer; and
ii. The construction work was carried out in accordance with the management plan.

Regulation 7 does not apply to … construction work carried out other than between the [above] hours if the occupier of the premises … shows that –

a) The construction work was carried out in accordance with control of environmental noise practices set out in section 6 of AS 2436-1981 Guide to Noise Control on Construction, Maintenance and Demolition Sites;

b) The equipment used on the premises was the quietest reasonably available;

c) The construction work was carried out in accordance with a noise management plan in respect of the construction site –

i. Prepared and given to the Chief Executive Officer not later than 7 days before the construction work commenced; and
ii. Approved by the Chief Executive Officer;

d) At least 24 hours before the construction work commenced, the occupier of the construction site gave written notice of the proposed construction work to the occupiers of all premises at which noise emissions received were likely to fail to comply with the standard prescribed under regulation 7; and

e) It was reasonably necessary for the construction work to be carried out at that time.

2.2 AS2107:2016

Table 2-4 provides the relevant internal design sound levels from AS2107:2016 *Acoustics - Design Sound Levels and Reverberation Times for Building Interiors*.

Table 2-4 Indoor Noise Criteria: AS 2017:2016

Type of Occupancy/Activity	Design Sound Level Range, L_{Aeq}, dB(A)
Houses and Apartments in inner city areas or entertainment districts or near major roads -	
Sleeping areas (night-time)	35 to 40
Living areas	35 to 45
Houses and apartments in suburban areas or near minor roads -	
Sleeping areas (night-time)	30 to 35
Living areas	30 to 40

Noise levels within the range are described as "acceptable by most people". The site location is not considered inner city but is expected to have some noise due to the commercial uses and therefore, design levels of 30 dB(A) for sleeping areas during the night and 35 dB(A) for living areas during the day are considered appropriate.

2.3 Building Code of Australia (BCA)

It is a requirement under the *National Construction Code* (NCC) for sound transmission and insulation to be considered. In this case, the relevant volume of the NCC is Volume One of the *Building Code of Australia, Class 2 to Class 9 Buildings* (BCA) and specifically Part F5.

The Objective of Part F5 as stated in *Guide to NCC Volume One* is to:

"…safeguard occupants from illness or loss of amenity as a result of undue sound being transmitted –

a) Between adjoining sole-occupancy units; and

b) From common spaces to sole-occupancy units; and

c) From parts of different classifications to sole-occupancy units."

The BCA separates the performance requirements into floors and walls for Class 2 and 3 buildings as follows:

FP5.1

Floors separating –

a) sole-occupancy units: or

b) a sole occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby, or the like, or a part of a different classification,

must provide insulation against the transmission of airborne and impact generated sound sufficient to prevent illness or loss of amenity to the occupants.

FP5.2

Walls separating sole-occupancy units or a sole-occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby, or the like, or parts of a different classification, must provide insulation against the transmission of –

a) airborne sound; and
b) impact generated sound, if the wall is separating a bathroom, sanitary compartment, laundry or kitchen in one sole-occupancy unit from a habitable room (other than a kitchen) in an adjoining unit,

sufficient to prevent illness or loss of amenity to the occupants.

FP5.3

The required sound insulation of a floor or a wall must not be compromised by -

a) The incorporation or penetration of a pipe or other service element; or
b) A door assembly.

In order to satisfy FP5.1 to FP5.3, building elements are to satisfy the minimum acoustic performances nominated in *Table 2-5*, being a summary of the Deemed-to-Satisfy Provisions provided in F5.1 to F5.7.

Table 2-5 BCA Deemed-to-Satisfy Provisions

Partition	Deemed-to-Satisfy Provisions	
	Laboratory	On-Site
Floors (F5.4a)		
Separating SOU's or SOU from plant room, lift shaft, stairway, public corridor, public lobby or the like, or parts of a different classification.	$R_w + C_{tr} \geq 50$ $L_{n,w} \leq 62$	$D_{nT,w} + C_{tr} \geq 45$ $L_{nT,w} \leq 62$
Walls (F5.5a)		
Separating SOU's (Habitable to Habitable)	$R_w + C_{tr} \geq 50$	$D_{nT,w} + C_{tr} \geq 45$
Separating SOU's (Habitable to bathroom, sanitary compartment, laundry or kitchen)	$R_w + C_{tr} \geq 50$ & D.C.	$D_{nT,w} + C_{tr} \geq 45$
Separating SOU to Plant room or lift shaft	$R_w \geq 50$ & D.C.	$D_{nT,w} \geq 45$
Separating SOU to Stairway, public corridor, public lobby, or parts of a different classification	$R_w \geq 50$	$D_{nT,w} \geq 45$
Doors (F5.5b)		
Separating SOU to Stairway, public corridor, public lobby or the like.	$R_w \geq 30$	$D_{nT,w} \geq 25$
Services (F5.6)		
SOU (Habitable) to duct, soil, waste, water supply or storm water (not associated with the SOU)	$R_w + C_{tr} \geq 40$	N/A
SOU (Non-Habitable) to duct, soil, waste, water supply or storm water (not associated with the SOU)	$R_w + C_{tr} \geq 25$	N/A

Notes:
SOU – Sole Occupancy Unit
D.C. Discontinuous Construction

3 PRELIMINARY ANALYSIS

3.1 Environmental Noise Emissions

The major source of noise from the subject site will be from the apartments' mechanical plant, predominantly air-conditioning. Once these units have been selected by a mechanical consultant/contractor, an acoustic analysis will be undertaken to ensure the proposed locations achieve compliance with the prescribed standards of the *Environmental Protection (Noise) Regulations 1997*. Where compliance is not calculated, noise control, relocation or re-selection will be recommended depending on circumstances.

