Development Application

Lot 30 (22) Hood Street, Subiaco, Western Australia

PLANNING SOLUTIONS
URBAN & REGIONAL PLANNING
PS

Prepared for
Subiaco Developments Pty Ltd

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Project details

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1 Preliminary

1.1 Introduction

Planning Solutions acts on behalf of Subiaco Developments Pty Ltd in relation to the proposed development of Lot 30 (22) Hood Street, Subiaco (**subject site**). Planning Solutions has prepared the following report in support of the development of a six storey mixed use development, comprising a commercial tenancy and 49 multiple dwellings on the subject site.

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

- Site details.
- Proposed development.
- Town planning considerations.

1.2 Preliminary Assessment and Design Review

The proponent met with the MRA's officers on 14 September 2016 to discuss the proposal and obtain feedback and identify matters to be addressed through the development application process. On 23 January 2017, the applicant submitted concept development plans to the MRA for preliminary assessment against the relevant statutory requirements. The proposed concept plans were referred to the MRA's Design Review Panel (**DRP**) for consideration at its meeting on 9 February 2017.

In its letter, dated 22 February 2017, the MRA advised it considered the preliminary concept proposal to be suitable for preparation of a formal development application subject to matters for further consideration. The feedback and comments provided by the MRA's officers and DRP through this consultation has been taken into consideration in the development plans, including:

- The introduction of a centrally located light core to increase access to light and ventilation to dwellings and internal corridors.
- The depths of kitchens, and balconies/courtyards reduced to effectively access natural light.
- Internal corridors widened to increase ventilation.
- Modification of the pedestrian entry to increase surveillance and eliminate entrapment points.
- Engagement of an artist to assist the development of the 'railway' screening as both part of the architecture and public art.
- Relocation of the transformer to the basement.
- Location of the A/C condensers on the roof.
- Increasing the height of ground floor to 4m, to improve amenity and maintain consistency with the adjacent development.

Refer to **Appendix 1** for a copy of the MRA's Preliminary Issues Letter.

2 Site details

2.1 Land description

Refer to **Table 1** below for a description of the land subject to this development application.

Table 1: Lot details

Lot	Plan/Diagram	Volume	Folio	Area (m^2)
30	18129	1909	642	1,348

2.1.1 Encumbrances

The subject site is affected by an easement burden for water supply and sewer purposes to Water Corporation, comprising a 4.5m parallel easement along the eastern boundary of the subject site.

The proposal has been designed to provide a 600mm minimum clearance to the centreline of the Water Corporation's infrastructure.

Refer **Appendix 1** for a copy of the Certificate of Title and Plan.

2.2 Location

2.2.1 Regional context

The subject site is located in the suburb of Subiaco, approximately 3.5km west of the Perth city centre and 370m north west of the Subiaco town centre. The subject site fronts Hood Street, linking Centro Avenue to Station Street. Roberts Road connects the subject site to the Perth city centre and wider metropolitan region.

The subject site is within the municipality of the City of Subiaco (**City**), with planning controls under the jurisdiction of the Metropolitan Redevelopment Authority (**MRA**).

The subject site is within approximately 180m of the Subiaco Train Station and is in close proximity to high frequency bus routes connecting the subject site to the wider metropolitan region, including:

- 97 – connecting UWA and Leederville Train Station via Subiaco Train Station and QEII Medical Centre;
- 28 – connecting Perth and Claremont Train Station via HBF Stadium; and
- 81, 82, 83, 84 and 85 – connecting Perth and Wembley via Cambridge Street.

2.2.2 Local context

The subject site is located in the suburb of Subiaco, and is surrounded by a mix of commercial and medium to high density residential uses. The immediate street block within which the subject site is located is bounded by Roydhouse Street to the north, Station Street to the east, Hood Street to the south and Centro Avenue to the west.

2.3 Land use and topography

The subject site is cleared land, currently used as a site office and storage area associated with the construction of the property immediately opposite the subject site. Vehicular access to the subject site is via Hood Street.

The majority of properties along the northern side of Hood Street have been redeveloped with medium to high density residential and mixed use developments. The subject site abuts a seven storey mixed use development, with an overall building height of approximately 21.3m, to the west and north, and a single storey automotive service land use to the east. A four storey building to an approximate height of 20m is currently under construction on the street block immediately opposite the subject site, to the south. Once completed this development will accomodate a Coles supermarket and a variety of specialist stores.

The subject site slopes up from north west to south east, with the highest point being approximately 10.66m AHD and the lowest point being 9.60m AHD. This is a change of approximately 1.0 metres in height over a length of approximately 52.5m.

Photographs 1 to 6 depict the subject site and surrounds. **Figure 1**, aerial photograph, depicts the street block and surrounding subdivision pattern.

Photograph 1: View of the subject site from Hood Street.

Photograph 2: Seven storey development at Lot 888 (28) Hood Street, immediately west of the subject site.

Photograph 3: Adjacent property at Lot 31 (20) Hood Street, immediately east of the subject site.

Photograph 4: North side of Hood Street, east of the subject site.

Photograph 5: Development under construction, immediately opposite the subject site.

Photograph 6: Hood Street, viewed east, with the subject site on the left.

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SCALE	1: 2,000 @ A4
DATE	22 June 2017
FILE	01 170622 4567 Aerial Photograph.dwg
REVISION	1/DR/First Draft/22.06.2017

Scale Bar (m) 0 50

AERIAL PHOTOGRAPH

LOT 30 (22) HOOD STREET,
SUBIACO, WESTERN AUSTRALIA

FIGURE 01

3 Proposed development

This application for Approval to Undertake Development is for a mixed use development comprising a total of 49 dwellings, one commercial unit, basement vehicle parking and ancillary storage. The proposal comprises:

- A total of six storeys and two basement levels
- 205.06m^2 commercial floorspace on the ground level
- 13 x one bedroom dwellings, generally 47m² - 52m²
- 24 x two bedroom dwellings, generally 62m² – 77m²
- 12 x three bedroom dwellings, generally 89m² – 97m²
- Associated car parking, motorcycle/scooter parking, bicycle parking, building utilities and storage areas within the basement levels.

The total plot ratio area of the development is 3,670.76m², equating to a plot ratio of 2.72. The residential component comprises a plot ratio area of 3,465.67m^2 equating to a residential plot ratio of 2.57.

A total of 54 car parking bays are provided, within two basement levels. These bays include one accessible bay and one loading bay, both located on the upper basement level.

The proposed development also provides for 55 bicycle parking spaces and 7 motorcycle/scooter bays in total.

Access to the car parking areas is provided via a crossover from Hood Street, with a vehicular driveway leading into the carpark. Pedestrian access to the dwellings is provided through the internalised lobby accessed from Hood Street.

Refer **Appendix 2** for a copy of the development plans.

The functionality of the access to the proposed development and its impact on the surrounding transport network is been assessed and documented in the Traffic Statement prepared by Riley Consulting, attached as **Appendix 3**. In summary, the traffic impact assessment concludes the vehicle access arrangements are functional and safe, and the traffic generated by the development may be accommodated by the surrounding road network without modification.

4 Planning framework

4.1 Subiaco Redevelopment Scheme

4.1.1 Precinct

The subject site is located within Precinct 10 (Hood Street) (**Hood Street Precinct**) pursuant to the provisions of the MRA's Subiaco Redevelopment Scheme (**SRS**) and is subject to the MRA's Hood Street Precinct Design Guidelines (**Design Guidelines**).

Refer to **Figure 2**, Scheme Map.

4.1.2 Land use

The SRS organises land use into six categories. Each Precinct under the SRS identifies land use categories as either 'Preferred Uses' or 'Potential Uses'. The proposed land uses are classified as 'Category 1: Commercial' and 'Category 4: Residential'. Both Categories 1 and 4 are Preferred Uses within the Hood Street Precinct.

Given the above, the proposed land uses are entirely appropriate and consistent with the provisions of SRS, and may be approved accordingly.

4.1.3 Plot Ratio

Development within the Hood Street Precinct is provided a maximum plot ratio of 3.0:1, which equates to a maximum plot ratio floor area of 4,044m². The proposed development complies with this provision with a plot ratio area of 3,670.76m² or 2.72:1.

4.1.4 Car Parking

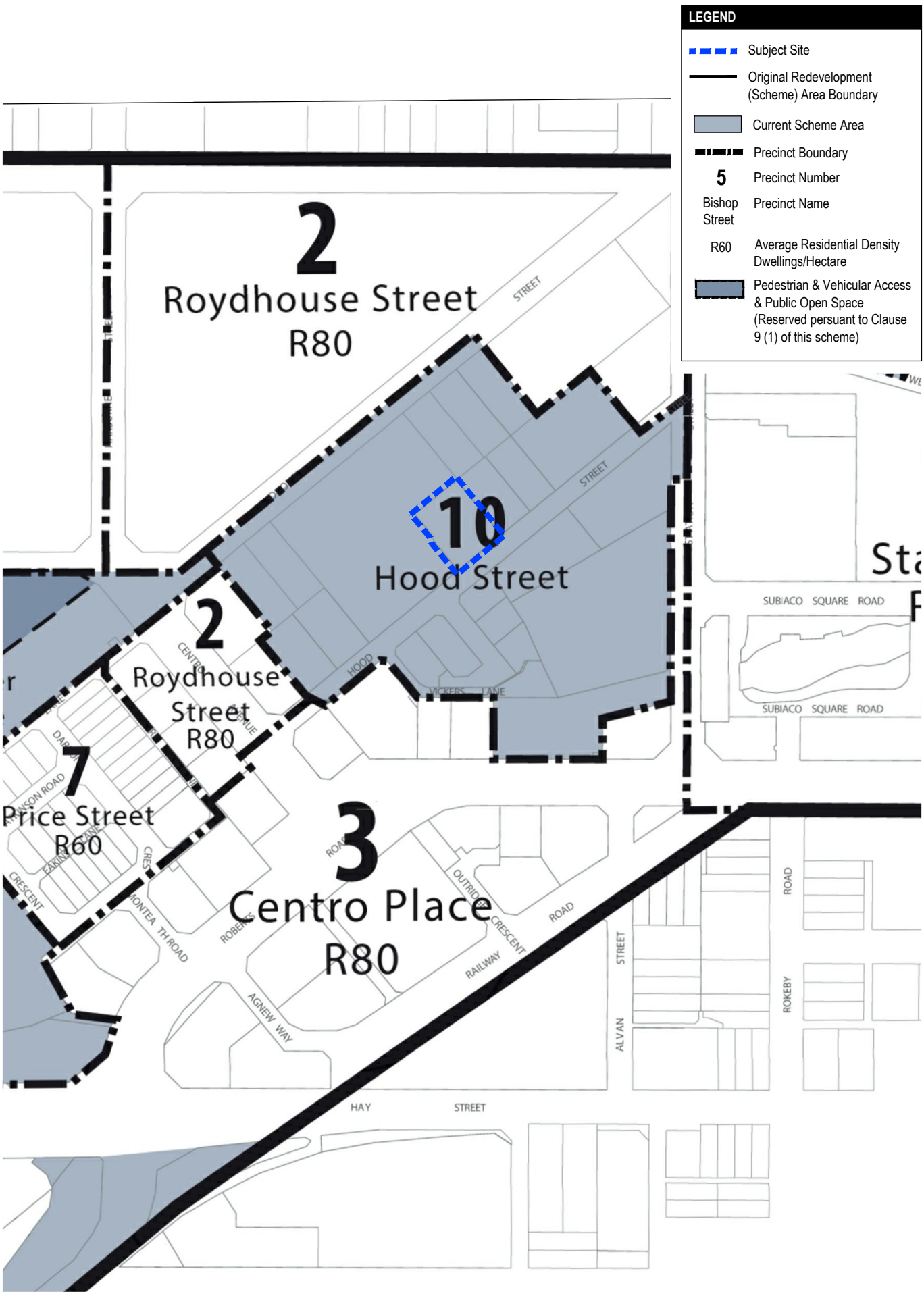
The minimum and maximum parking standards are detailed in Table 1 of the SRS and Section 4.1 of the Design Guidelines. Pursuant to clause 36(5) of the SRS, the commercial requirement may be reduced by 20% where the site is within 400m walking distance from a train station.

A parking assessment has been undertaken and is summarised in **Table 2** below:

Table 2: Car Parking Assessment

Land Use	Scheme Requirement		Reduction Allowance	Minimum Car Bays Required	Car Bays Provided	Shortfall
	Minimum	Maximum				
Residential	49 bays (1 bay per dwelling)	147 bays (3 bays per dwelling)	n/a	49		
Café/Restaurant	38 bays (1 per 4 seats provided or which an eating area is designed to provide)	76 bays (200% of the minimum requirement)	20%	30		
			Total	**79**	**54**	**25 bays**

In addition, motorcycle/scooter and bicycle parking is provided as follows:



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SCALE	1: 3,000 @ A4
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Scale Bar (m) 0 50 100

SCHEME MAP

LOT 30 (22) HOOD STREET,
SUBIACO, WESTERN AUSTRALIA

FIGURE 02

Table 3: Motorcycle/Scooter and Bicycle Parking Assessment

	Required	Provided	Complies
Motorcycle/scooter	5 (1 space per 10 car bays)	7	✓
Bicycle	50 (1 space per dwelling + 1 space per 200m² Commercial NLA)	55	✓

As outlined in Table 2 above, the proposed development results in an 'on-paper' shortfall in car parking on the subject site. We consider the calculations above applicable to non-residential land uses is an outdated and overstatement of the actual demand for car parking, as detailed below:

- The MRA's recently adopted Scarborough Design Guidelines, introduced a minimum car parking rate of 1 bay per 100m² NLA for all non-residential land uses. This would equate to 2 bays for the proposed café. Scarborough is clearly suburban in character with minimal access to public transport, whereas Subiaco has direct access to the Fremantle rail line and bicycle network.
- *"Walk Score"* measures the walkability of any address based on the distance to nearby places and pedestrian friendliness. The subject site achieves a score of 91 out of a possible 100 and is considered a *"Walker's Paradise"*.
- The proposed development encourages the use of alternate modes of transport with the provision of additional bicycle and motorcycle/scooter parking than that required.
- Considerable previous experience has shown that patrons of restaurants/cafés seldom utilise on-site basement car parking a tend to prefer on-street or public parking areas. In addition, ride share services such as Uber are dramatically reducing private vehicle trips to entertainment venues.
- According to the City of Subiaco's website, there are over 10,000 parking bays in the City of Subiaco, with well over 25 bays within walking distance of the subject site.
- Providing parking at the rate required under the SRS would result in a significant oversupply of parking in the development, which is a poor use of limited urban land, contributing to continued reliance on private motor vehicles, which is widely acknowledged to be environmentally unsustainable.
- The provision of an additional 25 car bays would require parking to be provided on an additional level, increasing the proposed building height.

In light of the above, we submit the proposed parking is sufficient for the realistic demand anticipated to be generated by the development. This is further supported by the Traffic Statement at **Appendix 3** of this report.

4.2 Planning Policy

4.2.1 Providing Public Art Policy

Planning Policy 1.12 – Providing Public Art requires developments with a value greater than $1,000,000 to set aside a minimum of one per cent (1%) of the total construction cost for the development of public art.

The incorporation of art into the development forms a key element of the overall design of the building. The MRA's DRP considered the 'railway' screening concept *"has the potential to be a positive feature of the development*". The screen comprises five integrated vertical elements corresponding to the residential grid. To ensure the integration of art within the screen forms both part of the architecture and public art, artist Anne Neil has been engaged to assist in the design of the screening inserts, using lightweight perforated metal.

4.2.2 Adaptable and Accessible Housing Policy

The aim of the MRA's Adaptable and Accessible Housing Policy is to ensure the development of accommodation which can respond to changing demographics and market demands; adapting to the evolving needs and wants of residents over time and assisting residents to age in place.

Pursuant to the Adaptable and Accessible Housing Policy, 15% of the total number of residential dwellings are designed with regard to Australian Standard AS 4299 (Adaptable Housing). This equates to a requirement for a minimum of 8 dwellings to be designed with regard to AS 4299.

Apartments 13, 15, 22, 24, 25, 33, 35 and 37 have been identified to cater for adaptable housing. Full details of the adaptable housing measures for these apartments will be provided at the Working Drawings stage, in accordance with the Policy.

4.2.3 Affordable and Diverse Housing Policy

Affordable Housing

All development applications which propose 10 or more residential dwellings are to provide a minimum of 12% of dwelling as affordable housing. This equates to the requirement for 5 units to be provided as affordable housing, as defined by the policy. The proponent has entered into negotiations with the Housing Authority to identify the allocation of units for affordable housing. As a result, units have been designed in accordance with the requirements of the Housing Authority. This process will be finalised at the Working Drawings stage.

Diverse Housing

All development applications which propose 20 or more residential dwellings are to provide a minimum of 20% of dwellings as single bedroom dwellings, with an average floor area of 50m², and 20% as three bedroom dwellings. The proposed development comprises 13 (26.5%) one bedroom dwellings and 12 (24.5%) three bedroom dwellings. The proposal is therefore consistent with the MRA's requirements for diverse housing.

4.3 Hood Street Precinct Design Guidelines

The MRA's Hood Street Precinct Design Guidelines (**Design Guidelines**) specify general development criteria applicable to Precinct 10 (Hood Street) together with site specific guidelines. The development criteria relevant to this proposal are addressed in turn below.

4.3.1 Building Design

The proposed development has been designed to meet the following building design criteria as demonstrated in the following table:

Table 4 Assessment against Building Design Criteria

Section	Criteria	Proposed Development
3.1 Architectural Design	All new developments are to be of a high quality, contemporary architectural design, that responds to the context of the development and the established character and quality of Subi Centro.	The overall design of the building responds to the character, history and context of the subject site and broader Subi Centro area. The building is highly articulated and complemented by the selection of materials and finishes, which addresses the street edge with these features. A screening device references the transitional nature of the area and provides a means for delineating ground, middle and upper floors. The screen comprises five integrated vertical elements corresponding to the residential grid. Glazing at street level is used to add permeability to the pedestrian entry point and commercial tenancy. The use of central light cores provides natural light and ventilation to common passages and apartments. The light cores are to be finished in materials which protect visual privacy whilst the materials will be consistent with the overall design concept.
	Architectural design and building detail is to be used to provide strong articulation of buildings and reduction in building bulk. This is to include variation in building plane and the use of architectural features to punctuate buildings. Variety in materials, colours, textures and other detailing should also be used to create fine grain detail and create visual interest.	
	All buildings must address adjacent streets, utilising major windows, shop fronts, balconies, pedestrian entrances, awnings and other similar elements to enrich and activate the streetscape.	
	All buildings are to be designed in a manner that maximises solar access and passive ventilation and minimises overshadowing of adjacent buildings.	
3.2 Materials and Finishes	All developments are to include a variety of high quality, durable materials and finishes, that produces a quality building finish with detail and visual interest.	A description of the proposed materials and finishes has been provided as part of the elevation drawings, which demonstrates the building will be finished with high quality materials (refer to Drawing No's DA-09, DA-10, DA-11 and DA-12 at **Appendix 2**).
	Blank external walls are not permitted; all external walls are to include articulation, visual detailing and quality finishes.	
	Buildings are to incorporate a mix of external materials; where a large area of single material is proposed, it is to be broken down into smaller elements.	
	A schedule of proposed colours and materials is to be provided to the Authority as part of any development application.	
3.3 Activation of Streetscape	All buildings are to be designed to engage with and activate the public realm, particularly at street level.	Activation of the streetscape is achieved through the provision of the ground floor commercial tenancy which addresses Hood Street.

Section	Criteria	Proposed Development
	Building design and architectural features are to be used to create building articulation and visual interest, such as windows, balconies, awnings, building entrances and modulation in building plane.	Glazing is provided along the majority of the ground floor street elevation, which also wraps around to address the pedestrian entrance to the building. The pedestrian entry is well defined and integrated into the overall design response through the use of architectural features and contrasting materials.
	Built form patterns and horizontal and vertical elements should be used to create a consistent streetscape rhythm, including breaking down large built form elements into smaller components and providing consistent floor heights between adjacent buildings.	
	Buildings should include active ground floor uses, such as commercial and retail use, with residential development generally limited to upper floors.	
	Ground floor land uses should have predominately glazed frontages, with activity located behind it. Awnings and other shading devised should be used where required rather than dark or reflective window tinting.	
	Pedestrian paths of travel, shop fronts, awnings and pedestrian entries to all buildings are to be well lit.	
3.4 Design for Safety	Developments are to incorporate design principles of Crime Prevention Through Environmental Design (CPTED).	The combination of active street level commercial tenancies and residential uses above provide opportunities for casual surveillance. The pedestrian entrance is well lit and open to eliminate entrapment points.
	Security and surveillance design measures are to include active street frontages at street level and passive surveillance from upper floor windows and balconies.	
	Safety design features are to include external lighting, safe entrances, eliminating entrapment points, and safe commercial loading and storage areas.	
3.5 Roof Form	Roof forms should be of a contemporary nature and designed to complement the building. A mix of pitched, flat or skillion roofs can be incorporated into the Hood Street Precinct.	Roof plant and lift overruns are located within the centre of the development, away from the street frontage.
	Roof plant and lift overruns should be carefully considered in roof design and either incorporated as an integral part of the roof design or concealed from view.	
3.6 Corner Lots	Developments are to acknowledge the intersection of the adjoining streets through their position and massing on the site. Architectural expression on the corners of buildings is to be created through elements such as the orientation of the building, height differentiation, architectural features and materials.	n/a

Section	Criteria	Proposed Development
3.7 Access	All building entrances are to be clearly defined, safe and well lit. Buildings should use architectural features to establish visually distinct pedestrian access points.	The pedestrian entrance is well lit and provides at grade access to the commercial uses and residential units. A single vehicle access point is provided to Hood Street and separated from the pedestrian entrance.
	Building entries for retail and commercial development are to be at-grade to the adjacent street or footpath. Residential entries should be at or near street level.	
	A single point of vehicle access is to be provided for each development. A visual truncation of 2m x 2m is required for vehicle exits points.	
3.8 Awnings	For all new mixed use and non-residential buildings an awning is to be provided along the entire length of all street facades that front footpaths or walkways.	An awning with a consistent width and height is provided along the frontage of the development.
	The height and street setback of awnings are to be in accordance with the requirements of the City of Subiaco.	
	The height and width of awnings on new buildings should be consistent with existing awnings on adjacent buildings, where possible.	
3.9 Residential Private Open Space	Private open space must be provided for each residential dwelling; it is to be directly accessible from a living space, be oriented for access to northern sunlight where possible and be of a useable size and dimension: • The minimum sizes for balconies is 10m² with a minimum dimension of 2.5m. • The minimum size for ground floor courtyards is 15m² and 3.0m dimension.	All private areas of open space meet the minimum size and dimension requirements and are appropriately located and/or screened to avoid potential visual privacy impacts. 40 dwellings or 82% of dwellings proposed are afforded with access to northern sunlight, either directly or through the provision of internal light cores.
	Balconies are to be sensitively located or screened to avoid any potential visual privacy impact between dwellings within the lot or on adjoining lots. If screening is necessary, it should be integrated into the building design and must not unduly add to the building bulk.	
	Balconies must be contained within the lot boundary and may not extend into the existing or proposed road reserve.	

Section	Criteria	Proposed Development
3.10 Sustainable Design	All new buildings are to be designed to demonstrate ability to achieve a minimum four star Green Star rating ('as designed' rating) from the Green Building Council of Australia (GBCA), in accordance with the following: • Where a Green Star Rating tool has been adopted by the GBCA or where the applicable Green Star rating tool is in pilot phase with the GBCA, the applicant is to engage a Green Star Accredited Professional to undertake self-assessment of the development against the tool and a compliance statement is to be submitted to the satisfaction of the Authority at Working Drawings stage.	A Greenstar Pathway Report (**GPR**) has been prepared by Environmental Sustainability consultants from CADDS Group. The GPR concludes that the proposed development is capable of achieving a four star 'Design and As Built' rating, with a potential target of 48.5 points. This allows for a 10% buffer for compliance. Refer to **Appendix 4** for a copy of the Greenstar Pathway Report.

As detailed above, the proposed development has been designed to meet the Building Design Criteria of the Hood Street Design Guidelines and warrants approval accordingly.

4.3.2 Servicing and Ancillary

The proposed development has been designed to meet the following Servicing and Ancillary Design Criteria as demonstrated in the **Table 5** below:

Table 5: Assessment against Servicing and Ancillary Design Criteria

Section	Criteria	Proposed Development
4.1 Vehicle Parking	Car, motorcycle and bicycle parking for all developments is to be provided in accordance with the Parking Requirements Table set out below. A Traffic Impact Statement is required to be submitted with any Development Application seeking a variation to the requirements.	The provision of parking has been addressed previously in this report. Where variations are proposed to the minimum parking requirements, justification has been provided and is supported by a Traffic Statement at **Appendix 3** of this report. All parking is provided within the two basement levels. A loading bay is identified within the Upper Basement level for deliveries to the commercial tenancy.
	Parking is not to be visible from the street and is to be provided at basement level or concealed behind the built form.	
	Short term parking for delivery and service vehicles is to be provided for any land use that generates frequent deliveries or collections, such as large retail stores, supermarkets and restaurants.	
	On-site visitor car parking is not required for developments within the Precinct.	
	A parking and traffic management plan is to be submitted for any development with 10 or more parking bays and/or a developments with loading / service areas.	