With regards to noise sensitive uses, the kindergarten and schools are expected to be occupied during weekday daytime only and therefore the applicable assigned noise level (within 15 metres of a building) is 46 dB L_{A10}. The church is occupied prior to 9am on a Sunday and as such, 36 dB L_{A10} is the applicable assigned noise level.

The shopping centre, medical centre and restaurant are commercial uses so the applicable assigned noise level at these locations is 60 dB L_{A10}.

Some general rules to be considered are:

- Locate plant on the roof of the development so that it is well screened from the noise sensitive uses or locate preferably on the south side, closest to the commercial uses and furthest from the noise sensitive uses.
- Select equipment that is the quietest reasonably available. For instance, when comparing two manufacturer's, consider noise levels in the selection process;
- Select units that are capable of a night 'quiet' mode setting;
- Install units on anti-vibration mounts; and
- Use walls of the development to provide screening from the units to the neighbouring properties.

3.2 Noise Intrusion

With regards to noise impact from the surrounding uses, three sets of measurements have been undertaken to understand the noise from each use and at different times of the day as follows:

1. 10.00am to 11.00am, Thursday 17 January 2019 – West side of squash courts to quantify general shopping centre noise.

2. 9.00pm to 10.00pm, Thursday 17 January 2019 – West and south sides of squash courts to quantify shopping centre noise and kitchen exhaust fan from Chinese Restaurant. It is noted the IGA operates 24 hours a day, 7 days a week. The Celebrations Liquor Store is generally 9am to 10pm. The Chinese Restaurant is generally open at 4.30pm and closes at either 10pm or 11pm. Whilst on Thursday night of the measurements the restaurant is scheduled to close at 11pm, the kitchen exhaust fan turned off prior to 10pm.

3. 8.00am to 9.05am, Sunday 20 January 2019 – Northwest side of squash courts to quantify noise form church including carpark activity. The church has two services on a Sunday, one starting at 8.30am and another at 10.00am. People generally arrived around 8.25am. Music was then audible from 8.27am through to around 9.00am, at which point the sermon commenced and was relatively quiet.

For each measurement session, a calibrated sound level meter was used near the boundary of the proposed building and at 1.4 metres above ground level.

Note that at this stage, noise from the kindergarten and school have not been measured, since it is currently school holidays. *Table 3-1* provides the results of the noise measurements at the point of a potential apartment.

Table 3-1 L_{eq} Noise Level Measurements, dB

Description	Octave Band Centre Frequency (Hz)								Overall dB(A)
	31.5	63	125	250	500	1k	2k	4k	
Daytime – Kindergarten/School (East Side)									TBA
Daytime – Shopping Centre (West Side)	66.0	60.8	55.5	49.5	46.7	45.4	43.2	38.7	**50.7**
Night-time – Shopping Centre (West Side)	64.3	60.1	51.6	43.6	41.7	43.5	39.9	36.2	**47.5**
Night-time – Church (Northwest Side)	67.0	64.8	58.4	47.6	43.3	42.0	37.1	35.7	**48.5**
Night-time – Chinese Restaurant (South Side)	59.4	52.7	51.8	51.1	48.6	49.0	46.4	39.3	**53.1**

It should be noted that the onus of controlling noise emissions is on the noise emitter. The approach taken in this project is that the developer will share some responsibility in terms of achieving a satisfactory internal noise level (refer *Section 2.2*), however this may not result in a noise level that is compliant with the Regulations (refer *Section 2.1*). As the squash courts are currently a commercial use, the surrounding uses are currently compliant with the Regulations. As these change to noise sensitive, compliance may not be achieved.

Based on the *Table 3-1* external noise levels, the internal noise level through a closed window can be calculated. *Table 3-2* provides the internal calculated noise level on the basis of minimum 6 mm thick glass, where the frame, seals and glass combine to achieve minimum acoustic performance of $R_w + C_{tr} \geq 28$.

Table 3-2 Calculated Internal Noise Levels

Description	Calculated Internal L_{eq} Noise Level, dB(A)
Daytime – Kindergarten/School (East Side)	
Daytime – Shopping Centre (West Side)	32
Night-time – Shopping Centre (West Side)	29
Night-time – Church (Northwest Side)	34
Night-time – Chinese Restaurant (South Side)	32

The above shows that daytime noise levels and night-time noise levels from the shopping centre will achieve a satisfactory internal noise level based on the assumed glass performance and when windows are closed.

With the Church service commencing prior to 9.00am, this is considered night-time and therefore the calculated noise level of 34 dB(A) is above the design goal for bedrooms. As such, bedrooms to the Type C and E apartment facing the church are to achieve $R_w + C_{tr} \geq 32$. This will likely require acoustic seals and 10.5 mm thick VLam Hush glass. If the Church service did not commence until after 9am (or music levels reduced), then the previously assumed glass performance would be acceptable.

The Chinese restaurant can stay open until 11pm, falling in to the night period and therefore 30 dB(A) is the design goal in bedrooms. It is therefore recommended that windows to the Type A and Type C be upgraded to achieve $R_w + C_{tr} \geq 30$, likely requiring 6.5 mm thick VLam Hush. If the kitchen exhaust fan turned off at 10pm or noise control was undertaken to the fan (install attenuator), the previously recommended glazing would be satisfactory.

It should be noted that the above noise levels are average noise levels and there may exist intermittent noises and at higher levels (e.g. car doors closing in carpark etc). Furthermore, where a person's apartment windows or doors are open, internal noise levels will increase from those in *Table 3-2*. Because of this, it is recommended that a notification on title be placed advising residents of the potential noise impacts. Mechanical ventilation should also be provided so that windows do not need to be opened to provide fresh air.

As noted previously, compliance with the noise regulations (refer *Section 2-1*), at the proposed apartments, will be required and the onus of controlling noise emissions is on the noise emitter. Based on the noise levels recorded on site, it is likely the Church will satisfy regulation 15 (not required to comply with regulation 8) and the Chinese Restaurant would exceed the regulation 8 assigned noise levels.

3.3 BCA Part F5 Compliance

As described in *Section 2.3*, the acoustic consultant will work with the design team in order to ensure compliance with Part F5 of the Building Code of Australia as specified in *Table 2-5*.

When progressing the development, consideration will be given to the following:

- The minimum floor construction is 200 mm thick concrete with a carpeted floor finish. Where hard floor finishes are required (e.g. wet areas) or preferred (living areas), these are to be installed on an impact isolation layer and an insulated suspended ceiling provided to the apartment below. Performances to be minimum $R_w + C_{tr} \geq 50$ and $L_{n,w} \leq 62$;
- Party walls are to achieve minimum $R_w + C_{tr} \geq 50$ construction (e.g. be double leaf acoustic brickwork with anti-vibration ties). Where a wet area adjoins a habitable space, discontinuous construction is required. The walls between the apartments and walkway may not require a mandatory acoustic performance of R_w 50, which is applicable to an enclosed corridor (subject to confirmation from Building Certifier). *Figure 3-1* shows a typical wall performance mark-up;

- PVC pipes from another person's apartment will be acoustically lagged when located above wet areas and double lagged when located above habitable areas (including kitchens). Where the pipe is an acoustic type pipe, lagging can generally be reduced by 1 layer, the exception being toilet waste;
- Where practicable, services are not to be located on party walls;
- Service risers within an apartment habitable space are to achieve $R_w + C_{tr} \geq 40$ construction and those in wet areas $R_w + C_{tr} \geq 25$.

Figure 3-1 Acoustic Wall Mark-up

4 CONCLUSION

During the detailed design, separate acoustic reports will be undertaken in order to consider environmental noise emissions and BCA Part F5 compliance in more detail. At this stage however, the following recommendations are considered applicable:

- Locate plant on the roof of the development so that it is well screened from the noise sensitive uses or locate preferably on the south side, closest to the commercial uses and furthest from the noise sensitive uses.
- Select equipment that is the quietest reasonably available. For instance, when comparing two manufacturer's, consider noise levels in the selection process;
- Select units that are capable of a night 'quiet' mode setting;

- Install units on anti-vibration mounts;
- Use walls of the development to provide screening from the units to the neighbouring properties where practicable.
- External walls are assumed to achieve at least $R_w + C_{tr}$ of 45 e.g. 230 mm cavity brickwork or 150 mm thick concrete tilt panels.
- All external glazing to apartments to be specified to achieve minimum $R_w + C_{tr} \geq 28$ e.g. 6 mm glass in frame with seals, with some windows shown in *Figure 4-1* requiring higher performance.

Figure 4-1 Acoustic Window Mark-up

- All apartments are to incorporate notifications on title advising of the potential noise impacts from the surrounding land uses;
- Mechanical ventilation to be provided so that windows do not need to be opened to provide fresh air.
- The minimum floor construction is 200 mm thick concrete with a carpeted floor finish. Where hard floor finishes are required (e.g. wet areas) or preferred (living areas), these are to be installed on an impact isolation layer and an insulated suspended ceiling provided to the apartment below. Performances to be minimum $R_w + C_{tr} \geq 50$ and $L_{n,w} \leq 62$;
- Party walls are to achieve minimum $R_w + C_{tr} \geq 50$ construction (e.g. be double leaf acoustic brickwork with anti-vibration ties). Where a wet area adjoins a habitable space, discontinuous construction is required. The walls between the apartments and walkway may not require a mandatory acoustic performance of R_w 50, which is applicable to an enclosed corridor (subject to confirmation from Building Certifier). *Figure 3-1* shows a typical wall performance mark-up;

- PVC pipes from another person's apartment will be acoustically lagged when located above wet areas and double lagged when located above habitable areas (including kitchens). Where the pipe is an acoustic type pipe, lagging can generally be reduced by 1 layer, the exception being toilet waste;
- Where practicable, services are not to be located on party walls;
- Service risers within an apartment habitable space are to achieve $R_w + C_{tr} \geq 40$ construction and those in wet areas $R_w + C_{tr} \geq 25$.

Appendix A

APARTMENT PLANS

MJA studio

LEVEL 1, SUITE 6, 23 RAILWAY ROAD, SUBIACO WA 6008
T (08) 9388 0333 www.mjastudio.net | admin@mjastudio.net

REV.	DATE	AMENDMENT
F	15.01.2019	REVISED SKETCH
G	17.01.2019	REVISED SKETCH

CLIENT

—

PROJECT

MULLALOO RESIDENTIAL

PROJECT ADDRESS

25 KOORANA ROAD
MULLALOO

MJA PROJECT NUMBER

17080

PROJECT STATUS

ISSUED FOR REVIEW

TRUE NORTH

SCALE

0 2 4 10

1:200 @ A1

DRAWING

OPTION 7
FLOOR PLANS

DRAWING NO.	DRAFTER	CHECKED	REV.
A1.01	SA	-	G

FIRST

6 APARTMENTS

SECOND

6 APARTMENTS

MJA studio

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REV.	DATE	AMENDMENT
F	15.01.2019	REVISED SKETCH
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TRUE NORTH