Section	Criteria	Proposed Development
4.2 End of Trip Facilities	Any new building that includes retail, commercial or any other non-residential development is to include end of trip facilities to support other modes of travel such as running, walking and cycling. There is to be one locker per bicycle storage space provided and one shower for every 10 bicycle storage spaces with a minimum of one shower to be provided where less than 10 bicycle spaces is provided.	A single bicycle space is required for the proposed development. At this time, a tenant has not been secured for the commercial tenancy. The commercial unit has been designed to adapt to future end of trip facilities, if required.
4.3 Storage for Dwellings	A minimum lockable storage area of 6m² with a minimum internal dimension of 1.5m is required for each dwelling in all multiple residential and mixed-use developments. A minimum of 6m² is required as the storage area includes provision for bicycle storage. The size of the store may be decreased to 4m² if bicycle storage is provided elsewhere.	Bicycle storage has been provided separately. All residential stores are provided with a minimum area of 4m².
4.4 Waste Collection	All buildings are to include waste collection areas to suit the City of Subiaco bin size requirements and waste reduction and recycling initiatives.	Separate residential/commercial bin stores are provided on the ground floor and are located so as to not be visible from the street.
	Waste collection areas / bin enclosures should be located within basements where possible, or behind the primary building line and screened from public view with a quality material compatible with the building design.	
4.5 Storm Water	All stormwater shall be contained on-site within each development. Storm water retention is to be shown on development application and/or working drawings plans.	All stormwater is to be contained on-site and demonstrated at the Working Drawings stage.
4.6 Fencing	For most developments buildings will be built up to the lot boundary and will not require fencing. Where fencing is proposed on any street or public realm boundary it is to be a maximum height of 1.2 metres at the boundary and a minimum of 70% visually permeable.	n/a
	Fences are to be constructed in a quality material, compatible with the building design.	
4.7 Building Services	Balconies to residential apartments are provided for the resident's amenity and should not be used for building services. Where air conditioners or clothes drying areas are proposed on balconies an additional area (in addition to the minimum 10m² under section 3.10) is to be provided and screened from public view.	An air-conditioning compound is located on Level 6, is appropriately screened and setback m from the street boundary. All service infrastructure is to be located so as not to impact the visual amenity of the streetscape.
	Air conditioning units must not be visible from the street. They should be located in the basement of buildings, or if this is not possible, located on roofs and screened from view. Locations must be mindful of noise generated and adjacent residential or sensitive land uses and must comply with the Environmental Protection (Noise) Regulations 1997 and the Authority's Sound Attenuation Policy.	

Section	Criteria	Proposed Development
	Fire booster cabinets, services boxes, solar panels and other service infrastructure are to be designed to integrate into the building and minimise visual impact on the streetscape. Any service infrastructure in front setback areas is to be screened from view with a quality screening material.	
	TV antennae are to be located within the roof space wherever reception permits. Where this is not possible, antennae and satellite dishes are to be located behind the roof ridgeline with minimised visibility from the street and neighbouring properties. Multiple dwellings are to be provided with one antennae or dish servicing several dwellings.	
4.8 Encroachments	All building components that comprise habitable space must be located within the lot. Building components that comprise non-habitable space, such as awnings, architectural features or sustainability features that encroach beyond lot boundaries may be considered, subject to approval of relevant authorities such as City of Subiaco and the Department of Regional Development and Lands.	All habitable spaces are contained within the lot boundaries. Where awnings are proposed they will be constructed to BCA standards and to the satisfaction of the City of Subiaco and Department of Planning, Lands and Heritage.

As outlined above, the proposal is consistent with the Servicing and Ancillary Design Criteria of the Hood Street Design Guidelines and warrants approval.

4.3.3 Site Specific Guidelines

Section 5 of the Design Guidelines sets out the specific built form, design and land use requirements for each lot within the Precinct. An assessment is provided within **Table 6** below which considers the Site Specific Guidelines relevant to the proposal. Elements which do not meet the applicable standards are further discussed in Section 4.3.4 of this report.

Table 6: Assessment of Site Specific Guidelines

Clause	Requirement	Provided	Compliance
Building Height	First 4 storeys: up to 15m	First 4 storeys: 13.3m	✓
	5 storeys: up to 18m	6 storeys (19.5m)	variation
Setbacks	Hood Street: Nil – min 4m above 4 storeys	First 4 storeys: nil	✓
		Level 5: 1.3m to the balconies	variation
		Level 6: 5.5m	✓
	Side: Nil permitted	First 5 storeys: nil Level 6: 2.81m (eastern boundary) 4.45m (western boundary)	✓
	Rear: Min 7.5m plus minimum 4m above 4 storey	First 4 storeys:	✓
		Level 5: 8.55m to the balconies	variation
		Level 6: 11m	variation

Clause	Requirement	Provided	Compliance
Plot Ratio	3.0 (4,044m²)	2.72 (3,670.76m²)	✓
Preferred Land uses	Commercial Residential	Commercial Residential	✓
Vehicle Access	Hood Street	Hood Street	✓

4.3.4 Merit Assessment

This section provides justification for proposed variations in relation to building height, front setbacks and rear setbacks.

Building Height

The proposed development seeks approval for an additional storey and an overall height which exceeds the 18m height limit applicable to the subject site. The proposed building height is a direct response to the sites context and is appropriate for the following reasons:

- The setback of the sixth storey, combined with the width of Hood Street, renders the additional storey 'invisible' from street level.
- The additional height assists in the provision of communal spaces and amenities for future residents.
- The full proposed plot ratio for the subject site has not been realised.
- The elevation to the public realm is highly articulated and complemented by the proposed screening devise to the front façade, which will provide a positive contribution to the visual amenity of Hood Street.
- The additional height will not result in adverse overshadowing impacts on neighbouring properties.
- As demonstrated in this report the development has been designed with consideration to the public realm, building design, servicing and ancillary principles of the Design Guidelines.

It is also important to consider the proposed development in relation to its context, with respect to the existing and future built form of the area. The subject site abuts, to the west and north, a recently constructed seven storey mixed use development with an overall building height of 21.3m. the elevations and perspective drawings provided at **Appendix 2** of this report demonstrate the proposed building will be consistent with the prevailing streetscape.

Additionally, a four storey building, with an overall building height of approximately 20m, is currently under construction on the street block immediately opposite the subject site, to the south. The proposed development is therefore consistent with the current and future built form for Hood Street. As a result, the additional storey will not be visible from any surrounding properties, nor from any surrounding streets.

In light of the above, the proposed building height variation is considered acceptable and warrants approval accordingly.

Front Setbacks

The Design Guidelines seek a 4m setback to Hood Street for the portion of the building over four storeys. The proposed setback to Hood Street for Level 5 is 1.3m to the balcony. The proposed variation is considered acceptable for the following reasons:

- The proposed variation is to the open balcony, whilst a 4m setback is provided to the building line. Combined with the use of landscaped planter boxes along the front of the balconies, this reduces any perception of bulk and scale of the upper floors.
- The proposed front setbacks provide for a continuous streetscape, which is consistent with the recently constructed building abutting the subject site.
- Reducing the setback of the balconies for Level 5 assists in achieving passive surveillance of the public realm.

In light of the above, the minor front setback variation is appropriate and should be approved accordingly.

Rear Setbacks

The Design Guidelines seek an 11m rear setback for the portion of the building over four storeys. Minor incursions into the rear setback for walls and balconies are proposed for levels 5 and 6. The proposed variations are considered acceptable for the following reasons:

- The proposed variations assist in providing articulation of the upper storeys through varying setbacks.
- The proposed variations do not affect the visual privacy of adjacent properties as the floors below interrupt the vertical cone of vision from the upper storey balconies.

In light of the above, the minor rear setback variations are acceptable and warrant approval accordingly.

5 Conclusion

The proposed development provides a mix of dwelling types and sizes, catering to the diverse needs of modern lifestyles. The proposed development will increase the dwelling density and diversity within an inner urban area, as desired by the Metropolitan Redevelopment Authority. The development will create a visually appealing, active street frontage, resulting in increased amenity and vibrancy in the surrounding area. The high quality architectural design achieved through the use of variations in materials, colours and textures will positively contribute towards and enhance the emerging Hood Street streetscape.

In summary, as demonstrated by this report, the proposed development:

1. Is consistent with the provisions of the Subiaco Redevelopment Scheme.
2. Satisfies the criteria and intent of the Hood Street Design Guidelines.
3. Meets the standards and objectives of the relevant Redevelopment Area Planning Policies.
4. Will present as a five storey building when viewed from the street.
5. Provides sufficient parking for the realistic demand anticipated to be generated by the development.

In light of the above, we consider the proposed development is worthy of approval.

Appendix 1:
Certificate of Title and Plan

WESTERN AUSTRALIA

REGISTER NUMBER	
30/P18129	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
1	10/6/2006

VOLUME 1909 FOLIO 642

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

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

REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 30 ON PLAN 18129

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

SUBIACO DEVELOPMENTS PTY LTD OF UNIT 7 25 WALTERS DRIVE OSBORNE PARK WA
(T N376667) REGISTERED 6/7/2016

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

1. EASEMENT BURDEN CREATED UNDER SECTION 27A OF T. P. & D. ACT - SEE PLAN 18129.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

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

STATEMENTS:

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

SKETCH OF LAND: 1909-642 (30/P18129)
PREVIOUS TITLE: 1898-640
PROPERTY STREET ADDRESS: 22-24 HOOD ST, SUBIACO.
LOCAL GOVERNMENT AUTHORITY: CITY OF SUBIACO

NOTE 1: DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING M806653

PLAN 18129

P 018129 F 01

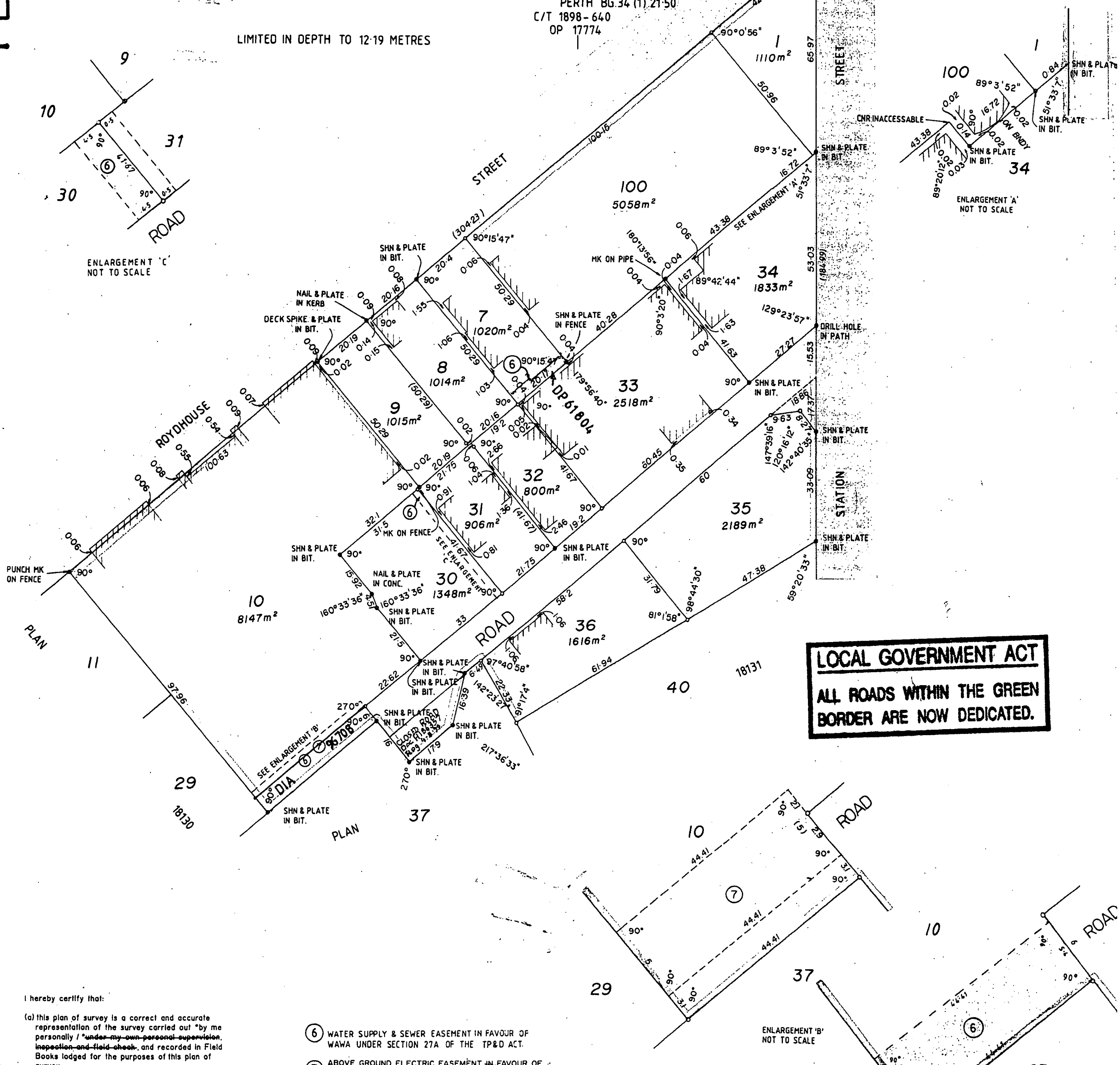
21751

SUBDIVISION OF PT SWAN LOC 11526

TOTAL AREA = 3·1063ha
F.Bs 61064 & 61026
INDEX PLAN PERTH BG.34 (2) 11·26
PERTH BG.34 (1) 21·50
C/T 1898-640
OP 17774

T.O. Doc. H875503
58 m² Taken
G. Dia. 94953
DEDICATED
Doc. H 875505

LIMITED IN DEPTH TO 12·19 METRES



I hereby certify that:

(a) this plan of survey is a correct and accurate representation of the survey carried out *by me personally / ~~*under my own personal supervision, inspection and field check~~, and recorded in Field Books lodged for the purposes of this plan of survey;

(b) the measurements are in strict accordance with the Licensed Surveyors (Guidance of Surveyors) Regulations 1961 and in particular regulations 23 and 34 of those regulations; and

(c) this survey and this plan of survey are in strict accordance with the requirements of the Licensed Surveyors (Guidance of Surveyors) Regulations 1961 and the relevant law in relation to which it is lodged.

Date 14/6/91 Licensed Surveyor [signature]

(6) WATER SUPPLY & SEWER EASEMENT IN FAVOUR OF WAWA UNDER SECTION 27A OF THE TP&D ACT.

(7) ABOVE GROUND ELECTRIC EASEMENT IN FAVOUR OF SECWA UNDER SECTION 27A OF THE TP&D ACT

LOCAL GOVERNMENT ACT
ALL ROADS WITHIN THE GREEN BORDER ARE NOW DEDICATED.

LOCAL GOVERNMENT ACT
ALL ROADS WITHIN THE GREEN BORDER ARE NOW DEDICATED.

McMULLEN NOLAN AND PARTNERS SURVEYORS Pty Ltd
Suite 40 /11 Preston Street Como 6152 Phone: 4741099 Fax: 4741093

CERTIFICATE OF SURVEYOR	Approved by State Planning Commission	SCALE	OFFICE OF TITLES
I, ... hereby certify that (a) This survey was performed by me personally (or under my personal supervision, inspection and field check), in strict accordance with the, Licensed Surveyors (Guidance of Surveyors) Regulations, 1961; or (b) This plan is prepared under my supervision and is the result of calculations from measurements made by me (or under my own personal supervision, inspection and field check), in strict accordance with the Licensed Surveyors (Guidance of Surveyors) Regulations, 1961. Date .... Licensed Surveyor	File 90/3.5.0 Date 19-6-91 84319 Docket Examined G. SINGLETON 27-6-91 Certified Correct Date ..... For Inspector of Plans & Surveys	10 0 10 20 30 40 50 60 70 80 90 ALL DISTANCES ARE IN METRES	
		IN ORDER FOR DEALINGS SUBJECT TO For Inspector of Plans & Surveys	APPROVED APPROVED Inspector of Plans & Surveys 26-7-91 Date	Lodged 7665 20.6.91	PLAN No. 18129

Appendix 2:
Development Plans

PRO WEST SURVEYING

Licensed and Engineering Surveying Consultants

T (08) 9443 8217 E: admin@prowestsurveying.com.au
F (08) 9443 8844 Web: www.prowestsurveying.com.au
Po Box 1463 Osborne Park DC 6916

DWG# 1801001

Feature & Contour Survey of: Lot 30, No. 22-24 Hood Street, Subiaco

REVISION: A
SHEET: 1 OF 1

CLIENT: WELINK PTY LTD	PLAN: P 18129	LOT AREA: 1348m²	SURVEY DATE: 22/02/16
BUILDER:	C/T Vol: 1909 Fol: 642		MAP REFERENCE: 342 A10
BUILDER JOB #	HEIGHT DATUM: LOCAL		COASTAL ZONE: >1KM
AUTHORITY: CITY OF SUBIACO	HEIGHT CORRECTION TO AHD: +13.86m		SEWER INFORMATION: YES

FEATURE SYMBOL LEGEND

POWER

CABLE DOME (P) | POWER POLE ○ PP
CABLE BOX CB | CONSUMER POLE ⊕ CP
POWER MARKER (P) | EXPOSED CABLES ✳ EC
LIGHT POLE ✳ LP | EARTH ROD ◎ ER

WATER

WATER METER / TAP M | FIRE HYDRANT (H)
TAP | STOP VALVE SV
FLUSHING POINT FP | RETIC VALVE RV
BORE | WATER MARKER (W)

SEWERAGE

SEWER M/H (SQUARE LID) | SEWER M/H (ROUND LID)
INSPECTION SHAFT ⊙ IS | INSPECTION OPENING ⊙ IO
HOUSE CONNECTION ⊙ HC

TELSTRA

TELSTRA PIT | TELSTRA MANHOLE
TELSTRA MARKER (T)

DRAINAGE

DRAIN M/H (SQUARE LID) | DRAIN M/H (ROUND LID) (D)
SIDE ENTRY PIT | DRAINAGE GRATE
COMBINED ENTRY PIT

GAS

GAS METER GM | GAS VALVE GV
GAS MARKER (G)

SURVEY MARKS

PEG FOUND PF ○ | PEG GONE PG
DRILL HOLE DH ○ | BENCH MARK
NAIL & PLATE NPL | PEN MARK PM ⊙
NAIL NAIL △

MISCELLANEOUS INFO.

STREET SIGN (S) | SPOT HEIGHT 10.16
UNKNOWN SERVICE MARKER (U) | BOLLARD ⊙ B
OVERHEAD POWER LINE | SEWER LINE — S —
FENCE LINE | WINDOW / OPENING W

SERVICE DETAILS

WATER: L
OVERHEAD POWER: NS
U/G POWER: L
TELSTRA: L
GAS: A,TBC
SEWER: L

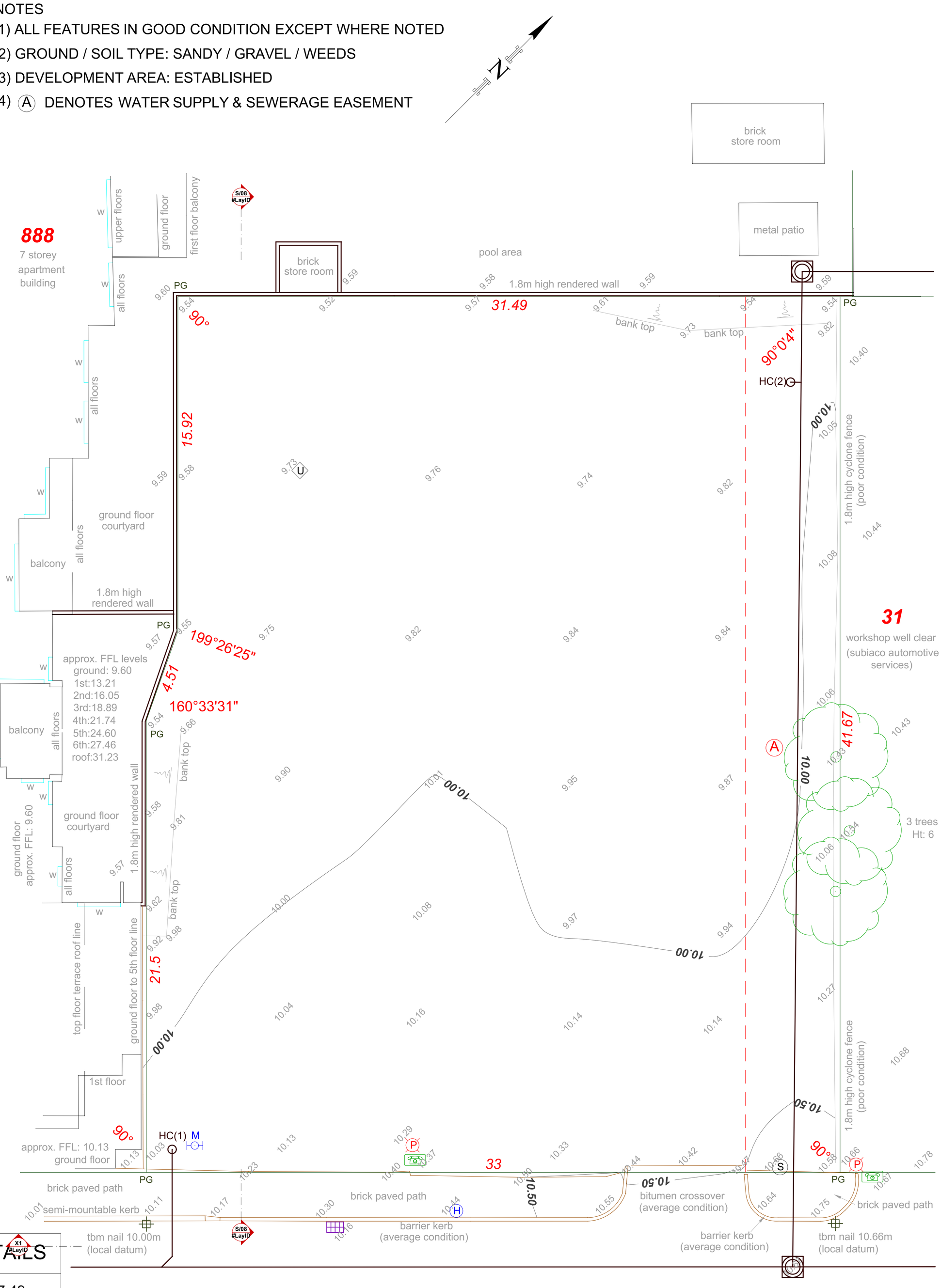
SERVICE NOTES

L: LOCATED NS: NO SERVICE
A: AVAILABLE BUT NOT LOCATED
TBC: LOCATION TO BE CONFIRMED

SEWER JUNCTION DETAILS

HOUSE CONNECTION HC(1) IL:	7.49
UP DISTANCE:	0.9
DEPTH TO CONNECTION:	1.64
HOUSE CONNECTION HC(2) IL:	8.32
UP DISTANCE:	0
DEPTH TO CONNECTION:	1.48

NOTES
(1) ALL FEATURES IN GOOD CONDITION EXCEPT WHERE NOTED
(2) GROUND / SOIL TYPE: SANDY / GRAVEL / WEEDS
(3) DEVELOPMENT AREA: ESTABLISHED
(4) (A) DENOTES WATER SUPPLY & SEWERAGE EASEMENT

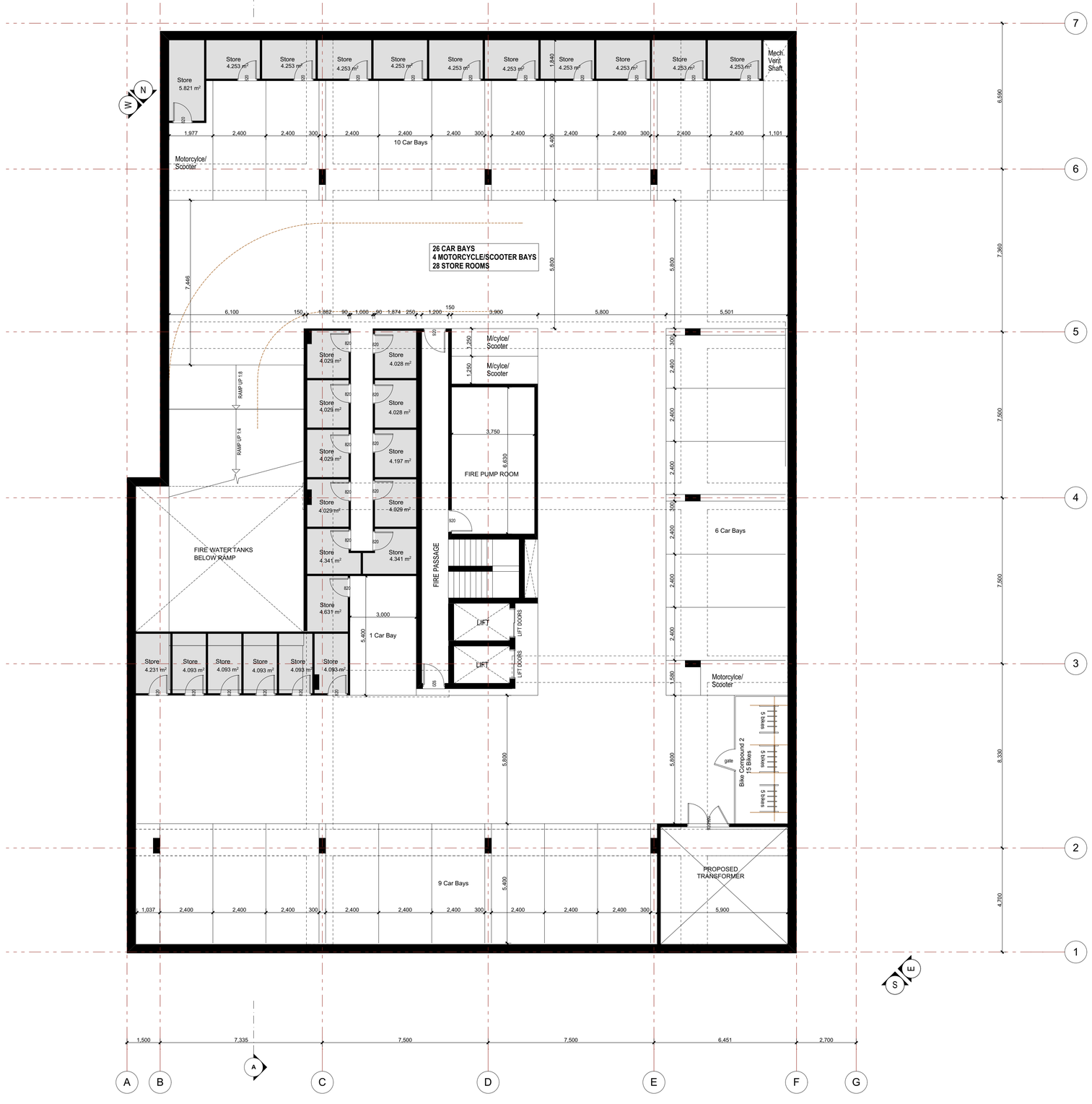


SCALE 1:200 AT A3 SIZE

0 5 7.5 10 12.5 15

IMPORTANT FEATURE SURVEY NOTES

1. The boundary information on this site plan is approximate only. The boundary has been positioned using a best-fit of available survey marks and fence lines. A repeg / bdy identification survey is recommended if an accurate position of features / improvements relative to the boundary is required.
2. The sewer junction on this plan has been plotted using information provided by the Water Corporation. A site inspection is required by the builder / developer in order to verify the position and depth of the sewer connection.
3. The lot dimensions shown on this feature survey plan have been taken from L.T.O survey plans. The final repegged dimensions may vary due to adjustments made during field survey.
4. All service information shown of this plan should be verified with the relevant authorities. 5. Pro West Surveying does not accept liability for any loss or damage caused by the use of this feature survey plan for any purpose.