SCALE

0 2 4 10

1:200 @ A1

DRAWING

OPTION 7
FLOOR PLANS

DRAWING NO.	DRAFTER	CHECKED	REV.
A1.02	SA	-	G

THIRD
6 APARTMENTS

23 APTS

	A	B	C	D	E	F		
	1 X 1	1 X 1	2 X 2	2 X 2 + internal store	3 X 2	3 X 2 + internal store		TOTAL
	51	53	75	84	95	116		
G		1		2	1	1		5
1	1		1	2	1	1		6
2	1		1	2	1	1		6
3	1		1	2	1	1		6
TOTAL	3	1	3	8	4	4		23
TOTAL STRATA	153	53	225	672	380	464		1947

MIX			RESI CARBAYS
1X1	(4)	17%	5
2X2	(11)	48%	22
3X2	(8)	35%	16
			43 TOTAL

PARKING CALCS.	
VIS BAYS REQUIRED:	6
PROVIDED:	6
RESI BAYS:	43
VIS BIKE BAYS:	2
RESI BIKE BAYS:	8

MJA studio

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REV.	DATE	AMENDMENT
F	15.01.2019	REVISED SKETCH
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CLIENT

PROJECT
MULLALOO RESIDENTIAL

PROJECT ADDRESS
25 KOORANA ROAD
MULLALOO

MJA PROJECT NUMBER
17080

PROJECT STATUS
ISSUED FOR REVIEW

TRUE NORTH

SCALE
0 2 4 10
1:200 @ A1

DRAWING
OPTION 7
FLOOR PLANS

DRAWING NO.	DRAFTER	CHECKED	REV.
A1.03	SA	-	G

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Assets | Engineering | Environment | Noise | Spatial | Waste

Waste Management Plan

25 Koorana Road, Mullaloo

Prepared for Helm Living

January 2019

Project Number: TW18070

DOCUMENT CONTROL

Version	Description	Date	Author	Reviewer
0a	Internal Review	16/01/19	RH	JW
1a	Released to Client	30/01/19	RH	Client

Approval for Release

Name	Position	File Reference
Ronan Cullen	Director and Waste Management Section Leader	TW18070 - Waste Management Plan.1a
Signature		

Executive Summary

Helm Living is currently seeking Development Approval (DA) for the proposed residential development at 25 Koorana Road, Mullaloo (the Proposal).

To satisfy the conditions of the DA the City of Joondalup (the City) requires a Waste Management Plan (WMP) to be submitted that will identify how waste is to be stored and collected from the Proposal. Helm Living has engaged Talis Consultants Pty Ltd to prepare this WMP to satisfy the Town's requirements.

The anticipated quantities of refuse and recyclables for the Proposal are based upon the Western Australian Local Government Association's (WALGA) *Multiple Dwelling Waste Management Guidelines* (2014).

A summary of the bin size, numbers, collection frequency and collection method for the Proposal is provided in the below table.

Proposed Waste Collection Summary

Waste Type	Generation (L/week)	Bin Size (L)	Number of Bins	Collection Frequency	Collection
Bin Storage Area					
Refuse	4,000	660	7	Once each week	City of Joondalup
Recycling	1,480	660	5	Fortnightly	City of Joondalup
Greenwaste	Nominal	240	2	Fortnightly	City of Joondalup

The City will collect refuse bins weekly and the recycling and greenwaste bins on alternate weeks from adjacent to the Bin Presentation Area. The Strata Manager will ferry bins to and from the Bin Storage Area and bin hard stand on collection days.

A Strata Manager will oversee the relevant aspects of waste management at the Proposal.

Table of Contents

Tables

Figures

1 Introduction

Helm Living is seeking development approval for the proposed residential development located at 25 Koorana Road, Mullaloo (the Proposal).

To satisfy the conditions of the development application the City of Joondalup (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Helm Living has engaged Talis Consultants Pty Ltd (Talis) to prepare this WMP to satisfy these conditions.

The Proposal is bordered by True North Church to the north, Mullaloo Community Kindergarten to the east, commercial premises to the south and Mullaloo Plaza to the west, as shown in Figure 1.

1.1 Objectives and Scope

The objective of this WMP is to outline the equipment and procedures that will be adopted to manage all waste (refuse, recyclables and greenwaste) at the Proposal. Specifically, the WMP demonstrates that the Proposal should be designed to:

- Adequately cater for the anticipated quantities of waste and recyclables to be generated;
- Provide suitable Bin Storage Area including appropriate bins; and
- Allow for efficient collection of bins by appropriate waste collection vehicles.

To achieve the objective, the scope of the WMP comprises:

- Section 2: Waste Generation;
- Section 3: Waste Storage;
- Section 4: Waste Collection;
- Section 5: Waste Management Activities; and
- Section 6: Conclusion.

2 Waste Generation

The following sections show the waste generation rates used and the estimated waste volumes to be generated at the Proposal.

2.1 Proposed Tenancies

The anticipated quantities of refuse and recyclables were based on the following residential apartments:

- 1 bedroom apartments – 4;
- 2 bedroom apartments – 11; and
- 3 bedroom apartments – 8.

2.2 Waste Generation Rates

The anticipated quantities of refuse and recyclables for the Proposal were based upon the City's preferred waste and recycling generation rates for residential properties. The City's preferred waste generation rates included the Western Australian Local Government Association's *Multi Dwelling Development Waste Management Plan Guidelines* (2014).

In addition, discussions with the City were undertaken to confirm the generation rates and bin numbers used in this WMP.

2.3 Waste Generation Volumes

Waste generation is estimated by volume in litres (L) as this is generally the influencing factor when considering bin size, numbers and storage space required.

2.3.1 Waste Generation

Waste generation volumes in litres per week (L/week) of refuse and recyclables adopted for this waste assessment are shown Table 2-1. It is anticipated that the residential apartments at the Proposal will generate 4,000L of refuse and 1,480L of recyclables each week.

Table 2-1: Estimated Waste Generation

Residential Apartments	Number of Apartments	Waste Generation Rate (L/week)	Waste Generation (L/Week)
Refuse			
One bedroom apartments	4	80	320
Two bedroom apartments	11	160	1,760
Three bedroom apartments	8	240	1,920
		Total	**4,000**
Recyclables			
One bedroom apartments	4	20	80
Two bedroom apartments	11	40	440
Three bedroom apartments	8	120	960
		Total	**1,480**

3 Waste Storage

To ensure that waste is managed appropriately at the Proposal, it is important to allow for sufficient space to accommodate the required bins within the Bin Storage Area. The procedure and bins to be used in these areas are described in the following sections.

3.1 Internal Bins

To promote positive recycling behaviour and maximise diversion from landfill, the Proposal will have two bins within each apartment for the separate disposal of refuse and recycling. Waste materials placed in these bins will be transferred by the resident, or their authorised representative, to the Bin Storage Area and placed in the appropriate bins.

3.2 Bin Storage Area

Refuse, recyclables and greenwaste materials generated within the Proposal will be collected in the bins located in the Bin Storage Area shown in Figure 2.

3.2.1 Bin Sizes

Table 3-1 gives the typical dimensions of standard bin sizes. It should be noted that these bin dimensions are approximate and can vary slightly between suppliers.

Table 3-1: Typical Bin Dimensions

Bin Size (L)	Depth (mm)	Width (mm)	Height (mm)	Area (mm^2)
240	730	585	1060	427
360	848	680	1100	577
660	780	1260	1200	983

Reference: SULO Bin Specification Data Sheets

3.2.2 Bin Storage Area Size

To ensure sufficient area is available for storage of the bins, the amount of bins required for the Bin Storage Area was modelled utilising the bin sizes in Table 3-1 and assuming collection of refuse once each week and recyclables fortnightly from the Proposal.

Table 3-2: Bin Requirements for Bin Storage Area

Waste Stream	Waste Generation (L/week)	Number of Bins Required		
		240L	360L	660L
Refuse	4,000	17	12	7
Recycling	1,480	13	9	5

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

- 7 x 660L refuse bins; and
- 5 x 660L recyclable bins.

In addition, as it is expected that nominal amounts of greenwaste will be generated by the Proposal two additional 240L greenwaste bins have also been accommodated within the Bin Storage Area.

The configuration of these bins within the Bin Storage Area is shown in Figure 2. It is worth noting that the number of bins and corresponding placement of bins shown in Figure 2 represents the maximum requirements assuming one collection each week of refuse and alternating weekly collection of recyclables and greenwaste. Increased collection frequencies would reduce the required number of bins.

3.2.3 Bin Storage Area Design

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

- Smooth impervious floor sloped to a drain connected to the sewer system;
- Taps for washing of bins and Bin Storage Area;
- Adequate aisle width for easy manoeuvring of bins;
- No double stacking of bins;
- Doors to the Bin Storage Area should be self-closing and vermin proof;
- Doors to the Bin Storage Area must be wide enough to fit bins through;
- Ventilated to a suitable standard;
- Appropriate signage that identifies what items are and are not accepted in the refuse and recyclable bins, any hazards or potential dangers, and any relevant points of contact for the waste system;
- Undercover where possible and be designed to not permit stormwater to enter into the drain;
- Located behind the building setback line;
- Bins not to be visible from the property boundary or areas trafficable by the public; and
- Bins are reasonably secured from theft and vandalism.

Bin numbers and storage space within the Bin Storage Area will be monitored by the Strata Manager to ensure that the number of bins and collection frequency is sufficient.

4 Waste Collection

The City will service the Proposal by providing the residential apartments with seven 660L bins for refuse, five 660L bins for recyclables and two 240L greenwaste bins. The City will collect refuse once each week and the recycling bins and greenwaste bins on alternate weeks from the Proposal utilising the City's rear lift waste collection vehicle.

The Strata Manager will ferry bins to and from the Bin Presentation Area from the Bin Storage Area on collection days. The pathway between the Bin Storage Area and Bin Presentation Area shown in Figure 3 is of flat surface and will be kept free of obstacles. The hardstand in the Bin Presentation Area will have a smooth finish and a slight slope (no kerb) to assist with moving full bins to the City's rear loader.

The City's rear lift waste collection vehicle will reverse down the driveway via Koorana Road and pull up adjacent to the Bin Presentation Area. The City's rear lift waste collection vehicle will service the bins directly from the bin hard stand area which has been sized to accommodate twelve bins, as shown in Figure 3. Once servicing is complete, the City's rear lift waste collection vehicle will exit the Proposal in forward gear onto Koorana Road.

The above servicing method will preserve the amenity of the area by removing the requirement for bins to be presented to Koorana Road on collection days.

4.1 Bulk Hard Waste Collection

The City provides the following on-request bulk hard waste collection service for each household annually:

- White goods collection up to four items;
- Mattress collection for up to six items;
- $3m^3$ skip bin or lounge suite collection service; and
- An additional skip bin at a reduced City rate.