LOWER BASEMENT

0M 1M 5M

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION: proposed mixed use development	PROJECT ADDRESS: lot 30 (no. 20-24) hood street, subiaco	DRAWING DESCRIPTION: **floor plans**	REV: C · PLOT DATE: 9/06/2017
This drawing and design is subject to copyright and cannot be reproduced without prior written consent. Copyright. ©	CLIENT: WELINK PTY LTD	DRAWN: CRD	DRAWING NUMBER: *DA- 02*

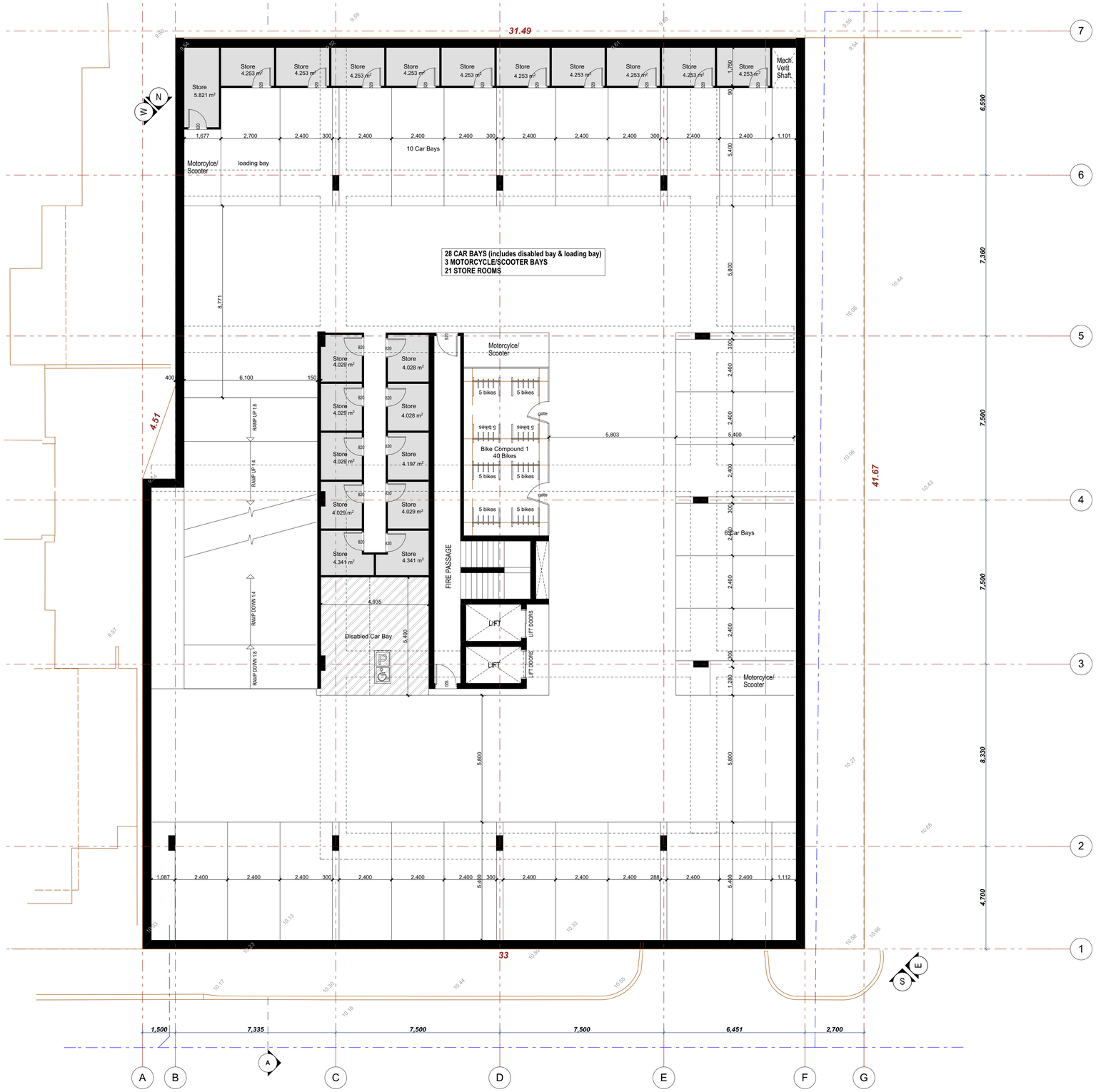
ISSUE	REV.	DATE	DESCRIPTION
03	C	09.06.17	MINOR REVISIONS / ADAPTABLE HOUSING REQS / BIKES
02	B	10.05.17	APTS AMENDED TO SUIT HOUSING AUTHORITY
01	A	04.05.17	ISSUED TO CLIENT

SCALE 0M 1M *PRINT ON A1 PAGE TO BE TO SCALE* 5M

development application

36 Townshend Road, Subiaco
M. Carbone 0408 807 772 | D. Robinson 0400 752 810
marcello@crd-design.com.au | dean@crd-design.com.au

crd
CARBONE + ROBINSON DESIGN



UPPER BASEMENT

0M 1M 5M

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION
proposed mixed use development

PROJECT ADDRESS
lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION
floor plans

CLIENT WELINK PTY LTD

DRAWN CRD

ISSUE	REV.	DATE	DESCRIPTION
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REV C PLOT DATE 9/06/2017

DRAWING NUMBER
DA- 03

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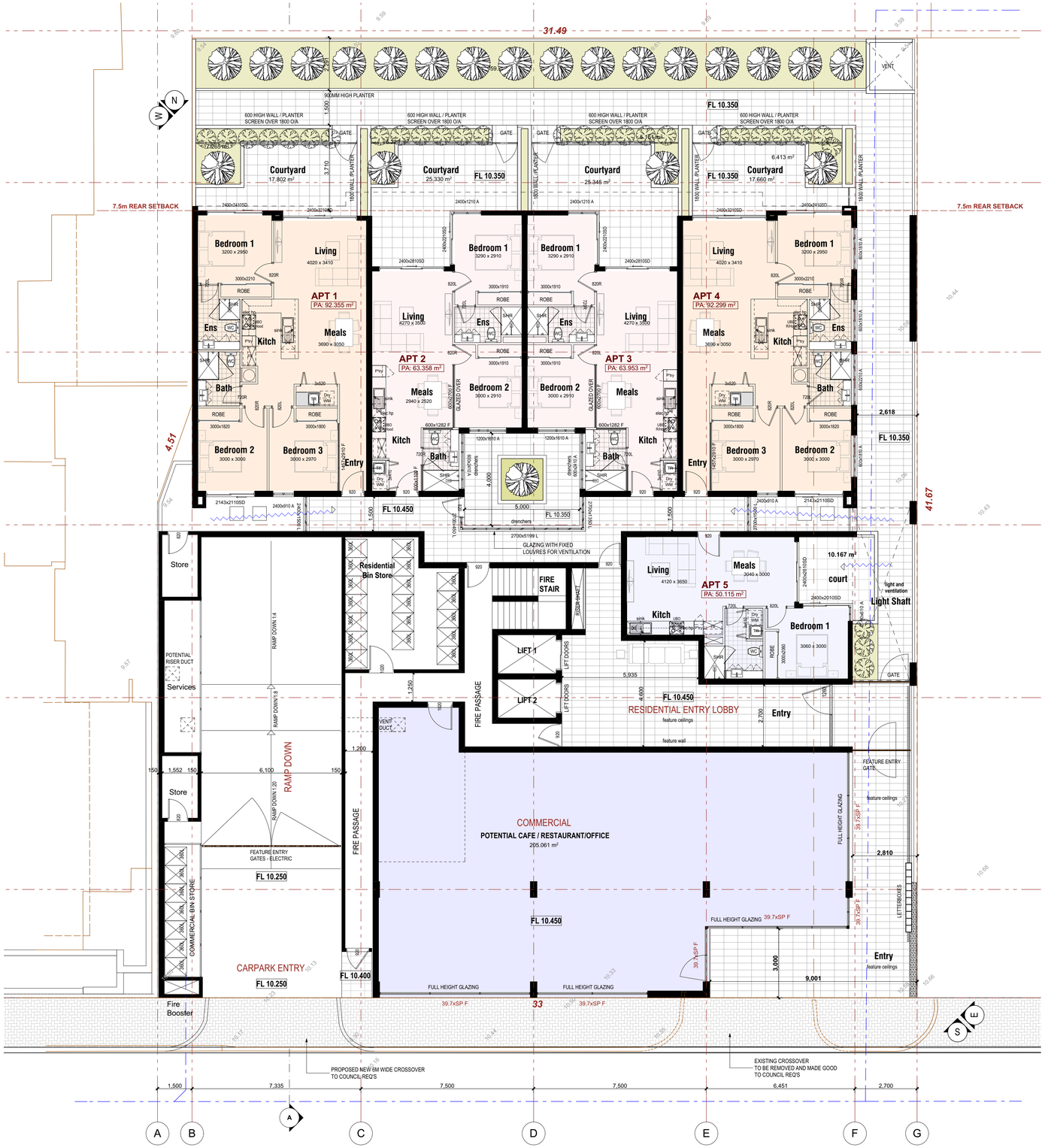

GROUND FLOOR - LEVEL1

0M 1M 5M

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION
proposed mixed use development

PROJECT ADDRESS
lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION
floor plans

CLIENT WELINK PTY LTD

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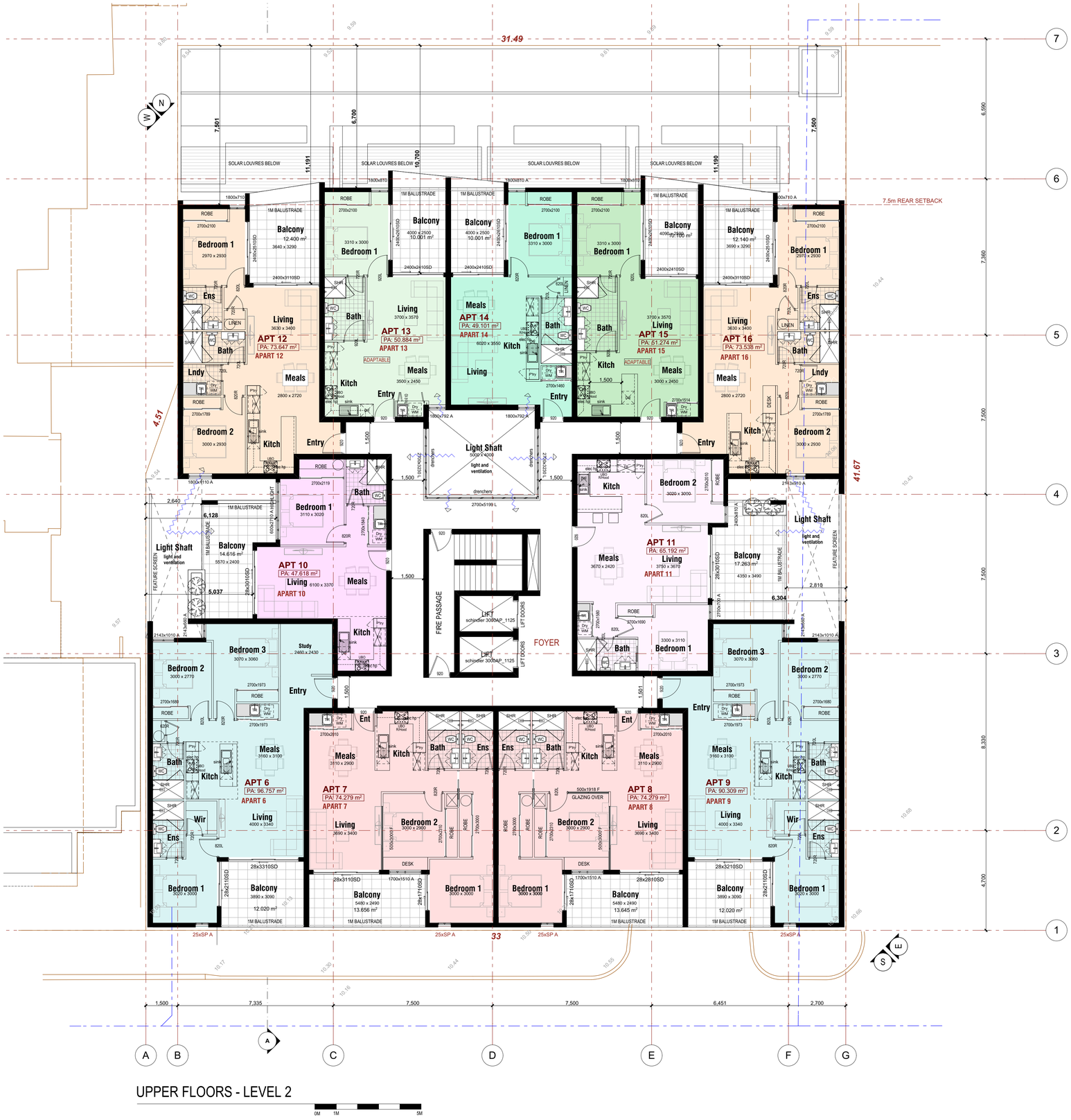

UPPER FLOORS - LEVEL 2

0M 1M 5M

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION
proposed mixed use development

PROJECT ADDRESS
lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION
floor plans

ISSUE	REV.	DATE	DESCRIPTION
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REV C | PLOT DATE 9/06/2017

DRAWING NUMBER
DA- 05

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UPPER FLOORS - LEVELS 3,4

0M 1M 5M

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION	proposed mixed use development
PROJECT ADDRESS	lot 30 (no. 20-24) hood street, subiaco
DRAWING DESCRIPTION	**floor plans**

CLIENT WELINK PTY LTD

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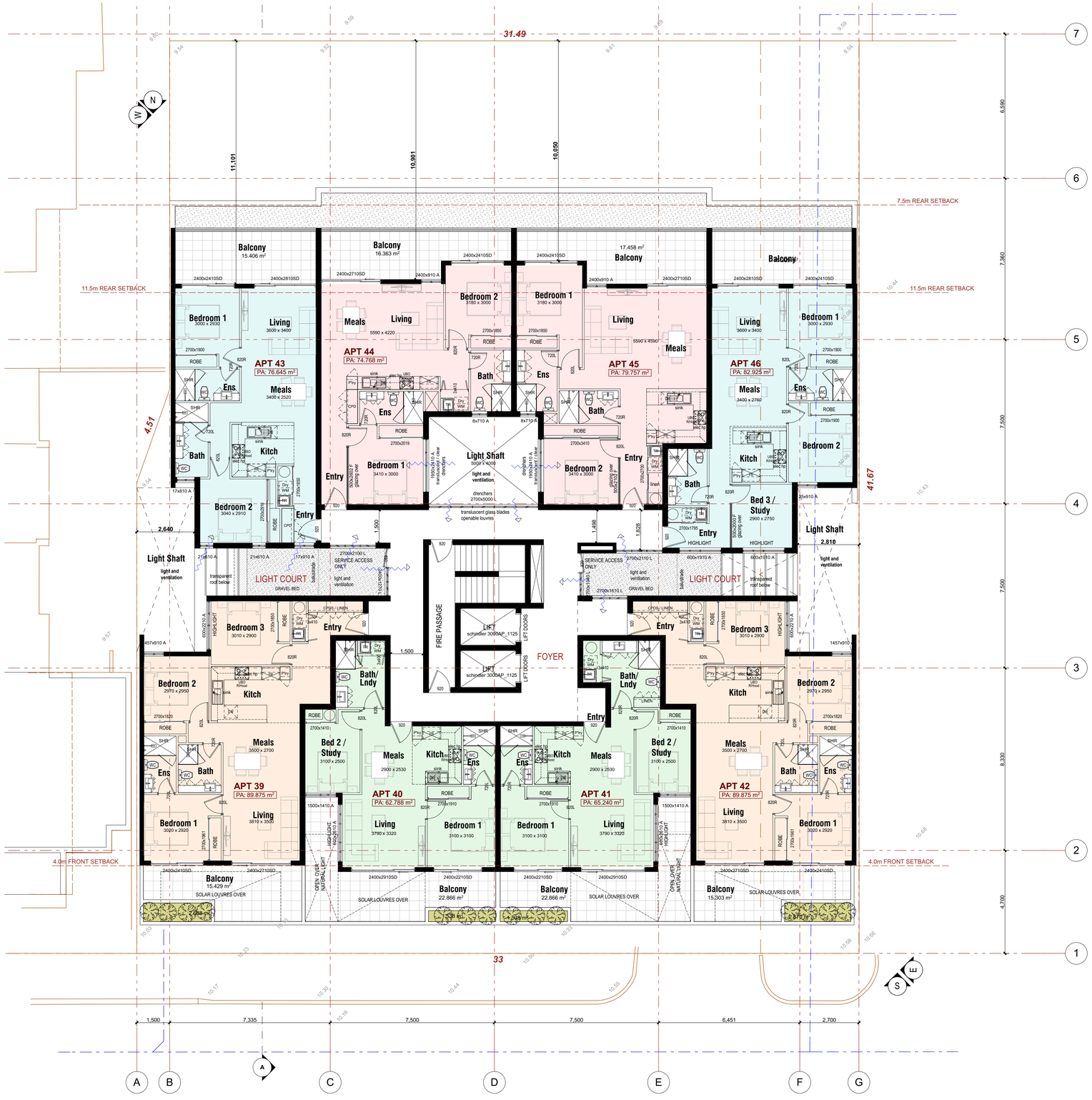

UPPER FLOORS - LEVEL 5

0M 1M 5M

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION	proposed mixed use development
PROJECT ADDRESS	lot 30 (no. 20-24) hood street, subiaco
DRAWING DESCRIPTION	**floor plans**
CLIENT	WELINK PTY LTD
DRAWN	CRD

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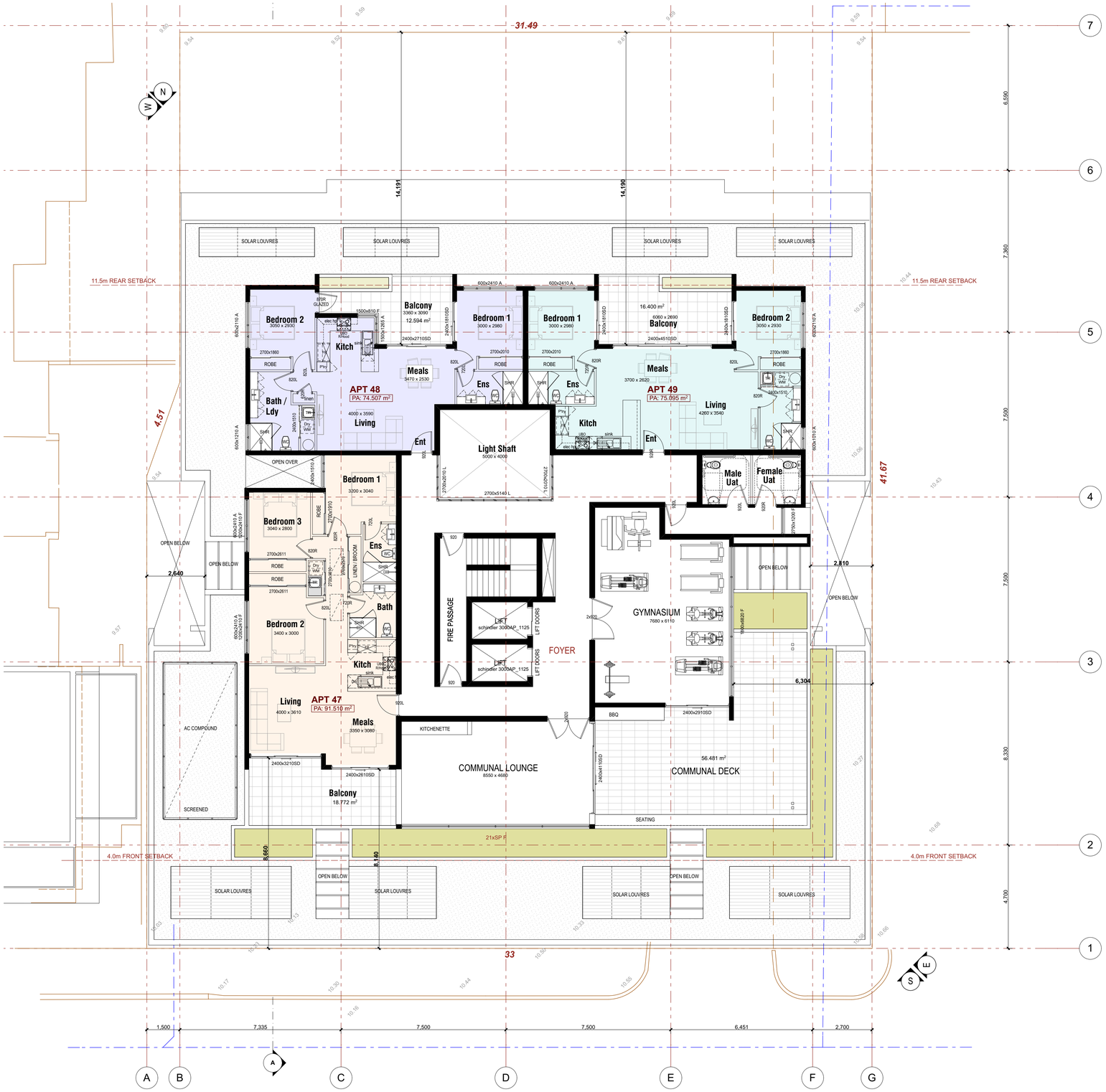

UPPER FLOORS - LEVEL 6

0M 1M 5M

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION
proposed mixed use development

PROJECT ADDRESS
lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION
floor plans

CLIENT WELINK PTY LTD

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DRAWING NUMBER
DA- 08

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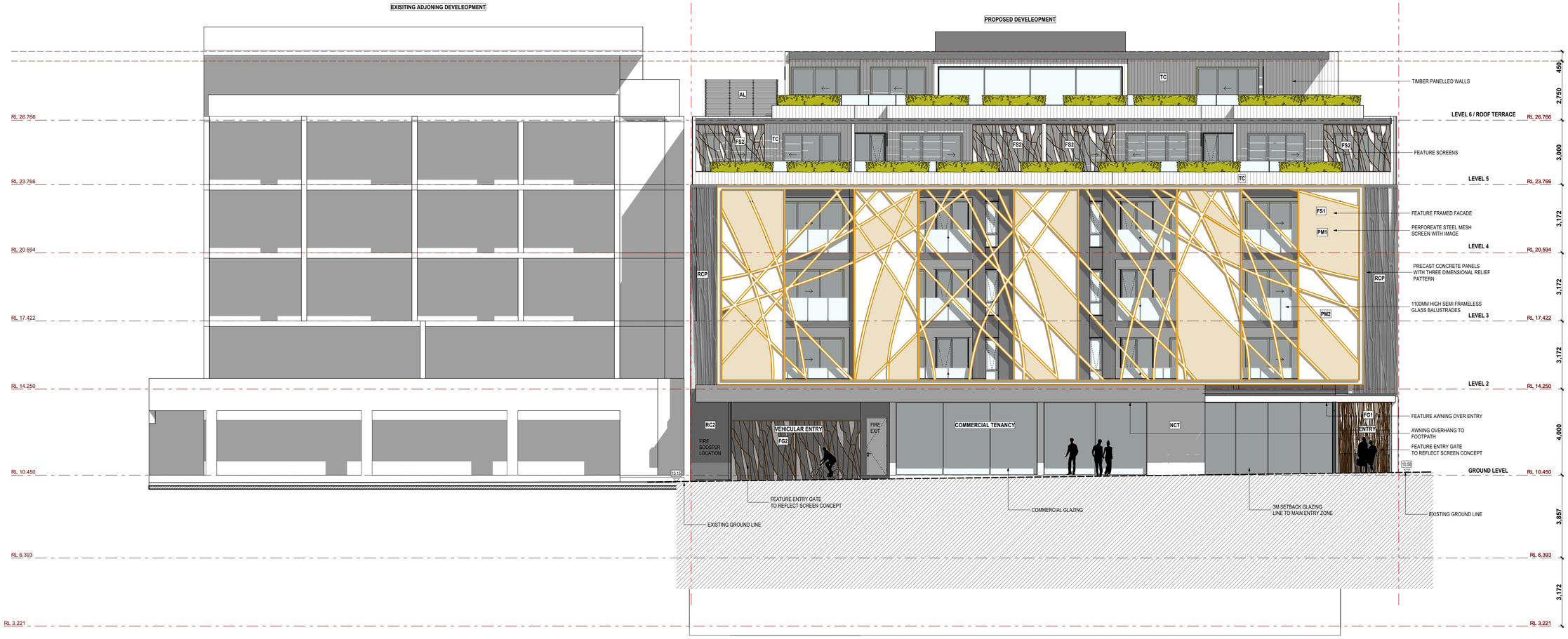
CARBONE + ROBINSON DESIGN

FINISHES SCHEDULE

RC1	TEXTURE COAT / COLOUR FINISH 1 - WHITE
RC2	TEXTURE COAT / COLOUR FINISH 2 - CHARCOAL / DARK GREY
RCP	COLOUR FINISH 2 - CHARCOAL OR DARK GREY WITH 3D PATTERNED / PRECAST CONC. PANEL
TC	TIMBER LOOK CLADDING - 150MM VERTICAL ORIENTATION
NCT	NATURAL CONCRETE - STEEL TROWELLED FINISH
PM1	PERFORATED METAL TYPE 1 - GRAPHIC REPRESENTATION
PM2	PERFORATED METAL TYPE 1 - GRAPHIC REPRESENTATION
FS1	FEATURE SCREEN 01 - POTENTIAL ARTIST COLABORATION / PUBLIC INTERFACE PAINTED STEEL AND PEFORATED METAL SCREENS WITH GRAPHIC INSERTS
FS2	FEATURE SCREEN 02 - PAINTED STEEL
FS3	FEATURE SCREEN 03 - PAINTED STEEL
FS4	FEATURE SCREEN 04 - PAINTED STEEL
FG1	FEATURE GATE 01 - POTENTIAL ARTIST COLLABORATION / PUBLIC INTERFACE PAINTED STEEL AND PERFORATED METAL
FG2	FEATURE GATE 02 - POTENTIAL ARTIST COLLABORATION / PUBLIC INTERFACE PAINTED STEEL AND PERFORATED METAL
AL	ALUMINIUM LOUVRED SCREENS - POWDER COAT FINISH - DARK GREY
ST	TEXTURED RENDER FINISH - RANDOM LIMESTONE



S South Elevation

SCALE 1:100

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION
proposed mixed use development

PROJECT ADDRESS
lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION
elevations

CLIENT WELINK PTY LTD

DRAWN CRD

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REV C
PLOT DATE 9/06/2017
DRAWING NUMBER *DA- 09*
SCALE
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FINISHES SCHEDULE

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RCP	COLOUR FINISH 2 - CHARCOAL OR DARK GREY WITH 3D PATTERNED / PRECAST CONC. PANEL
TC	TIMBER LOOK CLADDING - 150MM VERTICAL ORIENTATION
NCT	NATURAL CONCRETE - STEEL TROWELLED FINISH
PM1	PERFORATED METAL TYPE 1 - GRAPHIC REPRESENTATION
PM2	PERFORATED METAL TYPE 1 - GRAPHIC REPRESENTATION
FS1	FEATURE SCREEN 01 - POTENTIAL ARTIST COLABORATION / PUBLIC INTERFACE PAINTED STEEL AND PEFORATED METAL SCREENS WITH GRAPHIC INSERTS
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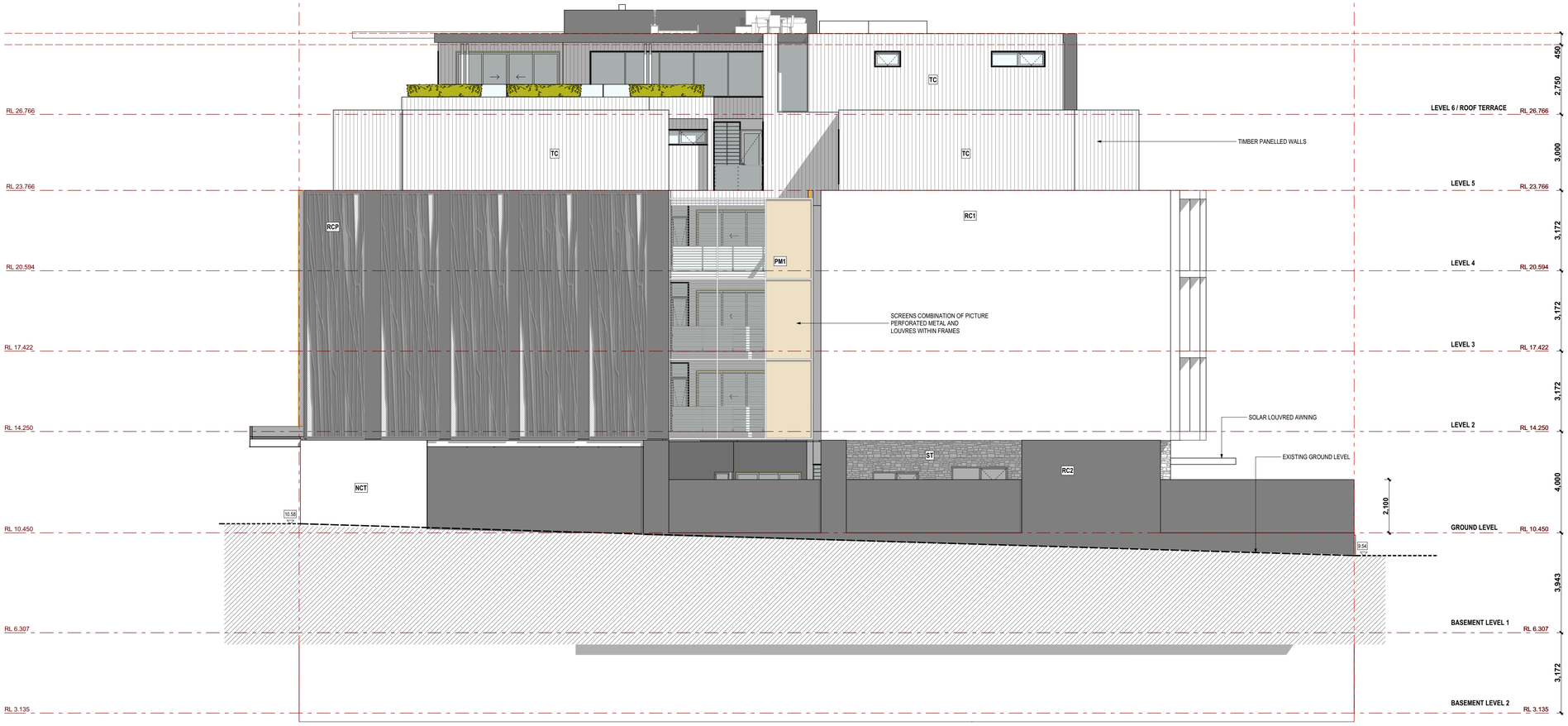
FS3	FEATURE SCREEN 03 - PAINTED STEEL
FS4	FEATURE SCREEN 04 - PAINTED STEEL
FG1	FEATURE GATE 01 - POTENTIAL ARTIST COLLABORATION / PUBLIC INTERFACE PAINTED STEEL AND PERFORATED METAL
FG2	FEATURE GATE 02 - POTENTIAL ARTIST COLLABORATION / PUBLIC INTERFACE PAINTED STEEL AND PERFORATED METAL
AL	ALUMINIUM LOUVRED SCREENS - POWDER COAT FINISH - DARK GREY
ST	TEXTURED RENDER FINISH - RANDOM LIMESTONE



E East Elevation

SCALE 1:100

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION
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PROJECT ADDRESS
lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION
elevations

CLIENT WELINK PTY LTD

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development application

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crd
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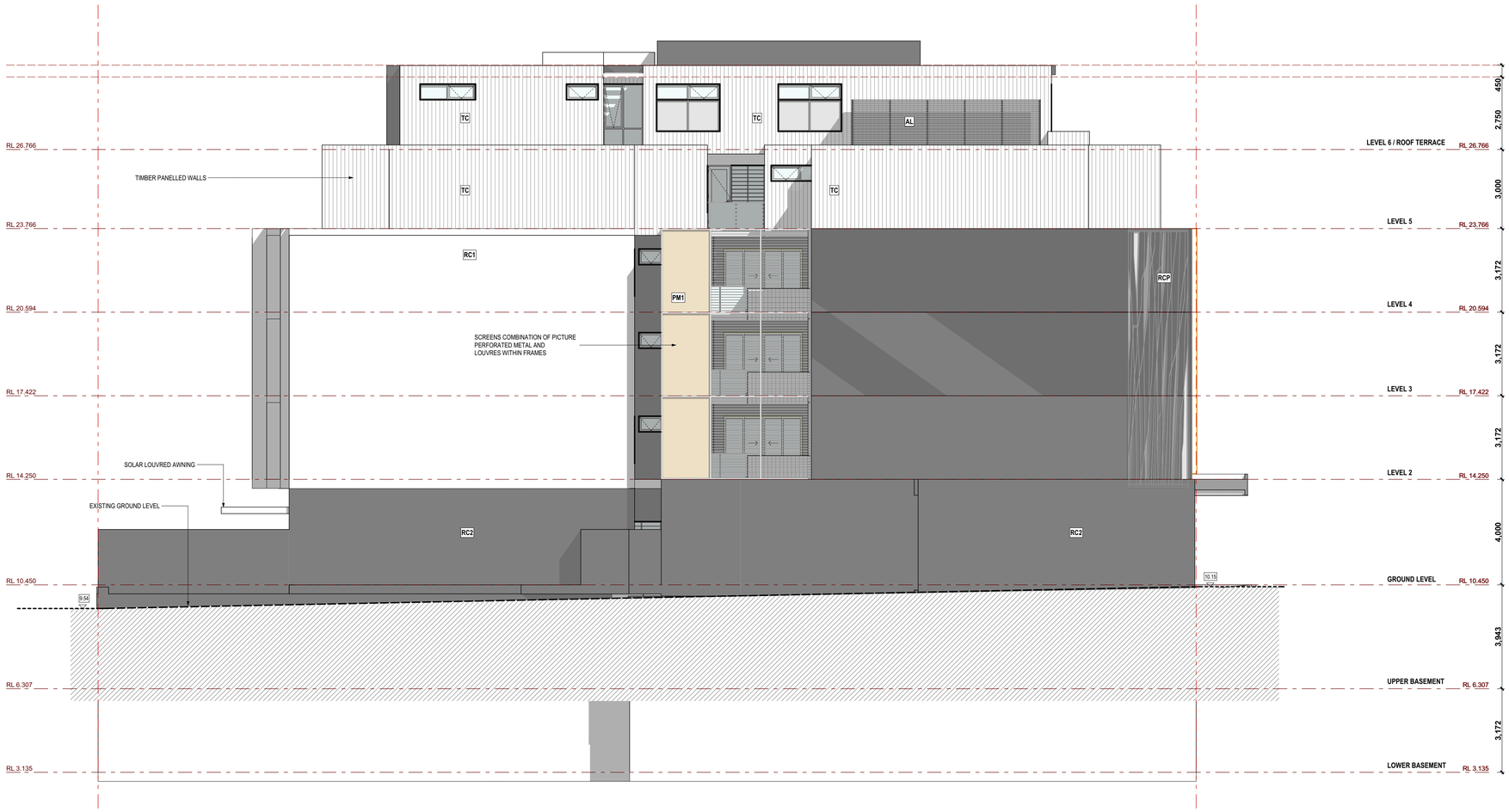
FS1	FEATURE SCREEN 01 - POTENTIAL ARTIST COLABORATION / PUBLIC INTERFACE PAINTED STEEL AND PEFORATED METAL SCREENS WITH GRAPHIC INSERTS
FS2	FEATURE SCREEN 02 - PAINTED STEEL
FS3	FEATURE SCREEN 03 - PAINTED STEEL
FS4	FEATURE SCREEN 04 - PAINTED STEEL
FG1	FEATURE GATE 01 - POTENTIAL ARTIST COLLABORATION / PUBLIC INTERFACE PAINTED STEEL AND PERFORATED METAL
FG2	FEATURE GATE 02 - POTENTIAL ARTIST COLLABORATION / PUBLIC INTERFACE PAINTED STEEL AND PERFORATED METAL
AL	ALUMINIUM LOUVRED SCREENS - POWDER COAT FINISH - DARK GREY
ST	TEXTURED RENDER FINISH - RANDOM LIMESTONE



W West Elevation

SCALE 1:100

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION
proposed mixed use development

PROJECT ADDRESS
lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION
elevations

CLIENT WELINK PTY LTD

DRAWN CRD

ISSUE	REV.	DATE	DESCRIPTION
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DRAWING NUMBER
DA- 11

SCALE
0M 1M *PRINT ON A1 PAGE TO BE TO SCALE* 5M

development application

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CARBONE + ROBINSON DESIGN

FINISHES SCHEDULE

RC1	TEXTURE COAT / COLOUR FINISH 1 - WHITE
RC2	TEXTURE COAT / COLOUR FINISH 2 - CHARCOAL / DARK GREY
RCP	COLOUR FINISH 2 - CHARCOAL OR DARK GREY WITH 3D PATTERNED / PRECAST CONC. PANEL
TC	TIMBER LOOK CLADDING - 150MM VERTICAL ORIENTATION
NCT	NATURAL CONCRETE - STEEL TROWELLED FINISH
PM1	PERFORATED METAL TYPE 1 - GRAPHIC REPRESENTATION
PM2	PERFORATED METAL TYPE 1 - GRAPHIC REPRESENTATION
FS1	FEATURE SCREEN 01 - POTENTIAL ARTIST COLABORATION / PUBLIC INTERFACE PAINTED STEEL AND PEFORATED METAL SCREENS WITH GRAPHIC INSERTS
FS2	FEATURE SCREEN 02 - PAINTED STEEL
FS3	FEATURE SCREEN 03 - PAINTED STEEL
FS4	FEATURE SCREEN 04 - PAINTED STEEL
FG1	FEATURE GATE 01 - POTENTIAL ARTIST COLLABORATION / PUBLIC INTERFACE PAINTED STEEL AND PERFORATED METAL
FG2	FEATURE GATE 02 - POTENTIAL ARTIST COLLABORATION / PUBLIC INTERFACE PAINTED STEEL AND PERFORATED METAL
AL	ALUMINIUM LOUVRED SCREENS - POWDER COAT FINISH - DARK GREY
ST	TEXTURED RENDER FINISH - RANDOM LIMESTONE

N North Elevation

SCALE 1:100

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION
proposed mixed use development

PROJECT ADDRESS
lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION
elevations

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DRAWING NUMBER
DA- 12

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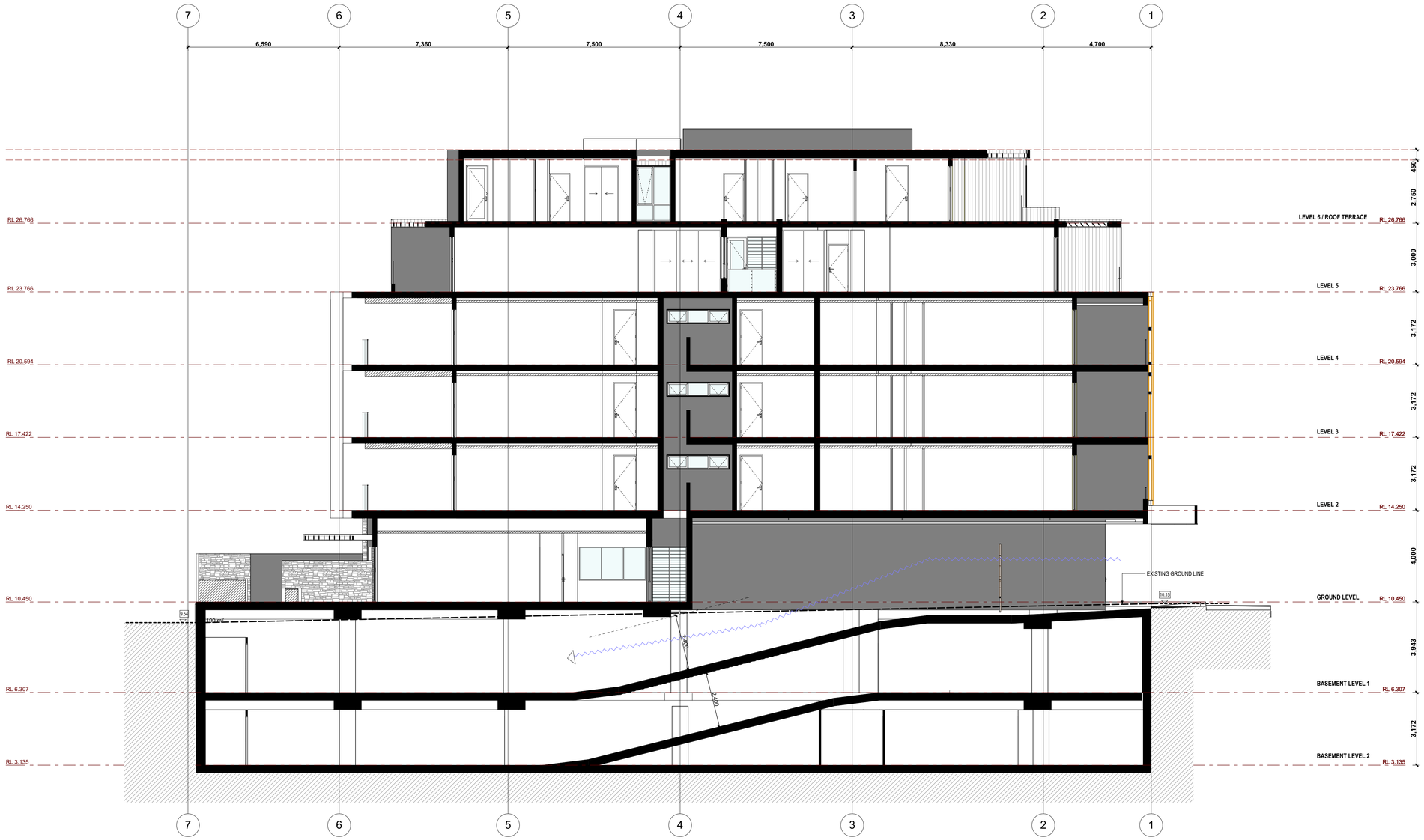

A Section
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HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION
proposed mixed use development

PROJECT ADDRESS
lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION
sections

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REV C
PLOT DATE 9/06/2017
DRAWING NUMBER *DA- 13*
SCALE
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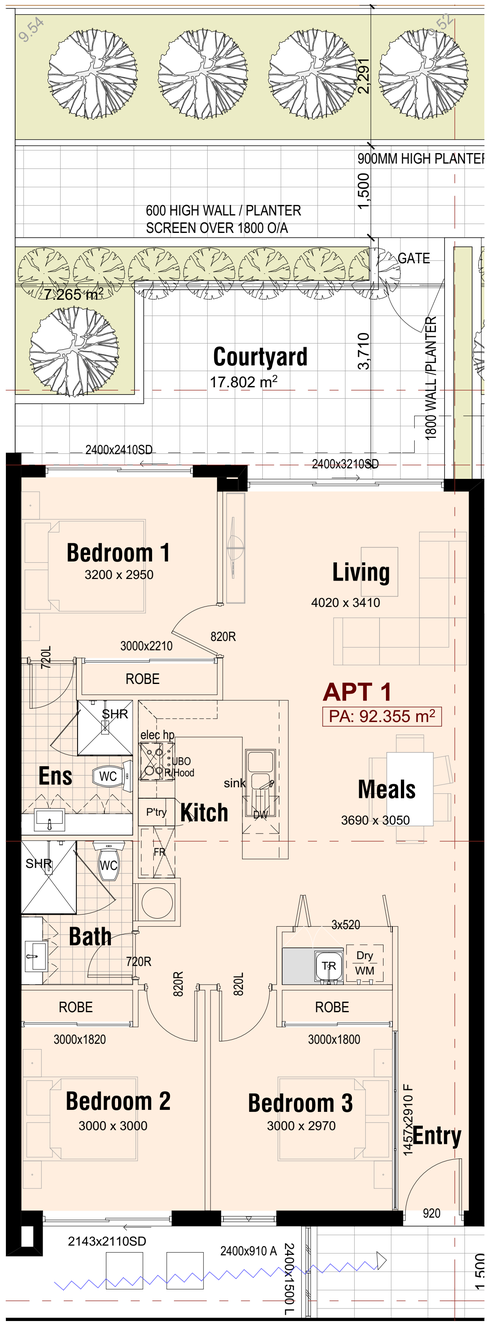

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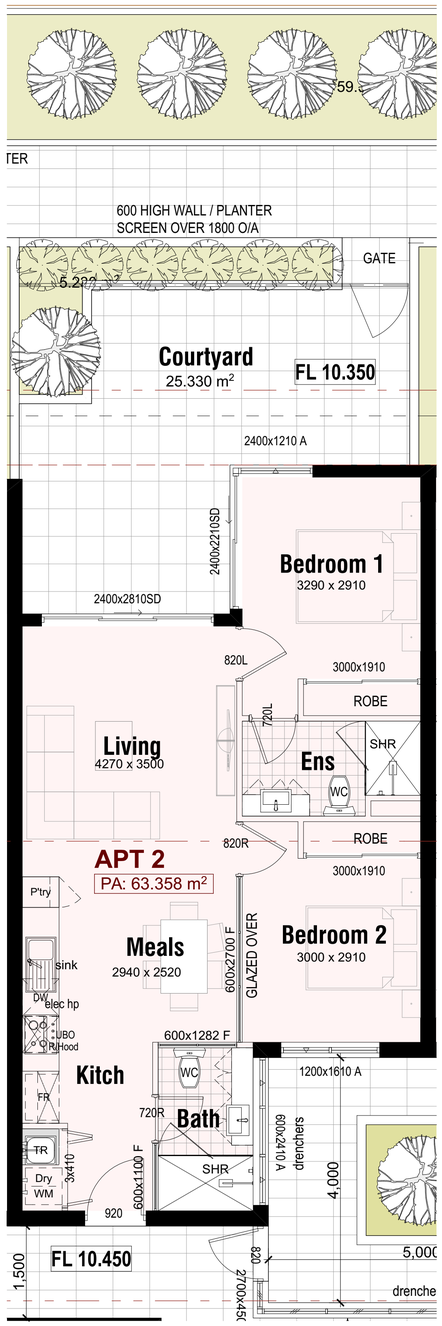

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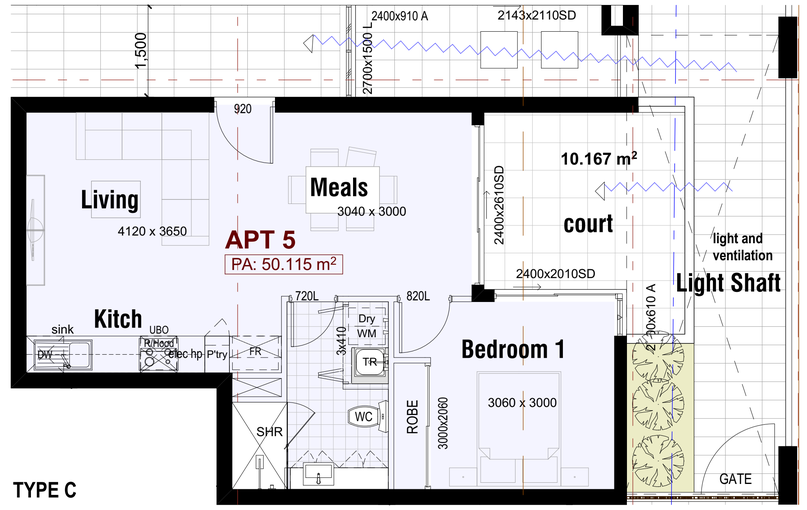

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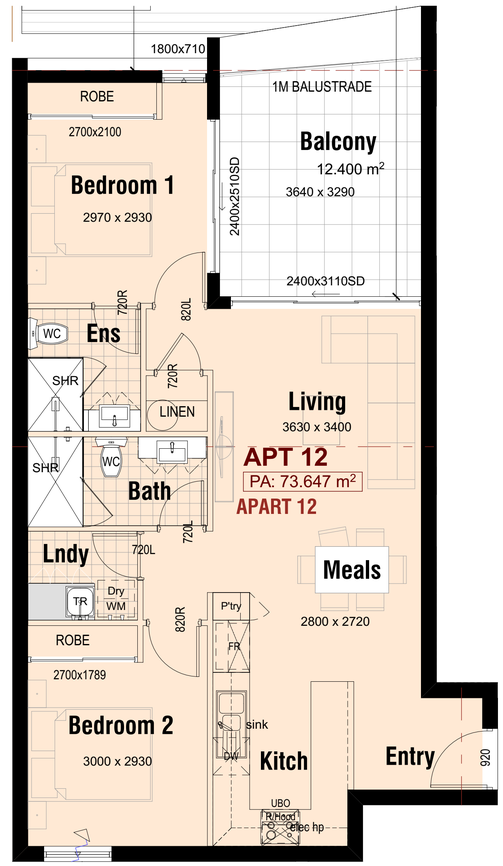

TYPE D

0M 1M 5M

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION
proposed mixed use development

PROJECT ADDRESS
lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION
plans apartment types

CLIENT WELINK PTY LTD

DRAWN CRD

ISSUE	REV.	DATE	DESCRIPTION
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DRAWING NUMBER
DA- 14

SCALE
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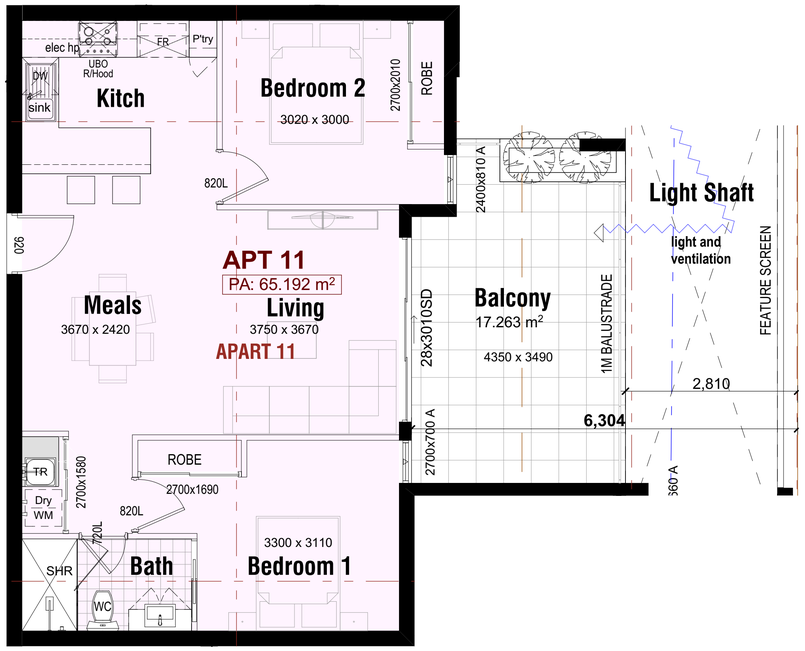

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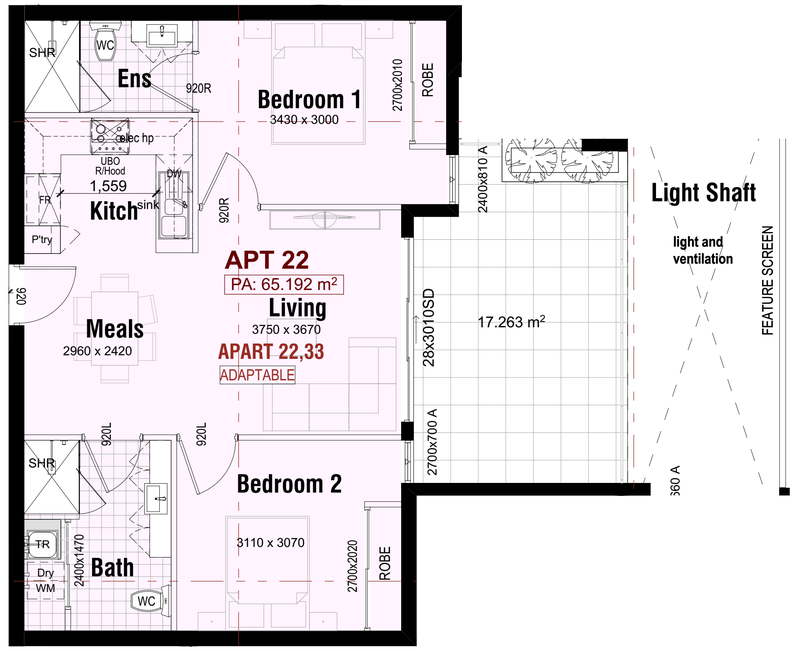