Details of the dedicated waste services provided by the City can be found on the City's website.

The bin hard stand shown in **Figure 3** will also be used for the temporary placement of a $3m^3$ skip bin/lounge suite or for use as a presentation point mattress and white goods collection.

5 Waste Management Activities

A Strata Manager will be engaged to complete the following tasks:

- Monitoring and maintenance of bins and the Bin Storage Area;
- Ferrying of bins to and from the Bin Presentation Area from the Bin Storage Area on collection days;
- Cleaning of bins and Bin Storage Area when required;
- Monitor bulk hard waste and assist tenants with its removal, as required;
- Ensure that bulk hard waste is placed in the designed area, in accordance with the City's requirements;
- Ensure all residents at the Proposal are made aware of this WMP and their responsibilities thereunder;
- Monitor resident behaviour and identify requirements for further education and/or signage;
- Regularly engage with residents to develop opportunities to reduce waste volumes and increase resource recovery; and
- Regularly engage with the City's waste services/any appointed private waste contractor to ensure efficient and effective waste service is maintained.

6 Conclusion

As demonstrated within this WMP, the Proposal provides a sufficiently large Bin Storage Area and Bin Presentation Area for refuse, recyclables and greenwaste based on the anticipated waste generation rates and a suitable configuration of bins. This indicates that a satisfactorily designed Bin Storage Area has been provided and collection of refuse and recycling bins can be completed from the Proposal.

The above is achieved using:

- Seven 660L refuse bins;
- Five 660L recycling bins; and
- Two 240L greenwaste bins.

The City will collect refuse bins weekly and the recycling and grenwaste bins on alternate weeks from adjacent to the Bin Presentation Area. The Strata Manager will ferry bins to and from the Bin Storage Area and bin hard stand on collection days.

A Strata Manager will oversee the relevant aspects of waste management at the Proposal.

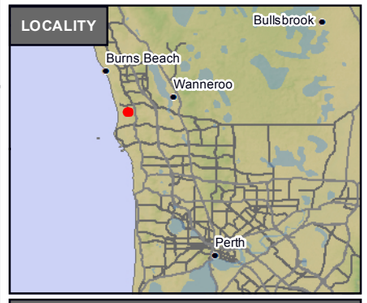
Figures

P: PO Box 454, Leederville WA 6903 | A: Level 1 660 Newcastle St, Leederville WA 6007 | T: 1300 251 070 | W: www.talisconsultants.com.au

LEGEND

Site Boundary

Cadastre



LOCALITY

25 Koorana Road
Mullaloo, WA 6027

N
0 7.5 15 22.5 30 metres

Coordinate System: GDA 1994 MGA Zone 50
Projection: Transverse Mercator, Datum: GDA 1994
Scale @ A3: 1:800

Prepared:	F Walker	Date:	16/01/2019
Checked:	J Wroe	Project No:	TW18070
Reviewed:	R Hayton	Revision:	A

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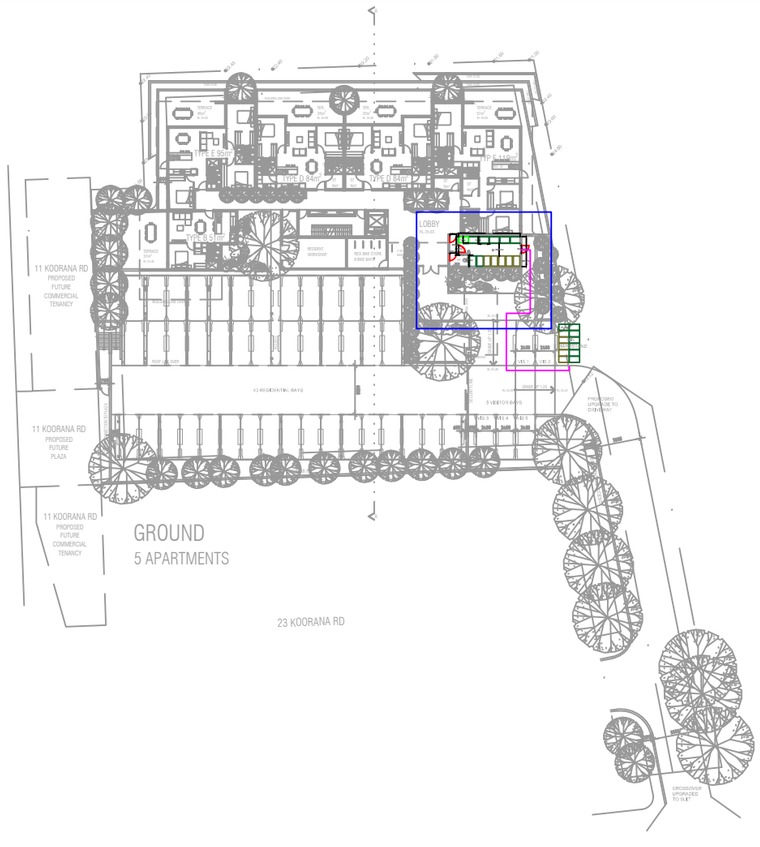
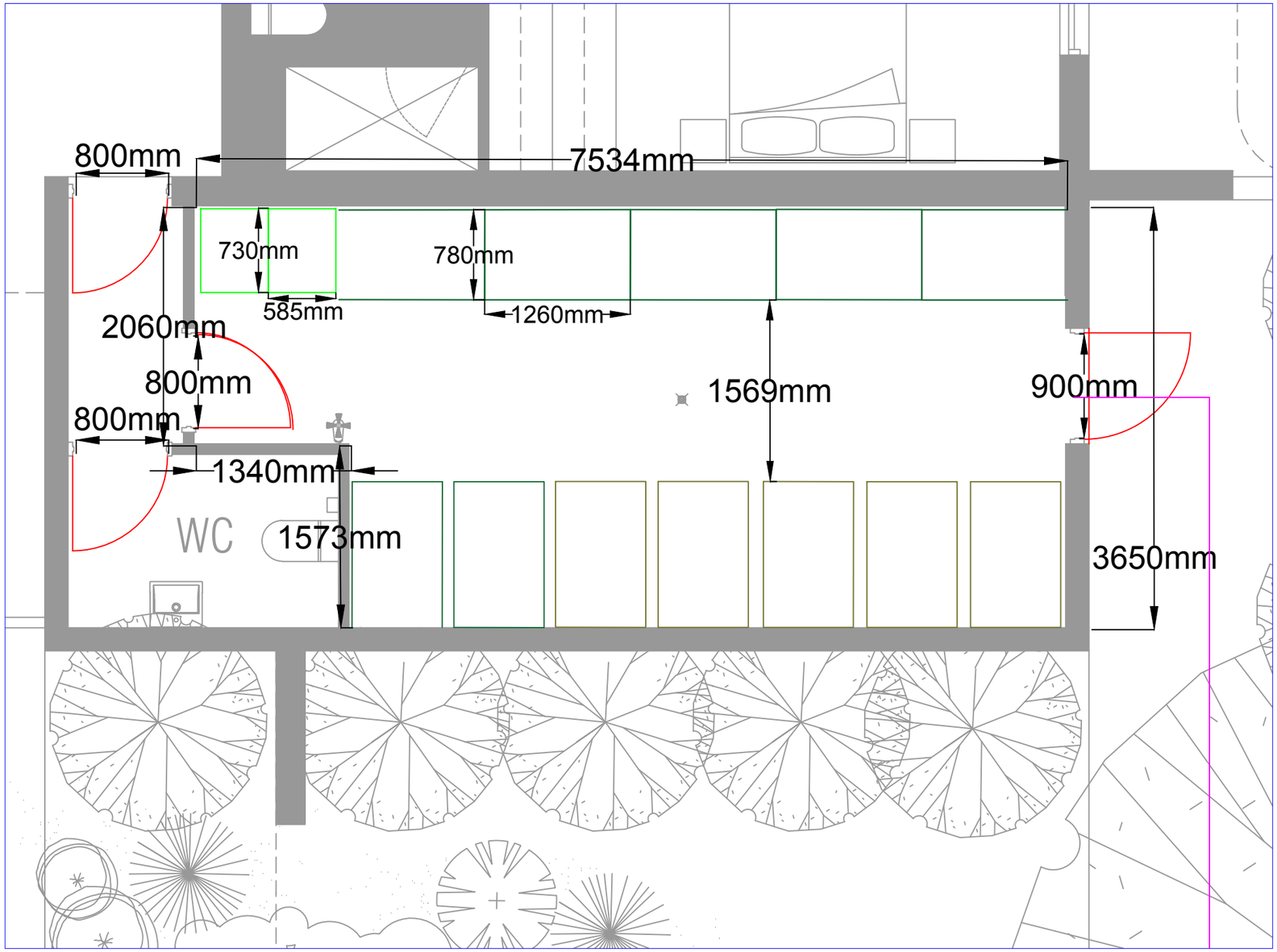
Figure 01

Data Source: Roads - Main Roads WA, 2018; Imagery - Landgate, 2018.

Document Path: \\SERVER\Talis\SECTIONS\Waste\PROJECTS\TW2018\TW18070 - 25 Koorana Rd, Mullaloo WMP\GIS\Maps\TW18070_01_Locality_RevA.mxd





Legend:

Bin Storage Area

- 7 x 660L refuse (780mm x 1260mm)
- 5 x 660L recycling (780mm x 1260mm)
- 2 x 240L recycling (585mm x 730mm)