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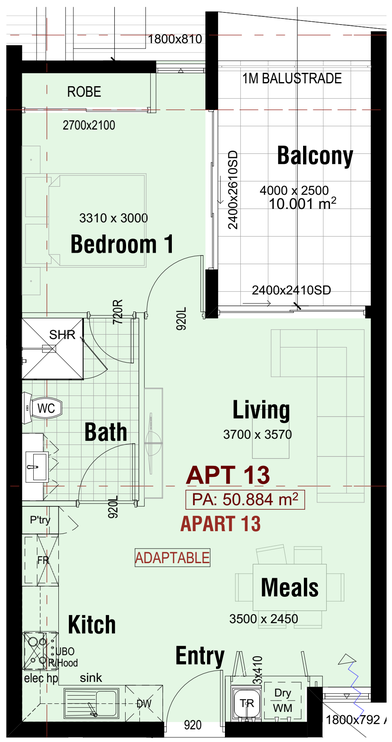

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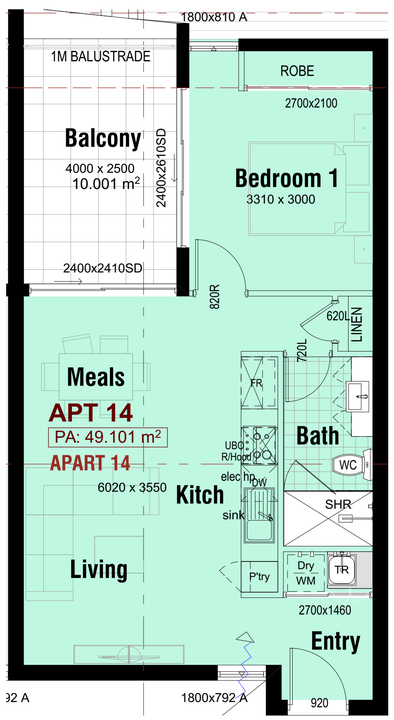

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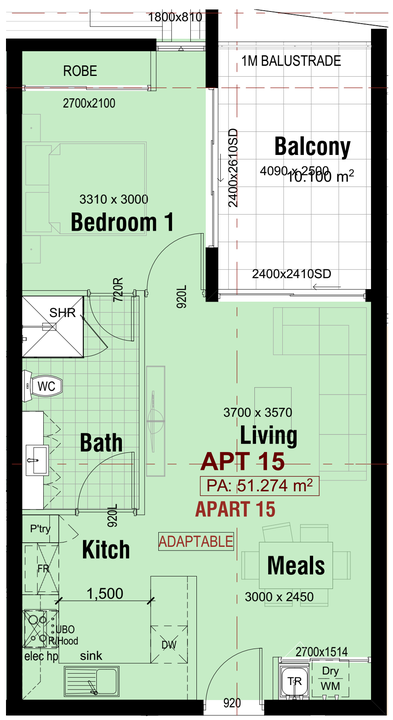

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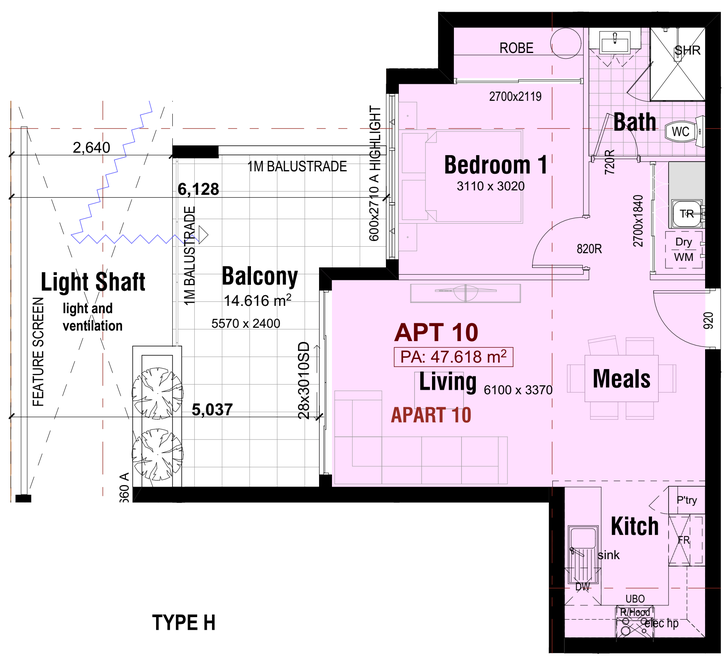

TYPE H

0M 1M 5M

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION
proposed mixed use development

PROJECT ADDRESS
lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION
plans apartment types

CLIENT WELINK PTY LTD

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PLOT DATE 9/06/2017
DRAWING NUMBER DA- 15
SCALE
0M 1M PRINT ON A1 PAGE TO BE TO SCALE 5M

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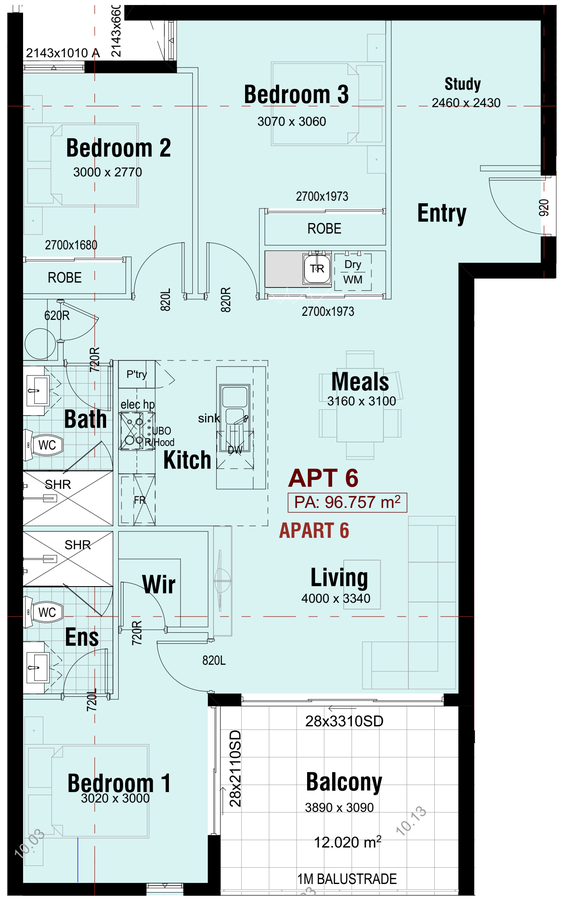

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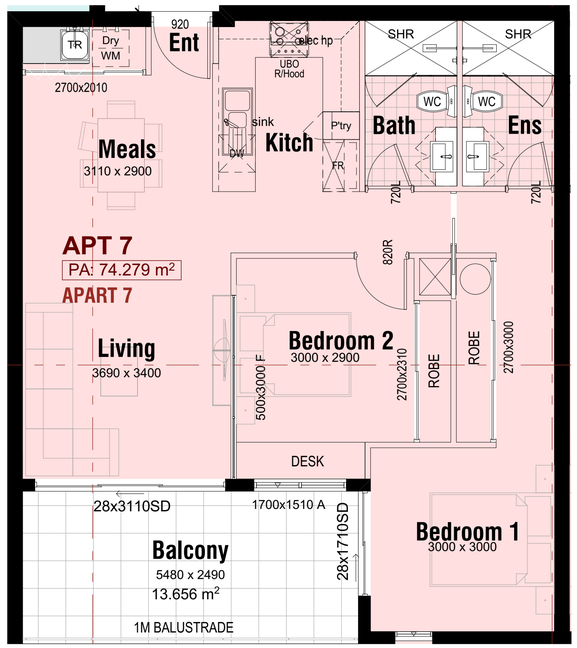

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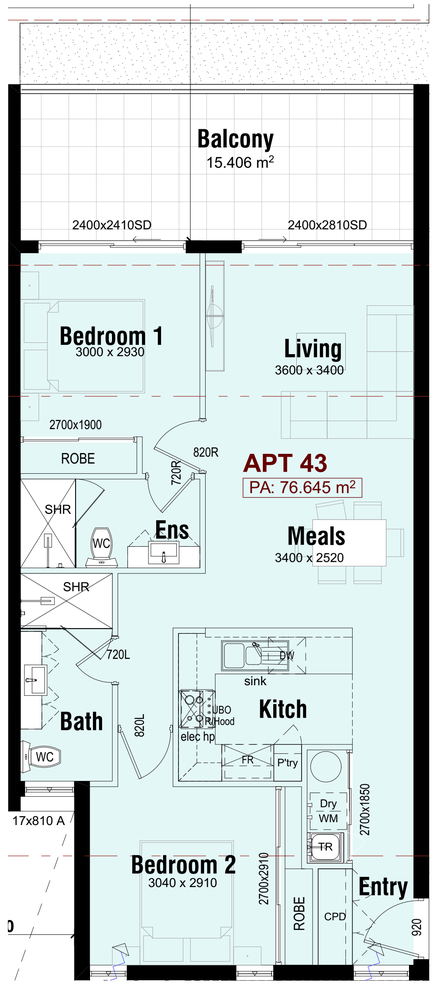

TYPE M

0M 1M 5M

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION: proposed mixed use development

PROJECT ADDRESS: lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION: **plans apartment types**

CLIENT: WELINK PTY LTD

DRAWN: CRD

ISSUE	REV.	DATE	DESCRIPTION
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DRAWING NUMBER: DA- 16

SCALE: 0M 1M PRINT ON A1 PAGE TO BE TO SCALE 5M

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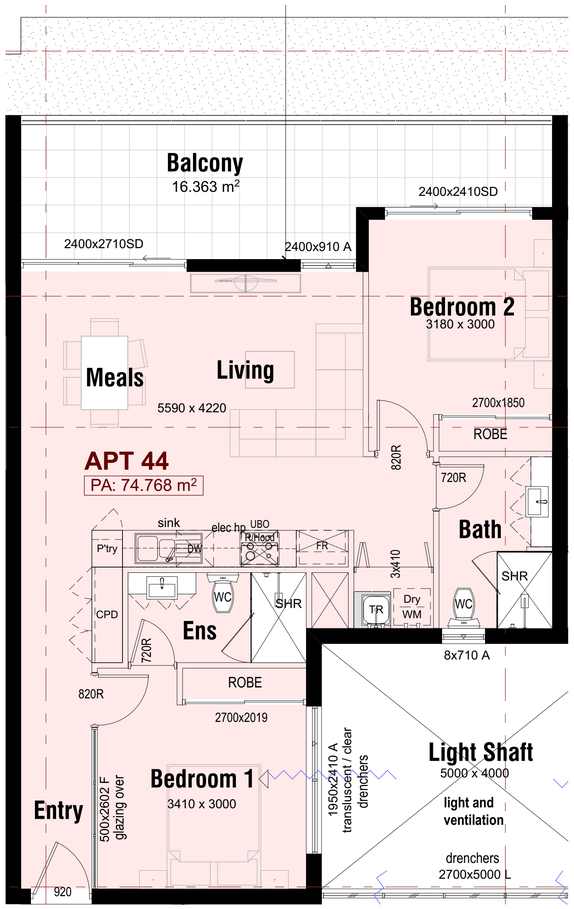

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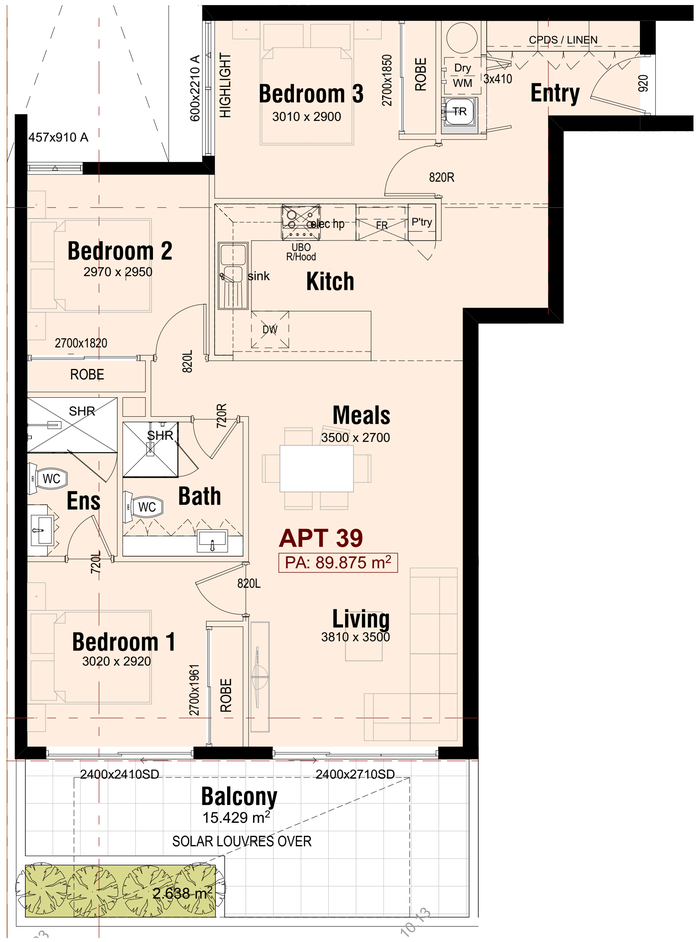

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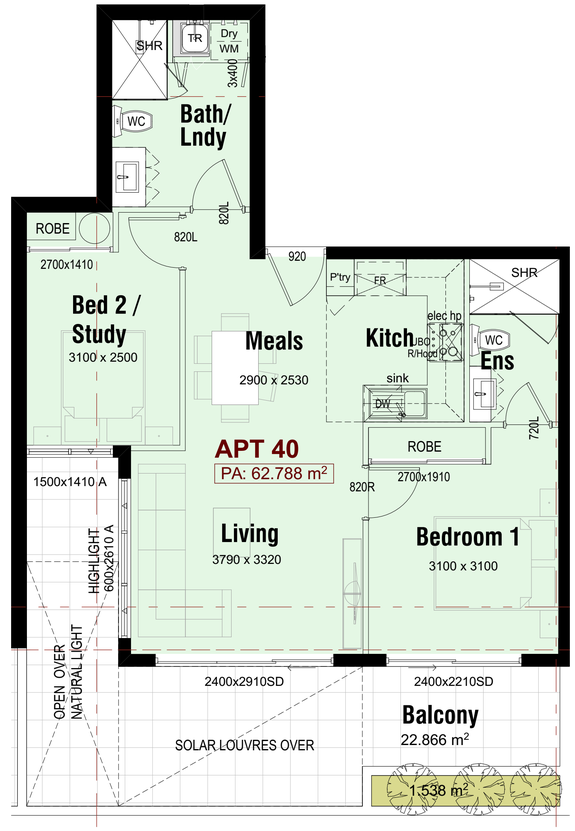

TYPE P

0M 1M 5M

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION
proposed mixed use development

PROJECT ADDRESS
lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION
plans apartment types

ISSUE	REV.	DATE	DESCRIPTION
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REV C
PLOT DATE 9/06/2017
DRAWING NUMBER DA- 17
SCALE 0M 1M PRINT ON A1 PAGE TO BE TO SCALE 5M

development application

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marcello@crd-design.com.au | dean@crd-design.com.au

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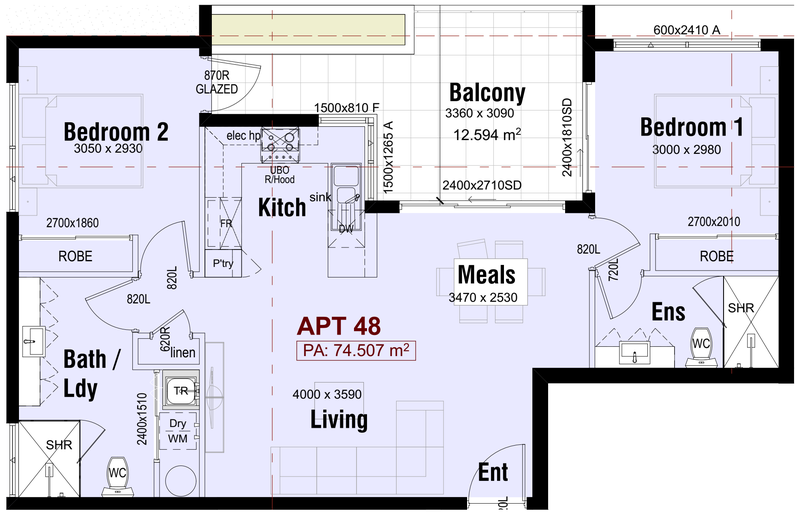

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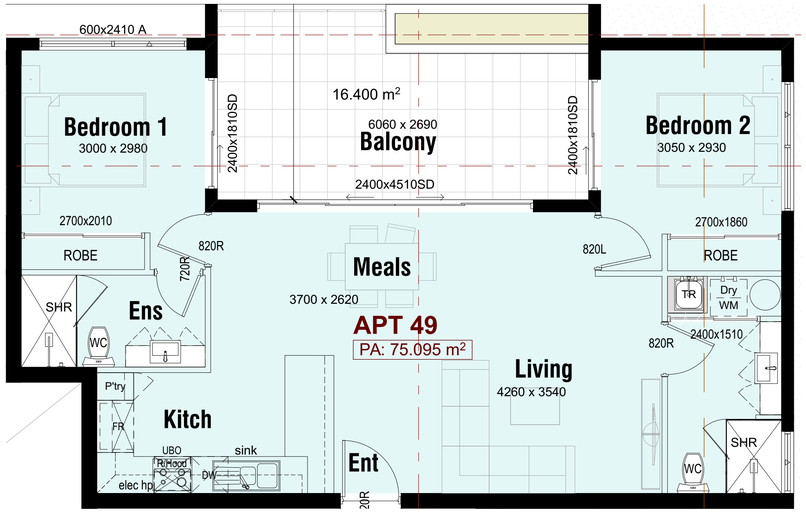

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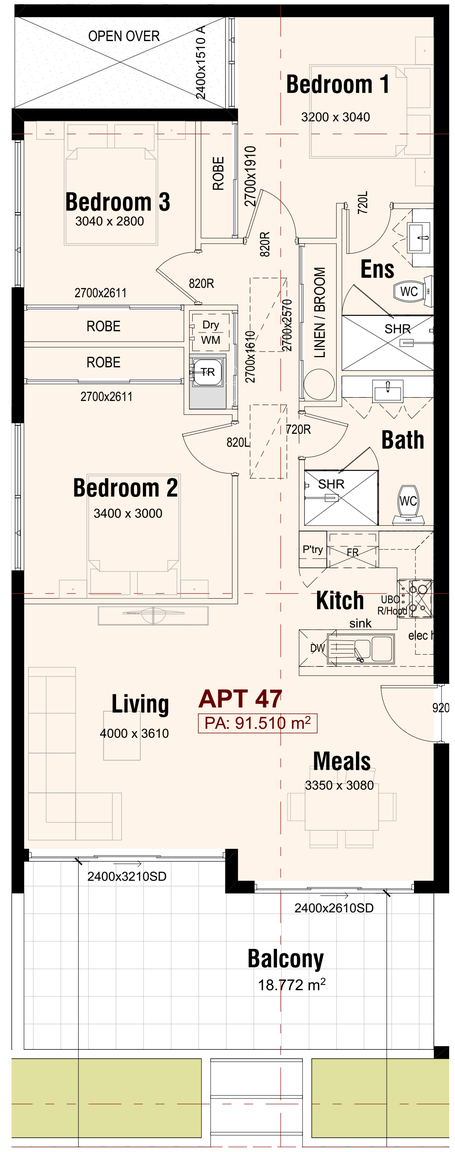

TYPE S

0M 1M 5M

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION
proposed mixed use development

PROJECT ADDRESS
lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION
plans apartment types

ISSUE	REV.	DATE	DESCRIPTION
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DRAWING NUMBER
DA- 18

SCALE
0M 1M PRINT ON A1 PAGE TO BE TO SCALE 5M

development application

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HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION
proposed mixed use development

PROJECT ADDRESS
lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION
perspective - street view

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PLOT DATE 12/06/2017

DRAWING NUMBER
DA- 19

SCALE
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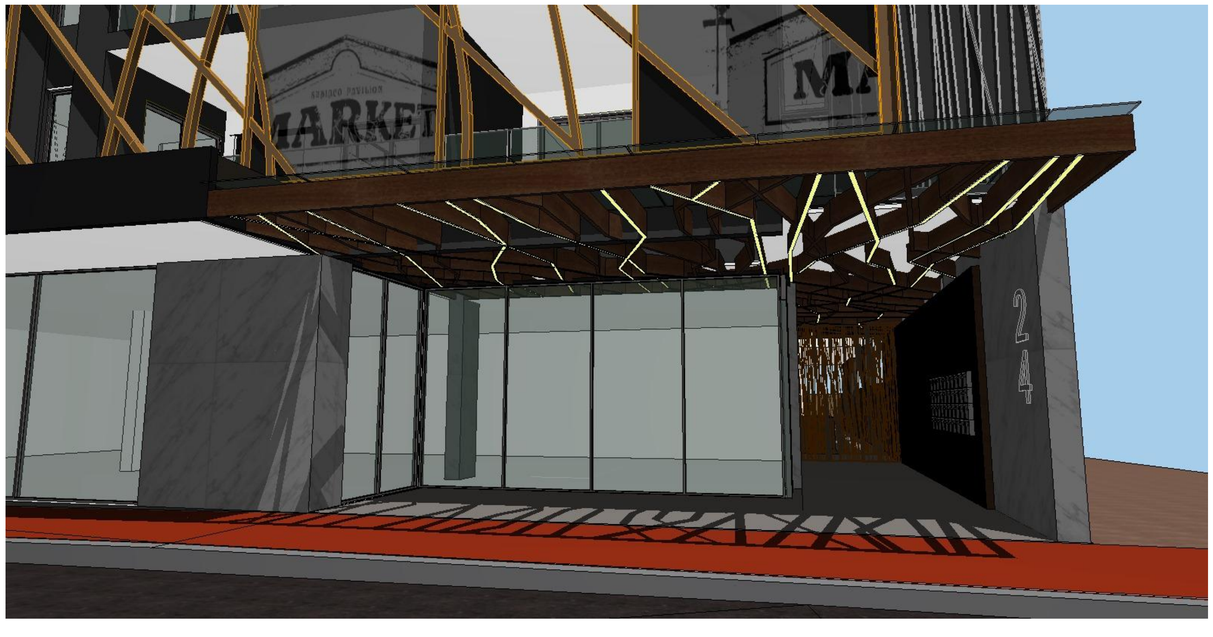
FRONT VIEW

REAR VIEW



FRONT VIEW - ENTRY

SIDEVIEW

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION
proposed mixed use development

PROJECT ADDRESS
lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION
perspectives - 3d Model

CLIENT WELINK PTY LTD

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HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION
proposed mixed use development

PROJECT ADDRESS
lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION
perspectives - rendering

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DRAWING NUMBER DA- 21
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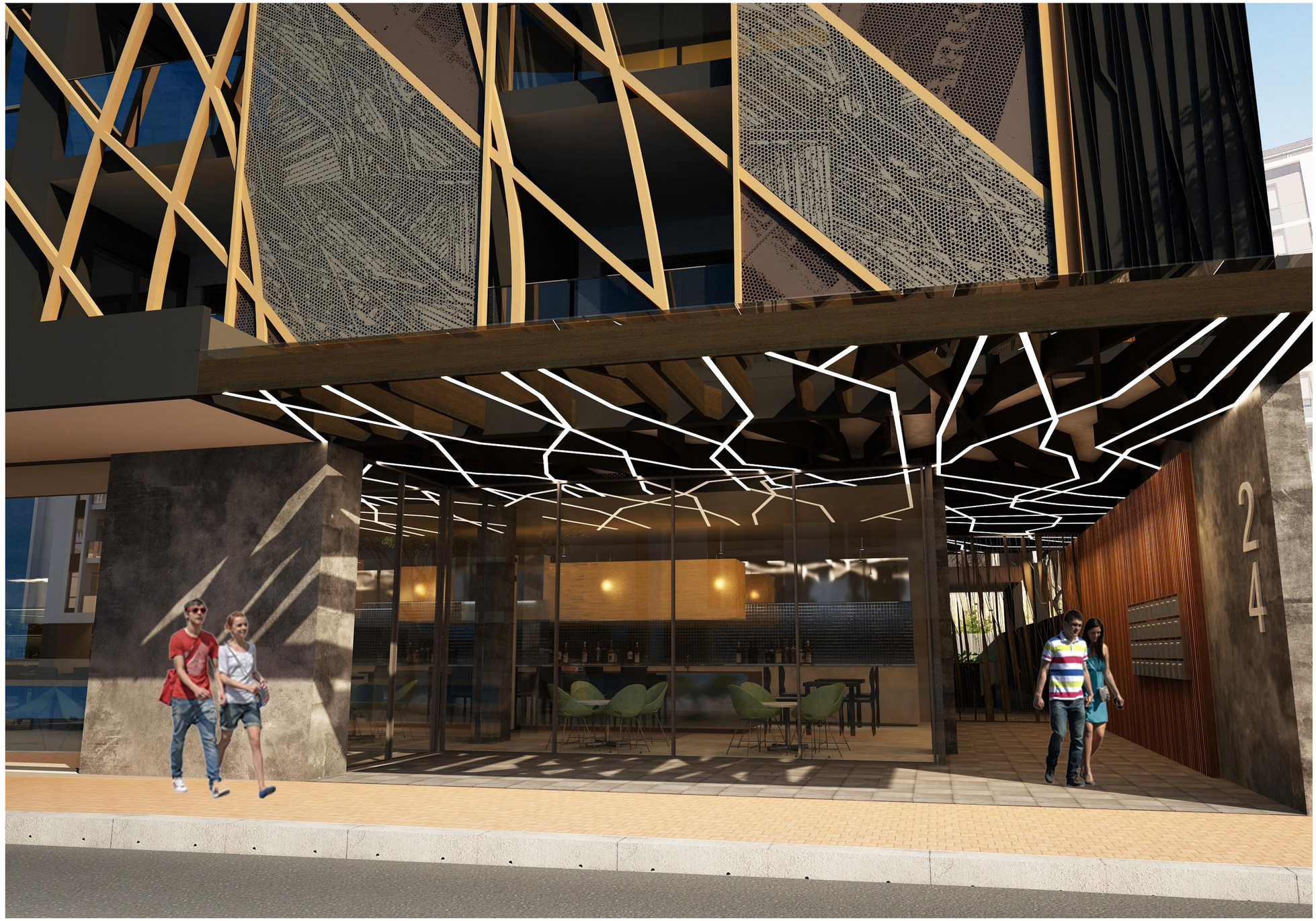

ENTRY VIEW

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION
proposed mixed use development

PROJECT ADDRESS
lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION
perspectives - rendering

CLIENT WELINK PTY LTD

DRAWN CRD

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REV C
PLOT DATE 12/06/2017
DRAWING NUMBER DA- 22
SCALE
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01 design statement

The deign approach takes into consideration the character, history, culture and environment of this place. Our design is an interpretation of that which embodies ideas of context, and a sense of place.

A SENSE OF PLACE

“The public art at Subi Centro does give an amazing sense of place. I think it’s there to add ambience and to give people pleasure and enjoyment and maybe to make them think a little bit about their surroundings in a different way. Even if they don’t like it. At least if they’ve grumbled, they’ve thought about it. Art isn’t necessarily just there for people who go to galleries – it’s there for everyone.” Maggie Baxter - Public Art Curator SRA

Subiaco has gone through a major transformation in recent years and this is on going, and one of the challenges in many respects is trying to create a new sense of place without completely eroding its ‘old character’ and/or heritage. Nostalgia is a strong force that needs to be considered.

The site is located in the old industrial zone north of the railway line within close proximity to the Subiaco railway station. The site is interestingly juxtaposed between the old and the new. Adjoining the site is an existing workshop that represents the old industrial use and on the other side a brand new 6 storey mixed use development. This fragmentation is quite evident throughout, as Subiaco goes through it’s metamorphosis.

DESIGN

Railway lines, nostalgic references, fragmentation and industrial elements all play a part in the design

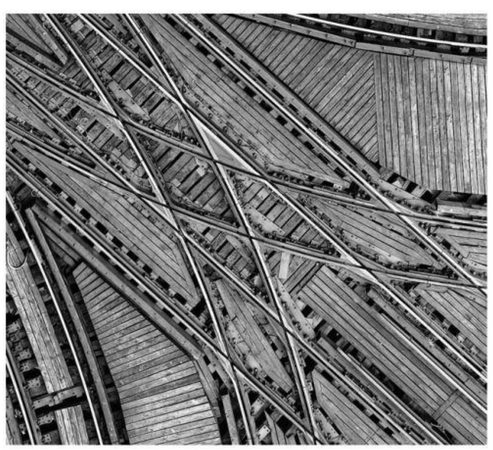
The Railway Line - Plays a significant part in reshaping and defining Subiaco. Historically defining the seperation of the industrial zones from the rest.
We’ve taken images of railway lines and mapped these intricate patterns, which forms an organic fragmented facade made from steel and mesh.
The organic screen pattern is used in numerous ways within the facade of the building, the texture and grain varies depending on where its used. On the top floors the pattern is a finer and more dense pattern which draws reference to a filagree pattern found on Victorian Terraces. Similarly to the sides of the building to fill in the voids.

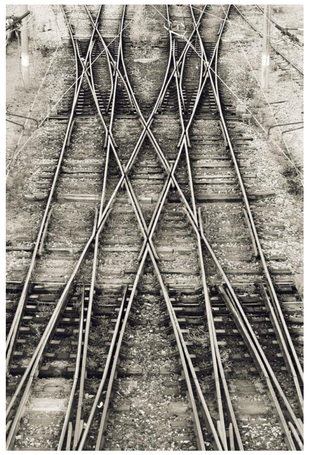
Nostalgic References - The fragmented mesh elements are placed randomly throughout the facade, the bespoke mesh is made of perforated steel. the perforations in the steel are designed to depict images of ‘old subiaco’. The screens are permeable allowing them to be backlit by the apartments at night enhancing the effect of the image. These images are made up Victorian fillafree detail and perhaps images of significant structures.

Entry - To define entry, the exposed corner of the building is treated with a super graphic that continues the theme of the facade, applied to the full extent of walls. The entry canopy will aslo reflect this theme three dimensionally on the horizontal plane in contrasting material with a distinctive lighting pattern.

HOOD STREET NEIGHBOURING PROPERTIES

Subiaco's inheritance - Catherine Street





HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION	proposed mixed use development
PROJECT ADDRESS	lot 30 (no. 20-24) hood street, subiaco
DRAWING DESCRIPTION	**design statement**
CLIENT	WELINK PTY LTD
DRAWN	CRD

ISSUE	REV.	DATE	DESCRIPTION
03	C	09.06.17	MINOR REVISIONS / ADAPTABLE HOUSING REQS / BIKES
02	B	10.05.17	APTS AMENDED TO SUIT HOUSING AUTHORITY
01	A	04.05.17	ISSUED TO CLIENT

REV C | PLOT DATE 12/06/2017

DRAWING NUMBER *DA- 23*

SCALE 0M 1M *PRINT ON A1 PAGE TO BE TO SCALE* 5M

development application

36 Townshend Road, Subiaco
M. Carbone 0408 807 772 | D. Robinson 0400 752 810
marcello@crd-design.com.au | dean@crd-design.com.au

crd
CARBONE + ROBINSON DESIGN

02 design statement

MATERIALS

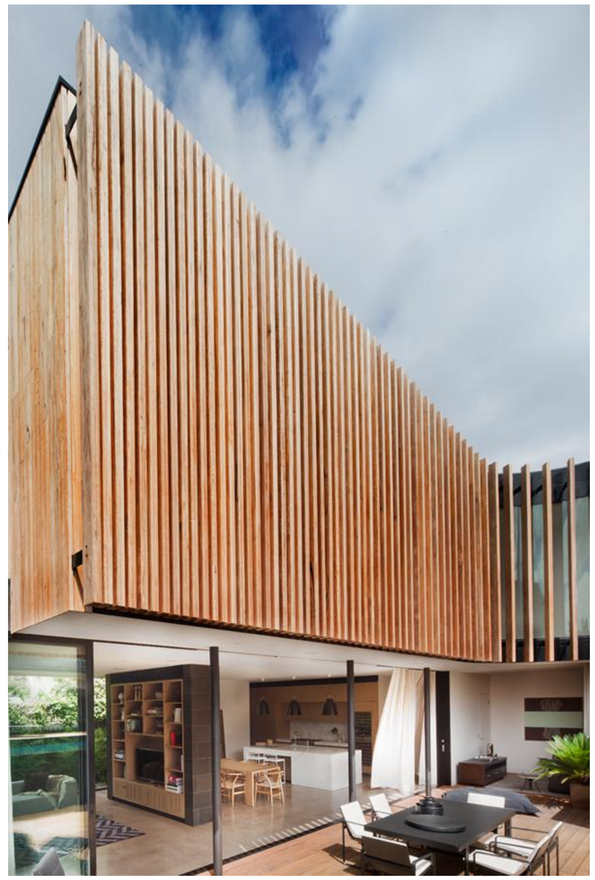
The materials used will tie in with the overall concept, and draw on some reference from the surrounding context, including some industrial references.

Pedestrian Level:

Walls -
Concrete- natural steel trowelled concrete finishes to ground floor entry walls, with possibly some finer grained 3d refielf pattern that draws on the design detail.
Some crisp rendered and painted elements for break up.
Timber - vertically oriented natural timber battens to add contrast and to soften the entry.
Plenty of Glazing to add permeability to entry and commercial tenancy.
Stainless steel, to letterbox detail and numbering.
Timber and aluminium framed entry doors.

Ceilings -
Entry ceilings defined by detailed timber and light pattern, that draws on design elements, and contributes toward defining entry and movement.
Canopy to entry will be glazed over, to allow for shadow play at certain times of the day, and contribute to defining entry.

Floors-
Polished concrete to entry with pattern relief inserts / or distinct paving that reflects design pattern.



HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION: proposed mixed use development

PROJECT ADDRESS: lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION: **design statement**

ISSUE	REV.	DATE	DESCRIPTION
03	C	09.06.17	MINOR REVISIONS / ADAPTABLE HOUSING REQS / BIKES
02	B	10.05.17	APTS AMENDED TO SUIT HOUSING AUTHORITY
01	A	04.05.17	ISSUED TO CLIENT

REV: C
PLOT DATE: 12/06/2017
DRAWING NUMBER: DA- 24
SCALE: 0M 1M PRINT ON A1 PAGE TO BE TO SCALE 5M

development application

CLIENT: WELINK PTY LTD

DRAWN: CRD

36 Townshend Road, Subiaco
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crd
CARBONE + ROBINSON DESIGN

03 design statement

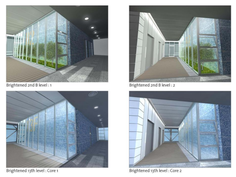
LIGHT CORE

The central light and ventilation core addresses the requirement for providing natural light and ventilation to common passages on all levels. Whilst the sides are setback in the centre of the development to promote natural light and ventilation access to these areas - see diagram below.

the treatment of the core walls will be in line with the design concept, providing diffuse screening to prevent 'looking in' whilst providing natural light and ventilation.

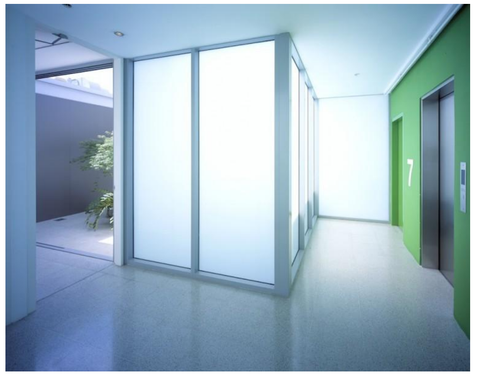
The images opposite depict a variety of applicable design examples.

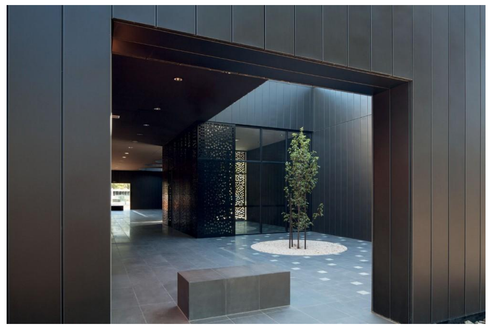
Light

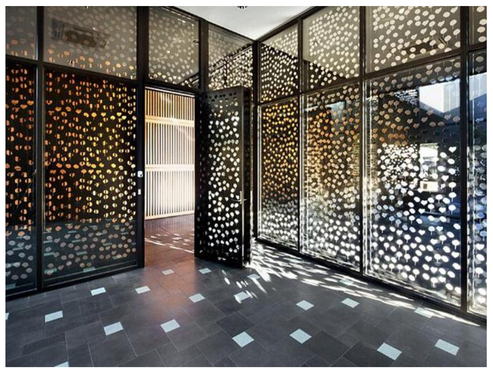


FLOOR LEVELS 2, 3 & 4

light & ventilation option A







variations on light core concept

HOOD STREET DEVELOPMENT

PROJECT DESCRIPTION: proposed mixed use development

PROJECT ADDRESS: lot 30 (no. 20-24) hood street, subiaco

DRAWING DESCRIPTION: **design statement**

CLIENT WELINK PTY LTD

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REV C

PLOT DATE 12/06/2017

DRAWING NUMBER DA- 25

SCALE

0M 1M PRINT ON A1 PAGE TO BE TO SCALE 5M

development application

36 Townshend Road, Subiaco
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crd CARBONE + ROBINSON DESIGN

Appendix 3:
Traffic Statement

WELINK

20-24 (LOT 30) HOOD STREET, SUBIACO

MIXED USE DEVELOPMENT TRAFFIC STATEMENT

June 2017

Riley Consulting

PO BOX Z5578

Perth WA 6831

0413 607 779 Mobile

Issued on	21 June 2017	Amendments	Date
Version	V1		
Reference	932		

CONTENTS

1. EXECUTIVE SUMMARY

Riley Consulting has been commissioned by Welink Pty Ltd to consider the traffic and transport impacts of developing 49 residential apartments and a commercial unit on land at 22-24 Hood Street, Subiaco. The key findings of the traffic review are:

1.1. Based on recognised trip generation sources, it is calculated that the proposed development could generate up to 359 vehicle movements per day and up to 34 peak hour movements. The level of generated traffic is considered to have no material impact under the *WAPC Transport Assessment Guidelines for Developments*.

1.2. A minor increase to peak hour traffic demands may occur, but would have no material impact under WAPC guidelines. Further, peak hour demands are expected to be reduced by the excellent public transport accessibility of the subject site.

1.3. Access to the subject site is taken to Hood Street and complies with AS2890.1. There are no reasons to suggest the access will not operate in a safe and appropriate manner.

1.4. The two levels of car parking conform to AS2890.1 in regard to aisles and parking bays.

1.5. The development has excellent access to local facilities, public transport and a very good cycle network. An excellent walking environment is provided with most facilities being within 400 metres.

2. CHECKLIST

Item	Comments/Proposals
Proposed development	
proposed land uses	49 residential units, 206m^2 commercial uses
existing land uses	Vacant site
context with surrounds	In urban precinct
Vehicular access and parking	Acceptable
access arrangements	Direct access to Hood Street
public, private, disabled parking set down / pick up	Residential parking on site
Service vehicles	Low demand
access arrangements	On-street
rubbish collection and emergency vehicle access	On-street
Hours of operation (non-residential only)	Café typically 7am – 4pm
Traffic volumes	Acceptable
daily or peak traffic volumes	Up to 34 movements. No material impact.
type of vehicles (eg cars, trucks)	Predominantly private cars
Traffic management on frontage streets	Hood St is within a redevelopment area
Public transport access	Excellent
nearest bus stops/train stations	Subiaco train station within 200m Buses within 200m
pedestrian/cycle links to bus stops/train station	Easy walking distance.
Pedestrian access/facilities	Good
existing pedestrian facilities within the development (if any)	None
proposed pedestrian facilities within development	Universal access provided.
existing pedestrian facilities on surrounding roads	Footpaths provided to all streets. Good walking environment.
proposals to improve pedestrian access	None external to subject site
Cycle access/facilities	Acceptable
existing cycle facilities within the development (if any)	None
proposed cycle facilities within development	Cycle racks and end of trip facilities
existing cycle facilities on surrounding roads	Very good and improving
proposals to improve cycle access	None as part of development
Site specific issues	None
Safety issues	None

3. THE LOCAL ROAD NETWORK

3.1. Hood Street is classified as an access street in the Main Roads *Functional Road Hierarchy*. It is a local access street linking Centro Avenue through to Station Street. It is constructed with a 5.5m pavement (approximately) providing a single traffic lane in each direction. A roundabout controls its intersection with Station Street. Its intersection with Centro Avenue is restricted to left-in / left-out movements. No traffic data is available for Hood Street. At the time of preparing this report, Hood Street was closed for construction of the old markets car park site. Hood Street provides little through connectivity and predominantly caters for local development traffic only. It is expected that it would carry less then 1,000 vehicles per day (vpd).

3.2. Station Street is classified as an access street in the Main Roads *Functional Road Hierarchy*. It lies to the east of the subject land and is constructed as a single carriageway road with a pavement of typically 7.2 metres. Localised widened provides capacity at intersections. Traffic data provided by the City of Subiaco shows about 7,600vpd between Salvado Road and Wexford Street.

3.3. Centro Avenue is classified as an access street in the Main Roads *Functional Road Hierarchy*. It is constructed as a boulevard style road with a single lane in each direction. Traffic data provided by the City of Subiaco shows about 9,600vpd, split 57% northbound. Its intersection with Roberts Road is controlled by traffic signals allowing full movement from Centro Avenue.

3.4. Available traffic data is attached at Appendix A.

3.5. Figure 1 shows the location of the subject site and Figure 2 shows an aerial photograph taken from the “Locate” website.

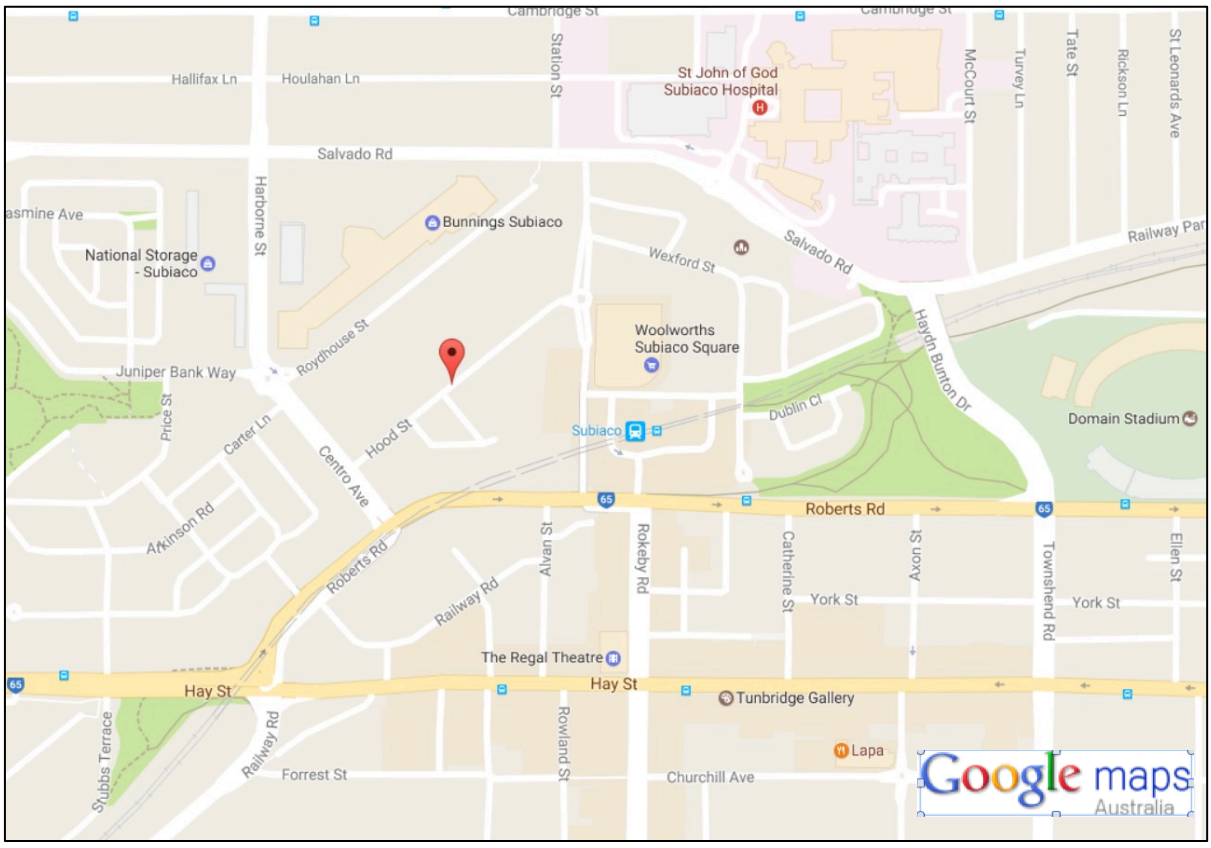


Figure 1 Subject Site Location

Figure 2 Aerial Imagery (Locate)

4. PROPOSED DEVELOPMENT

4.1. The development will provide 49 residential units comprising of 13 one bedroom units, 24 two bedroom units and 12 three bedroom units. A single commercial unit of approximately 205.6m^2 is provided at ground level.

4.2. The site is presently un-occupied.

4.3. Figure 3 shows the ground floor plan of the development concept.

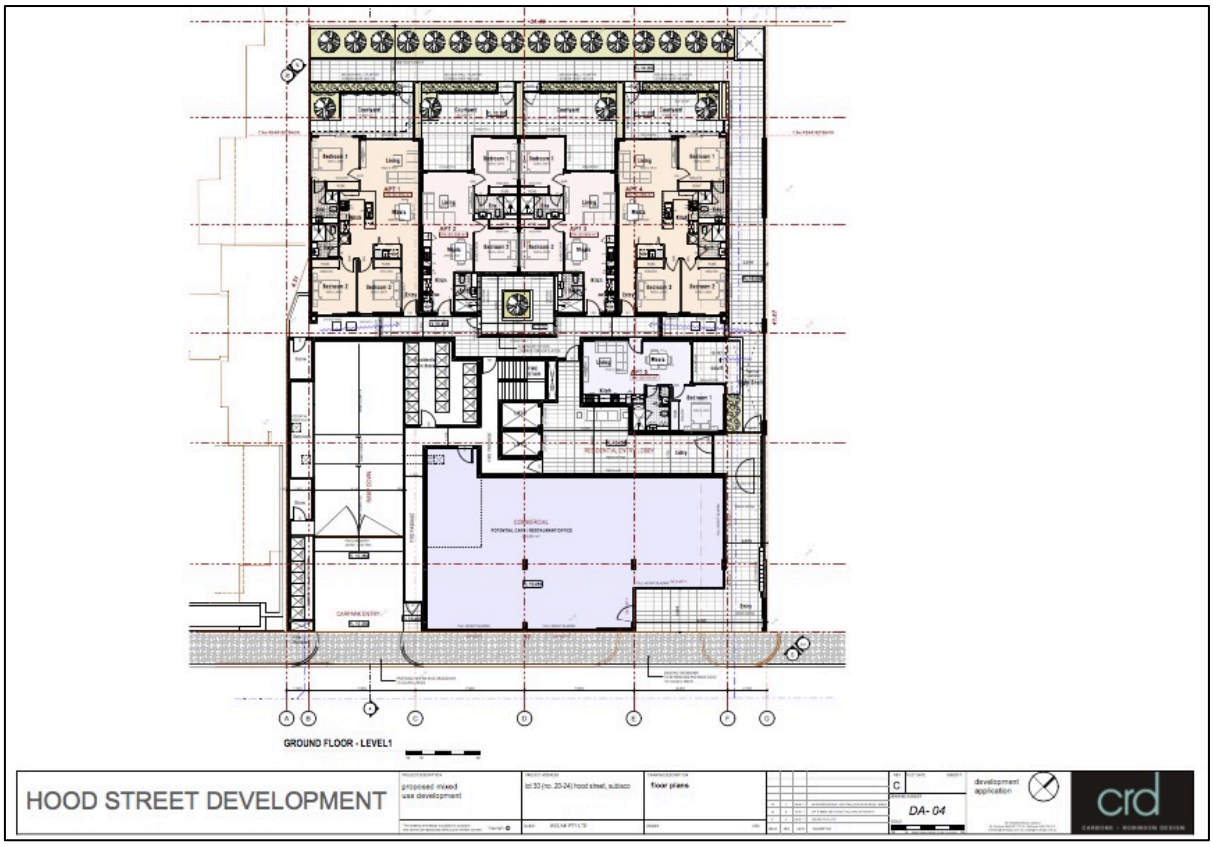


Figure 3 **Ground Level Concept Plan** (refer to DA plans for detail)

5. EXISTING TRAFFIC

5.1. The site is currently vacant and generates no traffic.

6. TRAFFIC GENERATION AND VEHICLE TYPES

6.1. The proposed development will provide 49 residential dwellings comprising of 13 one bed, 24 two bed units and 12 three bed units. Reference to the RTA *Trip Generation* document indicates a trip rate of:

- 1 bed units 4 trips per day
- 2 bed units 5 trips per
- 3 bed units 5.5 trips per day

6.2. Based on the RTA trip rates, the development would be expected to generate 238 vehicle movements per day. During the peak periods 10% of the daily traffic generation is forecast indicating 24 trips in both the morning and evening peak periods.

6.3. Located in close proximity to Subiaco railway station and the local town centre a lower level of trips is more likely to occur. The RTA guide suggests that high density residential developments in CBD type locations can be expected to generate 0.24 trips per dwelling in each peak hour. Applying this trip rate would result in just 12 peak hour movements.

6.4. Surveys of residential dwellings in East and West Perth undertaken in about 2005 recorded an average trip rate of 0.25 trips per dwelling in the morning peak and 0.3 trips per dwelling in the evening peak. Based on local trip rates the site could generate 12 AM peak trips and 15 PM peak trips. It can be seen therefore that the use of the RTA trip rate is most likely to over-estimate the actual traffic generation of the site.

6.5. A ground level commercial space of 205.6m^2 is proposed and is anticipated to be occupied by a café / restaurant. Alternatively the tenancy would be used as office having a significantly lower trip generation rate.

6.6. The RTA *Trip Generation* document indicates a trip rate of 60 trips per 100m^2 for restaurants / cafes, suggesting a generation of (206 / 100 x 60) 124 movements per day. The peak hour trip rate is 5 per 100m^2 or a total of 10 trips.

6.7. Overall the proposed development could generate (based on recognised trip rates) 362 vehicle movements per day. Table 1 provides a summary of the forecast traffic.

Table 1 Forecast Traffic Generation

Land Use	Daily trips	AM Peak	PM Peak
Residential	238	24	24
Commercial	124	10	10
Forecast	**362**	**34**	**34**
Existing	0	0	0
New Trips	**362**	**34**	**34**

Distribution

6.8. The traffic generated by the proposed land uses can be expected to access longer distance destinations, rather than local destinations such as Perth CBD. Local shopping would be expected in Subiaco and a car may be used for larger / weekly grocery puchases. External destinations accessed via the Freeway would be expected to use Cambridge Street / Southport Street.

6.9. Appendix B shows the anticipated traffic movements associated with the subject site.

7. PEAK HOUR MOVEMENTS

7.1. During the peak periods the residential component of the development is forecast to generate 34 trips. However, based on local data the actual number of trips could be between 12 and 15 movements.

7.2. The commercial use of café can be expected to be reliant on pass-by trade during the morning peak period. If used as a café, then PM peak traffic attraction is unlikely to occur. For this purpose restaurant use is considered in this report.

7.3. The RTA trip rate suggests a restaurant / café would be expected to generate 10 peak hour movements, which would be customer traffic (staff would be expected to start by 7am).

7.4. Overall the level of peak hour traffic can be seen to be in the order of 34 movements. However, due to the excellent locality of the site the peak hour trip rate is anticipated to be much lower. For the purpose of traffic assessment, the higher level of traffic generation is used.