Bin Storage Area

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Client: Helm Living

NOTES

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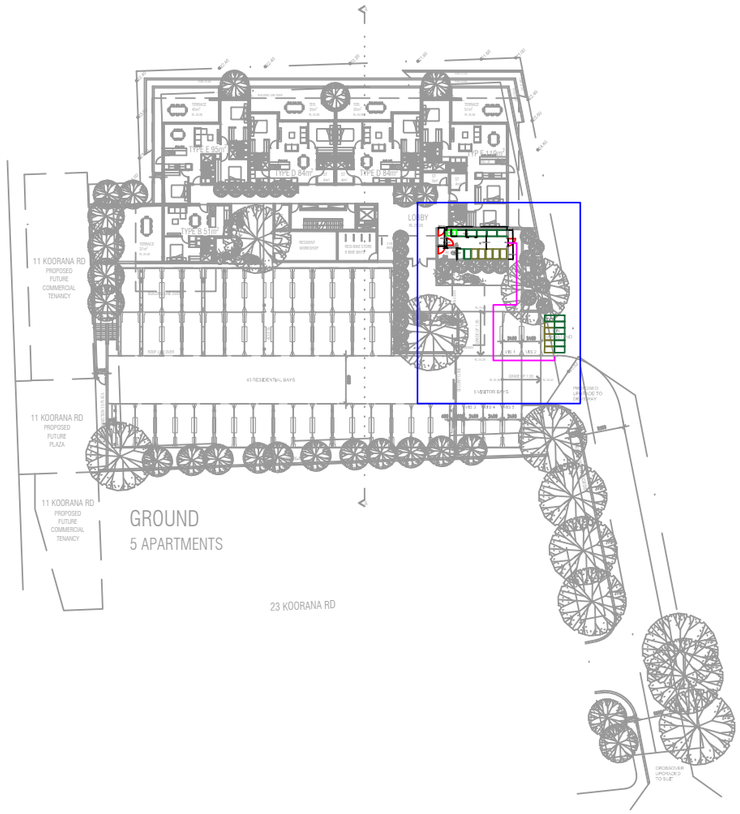
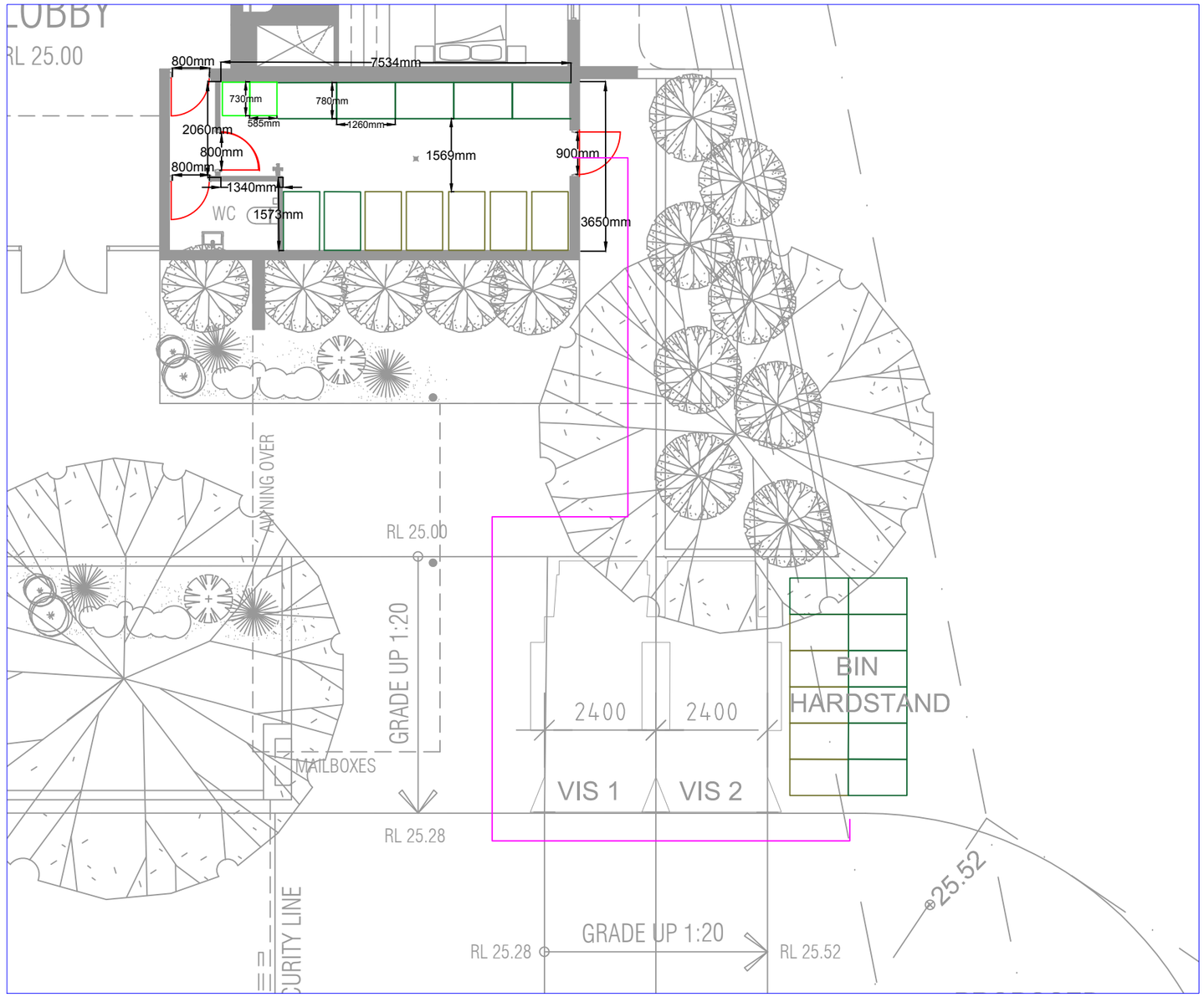
No.	Date	Drawn / Chkr	Amendment / Issue	App.
A	30/01/19	RH / JW	FIRST ISSUE	JW

Project: 25 Koorana Road, Mullaloo

Title: Bin Storage Area

Drawn by:	RH	Job No:	TW18070
Checked by:	JW	File No:	TW18070DWG001
Approved by:	JW	Fig. No:	002
Scale:	NTS	Rev:	A
Date:	30/01/19		





Legend:

Bin Presentation Area

- 7 x 660L refuse (780mm x 1260mm)
- 5 x 660L recycling (780mm x 1260mm)
- 2 x 240L greenwaste (730mm x 585mm)

Bin Presentation Area

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No.	Date	Drawn / Chkd	Amendment / Issue	App.
A	30/01/19	RH / JW	FIRST ISSUE	JW

Project: 25 Koorana Road, Mullaloo

Title: Bin Presentation Area

Drawn by:	RH	Job No:	TW18070
Checked by:	JW	File No:	TW18070DWG002
Approved by:	JW	Fig. No:	003
Scale:	NTS	Rev:	A
Date:	30/01/19		

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