8. TRAFFIC IMPACTS

8.1. Reference to the WAPC *Transport Assessment Guidelines for Developments* states that where a traffic increase as a result of a proposed development is less than 10% of current road capacity, it would not normally have a material impact. The WAPC guidelines further state that "*For ease of assessment, an increase of 100 vehicles per hour for any lane can be considered as equating to around 10% of capacity. Therefore any section of road where traffic would increase flows by more than 100 vehicles per hour for any lane should be included in the analysis"*.

8.2. Based on recognised traffic generation trip rates, the proposed development is shown to increase peak hour traffic movements by up 34 movements. The

maximum demand to any external traffic lane is forecast to be 12 vehicles (Station Street). The forecast changes to local traffic flows are significantly less than 100 vehicles for any lane and based on WAPC guidelines, would have no material traffic impact.

8.3. As a mixed-use development, vehicles generated would be mostly private cars. Service vehicle such as garbage trucks can be expected on a weekly basis and house removal vehicles can be expected on an occasional basis. Some delivery vehicles can also be expected on an occasional basis associated with the commercial / cafe uses.

9. VEHICLE ACCESS

9.1. Figure 3 shows the site concept plan and shows access for the development will be made directly to Hood Street. Clear visibility is achieved along the length of Hood Street and the minimum visibility requirements of Austroads for a 50kph street are easily met.

9.2. The car park approach to Hood Street is provided as a two-way access in accordance with AS2890.1. Under AS29890.1 the minimum width of the approach ramp will be 6.1 metres between walls. At street level the cross over can be reduced to 6 metres.

9.3. Reference to Austroads Table 4.1 (reproduced at Appendix C) indicates that with a peak hour flow demand from the development site of up to 34 vehicles, uninterrupted flow conditions will prevail with traffic flows on Hood Street in excess of 650 vehicles. This equates to a daily demand of over 6,500vpd, which is most improbable.

9.4. Access to the site is made in an appropriate manner and is shown to operate with minimal delays.

9.5. There are no reasons to suggest that the accesses will not operate in a safe and appropriate manner.

10. PARKING

10.1. The development plan indicates a total of 54 parking bays are to be provided over two levels of basement. The bays include a loading bay and a disabled persons bay, resulting in 52 bays being available for residents / commercial uses. Seven motorcycle / scooter bays and 55 bicycle bays are also provided.

10.2. Reference the MRA design guidelines for the precinct permit a maximum of 1.4 bays per dwelling and a minimum of 1 bay per dwelling. Thus the 49 apartments will require a minimum of 49 bays and a maximum of 69 bays.

10.3. The commercial unit, if used as a café is anticipated to provide 150m^2 seating area and would require the provision of 38 bays.

10.4. In total the development could be deemed to require a minimum of (49 + 38) 87 bays.

10.5. It can be seen that the development provides the minimum residential parking plus two bays that could be allocated for the use of the café staff.

10.6. A shortfall of 33 bays is therefore realised. However, the parking shortfall occurs for customers associated with the commercial use of the building.

10.7. Subiaco is a bustling local centre with excellent public transport links. As a result, the majority of café patrons can be expected to walk from local businesses and residential dwellings. For cafes, it is not unusual to provide no parking and this is prevalent of many cafes in Leederville. Yello, Oxford Yard and Sayers have no formal car parking and all are busy cafes throughout the day.

10.8. In consideration of the proposed commercial development, it is noted that Subiaco has a higher density of business accommodation and a significantly higher local population than Leederville. It is concluded therefore that the ability to attract walking trade is far higher and therefore the lack of allocated parking should not impact upon trade.

10.9. Should the commercial unit be used as a restaurant, then the majority of parking demand will occur at night when ample on-street parking is available in the locality (patrons may need to walk a few hundred metres).

10.10. Subiaco has excellent public transport links and the subject site is in a very good walkable catchment. It is considered that commercial land uses should not need to be reliant on the provision of on-site parking in this instance.

10.11. The provision of on-site secure bicycle parking is considered to provide an excellent opportunity for local works to cycle.

11. PARKING MANAGEMENT

11.1. There is no specific requirement for parking management as the car park will be predominantly be used by residents of the building. It is expected that appropriate access control would be provided.

11.2. It is noted that the car park provides no visitor spaces (as per the R-codes). As the car park is gated, it is most unlikely that visitors would seek to park internally to the site. Further the need to contact the resident to achieve access to the car park would result in the majority of visitors seeking an on-street bay. To assist visitor parking it is recommended that the strata company advise residents that visitors should be encouraged to use public transport wherever possible.

11.3. The commercial tenancy may be provided with one or two bays (subject to confirmation) for the all-day parking needs of the café operator. However, casual staff will be required to access the building without reliance to a car. Given the excellent public transport and high local populations, this is not considered unrealistic.

11.4. It is also suggest that the commercial operator note on their web site that no parking is available and customers will need to make alternative parking arrangements, take public transport, or walk.

12. PROVISION FOR SERVICE VEHICLES

12.1. It is expected that garbage collection will be on-street. The garbage collection area is shown adjacent to the car park access and easily accessed. It is possible for a garbage vehicle to reverse on to the car park access. Whilst this will restrict the car park access to a single lane, if not undertaken during peak periods, it would have minimal impact.

12.2. A delivery bay is provided in the basement car park for residents and the commercial tenancy. However it is most likely that deliveries of a short duration will park on-street. Hood Street is sufficiently wide to allow on-street parking and a single lane of traffic to pass. With the low traffic demands, the inconvenienced caused would be of little significance.

13. HOURS OF OPERATION

13.1. Residential land uses have no hours of operation, but typically peak occupancy occurs over night.

13.2. The café would open early (by 7am) and may close before 5pm. A restaurant, may open about 11am and trade through to about 10:30pm / midnight.

14. TRAFFIC MANAGEMENT OF FRONTAGE STREETS

14.1. The proposed development does not give rise to traffic management being required to Hood Street.

15. PUBLIC TRANSPORT ACCESS

15.1. The subject site is located 276 metres from Subiaco railway station with high frequency connections to the City of Perth, Fremantle and Midland. The subject site is also adjacent to the 97 bus route providing access to Leederville railway station with services to Joondalup and Mandurah. Figure 4 shows the public transport routes.

15.2. Bus route 97 also provides excellent connectivity to the QEII medical precinct and UWA. However, the service only connects to Leederville railway station during peak periods (6:30 to 9am and then 4:13 to 6:20pm). During the day the service terminates at Subiaco station resulting in very poor accessibility for passengers living on the northern suburbs rail line (note that alternative services are provided from QEII to Elizabeth Quay). Whilst beyond the control of any developer, it is recommended that route 97 operate to Leederville station throughout the day to provide surety of connectivity.

15.3. The subject site is considered to have excellent public transport accessibility.

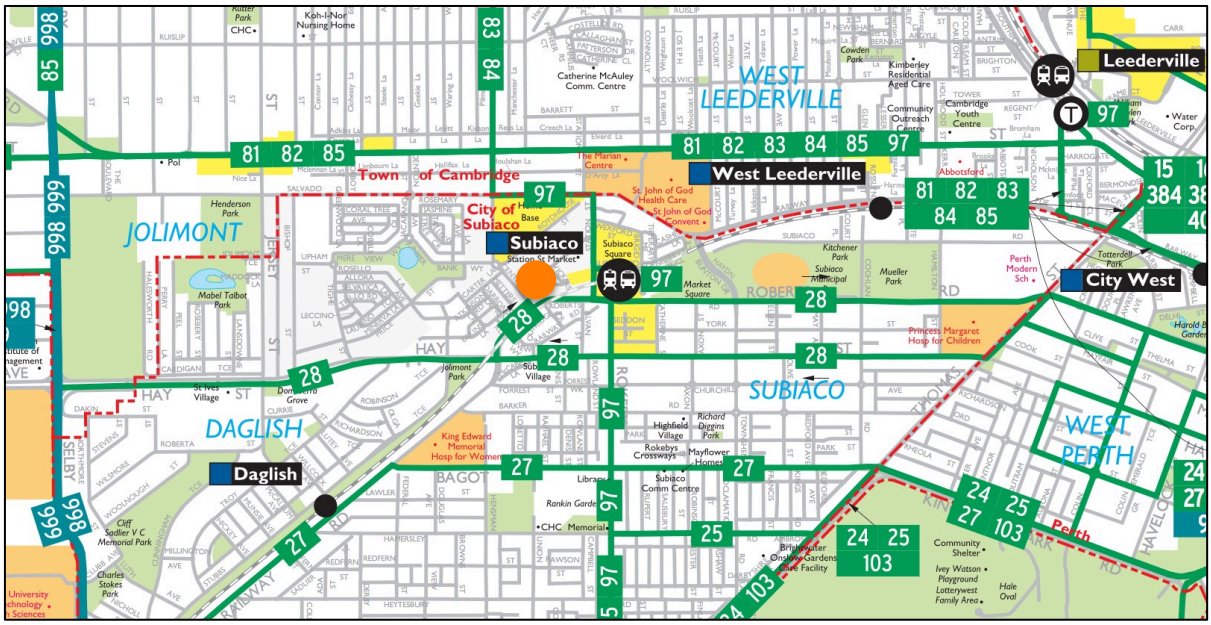


Figure 4 Local Bus Services

16. PEDESTRIAN ACCESS

16.1. Hood Street is provided with footpaths to both sides, although current development has restricted access on the southern side. Existing car parking interferes with the walking route to Subiaco station, but as development continues in the locality, such interference will be removed / managed.

16.2. The subject site scores 91 on the walk score web-site and is noted as a walkers paradise. The majority of facilities in Subiaco are within 400 metres and include major supermarkets, pubs and restaurants.

16.3. Easy and safe walking is achieved to Subiaco railway station where trains access Fremantle and Perth CBD (where service to Midland, Armadale, Mandurah and Joondalup can be accessed).

17. CYCLE ACCESS

17.1. Each apartment is provided with cycle storage in accordance with current requirements.

17.2. Hood Street is a quiet street with limited through movement. Although narrower than most local streets, traffic speeds are noted to be lower and thus a safer cycling environment should exist.

17.3. Roberts Road provides dedicated off-road cycle facilities linking the Perth-Fremantle cycle route. The route is predominantly located adjacent to the rail line and provides a high quality and high speed link to Perth CBD, Claremont and Fremantle.

17.4. The site is located within an excellent cycling environment.

17.5. The development will provide end of trip cycle facilities and 55 bicycle bays are provided.

18. SITE SPECIFIC ISSUES

18.1. There are no site-specific traffic issues that are raised through the assessment of the subject site.

19. SAFETY ISSUES

19.1. There are no safety issues that are raised through the assessment of the subject site.

APPENDIX A TRAFFIC DATA

Weekly Vehicle Counts

WeeklyVehicle-208
Site: 200415_02.0N
Description: **Station St between Wexford and Salvado**
Filter time: **10:58 Monday, 20 April 2015 => 10:45 Wednesday, 29 April 2015**
Scheme: Vehicle classification (ARX)
Filter: Cls(1 2 3 4 5 6 7 8 9 10 11 12) Dir(NESW) Sp(10,160) Headway(>0)

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages	
	20 Apr	21 Apr	22 Apr	23 Apr	24 Apr	25 Apr	26 Apr	1 - 5	1 - 7
Hour									
0000-0100	*	6	4	9	8	24	21	6.8	12.0
0100-0200	*	1	7	5	4	5	17	4.3	6.5
0200-0300	*	1	5	6	2	3	7	3.5	4.0
0300-0400	*	4	5	4	5	7	5	4.5	5.0
0400-0500	*	10	8	20	16	35	7	13.5	16.0
0500-0600	*	46	56	41	58	38	12	50.3	41.8
0600-0700	*	104	100	104	177	86	75	121.3	107.7
0700-0800	*	305	312	347	396	178	139	340.0	279.5
0800-0900	*	**429<**	**449<**	**431<**	**535<**	247	181	**461.0<**	**378.7<**
0900-1000	*	290	294	312	439	339	278	333.8	325.3
1000-1100	0	259	225	233	346	339	324	212.6	246.6
1100-1200	132	235	267	251	346	**364<**	**393<**	246.2	284.0
1200-1300	214	240	**271<**	**281<**	**374<**	**343<**	**355<**	**276.0<**	**296.9<**
1300-1400	219	249	247	238	330	326	296	256.6	272.1
1400-1500	**233<**	222	198	232	307	328	307	238.4	261.0
1500-1600	225	235	224	229	321	284	294	246.8	258.9
1600-1700	226	**254<**	206	247	340	280	240	254.6	256.1
1700-1800	231	205	225	249	274	232	138	236.8	222.0
1800-1900	161	185	184	205	199	147	102	186.8	169.0
1900-2000	106	108	149	130	115	100	73	121.6	111.6
2000-2100	82	76	77	89	95	97	38	83.8	79.1
2100-2200	43	46	60	78	55	128	36	56.4	63.7
2200-2300	22	34	49	23	44	57	27	34.4	36.6
2300-2400	13	12	19	15	24	51	12	16.6	20.9
Totals									
0700-1900	*	3108	3102	3255	4207	3407	3047	3289.6	3250.1
0600-2200	*	3442	3488	3656	4649	3818	3269	3672.6	3612.2
0600-0000	*	3488	3556	3694	4717	3926	3308	3723.6	3669.6
0000-0000	*	3556	3641	3779	4810	4038	3377	3806.4	3754.9
AM Peak	*	0800	0800	0800	0800	1100	1100		
	*	429	449	431	535	364	393		
PM Peak	1400	1600	1200	1200	1200	1200	1200		
	233	254	271	281	374	343	355		

*** - No data.**

Weekly Vehicle Counts

WeeklyVehicle-206
Site: 070912_2.0N
Description: **!Centro Ave between Carter & Roberts (Northbound lane)**
Filter time: **4:00 Tuesday, 18 September 2012 => 15:51 Thursday, 27 September 2012**
Scheme: Vehicle classification (ARX)
Filter: Cls(1 2 3 4 5 6 7 8 9 10 11 12) Dir(NESW) Sp(10,160) Headway(>0)

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages	
	17 Sep	18 Sep	19 Sep	20 Sep	21 Sep	22 Sep	23 Sep	1 - 5	1 - 7
Hour									
0000-0100	*	*	10	19	21	42	55	16.7	29.4
0100-0200	*	*	6	11	7	25	45	8.0	18.8
0200-0300	*	*	7	7	8	19	31	7.3	14.4
0300-0400	*	*	5	7	7	14	19	6.3	10.4
0400-0500	*	0	17	18	25	21	22	15.0	17.2
0500-0600	*	0	66	65	78	33	27	52.3	44.8
0600-0700	*	0	247	286	287	116	93	205.0	171.5
0700-0800	*	0	595	556	551	174	116	425.5	332.0
0800-0900	*	0	**620<**	**631<**	563	325	175	**453.5<**	385.7
0900-1000	*	0	535	605	**600<**	467	278	435.0	**414.2<**
1000-1100	*	0	441	436	449	499	378	331.5	367.2
1100-1200	*	0	456	441	526	**506<**	**391<**	355.8	386.7
1200-1300	*	0	**456<**	438	**486<**	**501<**	428	345.0	384.8
1300-1400	*	0	414	414	439	445	**488<**	316.8	366.7
1400-1500	*	169	431	396	396	397	347	348.0	356.0
1500-1600	*	407	432	401	401	402	345	410.3	398.0
1600-1700	*	413	401	421	449	341	355	421.0	396.7
1700-1800	*	**449<**	438	**468<**	450	289	362	**451.3<**	**409.3<**
1800-1900	*	340	353	382	306	314	228	345.3	320.5
1900-2000	*	208	224	219	193	231	147	211.0	203.7
2000-2100	*	137	144	157	128	151	86	141.5	133.8
2100-2200	*	92	116	118	126	88	66	113.0	101.0
2200-2300	*	64	70	88	77	98	53	74.8	75.0
2300-2400	*	16	31	47	54	57	23	37.0	38.0
Totals									
0700-1900	*	1778	5572	5589	5616	4660	3891	4638.8	4517.7
0600-2200	*	2215	6303	6369	6350	5246	4283	5309.3	5127.7
0600-0000	*	2295	6404	6504	6481	5401	4359	5421.0	5240.7
0000-0000	*	*	6515	6631	6627	5555	4558	5526.6	5375.7
AM Peak	*	*	0800	0800	0900	1100	1100		
	*	*	620	631	600	506	391		
PM Peak	*	1700	1200	1700	1200	1200	1300		
	*	449	456	468	486	501	488		

*** - No data.**

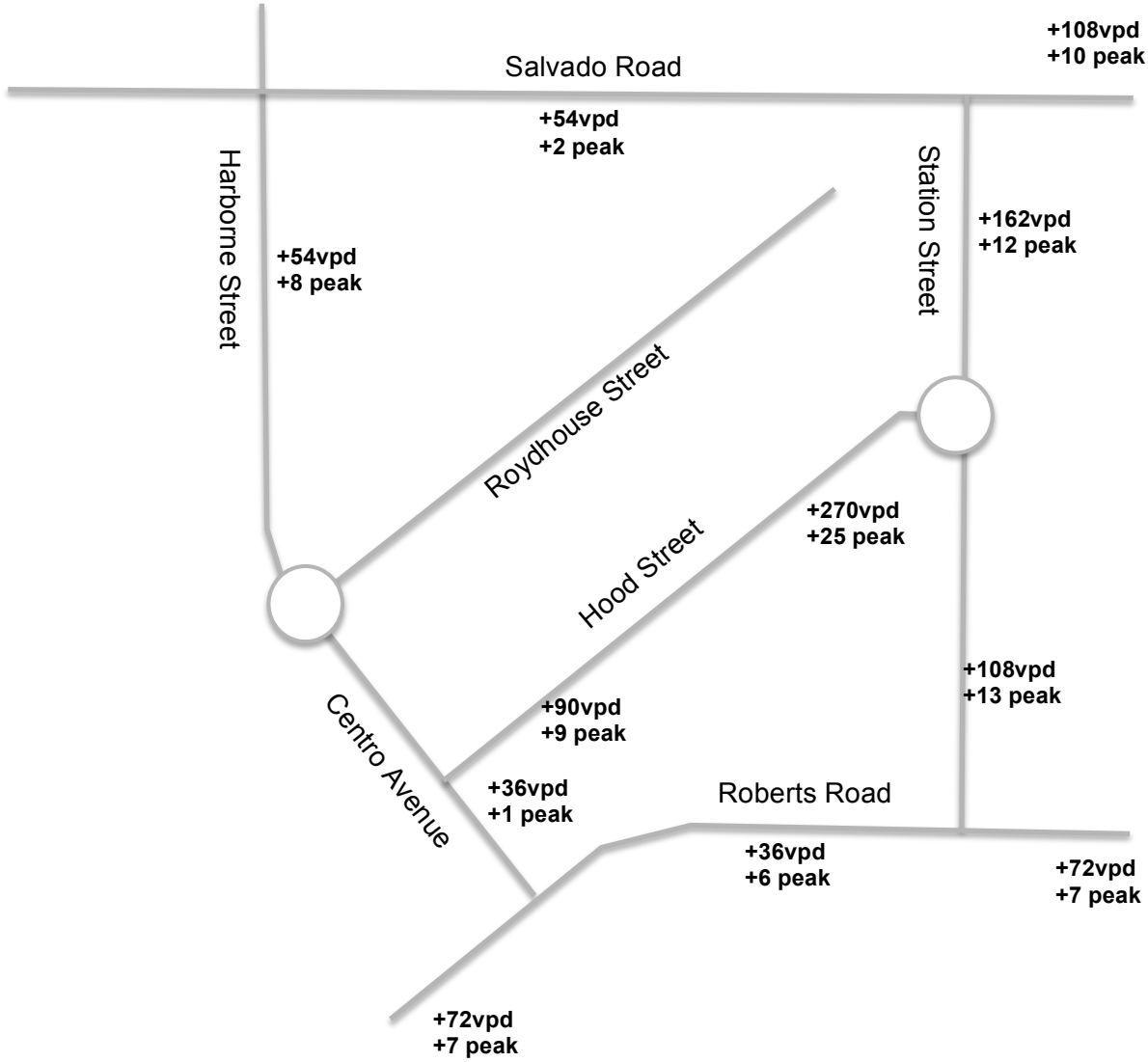
Weekly Vehicle Counts

WeeklyVehicle-207
Site: 070912_3.0N
Description: **Centro Ave between Roydhouse & Hood (Southbound lane)**
Filter time: **4:00 Tuesday, 18 September 2012 => 15:55 Thursday, 27 September 2012**
Scheme: Vehicle classification (ARX)
Filter: Cls(1 2 3 4 5 6 7 8 9 10 11 12) Dir(NESW) Sp(10,160) Headway(>0)

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages	
	17 Sep	18 Sep	19 Sep	20 Sep	21 Sep	22 Sep	23 Sep	1 - 5	1 - 7
Hour									
0000-0100	*	*	4	15	12	26	58	10.3	23.0
0100-0200	*	*	6	4	4	12	24	4.7	10.0
0200-0300	*	*	6	8	6	8	15	6.7	8.6
0300-0400	*	*	3	5	11	7	9	6.3	7.0
0400-0500	*	0	7	12	14	7	8	8.3	8.0
0500-0600	*	0	19	26	22	9	9	16.8	14.2
0600-0700	*	0	86	66	90	38	21	60.5	50.2
0700-0800	*	0	248	252	224	83	63	181.0	145.0
0800-0900	*	0	**309<**	**320<**	289	156	82	**229.5<**	192.7
0900-1000	*	0	283	285	308	238	120	219.0	205.7
1000-1100	*	0	247	281	304	313	210	208.0	225.8
1100-1200	*	0	286	278	**346<**	**355<**	**257<**	227.5	**253.7<**
1200-1300	*	0	323	347	320	**320<**	241	247.5	258.5
1300-1400	*	0	353	312	332	297	236	249.3	255.0
1400-1500	*	60	327	346	339	277	270	268.0	269.8
1500-1600	*	426	420	401	396	279	237	410.8	359.8
1600-1700	*	430	**456<**	433	388	242	337	426.8	381.0
1700-1800	*	**446<**	437	**449<**	**445<**	220	**399<**	**444.3<**	**399.3<**
1800-1900	*	291	280	292	286	162	146	287.3	242.8
1900-2000	*	164	187	166	145	142	115	165.5	153.2
2000-2100	*	138	124	153	115	96	75	132.5	116.8
2100-2200	*	116	116	132	108	90	70	118.0	105.3
2200-2300	*	73	84	77	77	124	51	77.8	81.0
2300-2400	*	18	42	44	55	65	19	39.8	40.5
Totals									
0700-1900	*	1653	3969	3996	3977	2942	2598	3398.8	3189.2
0600-2200	*	2071	4482	4513	4435	3308	2879	3875.3	3614.7
0600-0000	*	2162	4608	4634	4567	3497	2949	3992.8	3736.2
0000-0000	*	*	4653	4704	4636	3566	3072	4045.8	3806.9
AM Peak	*	*	0800	0800	1100	1100	1100		
	*	*	309	320	346	355	257		
PM Peak	*	1700	1600	1700	1700	1200	1700		
	*	446	456	449	445	320	399		

*** - No data.**

APPENDIX B TRAFFIC FORECAST
Daily Flow and PM Peak Movements



APPENDIX C AUSTROADS TABLE 4.1

Table 4.1 — Intersection Capacity - Uninterrupted Flow Conditions

Major Road Type[1]	Major Road Flow (vph)[2]	Minor Road Flow (vph)[3]
Two-lane	400	250
	500	200
	650	100
Four-lane	1000	100
	1500	50
	2000	25

Notes:

1. Major road is through road (i.e. has priority).
2. Major road design volumes include through and turning movements.
3. Minor road design volumes include through and turning volumes.

Austroads advises that when Table 4.1 indicates uninterrupted flow conditions, no further analysis is warranted.

Uninterrupted flow conditions would suggest that an access would operate with Level of Service A

Appendix 4:
Greenstar Pathway Report

PROPOSED MIXED USE DEVELOPMENT

Lot 30 (20-24) Hood Street, Subiaco

GREENSTAR PATHWAY

REFERENCE: 114122

DATE: 29 May 2017

CADDSGROUP
ENERGY + SUSTAINABILITY

Certified System Quality ISO 9001 Certified System Environment ISO 14001 Certified System Health & Safety AS 4801

Document History and Revision Details

Date	Assessment Completed By	Reviewed By	Approved By	Revision Number
29/05/2017	Laura Smith	Evan Logan	Laura Smith	1

Consultant List

Architect	Carbone & Robinson Design
ESD Consultant	CADDS Group
Electrical Services Engineer	TBA
Mechanical Services Engineer	TBA
Hydraulic Services Engineer	TBA
Civil Engineer	TBA
Landscape Design	TBA
Structural Engineer	TBA

CONTENTS

Tables & Figures

1 Introduction

CADDS Energy has undertaken an initial review of the proposed Residential development for WELINK Pty Ltd and Carbone & Robinson Architects. The purpose of this report is to identify the feasibility of proposed sustainable initiatives and to provide a strategy for achieving a 4 Star Green Star Rating as per MRA planning requirements.

The review and recommendations are based on experience of previous projects; an understanding of functionality; the Clients RFT and an analysis of the site. As consultation with the design team and modelling has not been undertaken; the point allocation, results and associated costs should be taken as indicative only. A detailed design strategy will be provided further to this stage.

2 Project ESD Requirements

MRA Requirements

The project site is situated within the Hood Street Precinct in Subiaco and is subject to "Hood Street Precinct Design Guidelines". Section 3.10 Sustainable Design requirements which state:

3.10 Sustainable Design

- All new buildings are to be designed to demonstrate ability to achieve a minimum four star Green Star rating ('as designed' rating) from the Green Building Council of Australia (GBCA), in accordance with the following:
  - Where a Green Star Rating tool has been adopted by the GBCA or where the applicable Green Star rating tool is in pilot phase with the GBCA, the applicant is to engage a Green Star Accredited Professional to undertake self-assessment of the development against the tool and a compliance statement is to be submitted to the satisfaction of the Authority at Working Drawings stage.
  - To ensure that the Green Star design rating is achieved in construction of the development, a statement from a Green Star Accredited Professional will be required to be submitted to the Authority at practical completion stage of all developments and prior to occupation of the building. The statement is to confirm that all initiatives identified in the design certification have been implemented.

It is the intent of the building to achieve a minimum 45 points using the current 'Design and As Built' Green Star Rating Tool. This score equates to a 4 Star Green Star Rating. The process undertaken will be an 'Aspirational' review with no formal verification/certification sort for this building.

Green Star

Green Star is an internationally recognised rating system that delivers independent verification of sustainable outcomes throughout the life cycle of the built environment.

Green Star is composed of four distinct sustainability rating tools, each relevant to distinct phases of the built environment. This report is in line with **Green Star – Design & As Built,** a holistic rating tool for the design and construction of new buildings and major refurbishments.

The Green Star rating is determined by comparing the percentage of available points achieved out of the total available points. The rating scale shown below details the percentage thresholds for the Star ratings awarded.

Table 1 Rating Scale

% of available Points	Rating	Outcome
45-59	Four Star	Australian Best Practice
60-74	Five Star	Australian Excellence
75+	Six Star	World Leadership

Green Star – Design & As Built assesses the sustainability attributes of a building through nine categories. The number of points available in each category indicates the relative importance of the impact addressed within that category towards the overall sustainability outcomes.

Table 2 Categories

Category	Available Points
Management	14
Indoor Environment Quality	17
Energy	22
Transport	10
Water	12
Materials	14
Land Use and Ecology	6
Emission	5
Innovation	10

3 Site Analysis

CADDS Energy have reviewed current Site drawings, floor plans, elevations and such, to provide feedback on building design and initiatives.
We have analysed a number of sustainable strategies for inclusion within the project.

Table 3 Sustainable Initiatives

Initiative	Target	Green Star Points
Thermal Performance	Average of 7 Star NatHERS Rating	Thermal Comfort - 1 Points GHG Emissions – 3 Points
Solar PV system	Scenario 1 – 10kW PV system Scenario 2 – 20kW PV system	0 points Potential 1 Green Star point (based on modelling)
High WELS Rated Tapware & Appliances	High WELS Ratings	1 Points
Drought Tolerant Landscaping	Native, drought tolerant plants specified	1 Points
Quality of Amenity	Shared roof space for community engagement	1 Points (TBC)

Energy Efficiency (Thermal Performance)

CADDS have proposed material and insulation specification to be considered in the design phase to ensure maximum points are achieved under Energy.

Apartments will be assessed through the NatHERS rating tool. A 7 Star average and 6 Star minimum is being targeted for this development. Please refer to Table 4 below, for construction materials recommended.

Table 4 Construction Materials

Construction Material	
Roof	R4.2 Total R-Value (Solar Absorptance 0.7).
Exterior Walls	Walls with a Total R Value of Rt2.3 for high density and R3.0 for light-framed walls (Average Solar Absorptance 0.6).
Glazing	Clear Low-E Glass to all apartments, to ensure average NatHERS Rating is achieved. U-Value: 4.1 SHGC: 0.60 *(whole window system values)*
Floors	Suspended Concrete Floor (Rt=2)

Lighting

Lighting power density is reduced by at least 10% below the requirement of BCA J6 for Sole-occupancy unit of a Class 2 building, an in all communal areas assessable by residents.

Independent light switching to each room of each sole-occupancy unit (including separation of kitchen and living area in open-plan living/dining). And all common area lighting with automatic lighting control.

Domestic Hot Water Unit

Allow for a Central Gas or Heat Pump Hot Water System.

Renewable Energy

CADDS has provided a review of two Scenarios for a potential Photovoltaic System.

Table 5 Scenario 1 - 10kW PV System

Scenario 1	10kW System
Number of Panels	40
Approximate Area	70m2
Proposed Use	Common Areas
Approximate Cost (including rebates)	$13,500.00

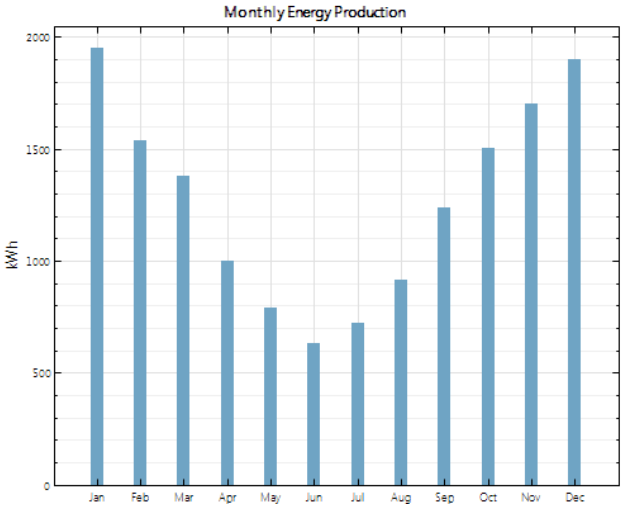


Figure 1 Scenario 1 - Monthly Energy Production

Table 6 Scenario 2 - 20 kW PV System

Scenario 2	20kW System
Number of Panels	80
Approximate Area	130m2
Proposed Use	Common Areas & Individual units
Approximate Cost (including rebates)	$25,000
Additional Comment	Requirements for digital metering and billing solution – embedded networks or virtual net metering. (Additional Costs)

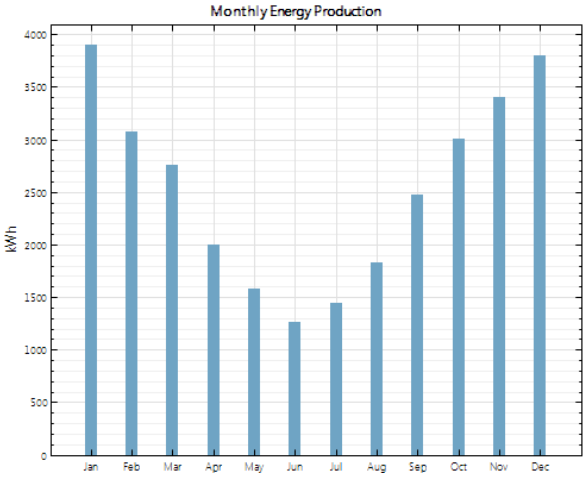


Figure 2 Scenario 2 - Monthly Energy Production

To reduce complexity of digital metering and integrated billing solution an adequately sized PV system to provide renewable energy for common areas only, would be more suitable for this project.

Water Sustainability

WELS Ratings

It is advisable that the scope for appliances and fittings includes water efficient products, to reduce the amount of water before implementing re-use strategies.

The following WELS Ratings must be achieved or not be reduced by more than 1 Star;

- 5 Star Toilets – 3L/flush
- 6 Star Taps – less than 4.5L/min
- 3 Star Showers – 7.5L/min
- 5 Star Clothes Washing Machines
- 5 Star Dishwasher – 0.9L/per place setting average

The above will achieve 1 Green Star Point

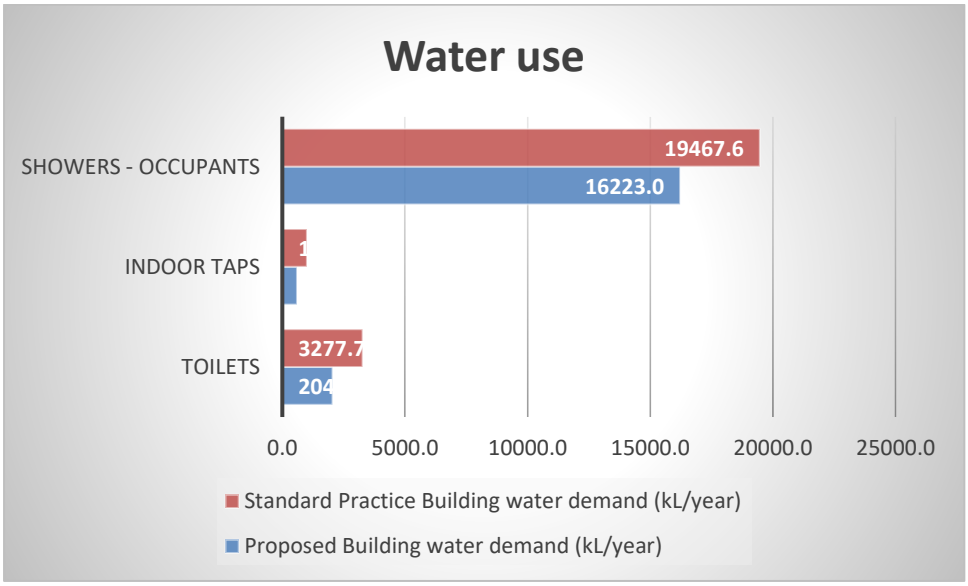


Figure 3 Estimated Water Comparison

Quality of Amenity

A shared roof space for the use of communal activities will provide quality amenity space. This space, as noted on the preliminary drawings, are intended for use of the occupants for their enjoyment.

The additional benefits include;

- Provides occupants with sense of community and opportunity to build relationships with neighbours.
- Provides an 'outdoor space' for exercise and reflection for occupants.
- Additional views and provides space to retreat from individual dwellings.

An additional 1 point can be achieved under Green Star Rating tool for the inclusion of these design elements

4 Green Star Pathway

The Green Star pathway is part of the initial review for the proposed development. The intention is to open up a means of discussion between the design team. The overview is to be read in conjunction with the full Green Star Pathway attached.

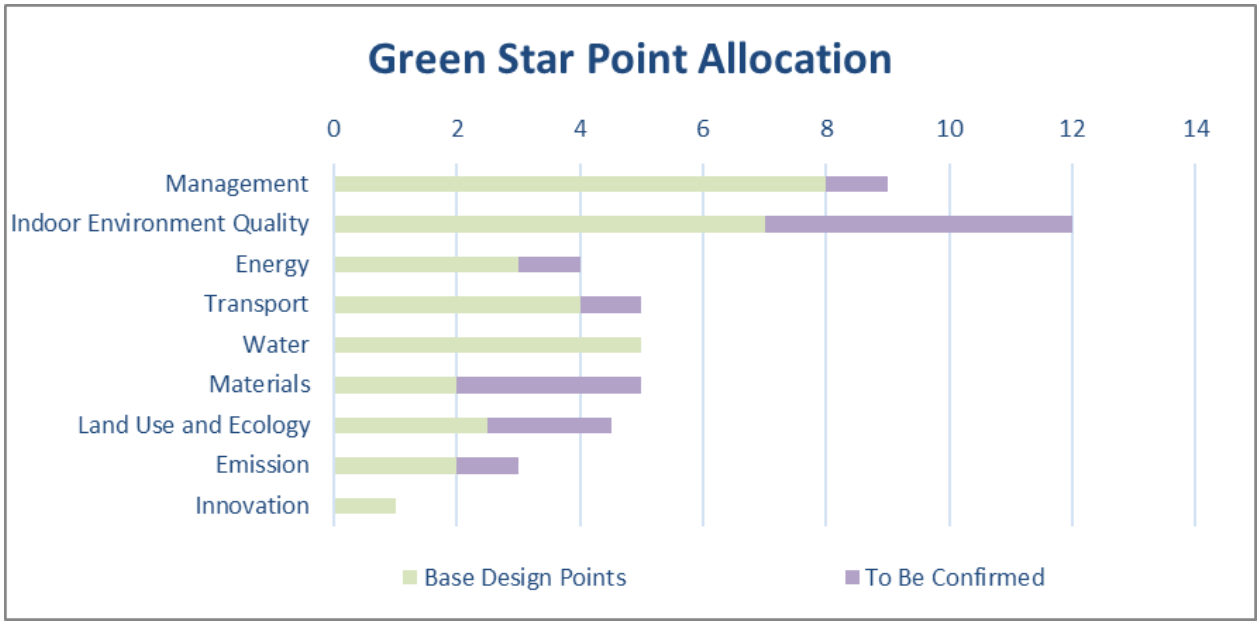
CADDS Energy has outlined the following criteria to achieve the desired outcome:

- BASE DESIGN – Credits that should be achievable with minimum or no cost;
- TO BE CONFIRMED – Credits for further discussion and input from various consultants;

Table 7 Green Star Pathway

Category	Available Points	Base Design Points	To Be Confirmed
Management	14	8	1
Indoor Environment Quality	17	7	5
Energy	22	3	1
Transport	10	4	1
Water	12	5	0
Materials	14	2	3
Land Use and Ecology	6	2.5	2
Emission	5	2	1
Innovation	10	1	0
TOTAL POINTS	**110**	**34.5**	**14**

Figure 4 Green Star Point Allocation



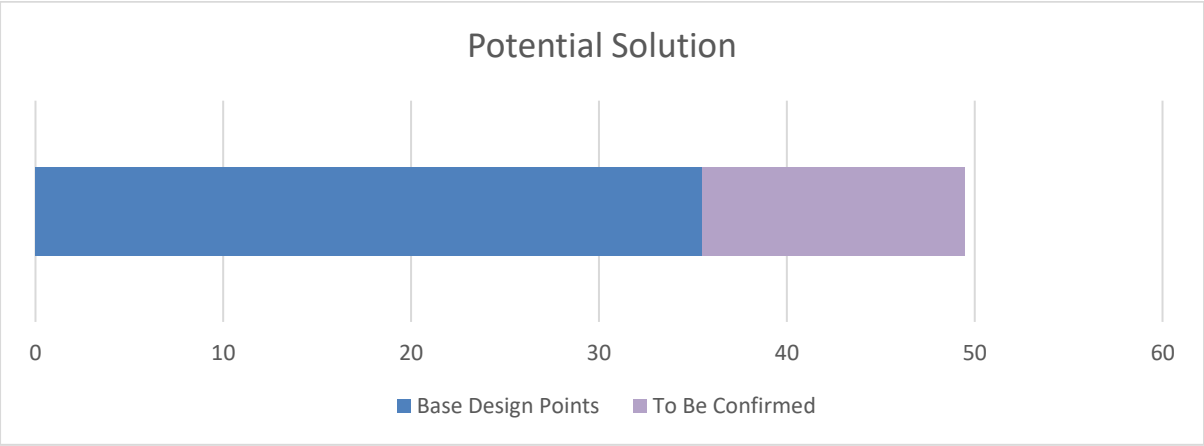


Figure 5 Green Star Potential Solution

The feasibility and cost of the following points will be investigated further

Table 8 Potential Initiatives

Initiative	Additional Points
Acoustic Separation	2
20 kw PV System	1

5 Conclusion

On the assumption that all points to be confirmed (14) are achievable, the project will be target 48.5 points, providing a 10% buffer for compliance. The feasibility of the two additional initiatives noted in table 14 will be considered. The inclusion of all points will provide a total score of 51 points allowing for a 6 point buffer and the opportunity to remove credits where not feasible or cost permitting.

PROJECT	L30 HOOD STREET
ARCHITECT	WELINK Pty Ltd

CATEGORY / CREDIT	AIM OF THE CREDIT / SELECTION	CODE	CREDIT CRITERIA	POINTS AVAILABLE	RESPONSIBILITY	BASE DESIGN	TO BE CONFIRMED (consultant input)	ACTIONS / REQUIREMENTS	COMMENTS
Management									
Green Star Accredited Professional	To recognise the appointment and active involvement of a Green Star Accredited Professional in order to ensure that the rating tool is applied effectively and as intended.	1.1	Accredited Professional	1	CADDS	1		GSAP Engaged	CADDS Group engaged
Commissioning and Tuning	To encourage and recognise commissioning, handover and tuning initiatives that ensure all building services operate to their full potential.	2.0	Environmental Modelled Targets	-	CADDS	minimum requirement		Set and documented targets for the environmental performance of the project	CADDS Energy development Modelling targets within Green Star Design Report
		2.1	Services and Maintainability Review	1	SERVICES	1		A services and maintainability review of the project is generally performed (during design stage and prior to construction)	General inclusion in this style of project at no additional cost
		2.2	Building Commissioning	1	SERVICES	1		Pre-commissioning & Commissioning activities are performed for all nominated building systems.	General inclusion in this style of project at no additional cost
		2.3	Building Systems Tuning	1	SERVICES		1	Commitment to Tuning Process Quarterly adjustments and measurements for first 12 months after occupation.	Will be required to be included in Strata Requirements
Building Information	To recognise the development and provision of building information that facilitates understanding of a building's systems, operation and maintenance requirements, and environmental targets to enable the optimised performance.	4.1	Building Operations and Maintenance Information	1	SERVICES	1		Operations and Maintenance information is developed and made available.	General inclusion in scope of works for services consultants / contractors.
		4.2	Building User Information	1	SERVICES	1		Building user information is developed and made available	
Metering and Monitoring	To recognise the implementation of effective energy and water metering and monitoring systems.	6.0	Metering Strategy	-	ELETRICAL	minimum requirement		Provide Accessible metering to all energy and water common and major uses, and to energy and water sources provided by the project.	Would require individual energy and water meter
		6.1	Monitoring Strategy	1	ELETRICAL	1		Monitoring System provided capable of capturing and processing the data produced by the installed energy and water meters	Enable Strata to obltain power and water consumption meter readings. Carbon EMT specified.
Construction Environmental Management	To reward projects that use best practice formal environmental management procedures during construction.	7.0	Environmental Management Plan	-	CONTRACTOR	minimum requirement		Environmental Management Plan (EMP) is in place for construction.	
		7.1	Formalised Environmental Management System	1	CONTRACTOR	1			Standard practice for most top 3 tier builders
Operational Waste	To recognise projects that implement waste management plans that facilitate the re-use, upcycling, or conversion of waste into energy and stewardship of items to reduce the quantity of outgoing waste	8.1	Waste in Operations	1	WMP	1		Qualified Waste Auditor, or other waste professional specialist from the project team, prepares and Operational Waste Management Plan (OWMP) for the project in accordance with best practice approaches	Waste Mangement Plan prepared by elected Waste Management Contractor
Total				**14**		**8**	**1**		
Indoor Environment Quality									
Quality of Indoor Air	To recognise projects that provide high air quality to occupants.	9.2	Provision of Outside Air	2	MECHANICAL	2		Natural Ventilation shall be provided to enclosure by direct ventilation openings that have an area not less than 5% of the floor area of the enclosure	5% required as per BCA requirements could be achieved
		9.3	Exhaust or Elimination of Pollutants	1	MECHANICAL	1		Kitchens to be ventilated in accordance with AS 1668.2-2012. A separate exhaust system must be provided for the kitchen exhaust.	Achievable with minimal cost.
Acoustic Comfort	To reward projects that provide appropriate and comfortable acoustic	10.1	Internal Noise Levels	1	ACOUSTIC		1	Internal ambient noise level ins nominated area is not more than 5dB (A) above satisfactory sounds levels in Table 1 - AS/NZS 2107:2000	Confirmation required for compliance with SPP 5.4 (AS/NZA 2107:2000 '

Acoustic Comfort	conditions for occupants.	10.3	Enclosed Spaces	1	ACOUSTIC		1	Partition between spaces constructed to achieve a weighted sound reduction index (Rw) of at least 45	Walls, Floors Deemed-to-Satisfy Requirements of Minimum Rw + Ctr 50 to be achieved To be confirmed with Acoustic Consultant
Lighting Comfort	To encourage and recognise well-lit spaces that provide a high degree of comfort to users.	11.0	Minimum Lighting Comfort	-	ELECTRICAL	minimum requirement		All light sources must have a minimum Colour Rendering Index of 80	
		11.1	General Illuminance and Glare Reduction	1	ARCH		1	Residential Spaces, the point will be awarded where in Living Spaces, Kitchen, bathrooms and Bedrooms : - The Lighting Design includes or permits general fixed lighting that provides good maintained illuminance values for the entire rooms; and - The installed fittings all have fittings with rated colour variation not exceeding 3 MacAdam Ellipses	Colour Variation - Most LEDS sit within 4 Steps. Architect to nominate LED proposed. Generally GE + Philips will be within 3
		11.3	Localised Lighting Control	1	ELECTRICAL	1		Occupants have the ability to control the lighting in their immediate environment.	
Visual Comfort	To recognise the delivery of well-lit spaces that provide high levels of visual comfort to building occupants.	12.0	Glare Reduction	-	ARCH	minimum requirement		Glare in the nominated area, from sunlight through all viewing façades, is reduced through a combination of blinds, screens, fixed devices, or other means	
		12.1	Daylight	2	CADDS	1		*Initial calculations show 2 points achievable* 50% of the nominated area receives high levels of daylight during, 80% of the nominated hours.	Internal blinds to satisfy initial requirements 2 points based on prescriptive method as per preliminary calculations
		12.2	Views	1	CADDS	1		60 % of the nominated area has a clear line of sight to a external view	
Reduced Exposure to Pollutants	To recognise projects that safeguard occupant health through the reduction in internal air pollutant levels.	13.1	Paints, adhesives, sealants and carpets	1	ARCH		1	All internally applied paints, adhesives, sealants and carpets meet stipulated 'Total VOC Limits'	Just above standard practice (minimal cost) TBC with Architect
		13.2	Engineered wood products	1	ARCH		1	All engineered wood products meet stipulated formaldehyde limits	TBC with Architect
Thermal Comfort	To encourage and recognise projects that achieve high levels of thermal comfort.	14.1	Thermal Comfort	1	CADDS	1		Project to demonstrate an average NatHERS rating of 7 Stars or greater	Indicative Modelling demonstrates requirement to be achievable
Total						**7**	**5**		
Energy									
GHG Emissions	To encourage the reduction of greenhouse gas emissions associated with the use of energy in building operations	15B.1	NatHERS Rating Pathway	12	CADDS	3	1	Up to 20 points available when it is demonstrated the there is a specific reduction in predicted energy consumption of the proposed building	Additional points will be achieved based on higher average NatHERS Rating & inclusion of PV System.
Total						**3**	**1**		
Transport									
Sustainable Transport	Deemed-to-Satisfy Pathway	17-B.1	Access by Public Transport	3	CADDS	3		As per Transport Calculator	Hood Street Precinct is well connected to public transport.
		17-B.4	Active Transport Facilities	1	ARCH		1	Bicycle for 7.5% occupants and end of trip facilities	Minimum 49 Secure Bicycle Parking bays for residents + 3 for Visitors. TBC based on available space within development. Small cost to achieve 1 point. Can be located within U/G Carparks.
		17-B.5	Walkable Neighbourhood	1	CADDS	1			
Total						**4**	**1**		
Water									
Potable Water	Deemed-to-Satisfy Pathway	18-B.1	Sanitary Fixture Efficiency	1	HYDRAULIC	1		**Minimum** WELS Ratings; Taps - 5 Star, Toilet - 4 Stars, Showers - 3 Star, Dishwashers - 5 Stars, Washing Machines - 4 Stars	Finishes & Appliance Schedule must meet requirements for WELS Ratings
		18-B.3	Heat Rejection	2	MECHANICAL	2		2 points are awarded where no water is used for heat rejection.	Air Cooled Plant to be expected
		18-B.4	Landscape Irrigation	1	LANDSCAPE/HYDRAULIC	1		Drip Irrigation with Moisture sensor override required to landscaping	TBC with Hydraulic consultant and Landscape Designer.
		18-B.5	Fire System Test Water	1	FIRE	1		Fire protection system does not expel water for testing; or Fire protection system includes temporary storage for 80% of routine fire protection system.	
Total				**6**		**5**	**0**		
Materials									
Life Cycle Impacts	Material Use.	19B.1.1	Life Cycle Impacts Concrete	2	STRUCTURAL		1	Portland Cement content is reduced by 40%, measured by mass across all concrete used in in project compared to the reference case	TBC with Structural Consultant
		19B.2B	Life Cycle Impacts Steel	2	STRUCTURAL		1	Reduction in mass of Steel Reinforcement used when compared to standard practice	TBC with Structural
Responsible Building Materials	To reward projects that include materials that are responsibly sourced or have a sustainable supply chain.	20.1	Responsible Steel Maker and Fabricator	1	CONTRACTOR		1	Steel supplied by Steel Fabricator/Contractor accredited to the Environmental Sustainability Charter.	Can limit Tenderer, but generally relatively easy to achieve 1 point
		20.3	Cables, pipes, floors and blinds	1	CONTRACTOR	1		90% cables, pipes flooring and blinds Meet Best Practice Guidelines for PVC	Standard Practice
Construction and Demolition Waste	To reward projects that reduce construction waste going to landfill by reusing or recycling building materials.	22.1	Reduction of Construction and Demolition Waste	1	CONTRACTOR	1		Minimise total amount of waste sent to landfill when compared to a typical building 10 kg/m3 Waste GFA	
Total				**14**		**2**	**3**		

Land Use & Ecology									
Ecological Value	To reward projects that improve the ecological value of their site.	23.1	Ecological Value	3	CADDS	1.5		Points awarded based on Preliminary calculations	
Sustainable Sites	To reward projects that choose to develop sites that have limited ecological value, re-use previously developed land and remediate contaminate land.	24.0	Conditional Requirement	-		Conditional Requirement		Conditional requirement met where, at date of purchase, the project site did not include old growth forest or wetland of High national importance	
		24.1	Reuse of Land	1	CADDS	1		Site was previously cleared land at date of purchase	Site Previously used. Example: Cleared soil
		24.2	Best Practice Site Remediation	1			1	Where site, or an existing building, was previously contaminated and the site has been remediated in accordance with a best practice remediation strategy.	TBC with Surveyor/Geology Report
Heat Island Effect	To encourage and recognise projects that reduce the contribution of the project site to the heat island effect.	25.1	Heat Island Effect Reduction	1	ARCH		1	75% of total project site area comprises building or landscaping elements that reduce the impact of heat island effect	TBC with Architect
Total				**6**		**2.5**	**2**		
Emissions									
Stormwater	To reward projects that minimise peak stormwater flows and reduce pollutants entering public sewer infrastructure.	26.1	Peak Discharge To Sewer	1	CIVIL	1		Post-development peak event stormwater discharge from the site does not exceed the pre-development peak event stormwater discharge.	
Light Pollution	To reward projects that minimise light pollution.	27.0	Light Pollution to Neighbouring Properties	-	ELECTRICAL	minimum requirement		Comply with AS 4282:1997 Control of the Obtrusive Effects of Outdoor lighting	
		27.1	Light Pollution to Night Sky	1	ELECTRICAL		1	No external luminaire on the project has a ULOR that exceeds 5% relative to actual mounted orientation	
Microbial Control	To recognise projects that implement systems to minimise the impacts associated with harmful microbes in building systems.	28.1	Microbial Control	1	MECHANICAL	1		Achievable if specification specifies no water based heat rejection	No Cooling Towers TBC with Mechanical Consultant
Total				**5**		**2**	**1**		
Innovation									
Innovation Challenges	Increase the amount of information available to industry on the costs and benefits of sustainable building.		Financial Transparency	1	QS	1		comprehensively itemises design, construction, documentation and project costs.	No additional cost - Information usually available from QS Documentation
Total				**10**		**1**	**0**		

TOTAL	POINTS AVAILABLE	BASE POINTS	TO BE CONFIRMED
	110	**34.5**	**14**